



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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Date: 28/09/2023

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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 Lite Infrastructure works, Manchester. **The works covered by this plan are for 'Phase 1' of the Application 2 as part of the Condition 29** – Phase 2 will be addressed at a later date and are outside of the scope of this document.

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 (see document reference VNIF-TEP-ZZ-YYY-RP-WD-0002) produced by TEP. Assessments will continue as the work progresses but all management will be done as per the measures listed in this plan.

This plan sets out specific control measures required to prevent the spread of the named invasive non-native species (INNS) during the 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 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 Lite Infrastructure 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, 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 'Phase 1' of planning application 2 document for the Victoria North HIF Lite Infrastructure works which is expected to begin in September 2023 and be completed by October 2024. As identified in figure 1 below:

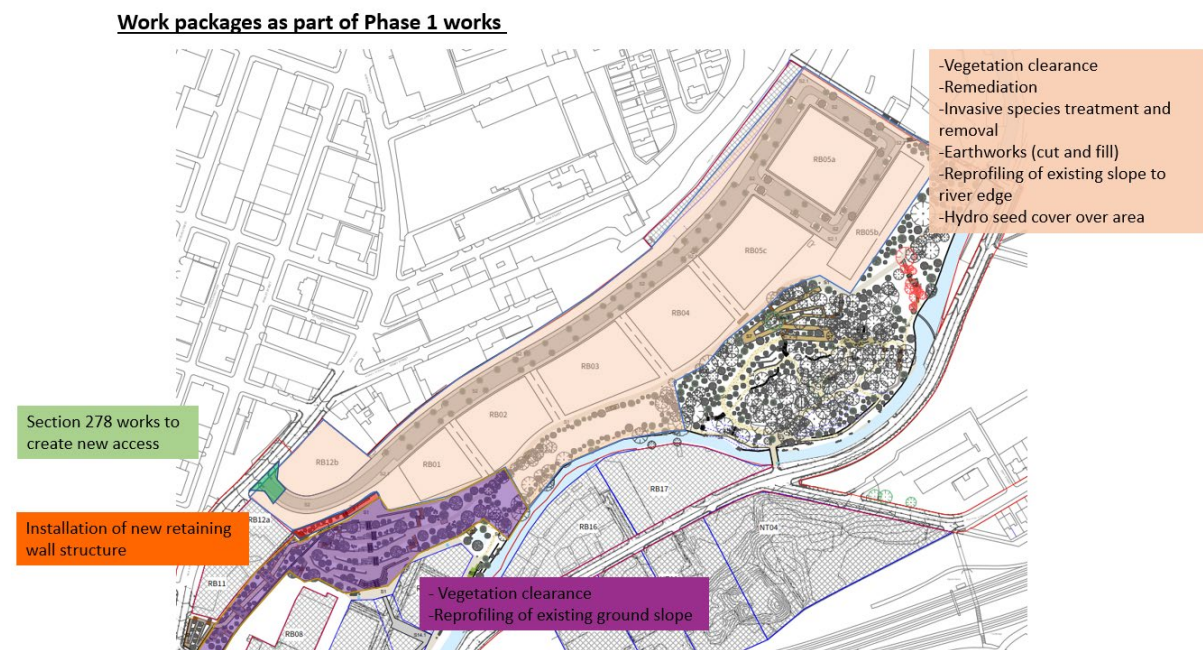


Figure 1 : Phase 1 works over the Victoria North site

4.0 Site information and invasive species locations

4.1 Site information

This area is currently made up of a disused rail siding 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.

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 2: Overall location plan of invasive species**.

Assessments will be ongoing as works progress so the areas in this section are those identified to date. If new areas are identified, then the same treatment process will be followed. As a result of July 2023 investigations, meetings and correspondence, this invasive species management plan has been updated to reflect the current status of the project scope and invasive species locations, as per figure 2 below:

