

Singlers Marsh

10 Year Landscape Management Plan

2023 – 2033



DOCUMENT AMENDMENT HISTORY

Version	Status	Date	Amendment to this version
1	DRAFT ISSUE	16.12.22	
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3	Rev A	05.06.23	Updated following review and to add results of willow survey.
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DOCUMENT APPROVAL

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SITE SUMMARY

Site Name	Singlers Marsh
Address	Singlers Marsh, Fulling Mill Lane, Welwyn, Hatfield, AL6 9NP
Grid Reference	TL 22841 16549
What3words	closed.dusty.cafe
Size (ha)	6.26
Statutory Designations	Local Nature Reserve
National Character Area (NCA)	110: Chilterns

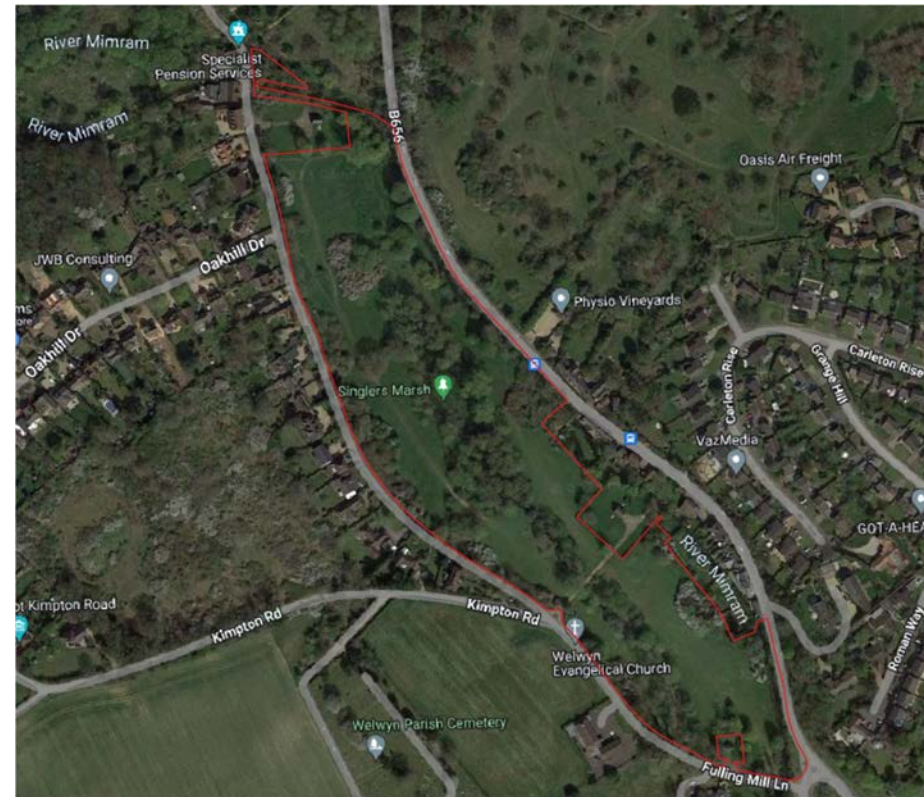


Figure 1: Aerial image showing Singlers Marsh

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1. Introduction

Maydencroft Limited was commissioned by Mr Olly Waring of Welwyn Hatfield Borough Council (WHBC) to produce a 10-Year Landscape Management Plan (LMP) for Singlers Marsh Local Nature Reserve (LNR).

Singlers Marsh LNR is located to the north of Welwyn village in central Hertfordshire. The site is owned by Welwyn Hatfield Borough Council, and has been managed under the terms of a 10-year Higher Level Stewardship (HLS) Agreement, which was extended by 5 years in 2023.

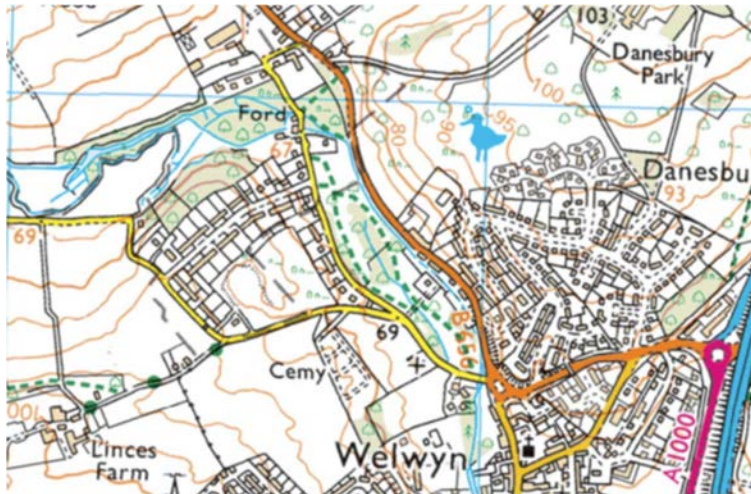
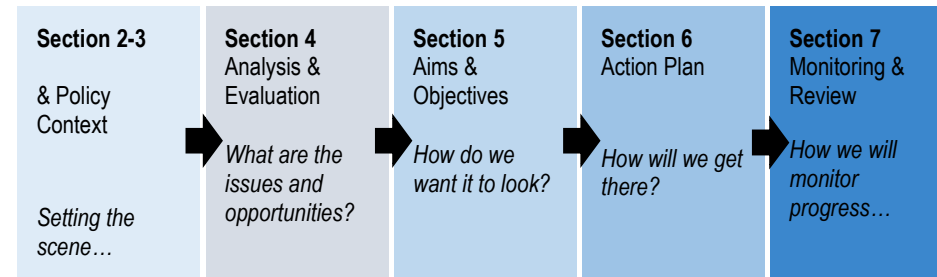


Figure 2: Map showing the location of the site (© Ordnance Survey, 2022)

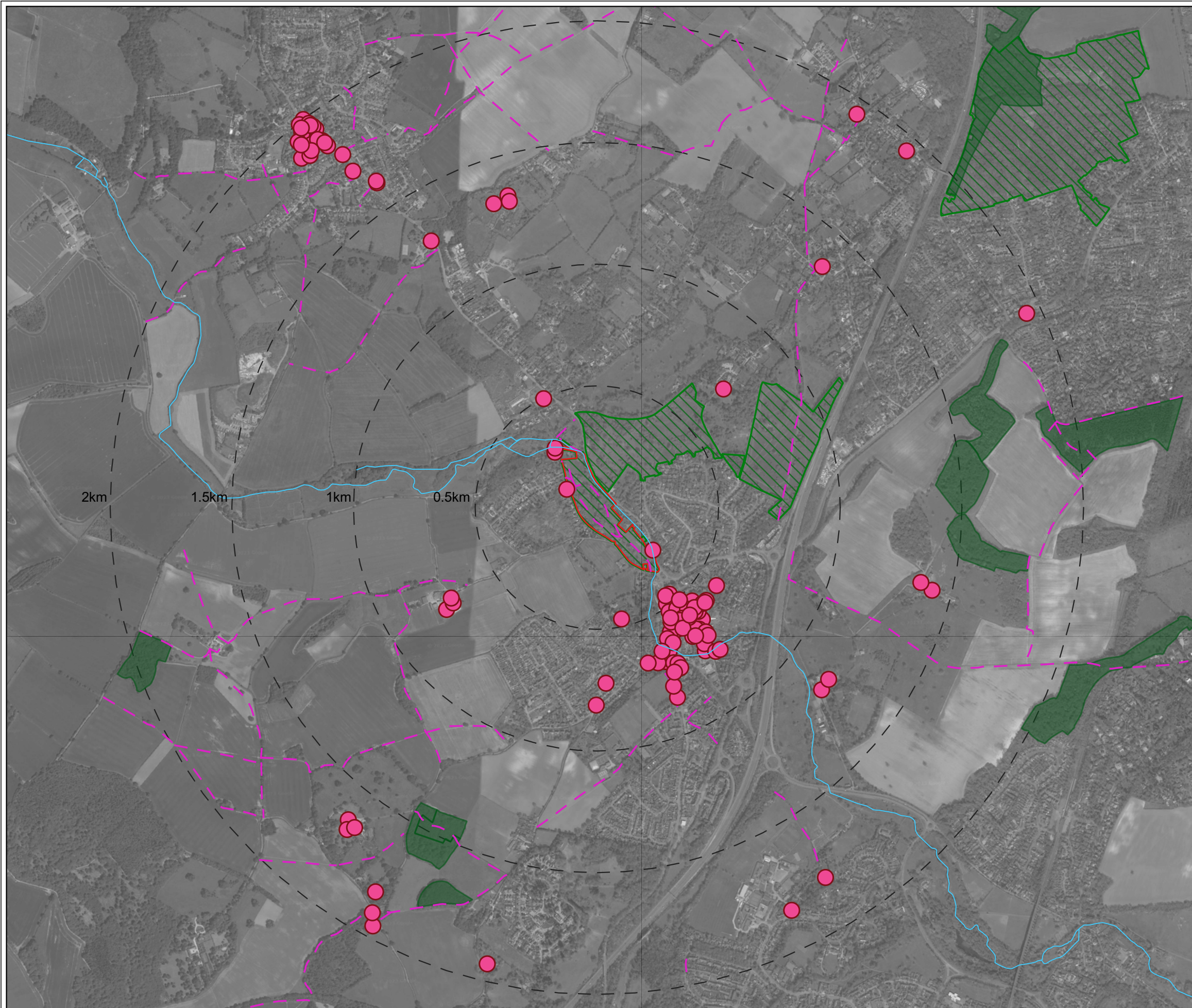
This LMP is intended to direct the management of the site for a ten-year period from 2023 – 2033, working alongside the stewardship

agreement. It aims to capture all of the basic requirements to manage the site effectively, and seeks to make meaningful site improvements where opportunities are identified.

