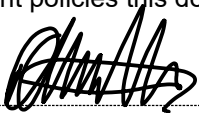




BAA.2210 Victoria North HIF Infrastructure Main Works Invasive Species Management Plan

In accordance with BAM Nuttall management policies this document is authorised for issue:

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1.0 Introduction

BAM Nuttall have produced the below Invasive Species Management plan (ISMP) in advance of the works at Victoria North HIF Infrastructure Main Works, Manchester.

The presence of Japanese knotweed, Himalayan balsam and Giant hogweed was identified across the site during a Preliminary Ecological Assessment document reference 8643.002 carried out by TEP – Warrington in May 2021 and followed by ongoing assessments documented in Chapter 6 – Ecology and Trees of the Environmental Impacts Assessment produced by Arup.

This plan sets out specific control measures required to prevent the spread of the named invasive non-native species (INNS) during the enabling works construction operations in accordance with legal requirements.

The remit of this ISMP is strictly limited to the management of the infested areas identified herein, namely Victoria North HIF Infrastructure Enabling Works site boundary (All other areas including neighbouring and adjoining areas with invasive species are not included in the report). The management of infested areas means the implementation of biosecurity measures to prevent further spread, in-situ treatment of Himalayan Balsam and where possible the removal of Japanese Knotweed and Giant Hogweed.

Japanese Knotweed



Giant Hogweed



Himalayan Balsam



2.0 Legislation

The Invasive Alien Species (Enforcement and Permitting) Order 2019 (The Order) is the primary legislation dealing with non-native species in the UK. Both Himalayan Balsam and Giant Hogweed are listed under schedule 2 part 2 of (to which the offence in article 3(3) applies) (the offence is “A person who plants or otherwise causes to grow in the wild any specimen which is of a species of plant which is included in Part 2 of Schedule 2 is guilty of an offence”. Under schedule 4 of the 2019 order, the primary legislation (the Wildlife and Countryside Act 1981) was amended and so Himalayan balsam and giant hogweed are no longer on Schedule 9.

“Invasive alien species” means any species of animal, plant, fungus or micro-organism included from time to time on the Union list

In the UK, invasive non-native species (INNS) are one of the biggest threats to biodiversity. They have a negative impact on native species and can threaten entire natural ecosystems. The potential impact of INNS within the environment can be significant, resulting in both biodiversity and economic implications. Away from their native habitats, non-native species can become the most dominant species in an ecosystem, displacing native species. In some cases such as with Giant hogweed can have an impact on human health whilst Japanese knotweed can impact on building foundations and structures.

3.0 Scope of works

The Victoria North HIF Infrastructure Main Works led by Manchester City Council, is an area circa 20 hectares within the Lower Irk Valley predominantly within the Red Bank neighbourhood. The scheme will see the infrastructure designed & constructed to facilitate the residential development of the initial Red Bank Neighbourhood phase of the Northern Gateway. The scope of works consists of earthworks, land remediation works, transport/highways, utility network extension, bridge foundations and green infrastructure. Several locations have been identified as locations which have works to be carried out within a Japanese knotweed, Giant hogweed and Himalayan Balsam infested area.

This document supports the planning application document for the Victoria North HIF Infrastructure Main Works which is expected to begin in September 2022 and be completed by October 2024.

4.0 Site information and invasive species locations

4.1 Site information

This area is currently made up of a disused rail sidings and an existing woodland area (St Catherine's Wood) in a location which is affected by a legacy of more than 150 years of industrial uses and Victorian/pre-Victorian infrastructure.

The area is currently accessed and used by pedestrians and is located directly next to the River Irk.

