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# WINGATES BOLTON INVASIVE NON-NATIVE SPECIES STRATEGY

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## **APPENDICES**

- Appendix A: Horsetail Guidance Note (TEP ref: 9665.02.007)
- Appendix B: Applicable Legislation
- Appendix C: GB Non-Native Species Secretariat ID Sheets
- Appendix D: Warning Signage Template

## **DRAWINGS**

- Drawing 1 – Phase 1 Habitat Plan (TEP ref: G9042.001)
- Drawing 2 – Proposed Extents of Excavation and Vertical Membrane Barrier plan (Japanese Knotweed Solutions ref: JK21-7525-02)
- Drawing 3 - Ecological Mitigation Area – Works and Invasive Species Plan (TEP ref: D9042.001A)
- Drawing 4 -.Combined Illustrative Landscape Masterplan (TEP ref: D9665.001B).

## Executive Summary

1. An Invasive Non-Native Species survey of the Site was completed by Japanese Knotweed Solutions in August 2021. An updated Phase 1 habitat survey was also carried out during the same month by TEP.
2. The following Invasive Non-Native Species (INNS) were identified within the Site:
  - Japanese knotweed (*Fallopia japonica*);
  - Himalayan balsam (*Impatiens glandulifera*);
  - Cotoneaster spp; and
  - Rhododendron.
3. These species are listed in Part II Schedule 9 of the Wildlife and Countryside Act (1981) as amended, Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019 and listed as an Invasive Alien Species of Union concern under Regulation (EU) 1143/2014.
4. In addition to the INNS listed above, Horsetail (*Equisetum arvense*) was identified within the Site. This is a native species which is also highly invasive, however it is not a Schedule 9 INNS species, and therefore a separate Guidance Note (TEP ref: 9665.02.007) has been produced.
5. A combination of Management Strategies is proposed, which provide principles for how the INNS will be treated and managed across the Site based on their locations and respective impact on development proposals. This includes:
  - Herbicide and mechanical treatment for infestations located outside of the development footprint; and
  - Excavation and onsite treatment for infestations located within the development footprint.
6. A detailed method statement for the management of INNS in relation to the works associated with the Ecological Mitigation Area has been provided, which applies to the management considerations and strategies in this area based on the detailed information available.
7. INNS have been identified outside or on the site boundary in a number of locations. It is advised that Harworth Group contacts the relevant landowner to undertake a proactive and combined approach to treatment. This is necessary to reduce the risk of the INNS spreading further into the development Site.
8. A separate Horsetail Guidance Note has been produced (TEP ref: 9665.02.007), to provide considerations for works conducted in areas where this species is present.
9. A monitoring and review process has been outlined which provides a mechanism for assessment during the construction of the development in conjunction with the treatment strategy. Monitoring will also continue for a minimum 5-years post construction.

## 1.0 Introduction

### **Purpose of the Strategy**

- 1.1 This Invasive Non-Natives Species Strategy has been produced by The Environment Partnership (TEP) Limited on behalf of Harworth Group, to provide a proactive approach to comprehensive management of invasive non-native species (INNS) associated with the commercial development at Wingates, Bolton (hereby referred to as the 'Site').

### **Structure of the Strategy**

- 1.2 Chapter 2.0 comprises the findings from the site survey, Chapter 3.0 provides a summary of the factors influencing management. Chapter 4.0 outlines the management strategy and principles for managing INNS on the Site, Chapter 5.0 provides a detailed method statement for works associated with the Ecological Mitigation Area, and Chapter 6.0 sets out how the success of the plan will be monitored, reviewed and updated.
- 1.3 Appendix A contains the Horsetail Guidance Note (TEP ref: 9665.02.007), Appendix B contains a summary of applicable legislation, Appendix C contains the GB Non-Native Species Secretariat (NNSS) ID sheets for identified species and Appendix D provides a warning signage template which can be used to sign an exclusion zone.
- 1.4 The following drawings have been included within the document:
- Drawing 1 - Updated Phase 1 Habitat Plan (TEP ref: G9042.001);
  - Drawing 2 - Proposed Extents of Excavation and Vertical Membrane Barrier plan (Japanese Knotweed Solutions ref: JK21-7525-02); and
  - Drawing 3 - Ecological Mitigation Area – Works and Invasive Species Plan (TEP ref: D9042.001A); and
  - Drawing 4 -Combined Illustrative Landscape Masterplan (TEP ref: D9665.001B).
- 1.5 This Strategy should be read in conjunction with the following:
- Chapter 7 - Biodiversity of the Environmental Statement;
  - Detailed Planting Plan for New Full Application (Slot-in) - Overall Plan (TEP ref: D9665.004B-006B);
  - Detailed Planting Plan - Ecological Mitigation Area (TEP ref: D9645.002C),
  - Existing and Proposed Topography for Ecological Mitigation Zones (TEP ref: D9645.011A);
  - Parameters Plan (RPS ref: NK018161-SK062 Rev H);
  - Vegetation Clearance Plan (TEP ref: 9665.02.008);
  - Arboricultural Method Statement (TEP ref: 9645.012A-014A);
  - Wingates - Planning Condition 27 - Phasing / Extent of Works (Walker Sime ref: Revision 7); and
  - Horsetail Guidance Note (TEP Ref: 9665.02.007).

## Planning and Development Context

- 1.6 A hybrid planning application was granted by the Secretary of State following a public inquiry in June 2021 for the strategic employment development of the Site (application ref: 04766/18).
- 1.7 This planning permission has since been superseded by a new permission (ref. 16776/23, dated 17th January 2024) which amended the original scheme to exclude the Chorley Road frontage part of the site including the landscape buffer. A corresponding new permission for the Chorley Road frontage (ref. 16770/23, dated 17th January 2024) was granted to incorporate a new access, road realignment and altered landscape buffers in this area.

### Planning Condition

- 1.8 Hybrid planning permission was granted, subject to conditions, including Condition 24 which states:
- Prior to the commencement of any phase of works hereby permitted, a Vegetation Clearance Plan shall be submitted to and approved in writing by the local planning authority. The Plan shall include details of:*
- i. Pre-commencement inspection of trees to be felled for bat roost potential by a licensed ecologist, with works applicable done under the supervision of an ecologist;*
  - ii. A clearance programme (including grassland, tree and scrub vegetation removal) and Reasonable Avoidance Measures Method Statement to protect species as detailed in ES paragraphs 7.155 to 7.159.*
  - iii. A Non-Native Species Strategy as detailed in ES paragraph 7.160.*
- The approved details shall be complied with throughout the duration of the vegetation clearance works.*
- 1.9 This Strategy has been written to partially discharge Condition 24. It is also consistent with the drawings listed under condition 11 of planning permission reference 16770/23 relating to landscape planting for the new access and road realignment and to the drawings produced for planning permission reference 16776/23.

## Legislative Context

- 1.10 Invasive non-native species are defined as those which are either listed on Part II Schedule 9 of the Wildlife and Countryside Act (1981) as amended, Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019 and/or listed as an Invasive Alien Species of Union concern under Regulation (EU) 1143/2014.
- 1.11 Under both the Wildlife and Countryside Act (1981) and the Invasive Alien Species (Enforcement and Permitting) Order 2019, it is an offence to allow plants referenced to grow in the wild (including via moving contaminated soil or plant cuttings). Liability may also extend in situations where a landowner has knowingly permitted the spread of invasive non-native species on to neighbouring land.

### Removing Waste from Site

- 1.12 Many INNS cannot be composted because:
- They are usually persistent;
  - They will survive the composting process; and
  - They often infest areas where compost is already used.
- 1.13 Under the Environmental Protection Act 1990, The Environment Agency consider any waste arisings containing INNS to be classed as 'controlled waste' (Controlled Waste (England and Wales) Regulations 2012). If the waste containing INNS also contains chemicals (following treatment), it could be classed as 'hazardous waste' for which there is a 'duty of care' to adhere to (Hazardous Waste (England and Wales) Regulations 2005).
- 1.14 Material containing INNS should be disposed of by a registered waste carrier in accordance with The Environmental Protection (Duty of Care) Regulations 1991 and The Waste Management Licensing Regulations 1994. These require that all soil and plant material to be handled under permit and disposed of only at permitted waste disposal facility. Checks can be carried out on the Department for Environment, Food and Rural Affairs (DEFRA) website to check that a contractor is registered as a business who is licenced to transport, buy, sell or dispose of waste<sup>1</sup>.
- 1.15 Relevant applicable legislation is provided in Appendix B and further advice regarding INNS is available from the Environment Agency<sup>2</sup>.
- 1.16 This Invasive Non-Native Species Strategy has been prepared in accordance with legislation outlined in Appendix B and in line with the Property Care Association (PCA) publication - Practical Management of Invasive Non-Native Weeds in Britain and Ireland<sup>3</sup>, which responds to the DEFRA Great Britain Invasive Non-native Species Strategy<sup>4</sup> and emphasises the short, medium and long term actions needed to manage most of the plants listed on Part II Schedule 9 of the Wildlife and Countryside Act and Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) (Amendment) Order.

### **Site Location**

- 1.17 The Site is located on UK grid reference SD 64372 07561 and lies approximately 7.5 km west of Bolton town centre. The Site is bounded by the A6 Chorley Road to the north, Wimberry Hill Road and Wingates Industrial Park to the east, agricultural land to the south, and Dodd Lane and further agricultural plots to the west.

<sup>1</sup> <https://environment.data.gov.uk/public-register/view/search-waste-carriers-brokers>

<sup>2</sup> <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>

<sup>3</sup> <https://www.property-care.org/professionals/invasive-weed-control/manual-management-invasive-weeds/>

<sup>4</sup> <https://www.gov.uk/government/publications/the-great-britain-invasive-non-native-species-strategy>

## Site Description

- 1.18 The Site is open agricultural grassland divided into a number of plots through agricultural field boundaries and hedges. There are a number of ponds on the Site which will be lost, but subsequently mitigated for as part of the development. There is a watercourse in the south-east corner of the Site which is not impacted by Invasive Non-Native Species.
- 1.19 The Site is accessible from Wimberry Hill Road in the east, and from Dodd Lane in the west. There is also a private road/track running through the Site from the A6 Chorley Road in the north to service two properties to the south of the Site.
- 1.20 A number of Public Rights of Way (PRoW) encompass and dissect the Site:
- WES048 - Dodd Lane which forms part of the western boundary of the Site;
  - WES029 - Located adjacent to the western boundary;
  - WES045, 046 & 047 - Running north to south directly through the centre of the Site following the route of the private road/track;
  - WES044 - Linking the PRoW WES045, 046 & 047 with Wimberry Hill Road and WES043 to the east of the Site;
  - WES043 & 042 - Running adjacent to the eastern boundary along Wimberry Hill Road before entering a block of woodland and the Site itself in the southeast corner; and
  - WES033 - Forms part of the private road in the south of the Site.



## 2.0 Site Assessment

### Site Survey

- 2.1 Phase 1 habitat surveys have been carried out by TEP in 2018 and on the 27<sup>th</sup> August 2021. The survey identified Japanese knotweed, Himalayan balsam and Cotoneaster spp. within the Site.
- 2.2 An Invasive Non-Native Species survey was carried out in August 2021 by Japanese Knotweed Solutions Ltd. The survey identified Japanese knotweed, Himalayan balsam, Cotoneaster spp and Rhododendron within the Site.
- 2.3 The survey also identified Horsetail along an existing farm track. This species is summarised in the Horsetail guidance Note (TEP ref: 9665.02.007).
- 2.4 The table below lists the INNS identified on the Site and the locations mapped on the updated Phase 1 Habitat Survey plan (TEP ref: G9042.001).

*Table 1 Invasive Non-Native Species Identified*

Common Name <i>Botanical Name</i>	Location
Japanese knotweed <i>Fallopia japonica</i>	Japanese knotweed is located extensively within the field margins and areas of existing vegetation in the north-west corner of the Site.
Himalayan balsam <i>Impatiens glandulifera</i>	Himalayan balsam is largely located within the field margins and in the north-western area of the Site and often found alongside Japanese knotweed.  A further infestation of Himalayan balsam was also noted along the existing access track in the south of the Site.
Cotoneaster spp.	There are two stands of Cotoneaster spp. present onsite. The first is located in close proximity to the eastern boundary and an area of woodland under third party ownership.  The second is located within the centre of the Site, adjacent to the existing private road/track.
Rhododendron	Rhododendron has been identified adjacent to the southern boundary in an area of scrub that is set to be retained as part of the development.

### Species Detail

- 2.5 The GB Non-Native Species Secretariat has produced detailed INNS identification sheets which are included in Appendix C to enable all staff to positively identify the INNS identified on the site.

## **Japanese Knotweed**

### Prevalence

- 2.6 Extremely dominant plant which displaces native species and thrives in damp soils, but is found in most urban habitats, particularly brownfield sites, railway embankments and waterway banks. The underground rhizome systems have a lateral spread of up to 7m and a vertical depth of up to 3m. This exacerbates flooding and bank erosion along rivers and streams when water levels are high.

### Spread

- 2.7 Japanese knotweed propagates from rhizomes, rhizome fragments, crown fragments and stem fragments.

## **Himalayan Balsam**

### Prevalence

- 2.8 Himalayan balsam is widespread throughout the UK, being particularly prevalent along riverbanks, where it can form dense monocultures. When plants die back in the winter, they can leave banks exposed and susceptible to erosion and flooding.

### Spread

- 2.9 Spreads via its explosive seed capsules which can disperse seeds up to 6m away, and these may be subsequently transported downstream along water courses.

## **Cotoneaster spp.**

### Prevalence

- 2.10 Cotoneaster species are low-growing or erect perennial evergreen, semi-evergreen or deciduous shrubs and small trees.
- 2.11 Wall cotoneaster is the most prevalent of the species and has distinctive flattened branches which spread horizontally.