The plan is designed to be read and understood by all who are involved or interested in the management of the site, with the aim that more people can understand, contribute and have a say in how Singlers Marsh LNR should be managed. The structure of the document aims to give a legible process for understanding the current condition of Singlers Marsh LNR and how actions for the next ten years have been determined. The layout can be summarised as follows:



Section 2 of this document provides a Site Description which sets out all the factual, baseline information relating to the site in terms of its history, ecology, function, and landscape. Section 3 summarises key areas of legislation that direct the actions and responsibilities for the management of the site. Section 4 takes this factual information and analyses it to ascertain the key issues facing the site and opportunities for improvement. The aims and objectives for site management and enhancement are set out in Section 5 and action plans for delivering these aspirations in Section 6. The final section includes details on how the plan will be monitored and reviewed.



Key

- Site Boundary
- River Mimram
- Listed Buildings
- Public Right of Way
- Ancient Woodlands
- LNRs

Client **Welwyn Hatfield Borough Council**

Project **Singlers Marsh Landscape Management Plan**

Title **Site Constraints Map**

Drawn AS	Checked LM	Date 22.11.2022
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Drawing No. MH8351 - 001	Revision 2
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Scale 1:16000	Original Size A3
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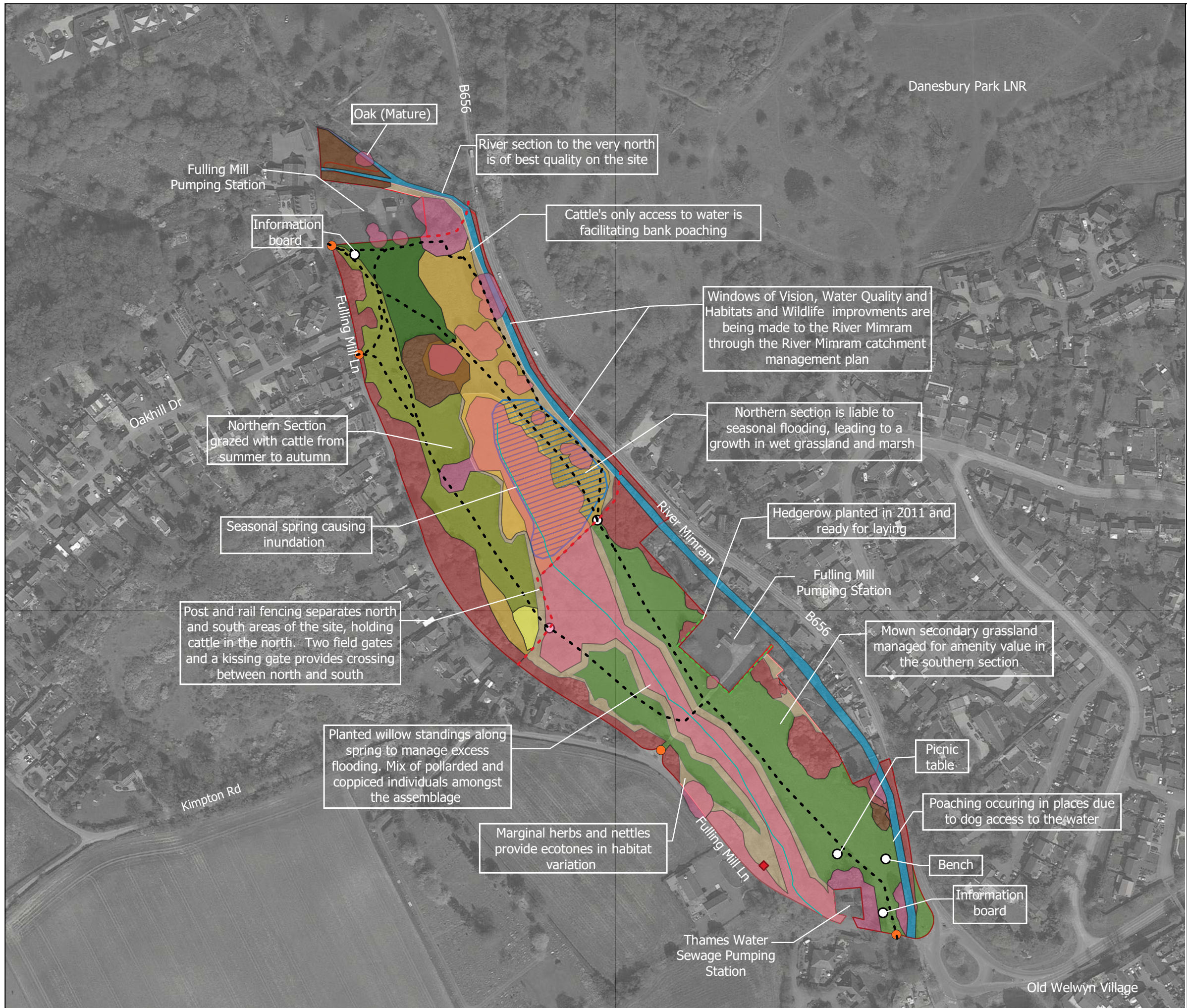
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Key

- Site Boundary
- Stock Fencing
- Walked Paths
- Spring
- River Mimram
- Access Points
- Furniture
- Hedgerow
- ◆ Japanese Knotweed
- Standard Tree Cover
- Mixed Woody Scrub
- Thorn Scrub
- Temporary Standing Water
- Species-Poor Rank Grassland
- Mown Secondary Grassland
- Rank Semi / Unimproved Grassland
- Meadow
- Wet Rank Grassland and Marsh
- Rank Tall Herbs and Nettles

Drawing Status

ISSUE

Client

Welwyn Hatfield Borough Council

Project

Singlers Marsh Landscape Management Plan

Title

Site Description Plan

Scale 1:2500

Drawn AS

Date 07/12/2022

Checked VJ

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Rev 3



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2. Site Description

2.1 INTRODUCTION

Singlers Marsh Local Nature Reserve (LNR) is a long, narrow site, split into two distinct halves: north and south. It represents a range of habitats rare in the county of Hertfordshire, including wet floodplain meadow and chalk river. Approximately three quarters of the site lies within the boundary of Welwyn Hatfield Council, and the remainder in North Hertfordshire District Council. The two halves of the site are separated by post and rail fencing with cattle grazing in the north and amenity access in the south.

Fulling Mill Lane forms the west boundary, beyond which lies arable land. The River Mimram runs along the eastern perimeter, separated from Danesbury Local Nature Reserve by Codicote Road and some residential properties. The river continues to flow through the picturesque Old Welwyn Village to the south of the site. The northernmost part of the site is a small area of woodland with a short section of river. All boundaries of the reserve are made with fencing or hedgerow, with numerous access gates and a field gate to each half of the site present along the boundaries.

The vegetation sward across the two halves of the site are notably different to one another. The northern half has a natural pasture character and marshy grassland, and is currently grazed by native English Longhorn cattle. Due to the marshy character, grazing occurs in drier months from summer to autumn. The southern section is entirely managed for amenity purposes and mown up to 12 times per year. The ground level in the southern half was raised by the addition of top soil from the construction of the B656 Link Road to the south of the site.

There are three utility structures within or on the boundary to the site. Two Affinity Water sites, both known as Fulling Mill Pumping Station,

are located in the centre and to the north of the site. A track across Singlers Marsh provides access to the middle pumping station from Fulling Mill Lane. Water abstraction is now at a minimum to maintain functionality for flood emergency abstraction only. A Thames Water sewage pumping station is located on the southern boundary of the site.

Singlers Marsh is a public open space that is very popular with local residents for leisure, dog-walking, exercise, educational visits and an annual Welwyn Family Fun Day.

2.2 HISTORICAL CONTEXT

Little is known about the history of Singlers Marsh, although it is likely to have a long history of being damp, marshy floodplain pasture. By 1766, the riverbed had been moved nearer the Codicote Road in order to feed the many mills along the river.

There are a number of listed buildings situated close to the site, the closest being a Grade II listed milepost that sits just outside the site boundary on the public pavement on Fulling Mill Lane. There are no historic designations covering the site itself.



Figure 3: 25-inch 1st edition OS map of Singlers Marsh from 1892 (National Library of Scotland 2022). Site boundary drawn in red.

Welwyn Rural Council held ownership of the site from 1960 to 1974 (when it passed to WHBC), and in 1973 they informally designated the site a Nature Reserve. It was stated that, *“We sincerely hope this spot will become a restful retreat for those who want to spend a few hours away from the crowds.”* The construction of Link Road resulted in material being dumped on the southern compartment of Singlers Marsh which raised the level of the site.