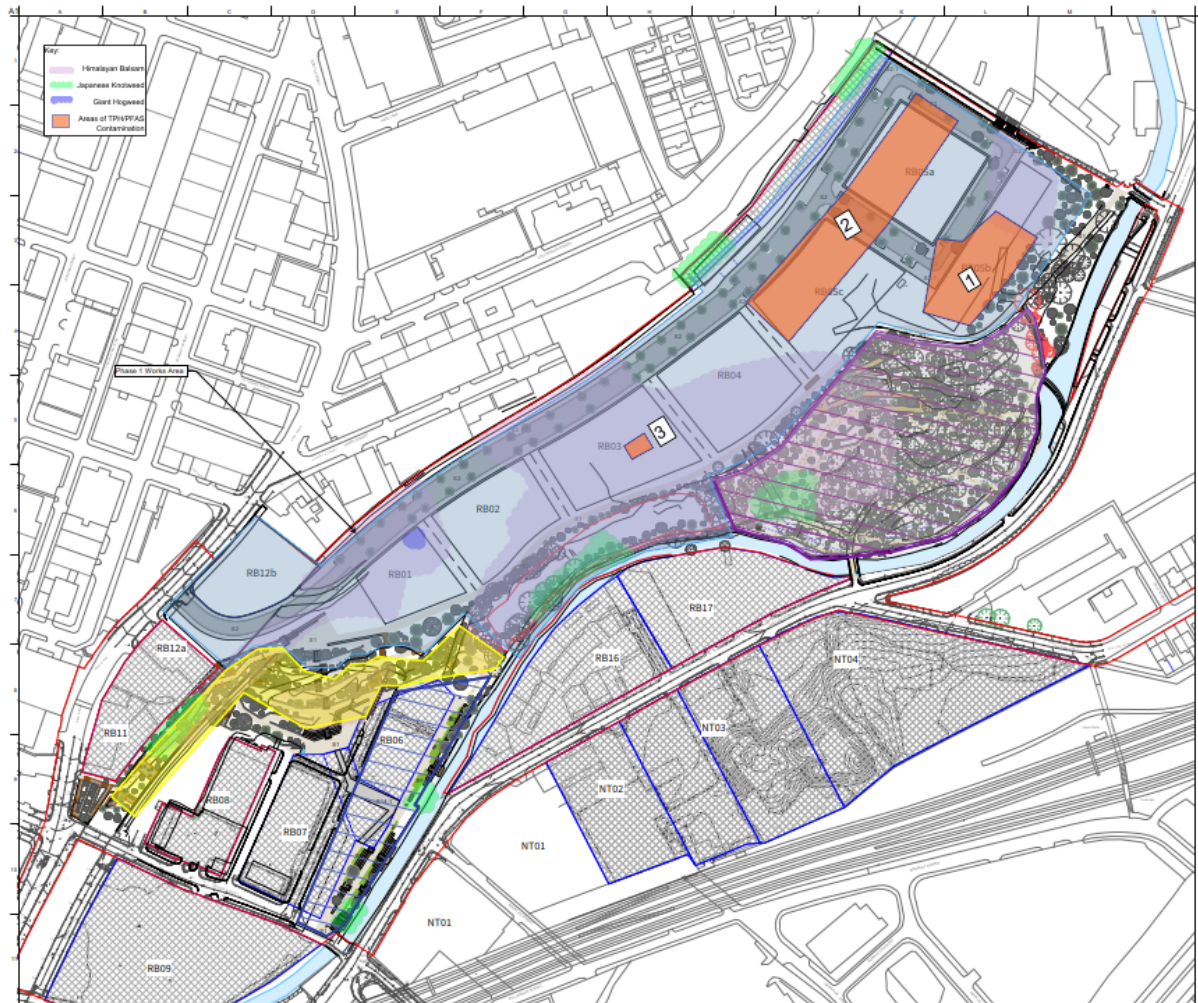


Figure 2: Location of Invasives surveyed July 2023, updated with works covered under phase 1 of Application 2.

Note:

- Areas to the Southwest of Creamline Dairy were seen to have JK present during the re-survey in July 2023. This is adjacent to the neighbouring widespread growth and visible areas of dense JK in former Rhianta Site.
- Areas to the North East of the site, Namely the Showman's Guild Embankment show areas of JK growing, that are currently under a separate INNS management of Manchester Council

4.2 Invasive species locations (as part of Phase 1)

Area of Phase 1 Site	Planned works	Grid Reference (works location/site access point)	Invasive species present/potentially present
Plateau approximately 20,000m2 of former railway sidings accessible from Red Bank or Collyhurst Road	-Vegetation Clearance, -Earthworks and Remediation, -Hydroseeding	1. SJ 84500 99595 (via former Creamline Dairies site, Red Bank). 2. SJ 84898 99773 (via Packaging Products (Coatings) Ltd., Collyhurst Road).	Himalayan balsam – widespread as per Figure 2, Localised Giant Hogweed