### Spread

- 2.12 Cotoneaster typically spreads via seeds distributed by birds but can be propagated from semi-hardwood cuttings.

## **Rhododendron**

### Prevalence

- 2.13 Rhododendron prefers moorland, woodland, rocky outcrops and acidic soils. Its rapid spread of dense coverage reduces biodiversity by shading competitor species out.

### Spread

- 2.14 Rhododendron primarily reproduces and spreads by seed distributed by wind, water, animals and in topsoil. Regeneration can also occur from small rhizome fragments and stem layering.

## Responsibility for Management

- 2.15 Harworth Group will retain ultimate responsibility for the Site and will instruct a contractor to treat the INNS.
- 2.16 The appointed contractor must:
- Operate within the conditions in 'treatment and disposal of invasive non-native plants: RPS178'<sup>5</sup>; and
  - Have the relevant waste carriers licence.

### Third Party Land

- 2.17 Japanese knotweed and Himalayan balsam were identified outside or on the site boundary in the north-west corner of the Site. Himalayan balsam was also identified on the south-west boundary of the Site and Cotoneaster spp was identified on the eastern boundary.
- 2.18 Harworth Group will undertake further consultation with third party landowners to establish a coordinated approach and to agree an effective method to control and management of all INNS to prevent further spread into the Site.

## Ecological Considerations

- 2.19 When undertaking INNS treatment, care must be taken to prevent disturbance to areas potentially supporting protected habitats and species. Ecological constraints are laid out within Chapter 7 - Biodiversity, of the Environmental Statement and detailed in the following section.

### Flora

#### *Woodland and Trees*

- 2.20 The Site features broad-leaved plantation woodland and occasional scattered trees which are associated with the field boundaries. A woodland compartment on the north-west boundary of the Site has INNS present. As part of the current proposals a lot of this habitat is set to be retained however there are areas of woodland and trees in the north-west of the Site to be removed which must carefully consider the presence of invasive non-native species.

#### *Hedgerows*

- 2.21 Native hedgerows feature throughout the Site forming the internal field boundaries and are largely set to be lost as part of the development.

#### *Scrub and Grassland*

- 2.22 Semi-improved and neutral grassland dominate the Site due to the Site's previous agricultural use for grazing. Silage fields are largely located to the west of the Site which include rank grass field margins.

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<sup>5</sup> <https://www.gov.uk/government/publications/treatment-and-disposal-of-invasive-non-native-plants-rps-178/treatment-and-disposal-of-invasive-non-native-plants-rps-178>

- 2.23 Dense and scattered scrub is located around the Site including around the ponds and as part of the former field boundaries. There is an area of dense scrub in the north-west of the Site with invasive non-native species present.

*Watercourse and Waterbodies*

- 2.24 There are six ponds featured around the Site and one small ephemeral pool located to the north-west of the Site in close proximity to a stand of Japanese knotweed. These waterbodies are set to be lost as part of the development with new ponds to feature within the Ecological Mitigation Zone.
- 2.25 There is a small section of watercourse in the south-east corner of the Site which is not impacted by the presence of invasive non-native species.

Fauna

*Amphibians*

- 2.26 Great crested newts (GCN) were identified within three ponds on the Site through eDNA surveys conducted by TEP (2021).
- 2.27 GCN are protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended and the Conservation of Habitats and Species Regulations 2017 (as amended). Under this legislation it is an offence to intentionally kill, injure or capture GCN. It is also an offence to intentionally or recklessly damage, destroy or obstruct access to places used by GCN for shelter or protection or to disturb them whilst they are occupying these habitats.
- 2.28 Any works affecting this species will require a licence application to Natural England which in turn will need to demonstrate maintenance of the favourable conservation status of the species.
- 2.29 Common toad larvae were identified within three ponds on the Site.
- 2.30 Common toads are listed as a species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 alongside other native amphibian species. Common toads are also protected from sale under the Wildlife and Countryside Act (1981).

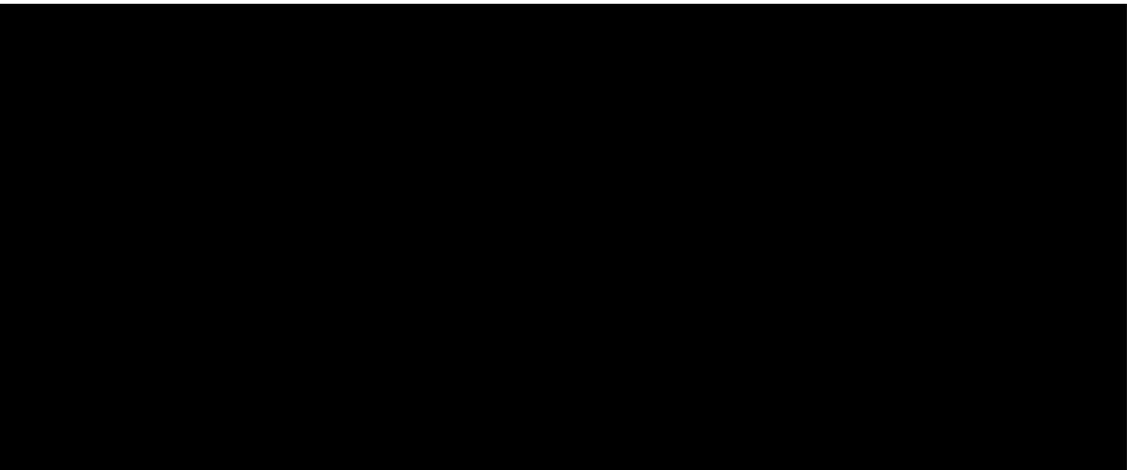
*Breeding Birds*

- 2.31 Breeding birds were confirmed within the Site boundary during the breeding bird survey (TEP, 2018) with habitat set to be retained for these species as part of the landscape proposals.
- 2.32 All UK wild birds are protected while at the nest under the Wildlife and Countryside Act (1981). Effectively, this means that if removal of habitats (which can include buildings, trees, hedges, scrub and grassland) cannot be timed to avoid the bird breeding season (March to August inclusive), then a survey by a suitably experienced ecologist will be required to ensure no nesting birds will be affected. There is generally no process to gain a licence to disturb nesting birds; therefore, if active nests are present works will need to avoid the area of the nest until the young have fledged.

2.33

2.34

2.35



*Hedgehog (Erinaceus europaeus)*

2.36 There is no evidence of hedgehog on the Site however, the woodland, scrub and hedgerows provide potential habitat for this species.

2.37 Hedgehogs are listed as a species of principle importance under Section 41 of the NERC Act (2006).

*Brown Hare (Lepus europaeus)*

2.38 An individual brown hare was observed on Site during the Phase 1 Habitat Survey (TEP, 2018) and again during an updated site walkover in October 2020 with the retained scrub and woodland providing habitat for the species.

2.39 Brown hare are listed as a S41 species of principal importance under the NERC Act (2006).

**Legal Considerations**

2.40 Management of the Site must be in line with all legislation relating to health and safety and the environment.

Public Health and Safety

2.41 There are a number of Public Rights of Way (PRoW) which run through and dissect the Site. Contractors undertaking INNS treatment must carefully consider proximity to the public when working in the west and east of the Site as there are PRoW located adjacent to the boundaries here.

Health and Safety

2.42 Harworth Group will appoint a principal contractor under the Construction (Design and Management) (CDM) Regulations 2015 who will be responsible for all aspects of Health and Safety across the development site during the construction phase.

## 3.0 Management Considerations

- 3.1 In order to establish the best treatment and management options for the Site, the following factors have been considered:

Current development proposals, timescales and phasing;  
Treatment cost and timescales; and  
All other limiting factors detailed in Chapter 2.0 Site Assessment.

- 3.2 Where further detailed proposals are available for specific phases of works, the designs and programmes of work should be assessed against to above factors to provide detailed solutions taking into consideration the management considerations outlined below and the overarching management strategy for INNS present on the Site.
- 3.3 In the Chapter 5.0 of the plan, these elements have been expanded on to provide a detailed approach for the first phase of construction work and the implementation of the Ecological Mitigation Area.
- 3.4 The Phasing Extent of Works (Walker Sime, 22.05.23 rev 7) has been prepared to discharge planning condition 27 and provides information on landscaping delivery, phasing and timing of landscape works, which is due to commence in Quarter 2 of 2024 and be delivered by the end of Quarter 3 of 2026.
- 3.5 Chapter 4.0 Management Strategy provides detailed information on control and eradication of INNS within and outside the development footprint. The proposed Strategy is in line with the phasing detailed in the Phasing Extent of Works (Walker Sime, 22.05.23, rev 7).

### **Risk Assessment and Method Statements**

- 3.6 Any works carried out by contractors should be accompanied by a Risk Assessment Method Statement (RAMS) detailing appropriate biosecurity measures to be observed for the duration of the works, outlining the scope of the works undertaken, and any ongoing monitoring/works required. The RAMS should detail the likelihood of any associated works spreading INNS around the site or locale and, if applicable, provide measures to eliminate or reduce the risk to an acceptable level.

### **Biosecurity**

- 3.7 Biosecurity is defined as ensuring that good practices are in place to reduce and minimise the risk of spreading INNS as a result of interference. Good biosecurity practices are always essential, even if INNS are not always apparent.
- 3.8 Biosecurity should be considered at the earliest stage when planning any site work, from surveying an area to treating or removing INNS, as well as any other works on Site. Some biosecurity measures can be as simple and as quick as making sure footwear is clean.
- 3.9 Biosecurity advice for the duration of all site works is as follows, until the site is declared free of INNS:

Plan visits so that the most risky visit is the last one of the day;

Establish exclusion zones around known infestations of INNS as detailed below;  
Arrive at the site with clean footwear and vehicle;  
Keep access to a minimum;  
If practical do not take vehicles onto the site or exclusion zone, keep to established tracks and park vehicles on hard standing;  
Where possible avoid areas known to contain INNS;  
Ensure footwear is clean (visually from soil and debris) before leaving the site;  
Ensure vehicle is kept clean - in particular remove any accumulated mud before leaving the site; and  
Make use of facilities provided on the site to clean footwear/equipment, preferably by scrubbing with a stiff haired brush and sanitizing.

### **Erecting Exclusion Zones**

- 3.10 Exclusion zones will be established around each INNS infestation, where feasible, and will consist of orange net fencing or similar. For Japanese knotweed, the fencing will be positioned at no less than 7 linear metres laterally from the main stand and for Himalayan balsam, it will be no less than 6 linear meters from the outer plants. For cotoneaster and rhododendron fencing can be installed closer to the plants however fencing at 6 linear meters is advised to limit disturbance to these species.
- 3.11 The exclusion zone will ensure that future operations on Site, including mowing/trimming or movement of soil will not risk spreading INNS. Warning signage should be displayed clearly on the fencing, see Appendix D for a warning signage template.
- 3.12 Access to the exclusion zones should be avoided, however where this cannot be avoided, any persons or machinery entering these zones will need to ensure they have adhered to appropriate biosecurity measures outlined above.

### **Toolbox Talks**

- 3.13 A toolbox talk will be given during the site induction to ensure that site workers are able to identify the INNS. Biosecurity measures and the location of INNS will also be included in all site briefings. All instances of identified INNS should be recorded on contract plans and site risk assessments where applicable, and updated versions of plans and risk assessments issued to site workers and visitors.

### **Chemical Use**

- 3.14 Contractors may need any of the following to dispose of certain chemicals:
- An environmental permit;
  - A waste exemption; and
  - Trade effluent consent.
- 3.15 INNS control, where feasible, should be undertaken by non-chemical means and consideration should be given to the fact that chemicals can prevent growth of grasses and woody species. However, in certain instances, Glyphosate based herbicides may be the most effective control measure.

- 3.16 Where herbicide application is needed this should be in small, controlled areas and should only target the species prescribed in this strategy. Herbicides should comply with the Control of Pesticides Regulations 1986 and the Control of Pesticides (Amendment) Regulations 1997 and be on the Pesticide Register Database<sup>6</sup>.
- 3.17 The contractor appointed to treat INNS will require the necessary experience and certificate of competence appropriate to undertake herbicide based invasive non-native species treatment on Site as prescribed in Chapters 4.0 & 5.0, such as the NPTC City & Guilds Level 2 Principles of Safe Handling and Application of Pesticides. The contractor will ensure that treatment complies with the biosecurity measures and guidelines set out in this Strategy.
- 3.18 Under the Control of Substances Hazardous to Health Regulations 2002<sup>7</sup>, the contractor will carry out a Control of Substances Hazardous to Health Assessment before works begin.
- 3.19 Where Glyphosate is to be used within 10 metres of water, care must be taken to only use formulations of Glyphosate which are approved for use close to water. It is essential that the Environment Agency is notified, and an authorisation letter obtained via the submission of Form AqHerb01: Agreement to use herbicides in or near water<sup>8</sup>.

### **Contamination from Other Sources**

- 3.20 In order to prevent future infestations on Site, the risk from adjacent land should be assessed and liaison with neighbouring landholders should be undertaken.
- 3.21 Procedures should be put in place to ensure any imported landscaping materials are free from INNS.
- 3.22 All topsoil imported onto the Site should comply with the British Standard Specification for Topsoil (BS 3882:2015).

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<sup>6</sup> <https://secure.pesticides.gov.uk/pestreg/>

<sup>7</sup> <https://www.hse.gov.uk/coshh/>

<sup>8</sup> <https://www.gov.uk/government/publications/application-to-use-herbicides-in-or-near-water>



## 4.0 Management Strategy

- 4.1 The management strategies below have been set out to provide a combination of treatment methods that should be adopted based on the locations of the infestation and with consideration to any variation in the project timescales.
- 4.2 Where reference numbers have been detailed, please refer to the Proposed Extents of Excavation and Vertical Membrane Barrier Plan (Japanese Knotweed Solutions ref: JK21-7525-02) included as Drawing 2.