Figure 4: An illustrated postcard from 1904 depicting the River Mimram and marshy fields from Singlers Bridge along Codicote Road.

In 1994, advice from the Biological Records Centre led the council to resume grazing on the site which began in 1995, after a grant under the Countryside Stewardship scheme facilitated the construction of stock fencing to contain the cattle. In 1997, the site was designated as a Local Wildlife Site, and rare breed English Longhorn cattle began grazing. In 2009, the site also became designated as Local Nature Reserve.

Welwyn Hatfield Council renewed commitments to Higher Level Stewardship in 2003 and 2013. In each 10-year period, they continued with cattle grazing, and carried out management of the willows on site.

From around 2010, the Landscape & Ecology team within the Council gave support to the Friends of River Mimram volunteer group, which had been campaigning for the reduction in water extraction from the River Mimram. Due to low water flow and high sedimentation, the Mimram was severely degraded on its course through the site. Many

of the volunteers have knowledgeable links with chalk-stream restoration elsewhere on the river, and have since undertaken several projects to manage vegetation on the river, including Singlers Marsh. In 2011, Herts Local Wildlife Sites Partnership re-surveyed and renewed the Local Wildlife Site designation.

From 2012 onwards, a number of projects have been undertaken along the River Mimram, including clearing sections of the river and overhanging vegetation. Improvements to access and increased riverfly monitoring on the river has shown positive improvements to the invertebrate populations on the site and increased flow rate. Both public amenity and nature opportunity has benefited from delivery of the previous LMP.

2.3 LANDSCAPE CONTEXT

2.3.1 National Character Area

Natural England have produced a framework of 159 landscape profiles for England, resulting in National Character Areas (NCA). The NCA profile summarises the key features of the character area. The site is located within **NCA: 110 Chilterns**, although it is to the far northeast of this NCA profile. The boundary should be considered as a zone of transition between NCAs; therefore, the neighbouring NCAs of relevance are:

- NCA 111: the North Thames Basin
- NCA 86: South Suffolk and North Essex Clayland
- NCA 87: East Anglian Chalk

The eastern side of the Chilterns is known as a 'Dip slope', consisting of small streams sitting in larger, soft valleys systems. Whilst around half of this NCA falls within the Chilterns Area of Outstanding Natural Beauty (AONB), Singlers Marsh sits outside of the AONB and is within a region which becomes scattered with Local Nature Reserves and is known for lowland woodlands. A number of Sites of Special Scientific Interest (SSSI) also lie in this region of the NCA outside of

the AONB, and all but a small fraction of the site is included in SSSI Impact Risk Zones.

Plateaued and settlement areas are well known for providing green space near to people's homes whilst the lowland landscape provides some of the most wooded landscape in the country. Woodlands have supported, now and in the past, the woodland industry which is represented by the Fulling Mill at the north of the site. It is thought that the mill was previously used for fulling, milling flour or pulping rags for paper.

Statements of Environmental Opportunity (SEOs) have also been drawn up by Natural England to help understand the value of each NCA, there are four in total. Of particular relevance to the Site is SEO3: *Conserve the Chilterns' groundwater resource, River Thames and chalk streams by working in partnership to tackle inter-related issues at a catchment scale and also across the water supply network area. Seek to secure, now and in the future, sustainable water use and thriving flood plain landscapes that are valued by the public.*

2.3.2 District Landscape Character

The Welwyn Hatfield Landscape Character Assessment was produced in 2005 by The Landscape Partnership Ltd. The site lies within area **132: Codicote Bottom Arable Valley**. The area stretches approximately 4km along the upper course of the Mimram valley, described as having broad slopes and a gently undulating character, with the river having generally shallow banks with seamless edges. The elevation of the adjacent Danesbury Reserve, to the east of Singlers Marsh, provides views with an open and light character, whilst Singlers Marsh continues to hold a sense of remoteness, despite being situated so close to settlement.

The landscape surrounding the site is strongly influenced by the River Mimram which runs from West to South East, cutting across the northern section of the Site before taking a sharp turn south down the eastern edge. Just upstream of the Site, in Oakhills Wood and along

Kimpton Road, the river passes through a Carr Woodland, and it is braided after taking an unusual curve around a solid glacial bowl where Codicote Village is situated. The high-water table makes the Site liable to flooding and influences the floodplain character of the site.

Despite the Site being in close proximity to the Codicote Road, A1(M) and Welwyn Garden City, it retains a sense of remoteness. The river and willow coppice provides a buffer to the Codicote Road, and the low flat topography encloses the Site.

2.3.3 Topography

The site is low lying, nestled in the River Mimram valley at an elevation of 67m. The adjacent land to the east and west increases to an elevation of 110m. There is a gradual west-east slope across the site in the direction of the river.

2.3.4 Geology and soils

The geology is a major factor in determining an area's topography and soils. These, together with the climate, determine the natural vegetation and habitats which support a range of species.

The Geology Map of Britain (developed by the British Geological Survey) shows that the site lies on chalk sedimentary bedrock, formed between 93.9 and 83.6 million years ago during the Cretaceous period.

The Soils Map of the United Kingdom (developed and hosted by Cranfield University) shows that the site is located on the boundary of two Soils: Soilscape 6, which is described as freely draining, slightly acid loamy soils; and Soilscape 8, described as slightly acid, loamy and clayey soils, with impeded drainage.

The addition of topsoil to the southern compartment of the site has greatly influenced the sward and species diversity found here.

2.3.5 Hydrology

The River Mimram flows from north to south along the eastern boundary of the site. The river is the cattle's only water source and the cattle have unrestricted access to the river. A more centralised ephemeral spring marked by a line of willows is located to the south of the reserve, which is known to flood during wet weather.

The east of the site falls within Flood Zone 3, which means there is a high probability of flooding. Towards the west, parts of the site fall within Flood Zone 2 (medium probability of flooding) and some areas are within Flood Zone 1 (low probability of flooding).

Standing water is a fairly common feature of the site. In seasons of persistent high rainfall, flooding occurs as a result of the high-water table. Standing water mainly occurs in the northern part of the reserve, but can remain across the whole site.

2.4 HABITATS & WILDLIFE

Singlers Marsh contains a mosaic of amenity grassland, floodplain meadow, willow scrub and mature trees adjacent to a section of chalk river.

The following section utilises information from the previous management plan and includes up to date observations from a recent site visit and desk-based study.

The following habitats were identified onsite:

- Stands of willow trees
- Mixed scrub, hedgerows and other trees
- Species-rich neutral grassland
- Species-poor rank grassland
- Amenity / modified grassland
- Wet grassland and marsh
- Temporary standing water

- Permanent flowing water.

2.4.1 Willow Trees

It is thought that the willow trees on site were likely to have been planted in an attempt to dry out the area, and reduce the likelihood of flooding. They are found throughout the nature reserve, but are predominately situated along the central spring and in the northern half of the reserve. The willows are all of a similar age and are now beginning to dismantle, a natural growth behaviour of willows in floodplain areas.

Several small groups of willows have been coppiced, some at a height to allow volunteers to continue managing the willow, and others have been pollarded. Nettles once provided the entire ground cover under the willows; however, cattle grazing and amenity mowing have reduced the dominance and minimised spread to restricted areas along the ditch only.



Figure 5: Willow and nettle lining the central ditch

2.4.2 Mixed scrub, hedgerows and other trees

There are areas within Singlers Marsh that are designated as Deciduous Woodland Priority Habitat. These areas cover the existing tree, scrub and hedgerow assemblages onsite.

The scrub and hedgerow communities are located sporadically across the Site. They are of mixed age and include: blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus*), hawthorn (*Crataegus monogyna*), field maple (*Acer campestre*), elder (*Sambucus nigra*) and hazel (*Corylus avellana*). An old hedgerow north of the post and rail fence is thought to have divided the site, and spread to separate clumps throughout the reserve, contributing to the western borders.



Figure 6: Scrub along the west boundary in the southern section of the reserve

Around the perimeter of the old pumping station is a younger native hedgerow that was planted in 2011 by the Friends of the River Mimram with trees provided by the Woodland Trust.

There are two notable mature oaks (*Quercus robur*) on the site, both in the northern half of the reserve. One is located on the peninsular between the river and millstream, and another in the compartment

between the old hedgerow and the fence. Additional oak and alder (*Alnus glutinosa*) have been planted along the river and streams in the southern section of the Site.

2.4.3 Species-rich neutral grassland

This grassland habitat is primarily located in a pocket along the western margin of the Site, north of the central fence. Here the land stays more consistently dry, away from excessive inundation from the river. Another pocket lies to the far north of the Site sharing the peninsular space of a large oak. Previous ecology surveys have recorded the species composition of the grassland as including sweet vernal grass (*Anthoxanthum odoratum*), common woodrush (*Luzula campestris*), germander speedwell (*Veronica chamaedrys*), common sorrel (*Rumex acetosa*), bird's foot trefoil (*Lotus corniculatus*) and lesser stitchwort (*Stellaria graminea*). In some years, a number of less common plants have flowered, including meadow saxifrage (*Saxifraga granulata*). This species is a good indicator of old established grassland, as is a small colony of common bistort that is also present within the grassland (*Polygonum bistorta*).