Slope Regrade Slope from Plateau to Riverside Pathway, bordering the River Irk to the Northern Side (right bank)	-Vegetation Clearance, -Earthworks and Remediation, -Hydroseeding	1. SJ 84500 99595 (via former Creamline Dairies site, Red Bank). 2. SJ 84419 99360 (via Roger Street site entrance). 3. River Irk embankment – north side of the River Irk between Warford Street (upstream extent, SJ 84599 99556) and Union Bridge (downstream extent, SJ 84448 99340).	Himalayan balsam, Japanese Knotweed as per figure 2
Red Bank Terrace Slope from Honey Street Retaining wall to Roger Street	-Vegetation Clearance, -Earthworks and Remediation, -Hydroseeding	1. SJ 84500 99595 (via former Creamline Dairies site, Red Bank). 2. SJ 84419 99360 (via Roger Street site entrance).	Himalayan Balsam
Red Bank Junction Entrance junction to Red Bank.	-S278 Highways Junction works, -Service diversions, -Fencing	1. SJ 84500 99595 (via former Creamline Dairies site, Red Bank).	None present-adjacent plot has JK on, to be monitored for potential growth.
Honey Street Retaining Wall Network Rail Owned Viaduct running between Rhianta, former Creamline and Red Bank Terrace	-Installation of New Retaining Wall -Bulk earthworks -Access track down to plateau	1. SJ 84500 99595 (via former Creamline Dairies site, Red Bank).	Himalayan Balsam, Japanese Knotweed nearby
St. Catherines Wood (plant access only) Woodland Area adjacent to River Irk, River Right Bank	-Access for U- Tube installation near Collyhurst weir -Vegetation Clearance	1. SJ 84898 99773 (via Packaging Products (Coatings) Ltd., Collyhurst Road).	Himalayan Balsam, Japanese Knotweed
Showman's Guild Embankment Embankment between plateau and Showman's Guild, adjacent to Lowri Viaduct	Permanent Treatment Works (temporary treatment plant maintenance)	1. SJ 84898 99773 (via Packaging Products (Coatings) Ltd., Collyhurst Road).	Japanese Knotweed to Northeast of Site, close to works area, but outside of current scope of work. (Under management by MCC)
Union Plaza	Compound Area, no excavation works planned	1. Union Bridge (downstream extent, SJ 84448 99340). 2. SJ 84419 99360 (via Roger Street site entrance).	Japanese Knotweed (for reference only)

Table 1: Phase 1 Invasive species locations as part of Application 2:

4.2.1 Phase 1 Main areas of Invasives Treatment and Removal

This area has been reviewed in July 2023 and the following invasive species have been highlighted as being present – Japanese Knotweed, Himalayan Balsam and a minimal patch of giant hogweed. Japanese Knotweed has been observed along the slope regrade and river embankment, also near the party wall with Rhianta and on the Honey Street Viaduct has been identified during this survey. This will be address in the works of Phase 1

To the North of the site, there is an area of knotweed along the site boundary. The neighbouring property (Showman's Guild) is owned by Manchester City Council, and they are managing the knotweed via a specialist contractor.

To the North-east of the site, on the former railway viaduct, a new patch of knotweed has developed in 2023. At the time of writing, no works are planned in this area. This will be monitored when carrying out excavation near to that area.