### **Invasive Non-Native Species - Outside of the Development Footprint**

#### Japanese Knotweed

- 4.3 Japanese knotweed not located within the development footprint will be treated by herbicide spray method.
- 4.4 Whilst treatment is ongoing, disrupting the rhizome structure of Japanese knotweed by disturbing the soil must be avoided as it is likely to result in substantial regrowth. The rhizome system can spread 7 linear metres from the nearest stand, resulting in the requirement for an 'exclusion zone'.

#### *Herbicide Spray Method*

- 4.5 Japanese knotweed will be treated using a Glyphosate based chemical herbicide spray.
- 4.6 Glyphosate will be applied three times per year during May, July and September.

#### Himalayan Balsam

- 4.7 Himalayan balsam not located within the development footprint will be treated through a combination of strimming and herbicide methods depending on the location of the infestation. Where located next to or among Japanese knotweed, the species should be sprayed with herbicide to avoid disturbing the Japanese knotweed. Where there are standalone infestations, Himalayan balsam will be strimmed.

#### *Strimming and/or Herbicide Spray Method*

- 4.8 Where possible, Himalayan balsam will be strimmed below the bottom nodule annually in late April / early May before the species flowers and sets seed. The resulting material can be left on Site to compost as there will be no seeds in the flower heads. Return visits to strim new shoots will be carried out through a minimum of one visit per month, at no more than four-week intervals until the first frost.
- 4.9 Where the strimming method is not feasible due to presence of Japanese knotweed, Himalayan balsam will be treated by a Glyphosate-based chemical herbicide spray applied during May, July and September.
- 4.10 Using these methods, the seed bank in the soil should be exhausted after two to three years.

### Cotoneaster spp.

- 4.11 The cotoneaster spp. located along the eastern boundary of the Site will be cut and treated with herbicide. The stand of cotoneaster will be fenced off with exclusion fencing throughout the construction and treatment process.

#### *Cut and Stump Treatment Method*

- 4.12 Cotoneaster will be cut and treated using a Glyphosate based chemical herbicide spray applied annually in July.
- 4.13 This method will cut cotoneaster stems close to ground level. Large diameter individuals can only be cut by chainsaw, but smaller specimens and regrowth may be cut using hand tools such as bow saws and loppers.
- 4.14 The cut material will then be removed as green waste.
- 4.15 The remaining stumps will be treated with a glyphosate wipe immediately after cutting or as soon as practicable where prevented by rain.
- 4.16 Regrowth from stumps and roots after the initial clearance will be done by hand cutting, brush cutting, or targeted glyphosate spray application.
- 4.17 New cotoneaster growth will be treated annually in July until no new regrowth is evident.

### Rhododendron

- 4.18 The stand of rhododendron (R1) will be treated in situ using the cut and herbicide spray method as it does not impact development.

#### *Cut and Herbicide Spray Method*

- 4.19 The rhododendron will be cut and treated using a Glyphosate based chemical herbicide spray applied annually in July.
- 4.20 This method will cut rhododendron stems close to ground level. Large diameter individuals can only be cut by chainsaw, but smaller specimens and regrowth may be cut using hand tools such as bow saws and loppers.
- 4.21 The cut material will then be cut and stacked or chipped within the area of scrub along the southern boundary.

### Chipping

- 4.22 Chipping would be done in-situ using tracked chippers. Small diameter material would be processed entirely. Larger diameter stems (>150mm) would be extracted and stacked in log piles with the remaining brush processed by chipping. Woodchip would be formed into piles to limit the adverse effect on regeneration of ground flora and would not be spread across the ground.

- 4.23 Woodchip piles should be distinct and well-spaced; they should not be formed into linear bunds and should be no more than 1.5m in height. Piles should be located where rhododendron growth has already diminished floral diversity wherever possible. Log piles should be stable and should not exceed 1.5m in length or width, or 1m in height. They may be used to contain the spread of woodchip by forming a barrier against which to spray woodchip.

#### Stump Treatment

- 4.24 All hand cut stumps that are larger than 80mm will be treated using Merving Ecoplugs according to the manufacturer's instructions. These will be installed as soon as practicable after felling. They will be applied at a rate of one plug per 40mm of stem diameter (i.e. a 200mm diameter stump would require 5 plugs) and installed at even spacing around the cambial layer.
- 4.25 Stumps smaller than 80mm in diameter would be treated with a glyphosate wipe immediately after cutting or as soon as practicable where prevented by rain.
- 4.26 Regrowth from stumps and roots after the initial clearance will be done by hand cutting, brush cutting, or targeted glyphosate spray application. Rhododendron is relatively shallow rooting and new growth from seed will be removed by hand pulling.
- 4.27 New rhododendron growth will be treated before it reaches 1.3m in height and before it flowers.

#### Constraints for all species

- 4.28 Care will be taken to only use formulations of Glyphosate which are approved for use close to water. The Environment Agency will be notified if spraying in or in close proximity to water and an authorisation letter will be obtained.
- 4.29 Where Glyphosate is to be used within 10 metres of water, care must be taken to only use formulations of Glyphosate which are approved for use close to water. It is essential that the Environment Agency is notified, and an authorisation letter obtained via the submission of Form AqHerb01: Agreement to use herbicides in or near water<sup>9</sup>.
- 4.30 It will be noted that Glyphosate can take more than three years to be fully effective, particularly if the stand is well established.
- 4.31 Consideration has been given to the fact that chemicals can prevent growth of grasses and woody species in landscape schemes with contractors advised to minimise chemical drift which could affect the surrounding vegetation.

### **Invasive Non-Native Species - Inside of the Development Footprint**

#### Japanese Knotweed

- 4.32 Part of one stand of Japanese knotweed, JK2, will require excavating due to its location within the proposed development footprint. Following excavation, the contaminated waste will be treated onsite using the following method.

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<sup>9</sup> <https://www.gov.uk/government/publications/application-to-use-herbicides-in-or-near-water>

#### *Excavate and Onsite Treatment Method*

- 4.33 The Japanese knotweed infestation located in the development footprint will be treated by herbicide stem injection approximately two weeks before excavating in order for it to take effect and ensure that any remaining plant material has minimal chance of survival.
- 4.34 Part of JK2, as detailed on the Proposed Extents of Excavation and Vertical Membrane Barrier plan (Japanese Knotweed Solutions ref: JK21-7525-02), will be excavated up to 7 linear metres outward from the main stem and to a depth of 3 metres. A suitably qualified person will ensure that all rhizomes are removed in their entirety or chased back to the location of the vertical membrane barrier. It is recommended that inspections take place after every bucket load to check for the presence of rhizomes. A recent infestation may have a limited rhizome system that is shallow and only extends a short distance.
- 4.35 The excavated material will be deemed contaminated waste and an appropriate area onsite will be identified as a receptor site to receive the contaminated soil. The position of the receptor site will be suitable so that ongoing treatment of subsequent re-growth can be undertaken as per the herbicide treatment method outlined in the section above. A receptor site should ideally be located behind a vertical membrane barrier and already be contaminated with Japanese knotweed.
- 4.36 Great care should be taken to avoid excess waste and ensure the excavated material does not contaminate surplus soil that is currently free from infestation.
- 4.37 It is preferable to excavate the contaminated soil and transport to the identified receptor site immediately.
- 4.38 If this is not possible, storage in a sealed container or skip on site is a suitable alternative until transportation to the receptor site can be arranged.
- 4.39 Soil can become compacted if driven over or worked when wet. This reduces rainwater infiltration, which increases runoff and may spread Japanese knotweed across the site and into watercourses.

#### *Warranties*

- 4.40 Warranties and guarantees are available for eradication works to give assurance that works have been completed in accordance with the specification and terms and conditions of the contract. The warranty and/or guarantee will allow the client or any subsequent beneficiary of any warranty to contact the contractor responsible for undertaking the works and ask them to remedy the situation.
- 4.41 It should be noted that the majority of warranties and guarantees will place an onus on the contractor undertaking the works to carry out ongoing monitoring and reporting of the site in some instances for the duration of the warranty and/or guarantee.

#### Himalayan Balsam

- 4.42 Stands of Himalayan balsam will require excavating due to being located within the development footprint. HB1, 2 and 3 will be treated following the excavation and onsite treatment method detailed below.

#### *Excavation and Onsite Treatment Method*

- 4.43 Himalayan balsam will be strimmed below the bottom nodule prior to the works in late April / early May before the species flowers and sets seed. The resulting material will be removed to the receptor site to compost as there will be no seeds in the flower heads.
- 4.44 Soil contaminated with Himalayan balsam located within the development footprint will be soil-stripped 6m from the outer edge of the stands of Himalayan balsam or back to the location vertical membrane barrier (JK1), the top layer of soil where the seed bank is contained will be excavated to a minimum depth of 200mm.
- 4.45 This material will be deemed contaminated waste and an appropriate area onsite will be identified as a receptor site to receive the contaminated soil. The position of the receptor site will be suitable so as treatment of the following years growth can be easily carried out as specified above. A receptor site should ideally already be contaminated with Himalayan balsam.
- 4.46 Great care should be taken to avoid excess waste and ensure the excavated material does not contaminate surplus soil that is currently free from infestation.
- 4.47 It is preferable to excavate the contaminated soil and transport to the identified receptor site immediately.
- 4.48 If this is not possible, storage in a sealed container or skip on site is a suitable alternative until transportation to the receptor site can be arranged.

#### Cotoneaster spp.

- 4.49 The stand of Cotoneaster spp. located within the development footprint (CT1) will be treated using the offsite disposal method.

#### *Offsite Disposal Method*

- 4.50 The cotoneaster spp. infestation will be treated with an herbicide spray before excavating and left in-situ for approximately two weeks prior to excavation. This will reduce the survival rate of any remaining material after excavated.
- 4.51 Great care should be taken to avoid excess waste and ensure the excavated material does not contaminate surplus soil that is currently free from infestation.
- 4.52 Soil can become compacted if driven over or worked when wet. This reduces rainwater infiltration, which increases runoff and may spread cotoneaster spp. across the Site and into watercourses.
- 4.53 It is recommended that inspections take place after every bucket load to check for the presence of cotoneaster spp.
- 4.54 It is preferable to excavate the material and load directly onto trucks for immediate disposal. If this is not possible, storage in a sealed container or skip onsite is a suitable alternative until transportation can be arranged.

- 4.55 The resulting material will be transported off site by a licensed waste carrier and disposed of only at a permitted waste disposal facility (approved landfill sites) in accordance with the Environmental Protection (Duty of Care) Regulations 1991.
- 4.56 A suitably qualified person will observe the loading of excavated material onto trucks and will ensure that these loads are sealed before leaving the site. Signed receipts will be obtained from all carriers of controlled waste that leave the site and these will be given to the Site Manager.
- 4.57 Trucks carrying controlled waste will be filled to a maximum of 20cm from the top and the void will be sealed with a well-secured membrane. It is vital that the material is contained to prevent any material being lost during transportation.

Constraints for all species

- 4.58 Care will be taken to only use formulations of Glyphosate which are approved for use close to water. The Environment Agency will be notified if spraying in or in close proximity to water and an authorisation letter will be obtained.
- 4.59 Where Glyphosate is to be used within 10 metres of water, care must be taken to only use formulations of Glyphosate which are approved for use close to water. It is essential that the Environment Agency is notified, and an authorisation letter obtained via the submission of Form AqHerb01: Agreement to use herbicides in or near water<sup>10</sup>.
- 4.60 It will be noted that Glyphosate can take more than three years to be fully effective, particularly if the stand is well established.
- 4.61 Consideration has been given to the fact that chemicals can prevent growth of grasses and woody species in landscape schemes with contractors advised to minimise chemical drift which could affect the surrounding vegetation.

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<sup>10</sup> <https://www.gov.uk/government/publications/application-to-use-herbicides-in-or-near-water>

## 5.0 Method Statement - Ecological Mitigation Area

- 5.1 This Chapter takes into consideration the strategies and management considerations outlined in the previous Chapters and applies a detailed approach to the management of INNS species within the Ecological Mitigation Area based on the current detailed proposals shown on the Detailed Planting Plan - Ecological Mitigation Area (TEP ref: D9645.002C), and the Existing and Proposed Topography for Ecological Mitigation Zone (TEP ref: D9645.011A).
- 5.2 Further consideration has been required due to the timing of the first phase of construction works, the locations of JK2, HB4 and HB5 in relation to the works, and updated arboricultural information which have influenced and informed the detailed design of the area.
- 5.3 The proposed first phase of construction works includes the creation of new mitigation ponds with adjacent landscaping, which will create an area of new habitat for amphibians onsite and will have a direct impact on the INNS present within this area. It is understood that these works will commence in Quarter 2 of 2024 and be delivered by the end of Quarter 3 of 2026.
- 5.4 This method statement should be implemented throughout the duration of works and activities associated with these works, including ground investigation, vegetation clearance, earthworks and landscaping.
- 5.5 Refer to Drawing 3 – Ecological Mitigation Area – Works and Invasive Species Plan (TEP ref: D9042.001A) for the proposed locations of the following measures.

### **Precautionary Measures**

- 5.6 Due to the extent and nature of the works involved, in addition to the constraints present within this area of the Site, the entire area will be fenced off as a controlled Work Zone in order to limit the spread of the INNS, particular Himalayan balsam, across the rest of the Site.
- 5.7 The Works Zone will be managed by a Designated Cleaning Area which will control access and egress to the Works Zone and ensure equipment and clothing is adequately cleaned and will consist of orange net fencing or similar. Warning signage should be displayed clearly on the fencing to differentiate the zones. Tree Protection Fencing will also be utilised to create Exclusion Zones around the perimeter of the Site due to the presence of INNS in the wider area.
- 5.8 Details have also been outlined for the provision of a Watching Brief by a suitably qualified professional<sup>11</sup> to supervise key stages of work.
- 5.9 A supporting plan has been produced which outlines locations of the proposed measures: Ecological Mitigation Area - Works and Invasive Species Plan (TEP ref: D9042.001A), which has been included as Drawing 3.