2.4.4 Species-poor rank grassland

An area of species-poor rank grassland is located in the northern part of the site, and contains predominantly Yorkshire fog (*Holcus lanatus*) and false oat grass (*Arrhenatherum elatius*). This grassland is cattle grazed and tending toward a marshy character.

2.4.5 Amenity / modified grassland

The amenity / modified grassland is primarily found in the southern half of the site which is used more for recreational purposes. In spring, before mowing commences, the sward is scattered with common daisy (*Bellis perennis*), creeping buttercup (*Ranunculus repens*) and germander speedwell.

Due to nutrient enrichment caused by the deposition of topsoil on the southern half of the site, nettles can dominate the grassland if unmanaged.

2.4.6 Wet grassland and marsh

Wet grassland and marshy vegetation can be found in the northern section of the reserve, between the spring and river. This area is almost entirely dominated by lesser pond sedge (*Carex acutiformis*), reed canary grass (*Phalaris arundinacea*), reed sweet-grass (*Glyceria maxima*), Russian comfrey (*Symphytum x uplandicum*) and creeping thistle (*Cirsium arvense*). Other wetland species such as meadowsweet (*Filipendula ulmaria*) and lesser stitchwort occur occasionally, and this is thought to be dependent on the timing of grazing and cutting.



Figure 7: Wet grassland and marsh in the northern section

2.4.7 Temporary standing water

It is thought that the land on Singlers Marsh began flooding more severely when the level of the southern compartment was raised with the topsoil from the Link Road construction. This compacted the soil and raised the profile which led to pooling in the north and also leaching of nutrient rich sediment across the whole site. Flooding at

Singlers Marsh now occurs commonly during long periods of high rainfall and extreme weather events that create flash flooding.

2.4.8 Permanent flowing water

The River Mimram is a chalk river that flows north-south along the Site's eastern boundary. It is least disturbed in the far north of the reserve, with natural meanders, a visible gravel bed and clear water.



Figure 8: The gravel bed and marginal vegetation visible to the far north of the reserve

As the river flows over the weir and in to the northern section of the reserve, the river becomes much more degraded. The riverbanks have been poached by the grazing cattle, resulting in shallow and exposed riverbanks, a silty riverbed and turbid water.



Figure 9: Cattle poaching along the riverbank in the northern section of the reserve

As the river continues in to the southern compartment, it begins to retain its chalk river characteristics. Undisturbed marginal vegetation consisting of reeds, grasses and mature trees help to segregate the river from the amenity grassland, although areas of dog poaching occur in places.

A combination of river straightening, water extraction, repeated low flows, cattle poaching, regular dredging, access from dogs and a loss of stable bank-side vegetation have all impacted the condition of the River Mimram at Singlers Marsh. However, improvements have been seen through the efforts of WHBC and volunteers, and recent reduction in abstraction.



Figure 10: Dense marginal vegetation in the southern section

2.4.9 Invasive non-native species

Whilst there was no evidence of Himalayan balsam (*Impatiens glandulifera*) on Singlers Marsh at the time of the visit, it is known to be present up and downstream on the River Mimram. Since 2017, Affinity Water has been coordinating a programme of Himalayan balsam surveying and control throughout the catchment.

There is a historic patch of Japanese knotweed (*Reynoutria japonica*) onsite within an area of scrub in the southern compartment. It remains under management of the Welwyn Hatfield Borough Council's INNS management plan, produced in 2021.

2.4.10 Ecological designations

The site was designated as a Local Nature Reserve (LNR) in 2009. The site is also a Wildlife Site (WS5 'Singlers Marsh, Fulling Mill Meadow').

2.4.11 Tree preservation orders

The trees on site are not protected by Tree Preservation Orders or Conservation Area designations.

2.4.12 Wildlife

A wide range of aquatic species including submergent and emergent plants, fish, invertebrates, birds and mammals are supported by chalk streams. Many are now rare, including wild trout, otter, water vole and white-clawed crayfish which are listed on Annex II of the EC Habitats Directive. Water voles (*Arvicola amphibius*) have been historically recorded at Singlers Marsh, and are present in the wider Mimram catchment. Bullhead (*Cottus gobio*) and brown trout (*Salmo trutta*) have also been recorded at Singlers Marsh.

Temporary standing water provides a refuge for waterbirds such as coot (*Fulica atra*), moorhen (*Gallinula chloropus*), and mallard (*Anas platyrhynchos*). On less disturbed areas of the park, as the water levels reduce, wading birds may probe the wet soil for invertebrates.

The riparian habitat is likely to support bats that use the river for foraging and roosting in the willow trees, such as Daubenton's (*Myotis daubentonii*).

The open grassland may support populations of reptiles, including grass snake (*Natrix helvetica*) and slow worm (*Anguis fragilis*), and small mammals, such as rabbits (*Oryctolagus cuniculus*) and wood mouse (*Apodemus sylvaticus*). These in turn support populations of raptors, including kestrel (*Falco tinnunculus*) and red kite (*Milvus milvus*). The diverse sward in the northern component is important for a number of insects, who consequently support populations of

summer migrants, such as yellow wagtail (*Motacilla flava*) and swallow (*Hirundo rustica*).

Decaying wood will support a number of invertebrates and fungi.

2.5 ACCESS & FUNCTION

There are several public rights of way (PROW) at Singlers Marsh (Welwyn 056, Welwyn 057, Codicote 040, Codicote 044, Codicote 045 and Codicote 046), waymarked from Fulling Mill Lane. The public also have access throughout the site on foot, although there are no surfaced footpaths. The site is currently mostly inaccessible to wheelchairs due to the lack of surfaced paths, marshy grassland and gates.

On the western boundary, along Fulling Mill Lane, there are five access points: three kissing gates and two field gates. The kissing gates have been designed to be large enough to give access to pushchairs and small children's bicycles. However, at the southern tip of the site there is a small break in the fence which has become the main thoroughfare and promotes unrestricted access. There is a kissing gate within the stock fencing that divides the Site, providing access between the two compartments. The majority of gates and fencing are in good condition.

The southern section of the Site is used as an amenity space and is very popular with the public. Activities undertaken range from dog-walking to exercise, to school education visits. Singlers Marsh is the host site for the penultimate day of the Welwyn Festival, which is called the Family Fun Day. A large gathering from the village comes to this space and the festival includes a marching band, classic cars, games and stalls.

Information boards were installed at each end of the reserve in 2015. The boards describe the history, ecology and management of the

site. Temporary signage is installed on gates to the northern half of the site when cattle are present.



Figure 11: An information board at the southern entrance to the reserve

An interpretation board is also located along Fulling Mill Lane towards the northern-most compartment of the site, describing the history of Fulling Mill.

There are dog bins located at key entrances and general waste bins located throughout the site. A bench and picnic bench are located to the south of the site. There have been no reports of site misuse, and there was no litter evident on the site visit.

There are three utility facilities on the site. A sewage pumping station at the south of the site, owned by Thames Water as well as two

pumping stations owned by Affinity Water. One pumping station is situated on the mid-section of the river, and the second is at the old Fulling Mill in the north, a diverted water point. Water extraction for the purposes of drinking ceased in 2017, however the pumping station remains operable by abstracting the minimum volume of water. This is to manage any potential ground water emergencies and to prevent flooding to local houses and infrastructure. A full shutdown of the pumping station at Singlers Marsh was planned for 2021, but has not yet occurred.

Power lines run north-south across the centre of the site.

2.6 SITE MANAGEMENT

The reserve is owned and managed by Welwyn Hatfield Borough Council. Management has been supported by a number of Countryside Stewardship grant schemes with Natural England, which first started in 1994 and continued in 2003, before moving on to a Higher Level Stewardship scheme in 2013. A new stewardship application will be made and this Management Plan will guide the application.

Since 1997, Longhorn cattle have been grazed on the site between late spring and autumn when the site is driest and the grass is actively growing. They freely roam the northern compartment, and this forms the main management prescription for the grassland and shrub habitats here.

The southern block is intensively managed as a community amenity space. This includes mowing approximately 12 times per year, and periodic maintenance of the shrubs and nettles.

Management for Japanese knotweed is taken under consideration of the Welwyn Hatfield Borough Council's INNS Management Plan, 2021.



Figure 12: Cattle grazing the north compartment. Pollarded willows can be observed to the left of the picture

There are number of stakeholders active on the site and in the local area that contribute to the management of Singlers Marsh.

The Hertfordshire and Middlesex Wildlife Trust (HMWT) and The Hertfordshire Biological Records Centre (HERC) have previously provided wildlife appraisals to support management plans.

Practical Conservation Volunteers (the Wednesday Volunteers) occasionally hold work parties at Singlers Marsh on Wednesdays, undertaking activities such as coppicing. This group meet across the county and therefore there is no regular voluntary maintenance at Singlers Marsh.