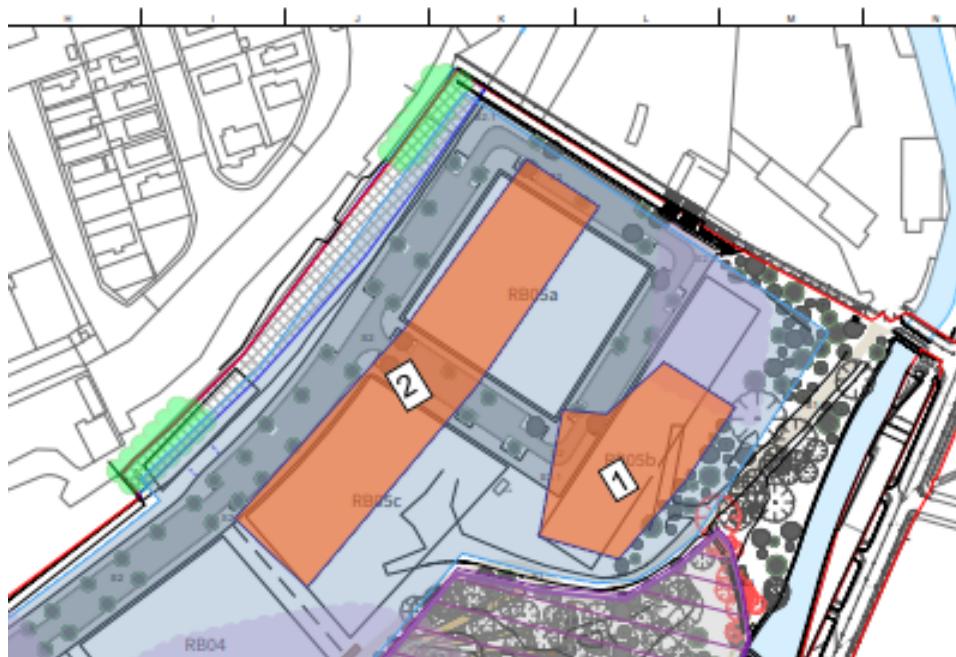


Figure 3 Area of JK to North East of Site (under control of MCC) shown outside of works area of Phase 1

4.2.2 River Irk Embankment

This area has been reviewed in July 2023 and the following invasive species have been highlighted as being present - Himalayan Balsam and Japanese Knotweed.

Approximately 940m² area on the embankments of the River Irk are dominated by Himalayan balsam and Japanese Knotweed. 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 figure 5 below.

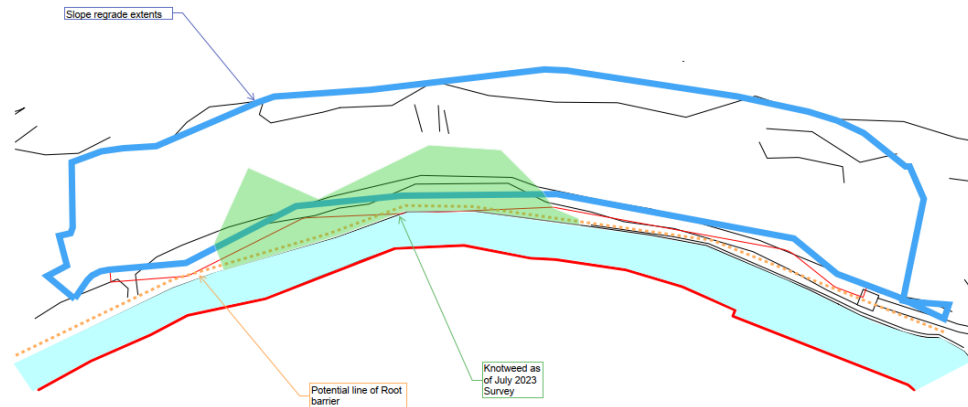


Figure 4: Area of JK along River Irk marked for Excavation and Root Barrier installation.