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<sup>11</sup> A person with the appropriate professional qualifications, training, skills and experience  
9665.02.007  
Version 1.0

### Works Zone

- 5.10 The Works Zone will be created to enclose the contaminated works area to limit the spread of INNS to other areas of the Site or off-site. Access and egress to the Works Zone will be controlled through the Designated Cleaning Area. The Works Zone fencing has been proposed adjacent to the phase boundary, to allow enough room for the works, and will be fenced off using Heras fencing. The works zone fencing will remain in place for the entire first phase of construction works and be reassessed ahead of any subsequent phases of works.

### Permanent Exclusion Zone - Tree Protection Fencing

- 5.11 The proposed Tree Protection Fencing will act as a Permanent Exclusion Zone around the perimeter of the Works Zone. There will be no access within the Permanent Exclusion Zone from the Works Zone, unless in the case of an emergency. The fencing should be installed with the appropriate signage as per the specification provided within the Arboricultural Method Statement (TEP ref: D9645.012A-014A).
- 5.12 It is understood that this fencing will be removed following the earthworks to enable planting along the western boundary.

### Temporary Exclusion Zones

- 5.13 Where the works allow, Temporary Exclusion Zones should be erected on the edge of the INNS buffer which has been mapped at 6 and 7 linear meters from the outer stands of Himalayan balsam and Japanese knotweed. These buffers will be considered the most contaminated areas due to the potential for seeds and roots of the respective species to be present. Where possible, Temporary Exclusion Zones should be created using orange net fencing, and as proposed on the supporting drawing (TEP ref: D9042.001A) to limit activity within these areas as appropriate.

### Designated Cleaning Area

- 5.14 A designated cleaning area will be set out as proposed on the Ecological Mitigation Area - Works and Invasive Species Plan (TEP ref: D9042.001A) located at the entrance to the Works Zone. This area will be used to manage cleaning of equipment and clothing, and access and egress within the contaminated Works Zone.
- 5.15 Precautionary measures will be undertaken to contain any contaminated material within the cleaning area. This can be achieved through proactive maintenance of this area ensuring all loose debris is swept up following each clean. The provision of a protective membrane laid on the ground will also be used to reduce the risk of contaminated material leaving the cleaning area. The location should be positioned at a reasonable distance from watercourses, ditches or drains to prevent contamination.
- 5.16 All equipment, machinery and PPE used within the exclusion zone must be cleaned within the designated cleaning area, particular attention should be paid to footwear, tyre treads and tracks, wheel arches and any other areas that might retain rhizomes or seeds.



- 5.17 The resultant material following cleaning must be contained, collected and disposed of along with other contaminated material to a licenced waste facility capable of received waste material contaminated with INNS.
- 5.18 The Principal Contractor, Site Manager and/or suitably qualified professional will supervise all cleaning within the designated cleaning area prior to exiting the Works Zone.

#### Watching Brief

- 5.19 It is recommended that key stages of the works are undertaken under the guidance of a suitable qualified professional to ensure the works follow the methods set out within this Method Statement. It is recommended that the suitably qualified professional is present for the erection and dismantling of the Designated Cleaning Area, and the Works and Exclusion Zone fencing. It is also recommended that they are present at the start of each stage of works to provide a briefing to new contractors and site workers on the measures set out on in this plan, in addition to enforcing the biosecurity measures applicable to ensure compliance with the relevant legislation and best practice.

### **Undertaking of the Works**

#### Vegetation Clearance

- 5.20 All INNS within the Works Zone will have been treated as specified in Chapter 4.0 prior to the undertaking of the vegetation clearance works.
- 5.21 It is understood that the entire Works Zone will receive a course of herbicide treatment in advance of a topsoil strip and then earthworks.
- 5.22 The topsoil strip should ideally be undertaken during the winter when Himalayan balsam has started to dieback. Herbicide treatment to all vegetation within the Works Zone will assist in eliminating any Himalayan balsam seedlings present but will not eliminate the threat due to the potential for presence of Himalayan balsam seeds within the soil seed bank.
- 5.23 All vegetation clearance works will also need to comply with the Vegetation Clearance Plan (TEP ref: 9665.02.008).

#### Earthworks

- 5.24 The Earthworks will be undertaken as per the Existing and Proposed Topography for Ecological Mitigation Zone (TEP ref: D9645.011A) to create a number of habitat ponds. These works should be undertaken adhering to the strict biosecurity measures outlined, with Temporary Exclusion Zones erected where possible to restrict increased movement in certain areas of the Works Zone.
- 5.25 If during these works, underground rhizomes or root matter (aside from shallow and fine roots from the grassland sward on the existing field) is identified then works should be stopped immediately and further advice sought.

### Landscaping

- 5.26 Planting and fencing should be undertaken as specified and effort should be made not to dig tree pits or post holes deeper or larger than required to keep disturbance to a minimum.
- 5.27 When working along the northern woodland edge planting area, caution should be had when digging post holes and tree pits within proximity of the Japanese knotweed. There may be shallow lying rhizomes or roots present within this area, which if disturbed can generate regrowth. If shallow lying rhizomes or roots are identified during these works, then the rhizomes should be 'chased' back using hand tools to the Tree Protection Fencing to ensure all rhizome and root matter is removed before planting can recommence. The waste material, including rhizomes, roots and soil deemed to be contaminated should be collected and moved to an appropriate area onsite which has been identified as a receptor site as per the strategy outlined in Chapter 4.0. These works should be carried out under the watching brief of a qualified professional.
- 5.28 It is recommended that a further herbicide application is applied to all areas prior to any seeding or planting to eliminate any Himalayan balsam seedlings that may be present, with the exception of the ponds/pond banks if they are holding water at the time of application.

### Watching Brief

- 5.29 As outlined in the section above, it is recommended that key stages of works are undertaken under the guidance of a suitable qualified professional to ensure the works follow the methods set out within this Method Statement.
- 5.30 It is recommended that the suitably qualified professional is present for the start of each stage of works to provide a briefing to new contractors and site workers on the measures set out in this plan. It is recommended that they are present when planting commences along the proposed northern woodland edge planting area.

### Treatment to INNS during the Works

- 5.31 Where treatment is ongoing to stands or infestations of INNS outside of the Works Zone, as per the strategies set out in Chapter 4.0, access should be achieved where possible via alternative routes to limit the spread of INNS into the works area.
- 5.32 Access through the Permanent Exclusion Fencing/Tree Protection Fencing from the Works Zone should be prohibited, unless where this cannot be avoided.

### Treatment following the Works

- 5.33 A variety of seed mixes have been specified across the mitigation area as part of the habitat creation works. This includes the seeding of areas between the woodland and woodland edge planting (as a nurse sward) so any ongoing treatment required via mechanical or use of herbicide should be minimised due to the potential impacts on the landscape scheme.

*Himalayan Balsam - Hand Pulling Method*

- 5.34 Himalayan balsam will be hand pulled and removed from the ground, in its entirety, by hand in late April / early May before the species flowers and sets seed. A follow-up visit will be required in July or August to remove any new plant growth following additional light reaching the seedbank. The treatment will be repeated until the seedbank is exhausted.
- 5.35 The resulting material can remain onsite in a suitable location to compost. Any plant material to be removed from site will be transported off site by a licensed waste carrier and disposed of only at a permitted waste disposal facility (approved landfill sites) in accordance with the Environmental Protection (Duty of Care) Regulations 1991 and The Waste Management Licensing Regulations 1994.
- 5.36 This should be undertaken in a thorough and diligent manner as once the surrounding planting has become established, access to some areas will be more difficult.

*Japanese Knotweed*

- 5.37 Where Japanese knotweed re-growth is identified, herbicide treatment will be the only likely solution and is likely to have some detrimental effects on the establishment of the new seeding and/or planting. Where this is required, herbicide could be applied carefully with consideration of the adjacent landscape with contractors advised to minimise chemical drift which could affect the surrounding vegetation.

## 6.0 Monitoring and Review

### Monitoring

- 6.1 If any further infestations of INNS are identified on Site in the future, exclusion zones will be established around them as detailed in Chapter 3.0.
- 6.2 Following guidelines provided in the Great Britain Invasive Non-Native Species Strategy, it is recommended that an Annual Monitoring Report be produced by Harworth Group and/or their contractor summarising:

All invasive non-native species present on Site;  
Condition of all invasive non-native species present on Site throughout the year (pre, during, and post treatment);  
Control methods implemented; and  
A critique of the success of the control methods.

- 6.3 The annual report will be supported by:

Date stamped photographs to show changes in condition of all invasive non-native species;  
Approximate sizes of the infestations in m<sup>2</sup>;  
Invasive non-native species location plan; and  
Any financial information.

### Review

- 6.4 This Strategy should be reviewed by Harworth Group and their consultants to ensure that the management strategies in this plan are effective and responding to the phases of work and development proposals for the Site.
- 6.5 This should be undertaken on an annual basis in June, or at the point where a phase has progressed and there are detailed proposals that provide further detail on the impact on INNS within that phase. The review process will continue throughout the treatment and construction phases of the development. This monitoring will also continue for a minimum 5-years post construction.
- 6.6 The review can be facilitated by undertaking a new Invasive Non-Native Species survey of the Site which will identify the need for any additional management methods in order to control and eradicate all invasive non-native species on the Site.

## Useful Links

### **Worldwide and European**

[Global Invasive Species Database](#)

[Invasive Species Compendium](#)

[NOBANIS - European Network on Invasive Species](#)

### **Great Britain**

[UK Centre for Ecology & Hydrology](#)

[Community Woodlands Association](#)

[Department for Environment, Food & Rural Affairs \(DEFRA\)](#)

[Environment Agency Guidance to stop invasive non-native plants from spreading](#)

[Forestry England](#)

[Joint Nature Conservation Committee - Invasive Non-Native Species](#)

[GB non-native species secretariat](#)

[The UK Biodiversity Action Plan](#)

[National Trust](#)

[The Wildlife Trusts](#)

[The Rivers Trust](#)

[English Heritage](#)

[Property Care Association](#)

## **Appendix A: Horsetail Guidance Note (TEP ref: 9665.02.007)**



THE  
ENVIRONMENT  
PARTNERSHIP

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# WINGATES BOLTON HORSETAIL GUIDANCE NOTE

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## 1.0 Introduction

### **Purpose of the Guidance Note**

- 1.1 This Guidance Note has been produced by The Environment Partnership (TEP) Limited on behalf of Harworth Group, to provide a summary and considerations for the management of Horsetail (*Equisetum arvense*) associated with the commercial development at Wingates, Bolton (hereby referred to as the 'Site').
- 1.2 An Invasive Non-Native Species (INNS) survey of the Site was completed by Japanese Knotweed Solutions in August 2021.
- 1.3 Several infestations of Horsetail were identified, a native plant species which spreads in an invasive manner and can become dominant if left unchecked. This can impact the landscaping within the proposed development, including the landscape buffer zones shown on the Combined Illustrative Landscape Masterplan (TEP ref: D9665.001B), which is appended to the Invasive Non-Native Species (INNS) Strategy (TEP Ref: 9665.02.006).
- 1.4 The Horsetail infestations are shown on the Proposed extents of excavation and vertical membrane barrier (Japanese Knotweed Solutions ref: JK21-7525-02) which is also appended to the Invasive Non-Native Species (INNS) Strategy (TEP Ref: 9665.02.006).
- 1.5 Several of these infestations are within an area associated with the new permission for the Chorley Road frontage (ref. 16770/23, dated 17th January 2024), which was granted to incorporate a new access, road realignment and altered landscape buffers in this area.
- 1.6 This Guidance Note has therefore been produced to provide considerations for those works which are required in the close vicinity of the species, with particular concern within the Landscape Buffer Zone associated with the A6 Road Realignment, as shown on Combined Illustrative Landscape Masterplan (TEP ref: D9665.001B).

### **Structure of the Strategy**

- 1.7 Chapter 2.0 comprises a summary of Horsetail and Chapter 3.0 provides a summary of the factors influencing management.
- 1.8 This Strategy should be read in conjunction with the Invasive Non-Native Species (INNS) Strategy (TEP Ref: 9665.02.006), and all documents referenced within the strategy.

## Horsetail

### Prevalence

- 1.9 Horsetail is a native, deep-rooted perennial weed which is found in a wide range of habitats, preferring acidic, poorly draining soils but can grow in almost any soils, with little nutrition requirements. There are several species of horsetail which are all poisonous to livestock and wild animals. The species is highly invasive, out-competing other plants within a habitat. Horsetail is extremely difficult to eliminate entirely, with management usually tailored toward suppressing vegetative growth. Figure 1 shows an image of the species.
- 1.10 Horsetail is a native species and therefore is not a Schedule 9 species and not subject to the legislation detailed within the Invasive Non-Native Species (INNS) Strategy (TEP ref: 9665.02.006). There is no legal obligation to prevent the spread of the species, however, due to its invasive nature, further spread could have significant impacts upon the habitats and landscape proposed within the Site, including the Landscape Buffer Zones.



*Figure 1 Horsetail*

### Spread

- 1.11 Horsetail have fast-growing rhizomes which spread underground, allowing the plant to quickly colonise an area. Horsetail can also spread through spores dispersed by the wind. The plant forms in dense carpets which prevents other plants from establishing.

### Biosecurity

- 1.12 The species can be extremely fast-spreading, and therefore consideration must be given to avoid further spread of the species.
- 1.13 Plans showing the location of Horsetail should be provided to all staff and a toolbox talk will be given during the site induction to ensure that site workers are able to identify Horsetail and apply measures to reduce the risk of spreading the species to the wider site. This will ensure that further spread of the species is minimised.