The Lea River Catchment Partnership have produced the River Mimram Catchment Management Plan which includes Singlers Marsh. The management plan has identified 42 projects for the catchment that are at various stages of completion. The Friends of Mimram special interest group actively promote improvement works to the River Mimram and coordinate projects including:

- Stop the abstraction from the Mimram;
- Improving river flow at Singlers Marsh;

- Stream bed improvement at Singlers Marsh;
- How to manage more water on Singlers Marsh;
- River path clearance at Singlers Marsh;
- Improve Singlers Bridge Entrance;
- Windows of Vision at Singlers Marsh, Welwyn.

During the winter of 2013-14, a project was undertaken to improve the riverbed habitat of the Mimram at Singlers Marsh. The project was funded by Natural England through the Lea Catchment Nature Improvement Area, and managed by HMWT in partnership with Friends of the Mimram, the Environment Agency and WHBC. Silt was removed from four 5m long sections of the river, and replaced with gravel from Panshanger quarry, in order to provide habitat for invertebrates and spawning areas for brown trout.

Overshading scrub along Codicote Road was cleared and large willows pollarded in 2013. This was to allow more light to reach the river as part of the 'Windows of Vision' project.

The Anglers Riverfly Monitoring Initiative (ARMI) is a citizen science project used to monitor the condition of rivers. Volunteers record the presence and abundance of eight pollution-sensitive invertebrate groups monthly. Singlers Marsh has been used as a riverfly monitoring site.

3. Policy Context

3.1 INTRODUCTION

The following paragraphs summarise a few of the key areas of legislation and policy that direct the actions and responsibilities of WHBC with regard to the management of Singlers Marsh.

3.2 NATIONAL POLICY

3.2.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published by the Ministry of Housing, Communities & Local Government (MHCLG) and last updated in July 2021. The NPPF sets out the national planning policies for England and how these are expected to be applied.

Some of the key messages from the NPPF which are of relevance to the Site and its context include:

- Conserving and enhancing the natural environment by protecting and enhancing “valued landscapes” and sites of biodiversity or geological value / soils. Recognise the intrinsic character and beauty of the countryside, and the wider benefits of natural capital and other ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- Taking opportunities to minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures, and;
- Considering the effects of climate change and support the transition to a low carbon economy. Plan for climate change, ensuring that risks are appropriately managed through

suitable adaptation measures, including through the planning of well-designed green infrastructure.

3.2.2 Improving Access to Greenspace: A New Review For 2020

This report sets out the importance of greenspace as being increasingly recognised as an important asset for supporting health and wellbeing. The report also highlights how ‘natural capital’ can help local authorities address local issues, help improve health and wellbeing, manage health and social care costs, reduce health inequalities, improve social cohesion and take positive action to address climate change. This report also makes the case that we must not lose sight of our growing population’s need for greenspace.

3.2.3 A Green Future: Our 25 Year Plan to Improve The Environment

A Green Future was published in 2018 by the Department for Environment, Food & Rural Affairs (DEFRA) and sets out the Government’s actions to help the natural world regain and retain good health. The 25 Year Environment Plan aims to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats. The plan sets out a number of goals and also identifies six key areas for action which includes (but not limited to): “*Recovering of nature and enhancing the beauty of landscapes.*”

3.2.4 Chalk Stream Restoration Strategy Implementation Plan

Published in November 2022, the Chalk Stream Restoration Strategy Implementation Plan followed the publication of the Strategy in 2021. The Plan sets out specific actions and commitments attributed to each strategy recommendation. The Strategy sets out recommendations for government, regulators and the water industry on water resources, water quality and habitat restoration and management with the ultimate goal to restore these unique ecosystems and surrounding landscapes to good ecological health.

3.3 LEGISLATION

3.3.1 *The Natural Environment and Rural Communities Act 2006*

The Natural Environment and Rural Communities (NERC) Act makes provision in connection with wildlife, Sites of Special Scientific Interest (SSSI), National Parks and the Broads, amends the law relating to public rights of way, makes provision as to the Inland Waterways Amenity Advisory Council and provides for flexible administrative arrangements in connection with functions relating to the environment and rural affairs.

Section 40 of the NERC Act states that every public body, including local authorities, must in exercising its functions, have regard to the purpose of conserving biodiversity. Conserving biodiversity includes restoring or enhancing a species population or habitat.

3.3.2 *The Occupier's Liability Act 1957 and 1984*

The Occupier's Liability Act amends the law of England and Wales as to the liability of the occupiers of premises for injury suffered by persons other than their guests. The occupier of a premises owes a duty to another (not being a visitor) in respect of any known danger associated with a risk or if they have reasonable grounds to believe the danger exists. The occupier owes a duty if they know or believe that another is in the vicinity or danger or may come into the vicinity of danger, and the risk is one against which they may reasonably be expected to offer protection against. Any duty owed by virtue may be discharged by taking steps to give warning of the danger or by discouraging persons from incurring the risk.

3.3.3 *The Wildlife and Countryside Act 1981*

The Wildlife and Countryside Act 1981 is an Act of UK Parliament which gives protection to native species, enhances the protection of SSSIs and builds upon the rights of way rules in the National Parks and Access to the Countryside Act 1949. Birds, their nests and eggs are protected from injury and certain methods of killing and injuring

are prohibited. Animals listed on Schedule 5 and their places of shelter and protection are protected from being killed injured or taken. Wild plants listed in Schedule 8 are protected from being uprooted and sold. The act contains measures for preventing the establishment of non-native species listed in Schedule 9 which may be detrimental to native wildlife.

3.3.4 *The Countryside and Rights of Way Act 2000*

The Countryside and Rights of Way (CRoW) Act 2000 (as amended) is an Act of UK Parliament normally gives a public right of access to land mapped as 'open country' or registered common land. These areas are known as 'open access land'. Public rights of way are typically listed and described in Definitive Maps and Statements (legal records of public rights of way) usually held at a local authority's office or library.

3.4 LOCAL POLICY

3.4.1 *Welwyn Hatfield Borough Council Draft Local Plan 2013-2032*

The Local Plan is now adopted, superseding the previous local development plan documents and providing the basis for assessing all development until 2032. The policies considered of relevance to the Site are summarised below:

Policy SP11 – Protection and Enhancement of Critical Environmental Assets

The protection, enhancement and management of the environmental, ecological and historic assets within the borough, will be sought commensurate with their status, significance and international, national and/or local importance.

Development that would secure positive improvements to and ensure the long-term conservation of ecological and heritage assets for the enjoyment of future generations will be supported.

Policy SP12 – Strategic Green Infrastructure

The Council will aim to ensure there is no overall net loss in green infrastructure across the borough within the plan period. Development that would compromise the integrity, functionality or cause significant fragmentation of the green infrastructure network will not be permitted.

Priorities for the creation and enhancement of green infrastructure include river corridors, sites designated for their nature conservation, heritage and/or landscape value and areas of Urban Open Land that are important for community recreation. Development proposals within the borough should plan positively for, and contribute to, the creation and management of high quality, multifunctional green spaces that are linked to the surrounding green infrastructure network.

This policy specifically mentions improvements to the River Mimram through the Green Corridor Project.

Policy SADM 14 – Flood Risk and Surface Water Management

This policy states that an appropriate development-free corridor along watercourses should be maintained, and opportunities taken to naturalise watercourses to improve their ecological status, biodiversity and habitat connectivity.

Policy SADM 16 – Ecology and Landscape

Proposals will be expected to maintain, protect and wherever possible enhance biodiversity, the structure and function of ecological networks and the ecological status of water bodies.

Proposals will be expected to help conserve and enhance the borough's natural and historic landscape, and sit comfortably within the wider landscape setting. Proposals should take full account of the

relevant Landscape Character Assessment and adopt the strategy and guidelines for managing change.

4. Analysis & Evaluation

4.1 INTRODUCTION

This section of the management plan constitutes an analysis of the current condition of Singlers Marsh compared to the 2013-2023 Management Plan, and whether it is achieving its full potential. It takes the factual information set out in the Site Description a stage further by discussing the quality of important features alongside any identified threats and issues, combined with the aspirations of Welwyn Hatfield Borough Council. This evaluation will determine the aims, objectives and future management actions for Singlers Marsh over the next ten years.

4.2 CONTINUATION OF MANAGEMENT & FUNDING

The previous 10-Yr LMP for Singlers Marsh LNR had at its core the following objectives:

To maintain and enhance habitats throughout the nature reserve for a wide range of typical local species, but especially for those of chalk streams, willow scrub and damp meadow.

To maintain and improve access by local people and visitors for local recreation and enjoyment.

To encourage educational use.

To achieve the EU's Water Framework Directive 'Good Quality' status for the River Mimram by 2027.

It would appear that through the delivery of the LMP and ongoing management these objectives are being met with a great deal of success. Over the last 10-years the habitats within the LNR have continued to be maintained and enhanced through grazing with native English longhorn, coppicing and pollarding of willow which has also provided a task for volunteer involvement, and the removal of silt from the chalk stream and replacement with local gravel, which is still

evident in places along the river. These management operations along with reduced abstraction from Fulling Mill Pumping Station will be helping to contribute towards achieving 'Good Quality' status for the River Mimram.