5.0 Methodology

5.1 On site remediation for Japanese Knotweed and Giant Hogweed

Works Access to INNS Areas and Dedicated Stockpile area

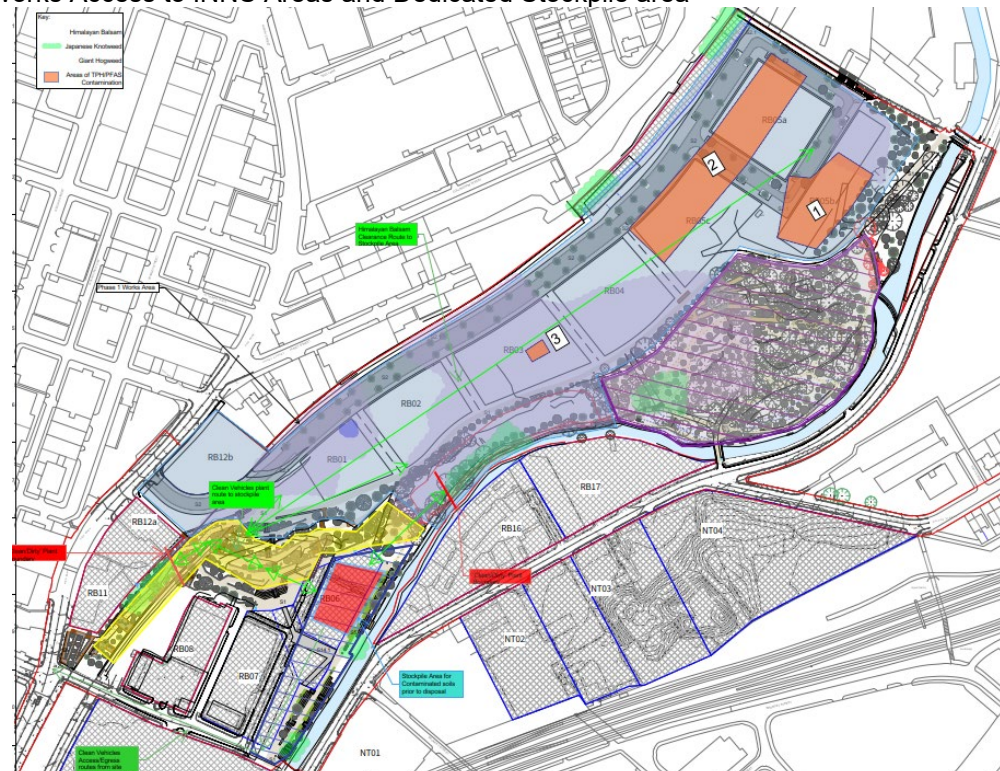


Figure 5 Access Plan for Contaminated areas and offsite disposal

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.
- The working area shall allow sufficient space for operatives to work safely adjacent to the site plant (i.e., 360° hydraulic excavator & 8-wheel wagon) and will include:
 - The areas contaminated with Japanese Knotweed/Giant Hogweed
 - The Japanese Knotweed/Giant Hogweed stockpile area
 - The easement area
 - The clean material stockpile area

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 Appendix C: 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 4 - Treatment).
- All JK plants shall be demarcated before any work takes place on site to prevent any spread from existing contaminated areas to 'clean' areas from plant and operatives on site.
- Excavators shall be selected for the excavation process and will work from southwest to northeast – Removing vegetation as they go. The edges of the excavations shall be battered back to a safe angle (approximately 30°), to ensure safe working conditions for the site operatives.
- Excavated material shall be placed into 9t dual view 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.
- Should the material contain INNS and Hazardous Material not suitable for reuse this will be placed in a temporary stockpile, for specialist remediation and appropriate offsite disposal from site. The material will be either loaded direct to wagons going off site or to a clean platform so that cross-contamination and spread is not possible.
- The excavated material is then transported and stockpiled using a separate “dirty” dumper in a waste management area ready for removal from site.
- When moving the JK material from the “dirty” excavator to the “dirty” dumper, great care will be taken to ensure no cross contamination takes place. This will involve filling each piece of plant to at least 20cm of the top and through thorough checks of the tyres and tracks.
- When an area or section appears to be clean, a careful search of the surface shall be carried out by experienced personnel. If no Japanese Knotweed rhizomes are found a further 100mm layer shall be removed and moved to the stockpile area.
- If no more JK is found, a further 200-300mm of material shall be loosened and searched. If on this third check no rhizomes are found, the material shall be left in-situ.
- If more JK material is found at any stage, the whole process is repeated.
- 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.

- The impacted stockpile will be removed from site via licenced haulier to a licensed waste facility.
- Covers shall be used on the haulage vehicles to remove any risk of material falling to ground during transportation.
- Any PFAS contamination or Levels of chemical contamination above the criteria in the DQRA and remediation strategy will be dealt with in accordance with the re-use criteria and materials management plan.

Reinstatement

- Along the river embankment, a geo-textile root barrier will be installed at an angle of safe batter along the eastern boundaries (behind the river wall) to provide additional protection from any off-site areas of Japanese knotweed. Ongoing monitoring and spray treatment will be carried out, and root barrier installed to demarcate the new placed fill from left in situ spoil behind the retaining wall. Or the areas within which safe excavation is not possible. The limit of proposed excavation is shown in figure 6.