### Treatment Methods

- 1.14 The Horsetail on site could be managed through cutting and suitable herbicide treatment in order to prevent further growth of the species. However, should the species require eradicating, excavation, and transport of contaminated to an identified receptor site will be required.
- 1.15 Use of herbicide should only be used where necessary and with caution, as it can harm other plants and species within adjacent habitats.
- 1.16 Any cuttings should be removed and disposed off-site, as they can cause the species to spread if inadvertently moved to other habitats.



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## **Appendix B: Applicable Legislation**

Legislation	Obligation
<b>Legislation relating to specific INNS</b>	
Wildlife and Countryside Act (1981)	It is an offence to establish, or otherwise cause species listed on Part II Schedule 9 of the Act to grow in the wild (including via moving contaminated soil or plant cuttings). Liability may also extend in situations where a landowner has knowingly permitted the spread of invasive non-native species on to neighbouring land.
Invasive Species (Enforcement and Permitting) Order 2019	The Order imposes criminal penalties for the most serious breaches of the Regulations and for ancillary offences such as making false statements, attempts to commit offences and obstruction. Where criminal sanctions are not appropriate, civil sanctions allow a proportionate response to minor breaches such as monetary penalties, compliance, restoration and stop notices, enforcement and third-party undertakings. The Order gives an enforcement officer the power to enter premises without a warrant where there are grounds for suspicion that INNS are being kept on those premises.
EU Regulation (1143/2014) on Invasive Alien (Non-Native) Species	Under the EU Regulation (1143/2014) it is an offence to import, transport, sell, grow, cultivate or release into the environment a plant listed as a 'species of concern'. Penalties for this offence can include a fine or two-year custodial sentence. Additionally, there is a duty of care to ensure that responsibilities with respect to species identified as a 'species of concern' under the published European Commission Implementing Regulation 2017/1263 are understood, and also sets out a clear framework for dealing with these species in a coordinated manner across the continent.
<b>Legislation relating to Health and Safety</b>	
Management of Health and Safety at Work Regulations 1999	The landowner will be responsible for ensuring that risk assessments are undertaken for the Site this Regulation.
The Health and Safety at Work Act (1974)	All operations carried out on the Site must only be undertaken by trained personnel, using methods and equipment approved by the Health and Safety Executive (HSE).
Reporting of Injuries, Disease and Dangerous Occurrences Regulations (RIDDOR) 2013	The landowner is responsible for ensuring that accidents and incidents which occur on the Site are report to the relevant enforcing authority.

Legislation	Obligation
Construction (Design and Management) (CDM) Regulations (2015)	The Regulations are the main regulations for managing the health, safety and welfare of construction projects. The Regulations ensure work is planned for on a Site so that the risks involved are managed from start to finish and ensure that the right people are in place at the right stage of a construction project.
<b>Legislation relating to Chemicals and Waste</b>	
The Environmental Protection Act 1990	The Act provides structure and provision for the control of pollution arising from certain industrial and other processes. It brings together a system of pollution prevention and control and the disposal of waste to land, water and air.
The Environmental Protection (Duty of Care) Regulations 1991	The Environmental Protection Act 1990 imposes a duty of care on any person who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a broker, has control of such waste. The duty requires such persons to ensure that there is no unauthorised or harmful deposit, treatment or disposal of the waste, to prevent the escape of the waste from their control or that of any other person, and on the transfer of the waste to ensure that the transfer is only to an authorised person or to a person for authorised transport purposes and that a written description of the waste is also transferred.
Waste Management Licensing Regulations 1994	The Regulations place a responsibility (Duty of Care) on the organisations involved in the treatment to ensure that controlled waste is produced, stored, transported or disposed of without harming the environment
Controlled Waste (England and Wales) Regulations 2012	The Controlled Waste Regulations (England and Wales) 2012 states that household, industrial and commercial waste are classed as controlled waste and are subject to the Environmental Protection Act 1990.
Hazardous Waste (England and Wales) (Amendment) Regulations 2012 (updated April 2016)	The regulations ensure safe management of hazardous waste and provide cradle-to-grave documentation for the movement of hazardous waste. These regulations apply to anyone who produces, handles or manages hazardous waste from business or industry or acts as a waste broker in this respect.
The Control of Substances Hazardous to Health (COSHH) Regulations 2002	The COSHH Regulations require employers to control substances which are hazardous to health.

Legislation	Obligation
The Control of Pesticides Regulations 1986	The Regulations relate to the control of pesticide and aim to protect humans and safeguard the environment from pesticides. Only approved products may be sold, supplied, stored, advertised or used.
The Control of Pesticides (Amendment) Regulations 1997	The Control of Pesticides Regulations (COPR) is one of the laws that controls biocides in Great Britain (GB) and Northern Ireland (NI) to make sure that when they are used properly, they do not harm people, pets or the wider environment.
<b>Legislation relating to protected species</b>	
The Natural Environment and Rural Communities Act 2006	Section 40 of the NERC Act places a duty to conserve biodiversity on public authorities in England. It requires local authorities and government departments to have regard to the purposes of conserving biodiversity in a manner that is consistent with the exercise of their normal functions such as policy and decision-making. 'Conserving biodiversity' may include enhancing, restoring or protecting a population or a habitat.
Protection of Badgers Act 1992	It is a criminal offence, except where permitted by the Act, for a person to wilfully kill, injure or take or to attempt to kill, injure or take a badger.
The Conservation of Habitats and Species Regulations (As amended) 2017	The Habitat Regulations for England and Wales assign a greater level of protection to a variety of native species of animals and plants listed. The 2017 Regulations have been amended by the 2019 EU Exit Regulations

### Additional Legislation

Legislation covering the management, handling and disposal of invasive non-native species include the following:

- EU Directive on the conservation of natural habitats and of wild fauna and flora;
- EU Water Framework Directive;
- The Water Resources Act 1991;
- The Highways Act 1980;
- The Town and Country Planning Act 1990 (as amended);
- The Landfill (England and Wales) Regulations 2007;
- The Hazardous Waste Regulations 2005; and
- The Environmental Permitting Regulations 2010 (as amended).



## **Appendix C: GB Non-Native Species Secretariat ID Sheets**

# Himalayan Balsam

## Species Description

**Scientific name:** *Impatiens glandulifera*

**AKA:** Policeman's Helmet, Indian Balsam, Jac y Neidiwr (Welsh)

**Native to:** West and central Himalayas

**Habitat:** Found mostly on river banks and in damp woodland, can grow in other damp habitat

A tall, attractive, annual herb with explosive seed heads. Although easy to identify as a mature plant with its pink-purple flowers, fleshy stem and characteristic leaves, the seedlings and last year's dead stems of this annual are more difficult to spot.

Introduced as a garden plant in the early 19<sup>th</sup> century and first recorded in the wild in 1855. Often favoured by the general public for its aesthetic appeal and is still deliberately planted on occasion. Now widespread in the UK, especially along urban rivers. Spreads solely by seeds, which are small and easily carried by wind or water.

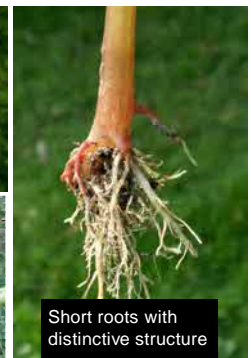
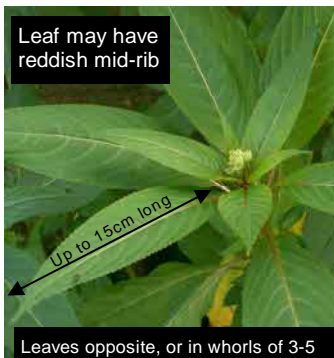
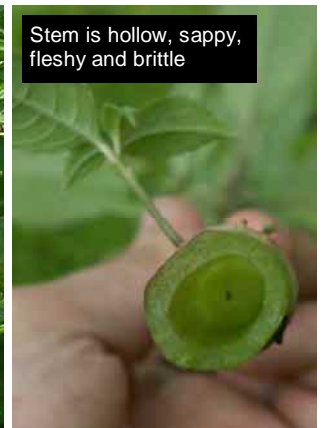
Out-competes native species in ecologically sensitive areas, particularly river banks. Where it grows in dense stands along river banks it can impede flow at times of high rainfall, increasing the likelihood of flooding. Die back of extensive stands over winter can leave river banks bare and exposed to erosion.

Himalayan balsam is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England and Wales. As such, it is an offence to plant or otherwise allow this species to grow in the wild.

For details of legislation go to [www.nonnativespecies.org/legislation](http://www.nonnativespecies.org/legislation).



## Key ID Features



# Identification throughout the year

Can be identified at most times of the year: March-June by its seedlings, stem and leaf shape, from July to September by its stem, leaf shape and flowers. More difficult to identify over winter (October to February), look for hay like remains and distinctive root structure.



Hay like remains in winter



Root structure in winter

## Similar Species

**Orange Balsam**  
Non-Native  
(*Impatiens capensis*)



Smaller leaves, with fewer serrations

Flowers slightly earlier, June to August

Orange balsam is much less aggressive than Himalayan balsam, forming smaller less dense stands

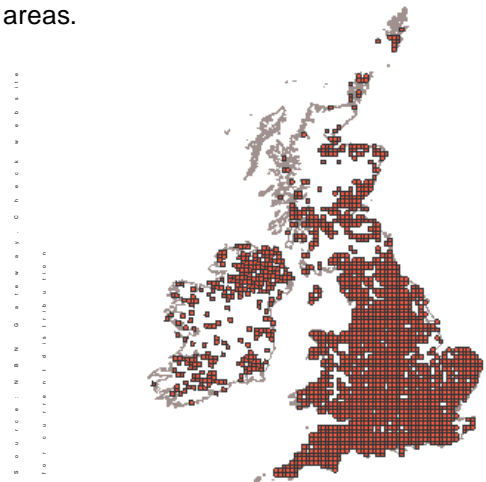
Flower is similar in shape but orange in colour

Smaller than Himalayan balsam, growing to a height of 1.2m



## Distribution

Widespread and common across the whole of the UK. Primarily on riverbanks and in other damp areas.



### References and further reading:

Blamey, M, Fitter, R and Fitter, A (2003) "The Wild Flowers of Britain and Ireland. The Complete Guide to the British and Irish Flora". A & C Black

Preston, C D, Pearman, D A and Dines, T A (editors) (2002) "New Atlas of the British and Irish Flora". Oxford University Press

Stace, C (1999) "Field Flora of the British Isles". Cambridge University Press

# Cotoneaster

## Species Description

**Scientific name:** *Cotoneaster* species

**AKA:** Cotoneasterau (Welsh)

**Native to:** Majority of species originate from east Asia

**Habitat:** Rough ground

A large group of small trees and prostrate shrubs that can be either evergreen or deciduous. They are becoming increasingly naturalised due to birds which eat the small red berries and spread the seed. There is one native species, wild Cotoneaster (*Cotoneaster cambricus*) which occurs as a few individuals in North Wales. This ID sheet includes those introduced species which are relatively common. Where they become established they can become dominant to the exclusion of native species.

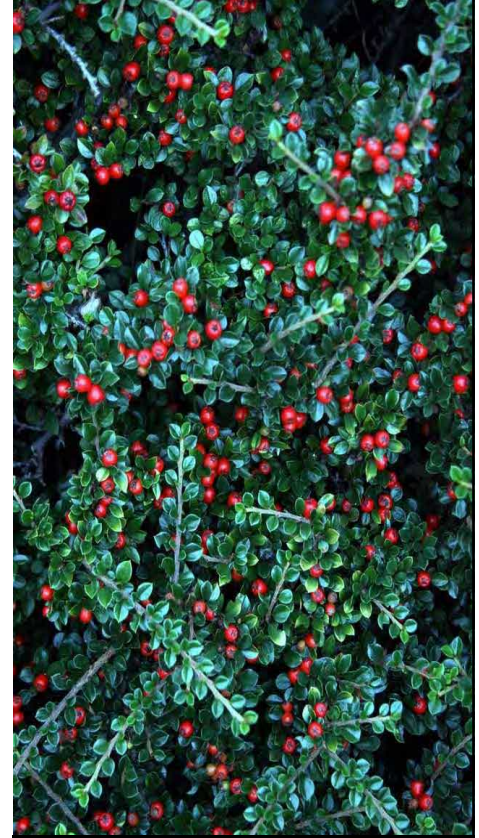
Himalayan cotoneaster (*Cotoneaster simonsii*) is an erect deciduous shrub 3-4 metres high with 1.5-2.5 cm long leaves; small-leaved cotoneaster (*Cotoneaster microphyllou*) is an evergreen low-growing shrub with very small leaves (0.5-0.8cm long) and tree cotoneaster (*Cotoneaster frigidus*) is a deciduous or semi-evergreen shrub or small tree with leaves between 6-15 cm long and flowers in dense clusters. All these species have leaves which are shiny and hairless on the upper surface and slightly hairy on the lower surface. Cotoneaster species do not have thorns.

Wall cotoneaster (*Cotoneaster horizontalis*) is the most widely recorded species and is distinctive in having stems that spread horizontally in flattened herring-bone like branches and bears single flowers. Unlike the other cotoneasters mentioned, the underside of leaves of this species are relatively hairless.

Cotoneasters have been in cultivation in GB since 1824 and there are over 100 species now widely cultivated in the UK. Other species could also become naturalised.

Cotoneaster species are listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England and Wales. As such, it is an offence to plant or otherwise cause these species to grow in the wild.