Recent surveys show the site is well used and enjoyed by the public, and by hosting an annual Family Fun Day on site, new people are regularly being introduced to the LNR.

In essence, Singlers Marsh LNR is continuing to achieve everything it has previously set out to achieve, and therefore ongoing management will largely be a continuation of this success story. A significant part of this will be the production of a new Higher Level Stewardship application in 2023 to secure a further 5 to 10-years of funding to support ongoing management.

4.3 TREE MANAGEMENT

Willow trees are a good source of early season nectar for bees and other insects, their cracks, hollows and fissures are commonly used by birds for nesting and bats for roosting.

If left unmanaged, mature willow trees have a tendency to fracture and shed limbs, or can entirely fail from the stem. These hazards present a risk to users of the site, and also have the potential to alter the watercourse and floodplain habitat. Although willows have the fantastic ability to take root from any section which means even fallen/failed stems will keep on living, it is a shame to see large mature specimens fail when they could have been retained through management.

The willows on Singlers Marsh are on a rotational programme of coppicing and pollarding which gives greater control over allowing natural processes to occur, and reduces health and safety risks on the publicly accessible site. This type of management stimulates new growth and provides a variety in the structure, which in turn provides

differing levels of light and habitats for wildlife. This programme has been concentrated to the north of the reserve and should continue; very little willow management has taken place along the ditch to the south of the reserve, and as such the trees screen the view of the ditch. It should be noted that flooding during the winter in the northern compartment may occasionally impede access for tree works.

It was recommended in the previous LMP to regularly monitor the condition of mature trees to ensure public safety, and undertake tree work as necessary; this should continue, with a primary focus on the southern half of the site where the majority of visitor access and amenity use takes place. Dead wood should be retained where possible to provide a habitat for invertebrates and fungi.

4.4 RIVER MANAGEMENT

The impact of reduced abstraction on river flow, flooding and surface water within the LNR is not yet fully known. Monitoring water levels across the site at regular intervals throughout the year will give a greater understanding of this impact, and it would be beneficial to then meet with Affinity Water and other stakeholders to discuss potential projects, such as creating a wetland area along the old drain. This is a project that has been previously suggested by the River Lea Catchment Partnership to capitalise on potential for more surface water to be present on site following reduced abstraction.

Whilst recent projects have helped to improve the river bed, the river banks are impacted by poaching from cattle in the northern compartment and dogs in the southern compartment. Poaching is leading to the deterioration of habitat on the banks and is exposing the soil which is vulnerable to erosion, causing siltation of the river. Unrestricted access to the river by the cattle will also be polluting the river which will be working against the aim of achieving 'Good Quality' status for the river.

It is recommended that a meeting is held with key stakeholders including the Herts & Middlesex Wildlife Trust, Environment Agency, Affinity Water, Friends of the Mimram to discuss improvements to the River Mimram. In the northern compartment there is the potential to install drinking troughs to provide cattle with drinking water, and install fencing at the top of the banks to prevent access. To help the banks recover, the natural bank profile could be reinstated by using natural materials such as coir rolls. In the southern compartment the banks could be strengthened by installing coir rolls in areas where dogs access the river. Due to the LNR status of the site, these activities will require a bespoke permit application to be submitted to the Environment Agency.

It is important to continue building strong partnerships with local stakeholders such as the Wildlife Trust, Affinity Water and River Lea Catchment Partnership to ensure the management of Singlers Marsh LNR is of benefit to the wider River Mimram corridor and so the site can be considered for inclusion within any catchment scale improvement programmes.

4.5 SCRUB & HEDGEROW MANAGEMENT

Scrub should be managed to prevent encroachment on to the grassland. Coppicing on rotation, scalloping edges and selective working, provides varying habitats for wildlife through age and structural diversity and creates habitat niches. Linear scrub features, such as those along the western site boundary, for example, would benefit from moving scalloped edges to create habitat niches.

It was suggested to lay the hedge on the boundary to the central pumping station in the previous management plan in order to thicken the hedge and provide a denser habitat for nesting birds and to maintain a moderate height; this has not yet been undertaken and should be implemented.

4.6 GRASSLAND MANAGEMENT

Grazing in the northern compartment has helped to increase botanical diversity in the sward. Conservation grazing should continue as part of the HLS scheme.

The amenity grassland in the southern compartment should continue to be mown to provide recreational use, however botanical surveys could be commissioned to determine whether small adjustments to the frequency of mowing would improve species diversity. An intense mowing regime in the growing season of 2011 and 2012 was implemented to control the growth of nettles, this appears to have been successful as now nettle is limited to underneath the willow trees along the ditch in the southern compartment of the site. The presence of nettle in this location should be monitored, and control reinstated if it begins to spread back into the grassland.

4.7 INVASIVE SPECIES

Monitoring for invasive species should be ongoing, and management will need to adapt with the results of the monitoring. Of particular concern is the spread of Himalayan balsam from upstream, and the river should be included in the monitoring programme. Management of Japanese knotweed should continue following the recommendations from the INNS Management Plan.

4.8 ACCESS & AMENITY

Singlers Marsh is one of only a few places where people have open access to the River Mimram. The 'Windows of Vision' project by the River Mimram Catchment Management Group (of River Lea Catchment Partnership) has opened up sections of scrub bordering the river to increase light to the river course, but also to allow passers-by to see the river and 'increase their awareness of it'.

New interpretation boards were installed in 2015 at the key entrances to the north and south of the site, helping visitors to understand the

history, environmental importance and management of the reserve. The interpretation boards appear to be in good condition; they should be monitored and if any instances of graffiti occur, they should be cleaned. An additional interpretation board could be installed at Fulling Mill Pumping Station to describe the history of abstraction on site and highlight the recent reduction in abstraction and how that might impact the site.

The semi-natural, informal nature of the reserve and frequent winter flooding means that installing surfaced pathways is not suitable for all areas, however along high traffic areas at entrances and internal kissing-gates it may be beneficial to maintain good accessibility for visitors. This could be in the form of gravel-bound surfaced paths or recycled-plastic boardwalks; recycled-plastic boardwalks can be installed in sections as budget availability allows and they will require less maintenance in the future. The previous LMP recommended the mowing of main 'desire' paths through the northern half of the site as necessary; however, this may contradict the management aims of this section of the site. The frequency of visitors may be enough to keep paths marked and the grass short in-between the surfaced sections.

The upkeep of pedestrian access points should continue and litter removed when necessary. The gates are currently not accessible to wheelchair users, the gate at the southern entrance could be upgraded to accommodate wheelchairs. The break in the fence at the southern tip of the site should be repaired to prevent access to motorbikes and maintain a single point of access.

5. Aims & Objectives

5.1 VISION STATEMENT

Singler's Marsh Local Nature Reserve will continue to be an important example of a chalk stream and associated floodplain habitats which support a variety of rare and protected wildlife. It will retain a sense of enclosure through the management and enhancement of boundary willow trees and scrub.

The grassland habitats onsite will continue to be managed for the benefit of both wildlife and recreational, with a combination of grazing and mowing.

The nature reserve will provide a valuable green space for local residents, volunteers and interest groups to enjoy the river. Pedestrian access will be open and well maintained.

5.2 AIMS & OBJECTIVES

The vision for Singler's Marsh LNR will be achieved through the following Aims and Objectives, and implementation of the Action Plan in Chapter 6. The Landscape Management Plan aims to support the requirements of the next Higher Level Stewardship Scheme.

A To secure, maintain and enhance the significant biodiversity value of Singler's Marsh LNR.

- A1 Continue undertaking rotational pollarding and coppicing of willow.
- A2 Protect and repair the river banks from poaching by installing fencing and coir rolls.
- A3 Manage scrub onsite to prevent encroachment into the grassland habitats and lay the hedgerow around the pumping station.

A4 Continue conservation grazing within the northern compartment and monitor to maintain appropriate stocking densities and timing of grazing.

A5 Continue regular monitoring of invasive species on site and control as required.

B To enable visitors and stakeholders to continue to safely access and enjoy Singler's Marsh LNR.

B1 Maintain safe access points to the Local Nature Reserve and repair fence at southern tip of the site.

B2 Install a new interpretation board at Fulling Mill Pumping Station.

B3 Undertake regular site risk assessments and resultant works related to access, trees and cattle.

B4 Continue to share updates through social media, newsletters and on-site signage.

B5 Identify high track areas for surfaced pathways to be installed.

C To secure the financial stability of Singler's Marsh LNR.

C1 Develop and submit a new Higher Level Stewardship application.

C2 Seek internal and/or external funding to support any additional capital projects, such as fencing and river bank repair.