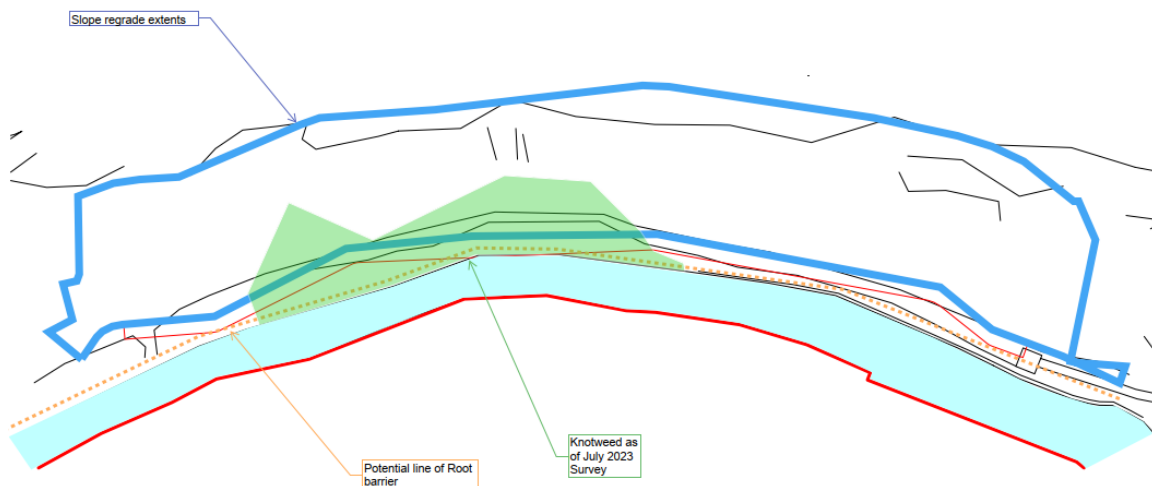


Figure 6: JK removal works along the Slope Regrade

- Backfill material will be placed prior to being compacted by a Ramax remote control roller in 300mm levels. The Backfill Material chosen for reinstatement will need to be screened and sampled in accordance with the re-use criteria agreed for the site.

Further Details:

- Bank reinstatement/stabilisation. The slope regrade is still planned for RB02/RB03 section. This is to be terminated upon reaching the level of the retained earth behind the river wall.
- There is to be no amendment to the riverbank profile. Any invasives here will be monitored throughout 2024 and sprayed as required.

Pollution prevention measures:

- During excavation works of the slope at RB02/03, construction site water and site runoff will be managed accordance with best practice methods. A silt boom may be required but excavation works will only be carried out in periods of dry weather, and low river levels.

- The areas of excavation will be backfilled immediately with clean site won soil in accordance with the remediation strategy and materials management plan.

In response to initial query received on a previous iteration:

- A membrane barrier is not intended to be installed as per wider intended management works associated with the river wall.
- No amendments are planned during BAMs works. There are thought to be included in future works. Upon completion of the earthworks there will be hydroseeding of the main slope area. To be left for follow on contractors to be landscaped as required.

Comment on Secondary stabilisation works – plants etc to stabilise the bank.

- No additional planting is planned for the riverbank, as no excavation works are taking place here. The slope to RB02/03 will be hydroseeded on completion of the works to be left in the interim period for follow on contractor to carry out the landscaping work Areas of hydroseeding can be seen in figure 1.

5.2 On site remediation for Himalayan Balsam

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.

Treatment of Invasive alien species in-situ

- For parts of Phase 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 October 2024) as directed by the specialist contractor to achieve the most effective results. To date we have carried out 4no directed foliar herbicide sprays in June and August 2022, May and July 2023
- The Methodology for spraying the invasives is attached as an Appendix to this INNS plan.