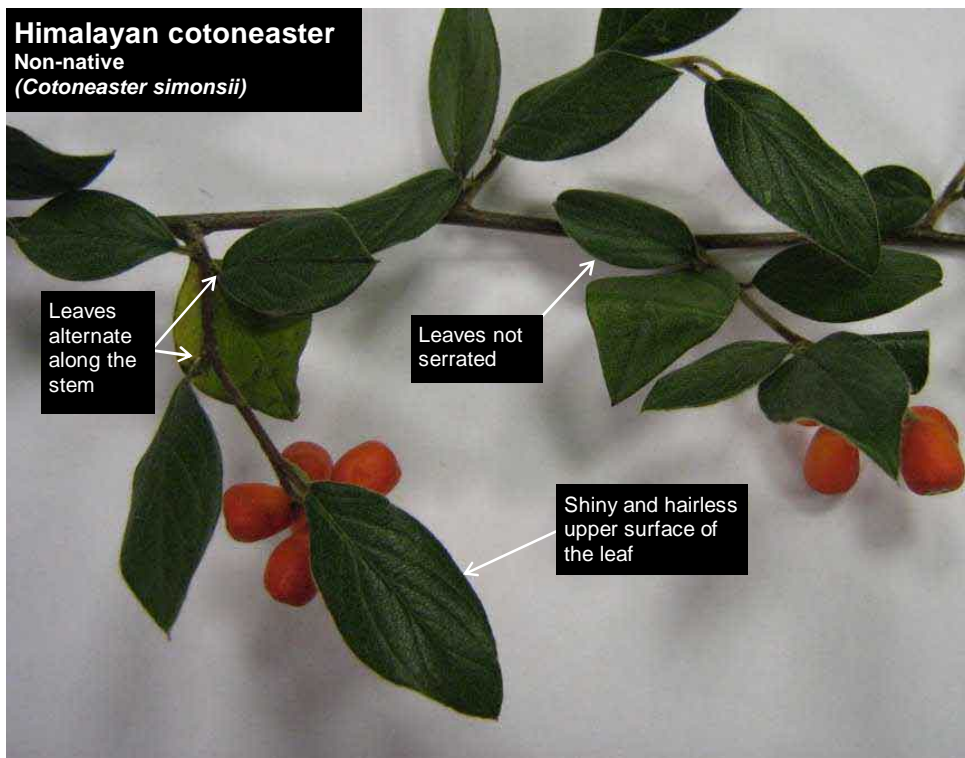
For details of legislation go to [www.nonnativespecies.org/legislation](http://www.nonnativespecies.org/legislation).



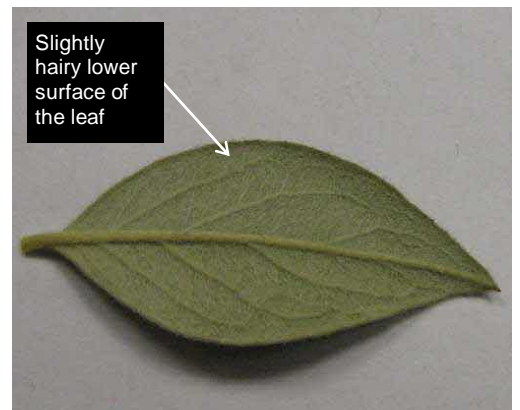
Himalayan cotoneaster (*Cotoneaster simonsii*)

## Key ID Features

**Himalayan cotoneaster**  
Non-native  
(*Cotoneaster simonsii*)



Slightly hairy lower surface of the leaf



Red/orange fruits in clusters

# Identification throughout the year

Evergreen species such as the small-leaved cotoneaster can be identified throughout the year by its leaves. Deciduous species can be identified by the presence of the red berries which can remain throughout winter and, in the case of wall cotoneaster, by the distinctive herringbone-shaped branches.



# Similar Species

**Firethorn**  
Non-native  
(*Pyracantha coccinea*)



A shrub with small serrated leaves that alternate along the stem, which has long thorns



**Wilson's honeysuckle**  
Non-native  
(*Lonicera nitida*)



Similar to the small leaved cotoneasters, leaves opposite not alternate

**Aromatic wintergreens**  
Non-native  
(*Gaultheria* species)



An evergreen shrub with alternate leaves and bell shaped flowers, unlike the five petalled flowers of cotoneasters

Other similar species which may be confused with cotoneaster include:

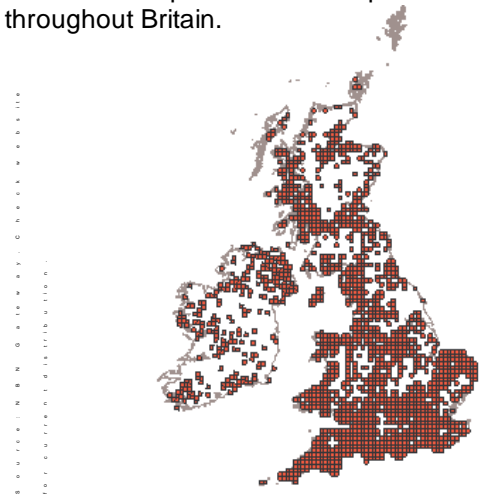
**Escallonia** (*Escallonia macrantha*) - an evergreen shrub which has alternate serrated leaves and numerous pinkish-red flowers, no thorns;

**Barberry** (*Berberis vulgaris*) - a thorny shrub with small serrated leaves, yellow flowers and red lozenge-shaped berries; and

**Sea buckthorn** (*Hippophae rhamnoides*) - a thorny densely branched shrub with alternate long thin leaves with bright orange berries on female plants.

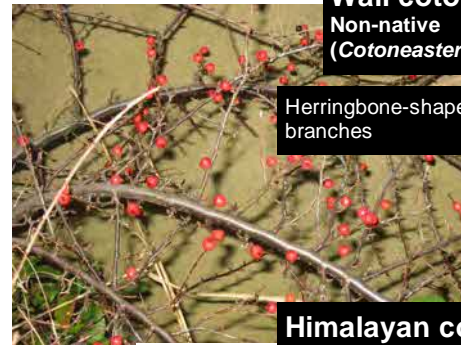
# Distribution

*Cotoneaster* species are widespread throughout Britain.



# Some other species of Cotoneaster

**Wall cotoneaster**  
Non-native  
(*Cotoneaster horizontalis*)



Herringbone-shaped branches



**Himalayan cotoneaster**  
Non-native  
(*Cotoneaster simonsii*)



Evergreen habit

**Small-leaved cotoneaster**  
Non-native  
(*Cotoneaster microphyllus*)



# References and further reading:

Johnson, O and More, D (2004) "*Collins Tree Guide*". HarperCollins

Preston, C D, Pearman, D A and Dines, T A (editors) (2002) "*New Atlas of the British and Irish Flora*". Oxford University Press

Stace, C (1999) "*Field Flora of the British Isles*". Cambridge University Press

# Rhododendron

## Species Description

**Scientific name:** *Rhododendron ponticum*

**AKA:** Rhododendron

**Native to:** South-west Europe and south-west Asia. UK's stock is believed to come from Spain.

**Habitat:** Common on acid, peaty or sandy soils in woodland, heathland, rocky hill-sides, river banks, gardens and parks

A large evergreen shrub with leathery leaves, attractive purple to pink flowers and solid stems forming into a trunk when mature. Relatively easy to identify, but can be confused with cherry laurel or horticultural varieties of rhododendron. However, horticultural varieties of rhododendron are relatively rarely found in the wild. Spreads by suckers and seed, which are small and carried long distances by wind.

Introduced by gardeners in the late 18<sup>th</sup> century into parks and woodlands, where it was also used for game cover. Still widely planted, particularly by gardeners. Often grows in ecologically sensitive habitats, such as heath, broad-leaved woodland and dunes, where dense growth can considerably alter the structure of the habitat.

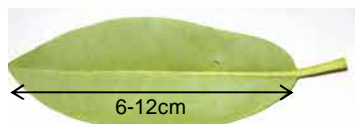
For details of legislation go to [www.nonnativespecies.org/legislation](http://www.nonnativespecies.org/legislation).



## Key ID Features



Leathery leaves with dull green upper surface



Pale underside

6-12cm



Leaves in spiral at end of stem



Stem usually up to 15cm diameter and 5m tall

Stems / trunk often dense and twisted



Usually pink / purple, occasionally whiteish

Seeds pods are formed after flowering

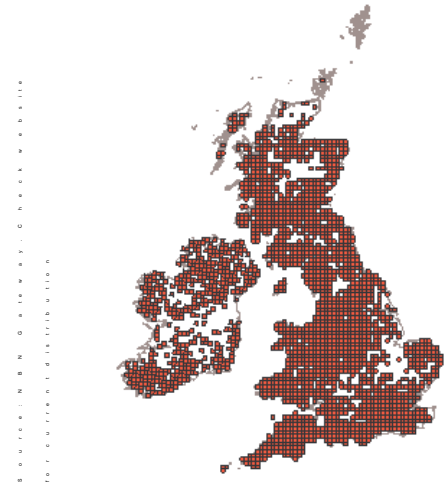


# Identification throughout the year

Varies little throughout the year as leaves are evergreen and woody stems remain the same. Flowers appear May to June followed by seed pods.

# Distribution

Widespread across the whole of the UK, most common in the south and west.



# Similar Species

**Cherry laurel**  
Non-native  
(*Prunus laurocerasus*)

Leaves arranged alternately, ending in a single leaf



Flower heads white and clustered to form a spike

**Rhododendron leaf**  
(for comparison)



**Cherry laurel leaf**

Toothed edge →



Glossy surface

# Varieties of Rhododendron

There are a large number of highly sought after species and varieties of rhododendron, of which the invasive *Rhododendron ponticum* is just one. It is unusual to encounter other varieties or species outside of planted habitats.

Examples of rhododendron varieties:



References in the further reading list can be used to distinguish between the different varieties if necessary.

## References and further reading:

Cullen, J (2005) "*Hardy rhododendron species: a guide to identification*". Collins

Preston, C D and Croft, J M (1997) "*Aquatic plants in Britain and Ireland*". Harley Books

Preston, C D, Pearman, D A and Dines, T A (editors) (2002) "*New Atlas of the British and Irish Flora*". Oxford University Press

Stace, C (1999) "*Field Flora of the British Isles*". Cambridge University Press

# Japanese Knotweed

## Species Description

**Scientific name:** *Fallopia japonica*

**AKA:** Japanese Bamboo, Pysen saethwr (Welsh), *Polygonum cuspidatum*, *Reynoutria japonica*

**Native to:** Japan, Taiwan, northern China

**Habitat:** Common in urban areas, particularly on waste land, railways, road sides and river banks

Tall herbaceous perennial with bamboo like stems. Often grows into dense thickets. Characteristic leaves and stems, persistence of last year's dead canes and distinctive rhizome (underground root-like stems) enables year round identification.

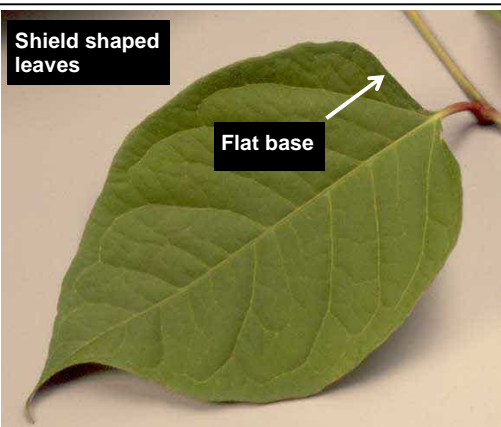
Introduced in the early 19<sup>th</sup> century as an ornamental plant. Now common and widespread across the UK. Spreads rapidly in the wild by natural means and as a result of spread by humans. Spread is solely by vegetative means, either fragments of rhizome or stem. Does not produce seed in the UK. Negative impacts include outcompeting native flora, contributing to river bank erosion and increasing the likelihood of flooding. Can also cause significant delays and cost to development as well as structural damage (it can grow through asphalt and some other surfaces).

Japanese Knotweed is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England, Wales and Scotland. As such it is an offence to plant of otherwise cause Japanese knotweed to grow in the wild. Under the Environmental Protection Act 1990, Japanese Knotweed is classified as controlled waste.

For details of legislation go to [www.nonnativespecies.org/legislation](http://www.nonnativespecies.org/legislation).