6. Action Plans

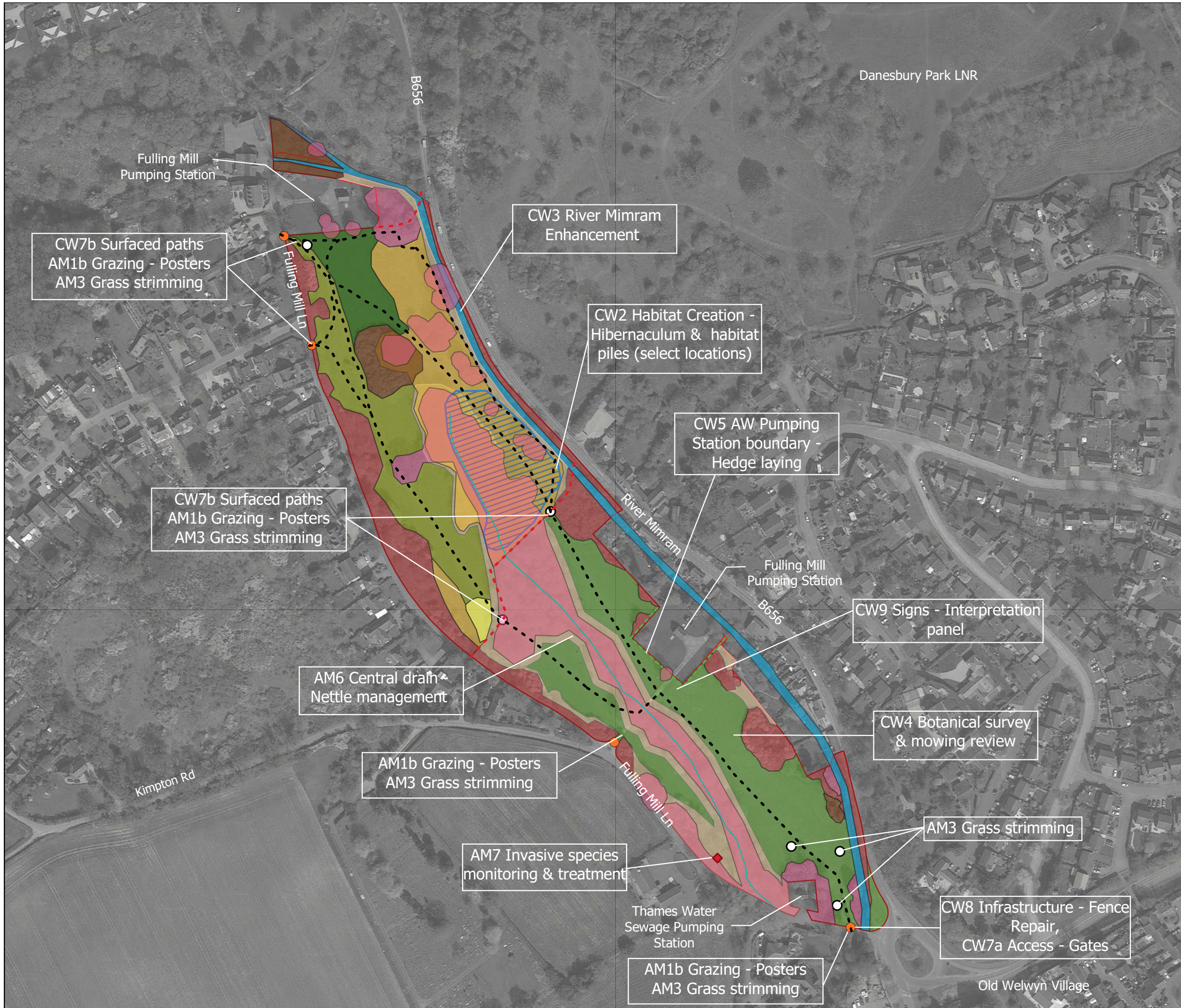
The following Action Plan section is divided into two tables. The first is a Capital Work Programme, covering all one-off items that will be delivered throughout the ten-year life span of the Management Plan. Each action is preceded by one or more objective references, and where appropriate suggests responsible parties and timescales.

The second table contains an Annual Maintenance & Monitoring Schedule including all of the regular tasks required to maintain the site in a positive condition. It should be noted that the schedule does not include for any reactive remedial works and standalone operations that will be determined by future management plan meetings.

6.1 CAPITAL WORKS PROGRAMME

Ref	Item	Description of Works	Year	Timing / Restrictions	Responsibility	Quantity	Unit	Pre-commencement Actions
CW1a	Higher Level Countryside Stewardship Scheme extension	Extend existing HLS agreement by 5-years up to 2028.	1	By June 2023	WHBC	n/a	n/a	ACTION COMPLETE
CW2	Habitat Creation – Hibernaculum & habitat piles	Use materials from coppicing / scrub removal for the creation of a hibernaculum, amphibian and reptile habitat. Situating the hibernaculum on the eastern boundary of the northern compartment joining suitable marsh habitat and river bank.	All	n/a	FoG; Volunteers	-	-	To be timed with other vegetation management works.
CW3a	River Mimram Enhancement – Initial Meeting	Meeting between WHBC and key stakeholders including the Herts & Middlesex Wildlife Trust, Environment Agency, Affinity Water, Friends of the Mimram (and others) to discuss the condition of the river and plans for improvement, in accordance with the Water Framework Directive.	1	n/a	WHBC; HMWT; EA; AW; FoM etc	1	Item	
CW3b	River Mimram Enhancement – Project Design	Put together detailed designs for undertaking meaningful improvements to areas of the River Mimram on Singlers Marsh. This is likely to include the installation of hazel faggots and pre-planted coir rolls to improve the flow and condition of the banks. Protect bank re-establishment via fencing, continuing to provide access to water for cattle through drinking trough in an effort to reduce the impacts of poaching.	1-2	n/a	WHBC; TBC	1	Item	Consultation with HMWT on design. Responsibility & funding TBC
CW3c	River Mimram Enhancement – Project Implementation	Further to design and agreement, implement works to enhance the River Mimram.	2-3	TBC	WHBC; Contractor; TBC	1	Item	Responsibility & funding TBC
CW4	Southern Compartment – Botanic Survey & mowing review	Undertake a botanical survey of the Southern Compartment to confirm current species assemblage and distribution; use this information to potentially change current mowing regimes to help encourage improved habitat interest and diversity.	1	May - Aug	TBC	1	Item	Seek to deliver survey through volunteer support if possible.
CW5	AW Pumping Station boundary - Hedge laying	Lay the native hedgerow that surrounds the central pumping station. It is important that this work is undertaken with the supervision of a skilled hedgerow laying contractor, and/or a volunteer group that has experience with this particular task.	1-2	Sep-Feb	Contractor; FoG; Volunteers	110	L m	
CW6	Scrub management	Undertake clearance of scrub where encroaching into grasslands, site entrances, paths and/or the River Mimram. Areas to include the northern woodland compartment, the central drain, and the western boundary. Scrub clearance to include scalloping of linear groups, creating diversity in edge, depth and height in order to encourage niche habitats. Arisings to be re-used on site where possible (i.e. hibernacula creation), or otherwise to be gathered and removed from site.	All	Sep - Feb	FoG; Volunteers	100	m ²	Quantity is an approximate amount per year.

Ref	Item	Description of Works	Year	Timing / Restrictions	Responsibility	Quantity	Unit	Pre-commencement Actions
CW7a	Access - Gates	Consider upgrading fencing at the south entrance from Fulling Mill Lane to provide disabled access, whilst continuing to preventing access to vehicles.	1	n/a	WHBC	1	No.	Discuss ideas with local residents and establish funding support
CW7b	Access – Surfaced paths	Undertake site assessment with contractor to identify extent of boardwalk sections required. Contractor to supply quotes for both gravel-bound pathways and recycled plastic boardwalk pathways to determine budget requirements. Commission path installation.	1-2	n/a	WHBC; Contractor	TBC	L m	
CW8	Infrastructure – Fence repair	Repair the gap in the fence in the southern compartment.	1	n/a	WHBC	1	No.	
CW9	Signs – Interpretation panel	Design and install and interpretation panel at Fulling Mill Pumping Station.	2	n/a	WHBC	1	No.	Seek input from Affinity Water.
CW10	Pollarding	Bring willow trees back into management through pollarding. Follow pollarding schedule provided in Appendix A.	1-5	Sep - Feb	Contractor	71	Trees	Ecologist to undertake a Preliminary Roost Assessment (PRA) for bats before pollarding begins.