During de-vegetation works and site clearance Feb 2022 – July 2023 we have already sprayed patches of visible Himalayan Balsam, Japanese Knotweed, and Giant Hogweed in line with the proposed treatment plan developed from earlier discussions These herbicide visits were carried out on:

Visit for Treatment	Area Treated	Target Species
1 st Herbicide Spray June 2022	Plateau, St Catherines Wood, Riverbank, Embankment	Japanese Knotweed, Himalayan Balsam, Giant Hogweed
2 nd Herbicide Spray August 2022	Plateau, St Catherines Wood, Riverbank	Japanese Knotweed, Himalayan Balsam, Giant Hogweed
3 rd Herbicide Spray May 2023	Plateau, St Catherines Wood, Riverbank, Site compound area, Embankment	Japanese Knotweed, Himalayan Balsam, Giant Hogweed, general vegetation

		in site compound and walkways
Balsam Pulling 'INNS Week' June 2023	Plateau Area, Footpaths around site	Targeted Balsam Pulling in areas of dense vegetation
4 th Herbicide Spray July 2023	Plateau, St Catherines Wood, Riverbank	Japanese Knotweed, Himalayan Balsam, Giant Hogweed

Table 3: Herbicide Treatments carried out to date

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 as the most 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/disposal: 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. Retained material on site may also present a risk to follow on contractors which may carry out further excavation i.e., piling and deep drainage works.

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.

5.6 Programme

The management of invasive species will be undertaken throughout the main construction period. This should be read in conjunction with the below statement.

During BAMs Phase 1 works:

(re-baselined to reflect current programme of works, additional herbicide treatments applied and planned excavation works.

Excavation of the INNS soils, and replacement with site-won fill is planned to take place November 2023- Jan2024 as the initial site clearance and excavation of INNS is carried out. This is currently

awaiting confirmation of the DQRA/GI/Remediation strategy which is under EA Review. This will also form part of the overall Materials Management Plan for all materials on-site.

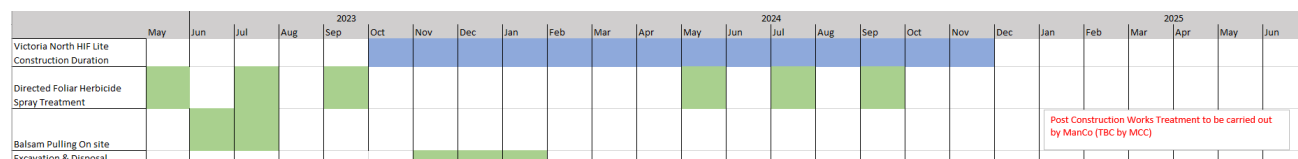


Figure 7 Re-Baselined Indicative Programme of works (July 2023)

Statement from Manchester City Council:

As part of the development of the public spaces including all green and amenity spaces, the park and public realm, a management company (ManCo) will be established to undertake all management activities including invasive species control during the lifetime of the development. In the interim the management of invasive species will be picked up by the Joint Venture partnership with an appropriate and competent contractor who will undertake invasive species control across the public realm areas and the development platforms up to and during the residential construction.

6 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 areas of the works
- 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 allowed 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.