Stands of Himalayan balsam, Giant hogweed and Japanese knotweed were identified in the Preliminary Ecological Assessment document reference 8643.002 carried out by TEP – Warrington in May 2021 and confirmed by ongoing assessments carried out by Arup's, May 2022, and documented in Chapter 6 – Ecology and Trees of the Environmental Impacts Assessment. Areas of infestation are shown in **Table 1: Invasive species locations** and **Figure 1: Overall location plan of invasive species**

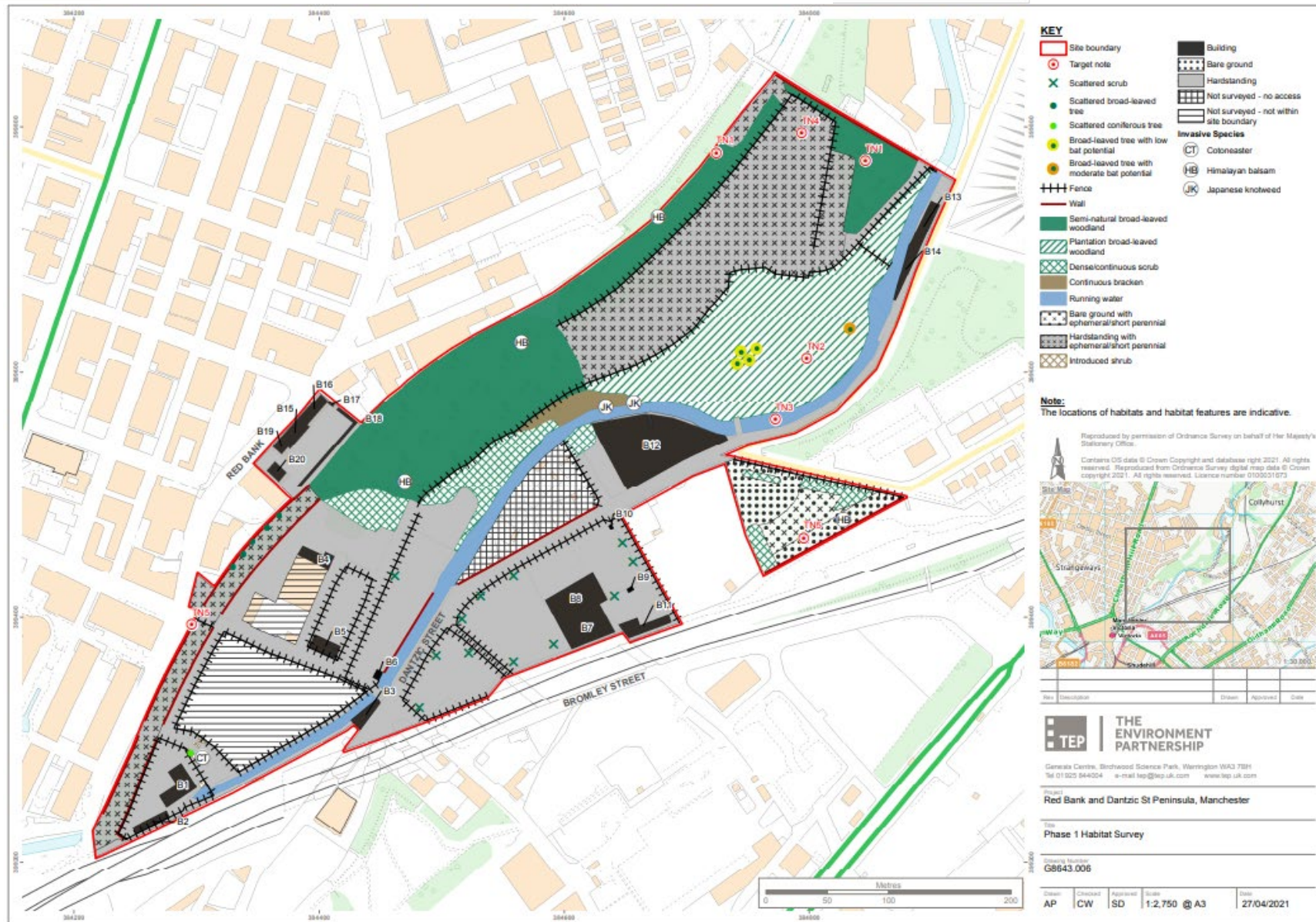
4.2 Invasive species locations

Table 1: Invasive species locations:

Site name	Grid Reference (site access point)	Invasive species present/potentially present
Area 1 Plateau area	SD 8450099595	Himalayan balsam (<i>but only in isolated areas page 6</i>)
Area 2 River Irk embankment	SD 84640 99585	Himalayan balsam, Japanese Knotweed and Giant hogweed

Figure 1: Overall location plan of invasive species





4.2.1 Area 1 – Plateau area

This area has been reviewed and the following invasive species have been highlighted as being present - Himalayan Balsam.