Key

- Site Boundary
- Stock Fencing
- Walked Paths
- Spring
- River Mimram
- Access Points
- Furniture
- Hedgerow
- ◆ Japanese Knotweed
- Standard Tree Cover
- Mixed Woody Scrub
- Thorn Scrub
- Temporary Standing Water
- Species-Poor Rank Grassland
- Mown Secondary Grassland
- Rank Semi / Unimproved Grassland
- Meadow
- Wet Rank Grassland and Marsh
- Rank Tall Herbs and Nettles

Drawing Status	
ISSUE	
Client	
Welwyn Hatfield Borough Council	
Project	
Singlers Marsh Landscape Management Plan	
Title	
Site Action Plan Map	
Scale 1:2500	Drawn AS
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6.2 ANNUAL MAINTENANCE & MONITORING SCHEDULE

Ref	Item	Detail	Start	End	Frequency	Years	Quantity	Unit	Responsibility
AM1a	Grazing – Annual inspection	Undertake a walkover check of all grazing infrastructure including gates, fences, corral, and troughs.	Apr	May	Annual	All	1	Item	Grazier
AM1b	Grazing – Posters	Put up site posters informing the public about the re-introduction of grazing on site.	Jun	Jun	Annual	All	1	Item	Grazier
AM1c	Grazing – Re-introduce cattle	Cattle to be re-introduced to Singlers Marsh (timing dependent on ground conditions).	Apr	May	Annual	All	1	Item	Grazier
AM1d	Grazing – Remove cattle	Cattle to be removed from Singlers Marsh (timing dependent on ground conditions).	Sep	Oct	Annual	All	1	Item	Grazier
AM2	Litter picking & rubbish clearance	Litter picking tasks to be conducted along pathways and river; any bins or fly-tipping to be regularly emptied and cleared as required.	Jan	Dec	Annual	All	1	Item	Contractor; FoG
AM3	Grass strimming	Strimming of grass and vegetation around site entrances, signs, benches and other amenities.	Apr	Oct	Approx. 3-4 times during growing season.	All	1	Item	Contractor
AM4	Amenity grass cutting	Cut all amenity grass areas throughout growing season.	Apr	Oct	Approx. 10-12 times during growing season.	All	10,000	m ²	Contractor
AM5	Grass path cutting	Undertake a flail cut of grass perimeter path around Park Field. 2no. cuts per annum	May	Aug	Approx. 2 no. cuts per annum	All	1300	L m	Contractor
AM6	Willow pollarding	Undertake cyclical pollarding of mature crack willow trees every 5-7 years (to be confirmed through monitoring of re-growth). Aim to pollard approx. 6-8 trees per year. Retention of deadwood habitat where ever possible. Numbers and locations to be confirmed through HLS agreement.	All	Sep - Feb	Every 5-7 years	5 - 10	6-8	Trees per year	Contractor
AM7	Willow & Shrub coppicing	Undertake coppicing of willow stools (and any other coppiced shrubs) every 3-5 years (to be confirmed through monitoring of re-growth). Aim to focus on areas where re-growth is obstructing paths/views, in particular along the central ditch. Locations and quantity to be determined as part of annual FoG & Volunteer work programmes.	All	Sep - Feb	3-5 years	1, 4, 7, 10	TBC	-	Contractor / volunteers
AM8	Central drain – Nettle management	Monitor patches of nettle and if necessary, undertake targeted cutting of nettle where dominant patches occur along the central drain, often resulting from pollarding/coppicing works. Areas to either be brush-cut or mown, depending on location. Arisings to be gathered and removed from site.	All	Apr – Sep	Annual	All	TBC	-	Contractor

Ref	Item	Detail	Start	End	Frequency	Years	Quantity	Unit	Responsibility
AM9a	Invasive species – Monitoring	Continue to monitor for invasive species on site, particularly in areas of high risk (along the riverbank) and where invasive species have already been identified. Produce a Management Plan (if required) to guide treatment of newly-identified species.	May	Aug	Annual	All	1	Item	WHBC
AM9b	Invasive species – Treatment	Undertake treatment for Japanese knotweed in accordance with Management Plan and control Himalayan balsam if identified.	Aug	Oct	Annual	All	1	Item.	Contractor
AM10	Tree Safety Inspection & OPM Survey	Lantra-qualified Professional Tree Inspector to undertake a Tree Safety Inspection every 3 years; any trees with significant defects requiring remedial works will be recorded in a detailed report. Survey to include for inspecting oak trees for evidence of OPM	Jan	Dec	Every 3 years	1,4,7,10	1	Item	WHBC
AM11	Habitat & Wildlife Monitoring	Undertake ongoing monitoring of the condition and health of the River Mimram and other habitats on site; any findings of significance to feed into this LMP and to inform updated actions/maintenance as required.	Jan	Dec	Annual	All	n/a	Item	WHBC; FoG; HMWT

7. Monitoring & Review

The Singlers Marsh LMP is intended to cover a period of ten years, from 2023 to 2033. Monitoring will be used to measure the success of ongoing management and any capital enhancement works on site and to determine how site usage and habitats are responding to the changes. This information will then be utilised to modify management operations as required.

7.1 ANNUAL MANAGEMENT MEETINGS

It is recommended that annual management meetings are held between WHBC, Friends Groups and contractors in order to review the progress of site management for the current year, and to agree the work programme for the forthcoming year. This approach will allow management objectives to be adjusted through the course of this plan or as and when the conditions on site change in response to management.

7.2 MANAGEMENT PLAN REVIEW

The management plan is intended to run for a period of ten years in which time it is hoped that the majority of the actions set out within the Capital Works Programme will be completed. At the end of the ten-year period, a meeting will be held with the landowner and all relevant stakeholders to discuss the progress of the plan and review successes, failures, and lessons learnt. The process of reviewing and amending the document, and the preparation of new action plans, will help build a new plan for the period 2033 - 2043.

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Key

- Site Boundary
- Stock Fencing
- River Mimram
- Spring
- ◆ Japanese Knotweed

Pollard Schedule

- Repollard within 1 year
- Repollard within 2 years
- Repollard within 3 years
- Repollard in 5 years
- None (Consider removing/reducing in height)

Drawing Status

ISSUE

Client

Welwyn Hatfield Borough Council

Project

Singlers Marsh Landscape Management Plan

Title

Appendix A: Pollard Schedule

Scale 1:2500

Drawn AS

Date 05/06/23

Checked VJ

Drawing No. MH8351-004

Rev 2

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Appendix A: Pollarding Schedule

Eastings	Northing	Tree Number	Species	Recommendations	Comments
522980.21	216445.11	T1	Willow	Repollard within 1 year	East of Affinity building
522979.31	216453.59	T2	Willow	Repollard within 1 year	East of Affinity building
522977.62	216461.68	T3	Willow	None (Consider removing/reducing in height)	North of Affinity building, dead pollard/monolith
522975.35	216463.31	T4	Willow	Repollard within 1 year	North of Affinity building
522952.37	216460.5	T5	Willow	Repollard within 2 years	North of Affinity building
522940.52	216469.37	T6	Willow	Repollard within 2 years	East of stream
522937.95	216473.23	T7	Willow	Repollard within 3 years	East of stream
522933.78	216464.31	T8	Willow	Repollard within 2 years	South end of stream
522918.83	216506.98	T9	Willow	Repollard within 1 year	East of stream
522909.71	216532.35	T10	Willow	Repollard within 1 year	East of stream
522901.45	216545.87	T11	Willow	Repollard within 2 years	East of stream
522885.38	216554.75	T12	Willow	Repollard within 1 year	East of stream
522865.11	216551.66	T13	Willow	Repollard within 2 years	West of stream
522884.58	216539	T14	Willow	Repollard in 5 years	West of stream
522850.27	216574.59	T15	Willow	Repollard within 3 years	West of stream, north of track, recently pollarded
522844.28	216597.57	T16	Willow	Repollard within 2 years	East of stream
522839.91	216614.08	T17	Willow	Repollard within 1 year	East of stream
522832.79	216619.58	T18	Willow	Repollard within 2 years	East of stream
522819.68	216631.07	T19	Willow	Repollard within 2 years	On east bank of stream
522805.44	216659.23	T20	Willow	Repollard within 3 years	East of stream (main stem is in the stream)
522803.5	216664.09	T21	Willow	Repollard within 3 years	East of stream (main stem is in the stream)
522798.32	216665.06	T22	Willow	Repollard within 3 years	East of stream (main stem is in the stream)
522795.89	216667.81	T23	Willow	Repollard within 3 years	East of stream (main stem is in the stream)
522759.48	216746.46	T24	Willow	Repollard within 1 year	East of stream
522730.03	216770.86	T25	Willow	Repollard within 3 years	North end of stream
522727.42	216825.82	T26	Willow	Repollard within 2 years	West of river
522726.13	216832.29	T27	Willow	Repollard within 2 years	West of river
522726.65	216843.71	T28	Willow	Repollard within 1 year	On west bank of river
522724.64	216850.55	T29	Willow	Repollard within 1 year	On west bank of river
522713.31	216827.05	T30	Willow	Repollard within 2 years	East of powerlines

522722.51	216749.73	T31	Willow	Repollard within 3 years	West of stream
522759.44	216676.59	T32	Willow	Repollard within 1 year	West of stream
522774.34	216654.16	T33	Willow	Repollard within 1 year	West of stream
522774.5	216639.92	T34	Willow	Repollard within 1 year	West of stream
522763.17	216629.24	T35	Willow	Repollard within 1 year	West of footpath
522775.47	216647.36	T36	Willow	Repollard within 1 year	West of stream
522780.32	216644.45	T37	Willow	Repollard within 1 year	West of stream
522779.68	216638.79	T38	Willow	Repollard within 1 year	West of stream
522783.72	216635.23	T39	Willow	Repollard within 1 year	West of stream
522790.84	216642.18	T40	Willow	Repollard within 1 year	West of stream
522805.57	216625.84	T41	Willow	Repollard within 1 year	West of stream
522775.96	216622.12	T42	Willow	Repollard within 1 year	West of footpath
522743.1	216714.95	G1	Willow	Repollard within 1 year	Group of 19 willows in a straight line, west of stream, currently within flooded area
522742.61	216710.42	G2	Willow	Repollard within 3 years	West of stream, group of 10 small pollarded willows