## Key ID Features





# Identification throughout the year

Winter

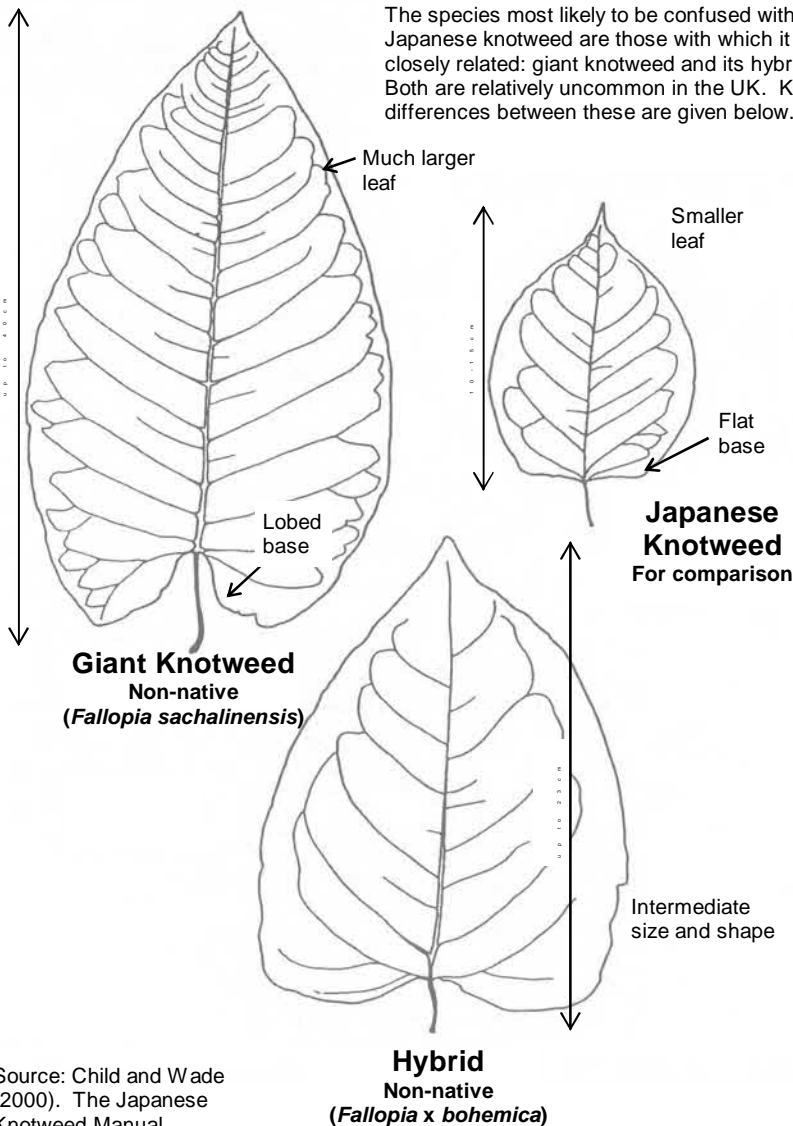
Summer

Spring



## Similar Species

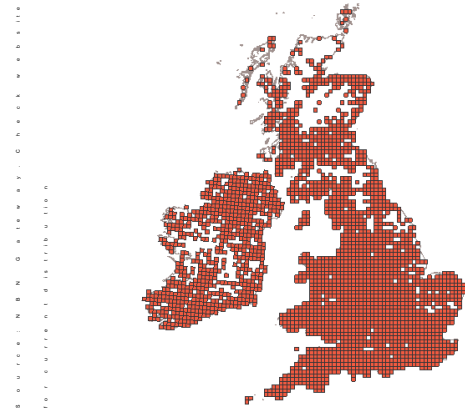
The species most likely to be confused with Japanese knotweed are those with which it is closely related: giant knotweed and its hybrid. Both are relatively uncommon in the UK. Key differences between these are given below.



Source: Child and Wade (2000). The Japanese Knotweed Manual

## Distribution

Widespread and common across the UK. Notably extensive infestations are found in the south-west of England, south Wales and Greater London, however similarly extensive populations can also be found elsewhere.



References and further reading:

- Blamey, M, Fitter, R and Fitter, A (2003) "The Wild Flowers of Britain and Ireland. The Complete Guide to the British and Irish Flora." A & C Black
- Child, L E and Wade, P M (2000) "The Japanese Knotweed Manual". Packard
- Environment Agency (2006) "The Japanese Knotweed Code of Practice". Environment Agency
- Preston, C D, Pearman, D A and Dines, T A (editors) (2002) "New Atlas of the British and Irish Flora". Oxford University Press
- Stace, C (1999) "Field Flora of the British Isles". Cambridge University Press

## **Appendix D: Warning Signage Template**



## **Restricted Access**

**The soil in this area contains**

**[name of invasive species]**

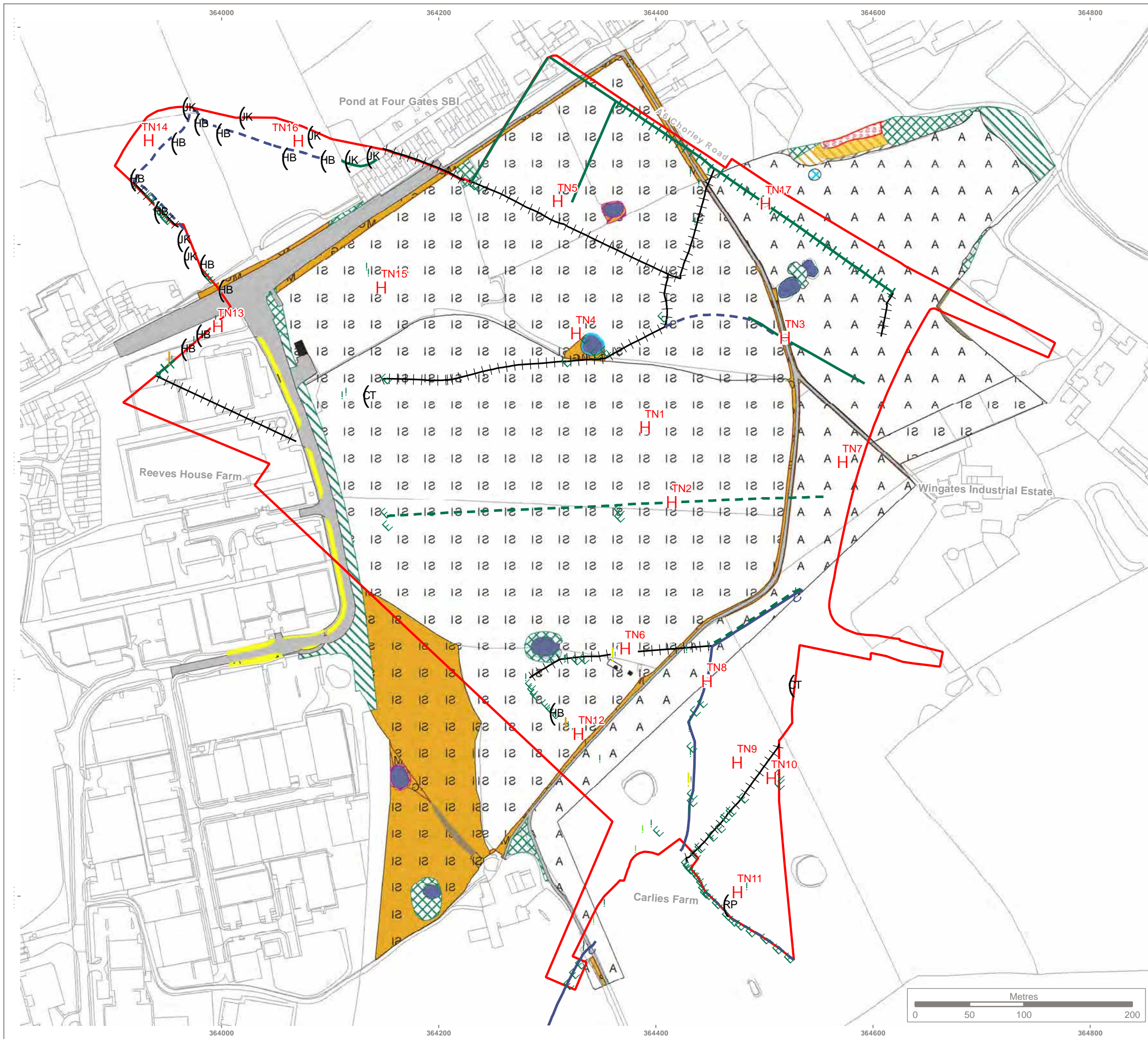
**and is being treated.**

**Do not enter unless authorised.**

**Do not remove soil from this area  
without authorisation.**

## **DRAWINGS**

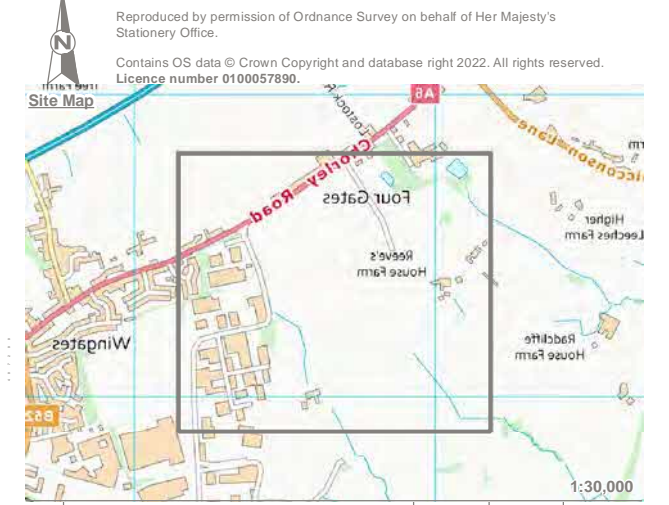
- Drawing 1 – Phase 1 Habitat Plan (TEP ref: G9042.001)**
- Drawing 2 – Proposed Extents of Excavation and Vertical Membrane Barrier plan (Japanese Knotweed Solutions ref: JK21-7525-02)**
- Drawing 3 - Ecological Mitigation Area – Works and Invasive Species Plan (TEP ref: D9042.001A)**
- Drawing 4 - Combined Illustrative Landscape Masterplan (TEP ref: D9665.001B)**



**KEY**

[Red outline]	Site boundary	[Green diagonal lines]	Plantation broad-leaved woodland
[Red 'H']	Target note	[Green cross-hatch]	Dense/continuous scrub
[CT]	Cotoneaster	[Yellow diagonal lines]	Unimproved acid grassland
[HB]	Himalayan balsam	[Orange/SI]	Semi-improved neutral grassland
[JK]	Japanese knotweed	[Orange/MG]	Modified neutral grassland
[RP]	Rhododendron	[Orange/MA]	Marsh/marshy grassland
[Green tree]	Scattered scrub	[Orange/SI]	Poor semi-improved grassland
[Green tree]	Scattered broad-leaved tree	[Brown]	Continuous bracken
[Green tree]	Scattered coniferous tree	[Brown]	Tall ruderal
[Green tree]	Broad-leaved tree with low bat potential	[Yellow]	Dry heath/acid grassland mosaic
[Green tree]	Broad-leaved tree with moderate bat potential	[Blue]	Swamp
[Blue line]	Running water	[Blue cross-hatch]	Ephemeral pool
[Green line]	Species-poor intact hedge	[Blue]	Standing water
[Green dashed line]	Species-poor defunct hedge	[Red/S]	Spoil
[Green dashed line]	Species-poor hedge and trees	[A/A]	Arable
[Black line]	Fence	[A/A]	Amenity grassland
[Blue dashed line]	Dry ditch	[Black]	Building
		[Grey]	Bare ground
		[Grey]	Hardstanding

**Note:**  
The locations of habitats and habitat features are indicative. The locations of the rhododendron and western stand of cotoneaster were identified by Japanese Knotweed Solutions Ltd in August 2021.



Rev	Description	Drawn	Approved	Date

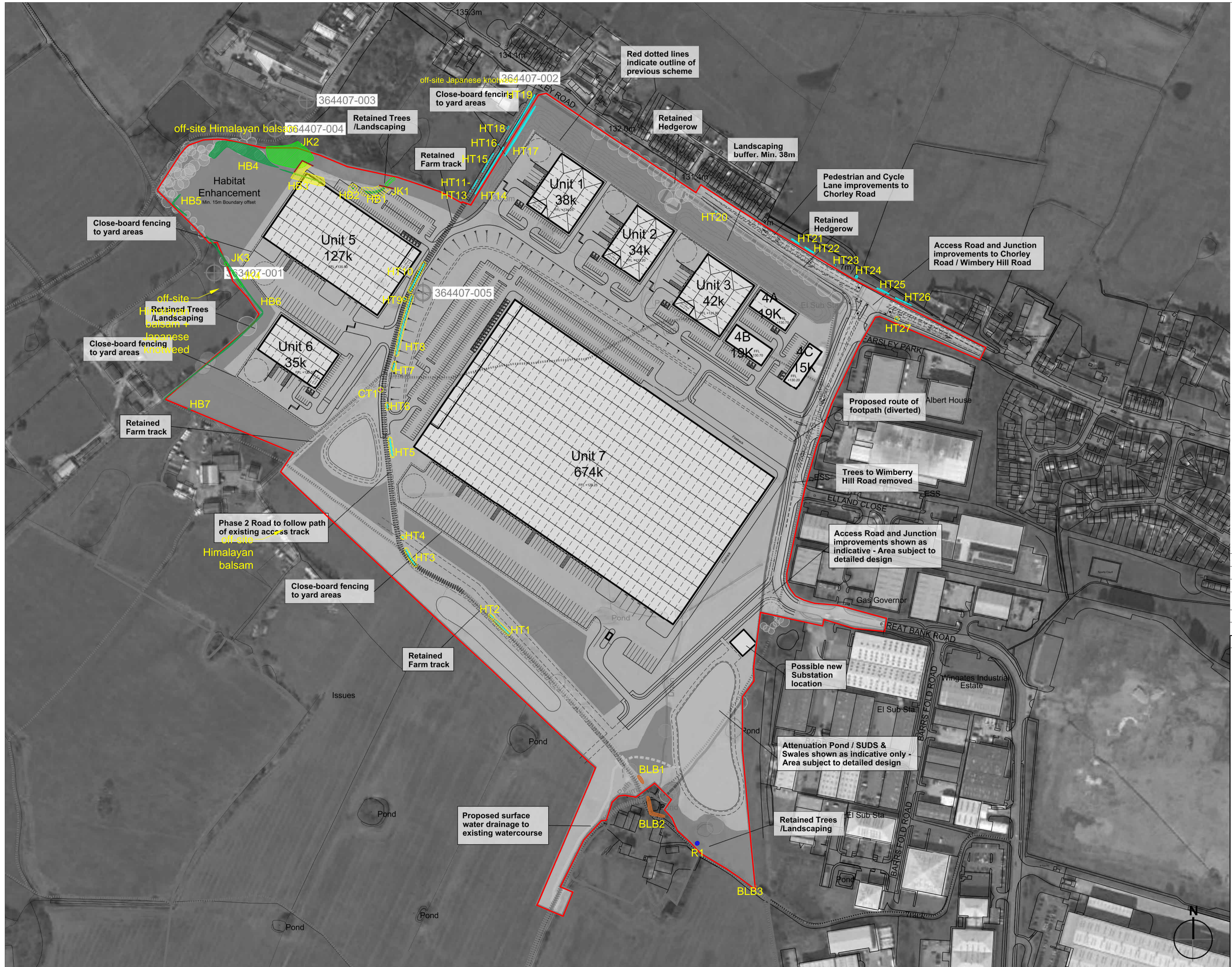
**TEP** | **THE ENVIRONMENT PARTNERSHIP**  
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH  
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project  
**Wingates, Bolton**


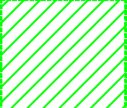
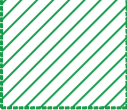
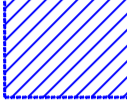
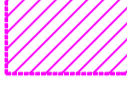




Title  
**Phase 1 Habitat Survey**

Drawing Number  
**G9042.001**

Drawn	Checked	Approved	Scale	Date
CW	SA	AE	1:3,500 @ A3	17/02/2022



Disclaimer:  
 Survey based on visual inspection of surface growth. JKSL hold no liability for areas not identified in initial investigation works. Continued monitoring of site is recommended.