The understorey of approximately 10,000m² area of semi natural woodland contains pockets of Himalayan balsam in the plateau avenue area. The invasive species are to be treated in the woodland area in a controlled process (Section 5.2).

4.2.2 Area 2 – River Irk Embankment

This area has been reviewed and the following invasive species have been highlighted as being present - Himalayan Balsam, Japanese Knotweed and Giant Hogweed

Approximately 70m² area on the embankments of the River Irk are dominated by Himalayan balsam, Japanese Knotweed & Giant Hogweed. The invasive species are to be removed from the embankment area in a controlled process (section 5.1) and taken to the treatment area, location noted below on the vehicle route plan.

5.0 Methodology

5.1 On site remediation for Japanese Knotweed and Giant Hogweed

1) Access and transportation

- Plant machinery should be specific to zonal working areas based on type of INNS present.
- Machinery to be washed down prior to coming out of the zone to prevent spread of INNS.
- This site shall be fenced off, secured and kept clean at all times
- Machinery entering areas containing invasive species shall be restricted **SOLELY** to these zonal working areas. Where this is not possible all vehicles will undergo full bio security decontamination process as detailed in Section 6.
- Pedestrians will be required to wash their footwear and brush down clothing (If required) when exiting designated invasive species areas.

2) Excavation

- Where possible, invasive species shall be excavated, by specialist contractor, to a depth where no rhizome is visible and 7m laterally. In locations where excavation is not possible due to root protection areas, retaining structures or near retained trees as shown on VNIF-PLA-ZZ-YYY-DR-L1006-Tree Removal Plan alternative methods will be required due to risk of damage to tree stock. (refer to section 3 - Treatment)
- Excavators shall be selected for the excavation process and will work from south west to north east – Removing vegetation as they go
- Excavated material shall be placed into Hydrema Dumpers and moved away from the construction area, but kept as close as possible so not to spread INNS containing material outside of its native range – See vehicle route plan below
- Covers shall be used on the haulage vehicles to remove any risk of material falling to ground during transportation.
- All vehicles and personnel will adhere to strict biosecurity measures when leaving areas containing invasive species (**see section 6 Biosecurity**).
- No reversing of vehicles will be acceptable, except when tipping
- Banksman will be present when required, but will stay within the safe working area – Fenced off location visible by the plant

3) Treatment

Treatment of Invasive alien species in-situ

- For parts of Area 2 there are areas of invasive species which fall within root protection areas, retaining structures or near retained trees as shown on VNIF-PLA-ZZ-YYY-DR-L1006-Tree Removal Plan. Alternatives to excavation are required within these areas due to risk of damage to tree stock or structures.
- The areas which fall within the protection areas will be treated with directed foliar herbicide sprays and then covered over with visqueen as per specialist contractors recommendations for the duration of the contract.
- This will occur 3 times a year in each spring/summer during the construction works duration (currently until 31-Mar-24) as directed by the specialist contractor to achieve the most effective results. To date we have carried out 2no directed foliar herbicide sprays in June and August 2022.
- Due to proximity to the River Irk the foliar herbicide treatments will require permission from the Environment Agency prior to treatment using application form AqHerb01: Agreement to use herbicides in or near water.

Vehicle route plan



5.2 On site remediation for Himalayan Balsam

1) Access and transportation

- Plant machinery should be specific to zonal working areas based on type of INNS present.
- Machinery to be washed down prior to coming out of the zone to prevent spread of INNS.
- This site shall be fenced off, secured and kept clean at all times
- Plant entering areas containing invasive species shall be restricted **SOLELY** to these zonal working areas. Where this is not possible all vehicles will undergo full bio security decontamination process as detailed in Section 6.

- Pedestrians will be required to wash their footwear and remove clothing (If required) when exiting designated invasive species areas.

2) Treatment

Treatment of Invasive alien species in-situ

- For parts of Area 1 there are areas of invasive species, where excavation is not suitable.
- These areas will be treated with directed foliar herbicide sprays carried out by a specialist contractor with the relevant qualifications & accreditations for the duration of the contract.
- This will occur 3 times a year in each spring/summer during the construction works duration (currently until 31-Mar-24) as directed by the specialist contractor to achieve the most effective results. To date we have carried out 2no directed foliar herbicide sprays in June and August 2022.

5.3 Justification for onsite spraying treatment on in-situ alien species

- This option presents a low bio-security risk, with contaminated material being treated on site in accordance with RPS178.
- Adheres to the Waste Hierarchy, opting for material reuse and diverting waste from landfill.
- Cost effective solution for the treatment of Himalayan Balsam.

Mechanical means: It is not anticipated that any canes or stalks are to be hand cut prior to excavation. However should this need to happen due to delays in programme resulting in the plant being at mature stage and to facilitate the transportation off site for treatment, in relation to Japanese knotweed, canes shall be tied into bundles within the footprint of the designated area, or placed in an area of hardstanding prior to treatment or burning under a D7 exemption. In the case of Giant hogweed full PPE shall be required to prevent any hogweed sap coming into contact with the operator's skin. Small infestation of Himalayan balsam may be pulled with the under lying soils excavated to remove potential seedbank.

Burning plant matter: No plant matter is anticipated to be burned on site. However if required due to delays in works and plant being at a mature stage any burning will be in accordance with a D7 exemption, registered with the Environment agency.

5.4 Justification for Removal off site for invasive species

Offsite removal for treatment: This method has been chosen for areas of invasive species where there is limited space within the site boundary to accommodate on site treatment and the limited programme to carry out long term treatment on site. The invasive species will be excavated and loaded into a sealed wagon within the controlled INNS zonal area. The wagon will then be washed down upon exiting the zonal area to ensure no spread of INNS containing material outside the native range. The material will then be transported to a certified treatment plant off site.

5.5 Treatment options that have been scoped out.

Burial: Due to limited area on site and a minimum depth of 5 metres for the burial site this cannot be accommodated on site and has been scoped out.

Soil screening to remove rhizome: Although an effective means of treatment for Japanese knotweed is not effective for Giant hogweed or Himalayan balsam. Expensive option when compared to off site removal to a dedicated treatment plant.

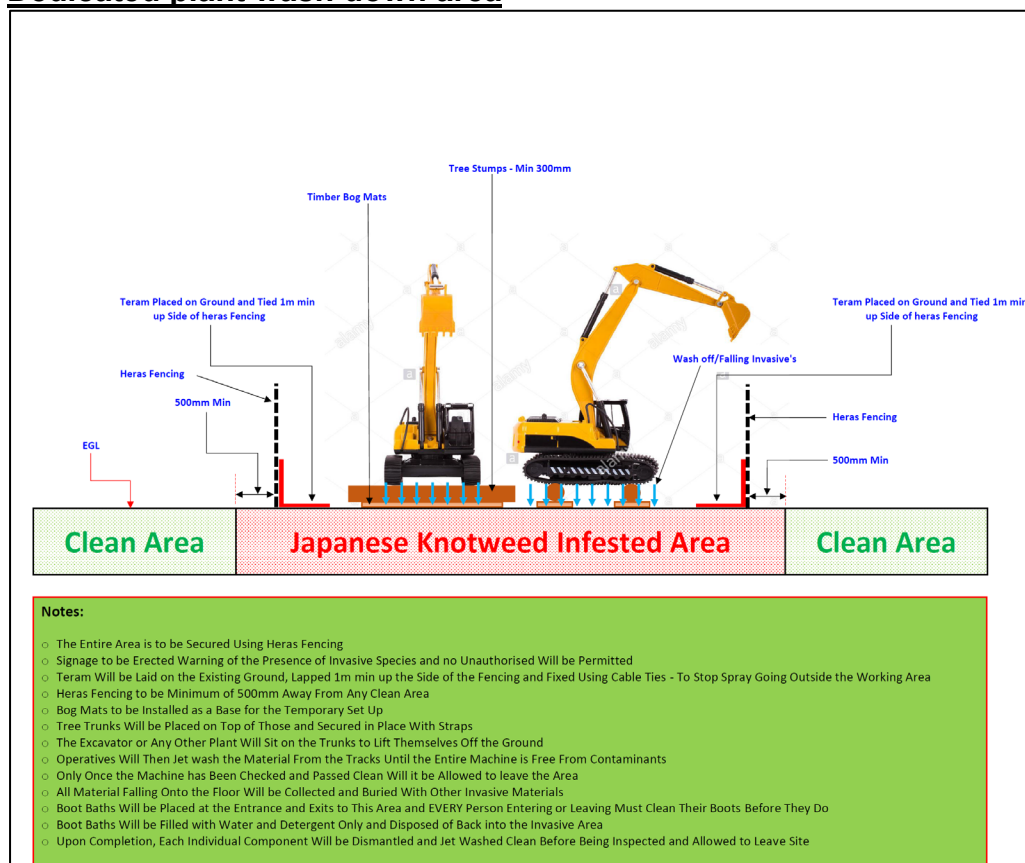
Bund: Although an effective means of treatment for Japanese knotweed it is not effective for Giant hogweed or Himalayan balsam. Treatment can take between 18 months – two years to be effective which would have an impact on works, as well as the cost of land purchase and further treatment