-  approximate site boundary
-  approximate extent of Japanese knot weed
-  approximate extent of Himalayan balsam
-  approximate extent of rhododendron
-  approximate extent of cotoneaster
-  approximate extent of horsetail
-  approximate extent of broadleaf bamboo
-  Likely extent of excavation
-  likely extent of vertical membrane barrier

\*due to the presence of dense vegetation and restricted viewing/access along field margins and within surrounding areas, as noted on survey location Plan, additional areas containing invasive plants species could be present. Should additional areas containing invasive plants be identified (e.g. during vegetation clearance works) the likely anticipated extents of recommended excavation (and membrane barrier) could potentially change accordingly.

F E D C B A Re



SURVEY ORIENTATED TO MAGNETIC NORTH

Rev	Description	Date	By	CHK

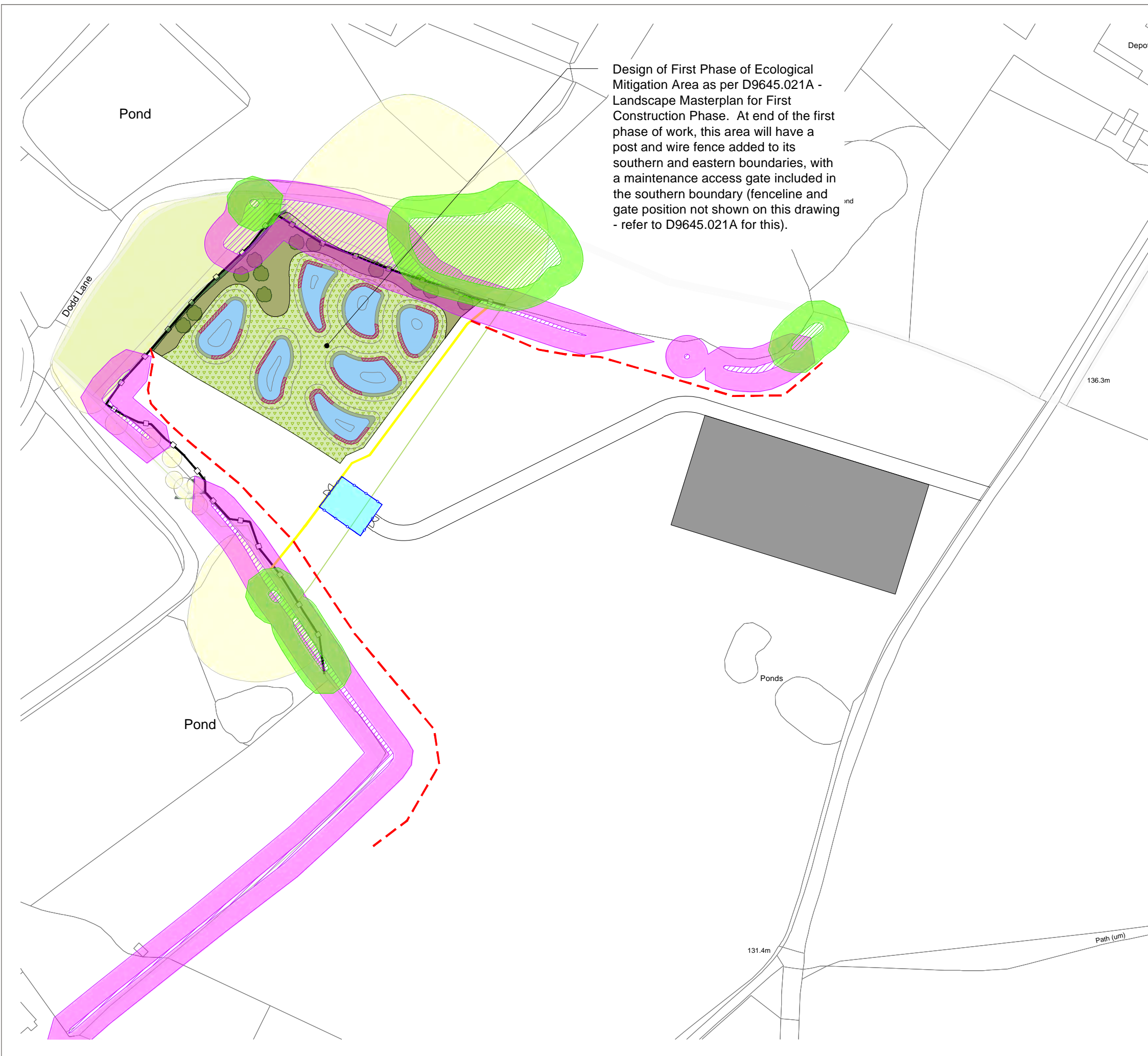
Client  
 Walker Sime (on behalf of Haworth Estates Investments Limited)

Contract  
 Wingates, Wimberly Hill Road, Bolton (nearest postcode being BL5 3XE)

Drawing  
 Proposed extents of excavation and vertical membrane barrier



Drawing No. JK21-7525-02      Revision /  
 Scales    NTS                      Date    24-08-2021  
 Drawn    JEH                        Checked AD



Design of First Phase of Ecological Mitigation Area as per D9645.021A - Landscape Masterplan for First Construction Phase. At end of the first phase of work, this area will have a post and wire fence added to its southern and eastern boundaries, with a maintenance access gate included in the southern boundary (fenceline and gate position not shown on this drawing - refer to D9645.021A for this).

- Key**
- Area of Japanese Knotweed
  - Japanese Knotweed 7m Buffer
  - Area of Himalayan Balsam
  - Himalayan Balsam 6m Buffer
  - Works Zone Fencing
  - Temporary Exclusion Fencing
  - Permanent Exclusion Zone - Tree Protection Fencing
  - Fencing for Designated Cleaning Area
  - Site Compound
  - Designated Cleaning Area
  - Access Route for First Phase of Works
  - Gated Access

Note: Invasive species locations taken from Japanese Knotweed Solutions drawing 'Invasive plant species survey location plan' (JK21-7525-01). Locations assumed to be indicative.

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 License number 100044373

Rev	Description	Drawn	Approved	Date
A	Amended to suit revised Phase 1 work extents	CAH	SM	19/04/23

**TEP** | **THE ENVIRONMENT PARTNERSHIP**

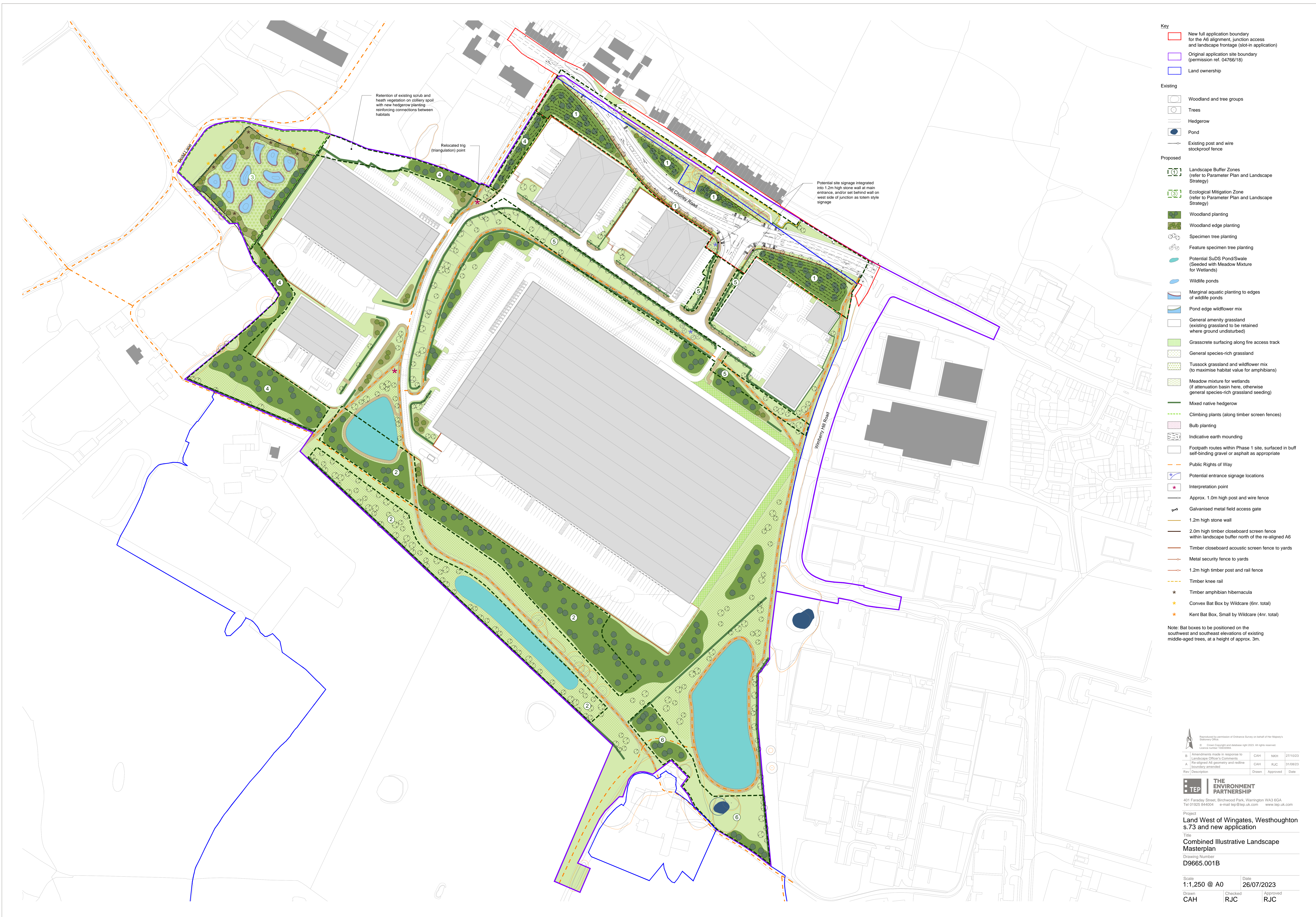
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH  
 Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project  
**Wingates, Bolton. Ecology and Landscape Management Services**

Title  
**Ecological Mitigation Area - Works and Invasive Species Plan**

Drawing Number  
**D9042.001A**

Drawn	Checked	Approved	Scale	Date
SO	SM	SM	1:1,250 @ A3	21/10/2022



- Key**
- New full application boundary for the A6 alignment, junction access and landscape frontage (not-in application)
  - Original application site boundary (permission ref. 0476618)
  - Land ownership
- Existing**
- Woodland and tree groups
  - Trees
  - Hedgerow
  - Pond
  - Existing post and wire stockproof fence
- Proposed**
- Landscape Buffer Zones (refer to Parameter Plan and Landscape Strategy)
  - Ecological Mitigation Zone (refer to Parameter Plan and Landscape Strategy)
  - Woodland planting
  - Woodland edge planting
  - Specimen tree planting
  - Feature specimen tree planting
  - Potential SuDS Pond/Swale (Seeded with Meadow Mixture for Wetlands)
  - Wildlife ponds
  - Marginal aquatic planting to edges of wildlife ponds
  - Pond edge wildflower mix
  - General amenity grassland (existing grassland to be retained where ground undisturbed)
  - Grasscrete surfacing along fire access track
  - General species-rich grassland
  - Tussock grassland and wildflower mix (to maximise habitat value for amphibians)
  - Meadow mixture for wetlands (if attenuation basin here, otherwise general species-rich grassland seeding)
  - Mixed native hedgerow
  - Climbing plants (along timber screen fences)
  - Bulb planting
  - Indicative earth mounding
  - Footpath routes within Phase 1 site, surfaced in buff self-binding gravel or asphalt as appropriate
  - Public Rights of Way
  - Potential entrance signage locations
  - \* Interpretation point
  - Approx. 1.0m high post and wire fence
  - Galvanised metal field access gate
  - 1.2m high stone wall
  - 2.0m high timber closeboard screen fence within landscape buffer north of the re-aligned A6
  - Timber closeboard acoustic screen fence to yards
  - Metal security fence to yards
  - 1.2m high timber post and rail fence
  - Timber knee rail
  - \* Timber amphibian hibernacula
  - \* Convex Bat Box by Wildcare (6nr. total)
  - \* Kent Bat Box, Small by Wildcare (4nr. total)

Note: Bat boxes to be positioned on the southwest and southeast elevations of existing middle-aged trees, at a height of approx. 3m.

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Rev	Description	Drawn	Approved	Date
B	Amendments made in response to Landscape Officer's Comments	CAH	NCH	27/10/23
A	Re-aligned A6 geometry and redline boundary amended	CAH	RJC	31/08/23

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Project  
**Land West of Wingates, Westthoughton s.73 and new application**

Title  
**Combined Illustrative Landscape Masterplan**

Drawing Number  
**D9665.001B**

Scale  
**1:1,250 @ A0**

Date  
**26/07/2023**

Drawn	Checked	Approved
CAH	RJC	RJC





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