6.0 Biosecurity measures

6.1 Plant movements

- All plant entering the INNS zonal areas shall be checked prior to entry to ensure no material has been brought in from other projects.
- The plant shall be kept in the dedicated zonal working area at all times during this phase of the project
- A separate refuelling area will be established for this plant within the zonal working areas, to ensure the plant stays within the restricted areas.
- All pedestrians will access the working area via a separate path from the plant to ensure pedestrian/plant segregation.
- All pedestrians will clean their footwear as they exit the contaminated areas via boot baths filled with water and boot brushes
- Any arising's from the boot baths will be tipped back onto the contaminated area within the dedicated zonal areas and refreshed/refilled when required.
- When plant leaves the area, a full biosecurity wash-down area will be established to allow jet washing of all plant to remove any contaminated material – This shall then be checked by a competent person before being allow to move outside the area.
- Once the works have been completed, the access track shall be left in place and covered with the original material
- No contaminated run off will be allowed to enter drains or watercourses

Dedicated plant wash down area



6.2 Fencing

- The whole area shall be fenced off using anti-climb Heras Fencing during the works
- A pedestrian route shall be established within this by using pedestrian barriers and bespoke access points.
- Gates will be installed to ensure no unauthorised access during the works.
- Gates will be closed at all times.

6.3 Signage

- Signage will be erected to notify all plant operatives and personnel of their duties
- Boot baths and vehicle wash down area will be specifically signed, as will restricted access for plant to leave the area.
- Signs will also be erected to notify everyone that they are about to enter a restricted and contaminated zone.

6.4 Communication

- Specific RAMS will be developed and these will be briefed to ALL site personnel to ensure full understanding of the working method.
- For treatment on Invasive species within a 20m radius of the River Irk, BAM shall contact the Environment Agency regarding works involving the treatment of invasive species near a water course.
- Additional toolbox talks will be held to ensure all site staff and operatives understand the requirements surrounding this process.

7.0 Monitoring and evaluation

Works will undergo continuous supervision namely via;

- Site staff including foreman, environmental engineer and agent (as required) during operations. Photographic evidence and GPS locations/plans shall be used to record excavated and deposited material
- Site inspection by BAM Environment Advisor at an agreed frequency.
- Site visit by MCC/ NEAS Advisor as required.

8.0 Regulatory notification and permits

- Manchester City Council will be consulted regarding the proposed management options to be undertaken. With regards to removal of the invasive species Manchester City Council shall be notified one week prior to the works commencing.
- The Environment Agency will be consulted regarding invasive spraying treatment within the vicinity of the River Irk and the application form AqHerb01: Agreement to use herbicides in or near water will be submitted prior to works commencing.
- Permits for waste carriers and removal of invasive species will be obtained following waste carrier legislation.

9.0 Regulatory notification date

Date: TBC

10.0 Regulatory acceptance of ISMP date

Date: TBC