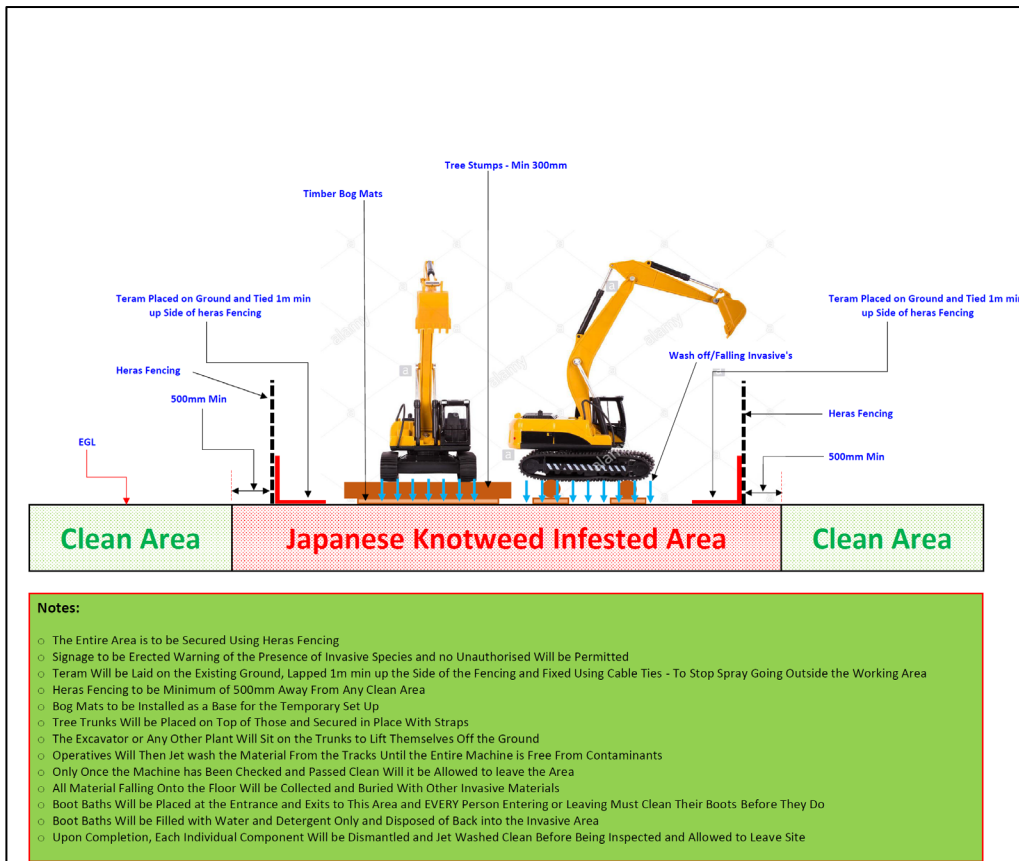


Figure 8: Dedicated plant wash down area.

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 a Flood Risk Application Permit, 'FRAP' may be required for any excavation within 8m of a main river, upon satisfactory discharge of INNS condition, this contact will be made.
- Additional toolbox talks will be held to ensure all site staff and operatives understand the requirements surrounding this process.

7 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 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 Regulatory notification date

Date: TBC

10 Regulatory acceptance of ISMP date

Date: TBC

11.0 Appendix A Subcontractors Method Statement for Invasive Spraying

Subcontractor

Cornthwaite Tree Care:

Section of works covered:

Spray invasive weeds throughout the site. Himalayan Balsam, Japanese Knotweed and Giant hogweed.



METHOD STATEMENT

Method Statement

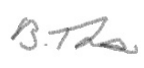
Contract: Bam Nuttall BAA.2210	Contract No:
--------------------------------	--------------

Operation: Invasive Weed Spray.

Prepared by: Brian Thoburn	Date: 26/04/2022

1.0 WORK DESCRIPTION

Spray invasive weeds throughout the site. Himalayan Balsam, Japanese Knotweed and Giant hogweed.

Authorised	Date	Name (Print)	Signature
Prepared by:	24/04/2022	B. Thoburn	
Received by:			

Method Statement

- 1.0 Work Description**
- 2.0 Location of Works**
- 3.0 Access**
- 4.0 Programme**
- 5.0 Drawings/Specification**
- 6.0 Special Conditions**
- 7.0 Location of Services**
- 8.0 Supervision**
- 9.0 Working Method**
- 10.0 Materials**
- 11.0 Health, Safety and Welfare**
- 12.0 Environmental**
- 13.0 Ecology**
- 14.0 Risk Assessment**

1.0 Brief Description of the works (Cover Sheet Page 1)

2.0 Location of Works

Collyhurst Road, Manchester, M40 7RT See Map below.



3.0 Access

Via Collyhurst Road, Manchester, M40 7RT.



4.0 Programme

03/05/2022 for 3 days

Completion 05/05/2022

5.0 Drawings/Specification

Site



6.0 Special Conditions

Spraying records to be completed at the end of every day and supplied to BAM.
No requirement for toolbox talks in these RAM's

7.0 Location of Services

N/A

8.0 Supervision

On site supervisor will be Sam Halpin: 0788 544 3081.
BAM site contact is Daryl Charlton: 07881 002 765.

9.0 Working Method

All operatives to have received Site induction prior to entering the work site from yourselves that will cover all of the generic procedures i.e. site fire, emergency plan, welfare arrangements, homeless people and paraphernalia.
Access gate on site to remain closed at all times during work with concrete blocks returned to each side of gate to stop unwanted vehicle access.
Daily briefings will be held every morning. The supervisor is responsible for ensuring that a pre task briefing is undertaken before the start of the shift.
All operatives to have correct PPE for operations: Hi vis orange vests over the top of spray suits. Coshh to be followed at all times when using chemical.
All squads to have access to Microsoft teams and Solarvista containing Method statements, Risk assessments, site drawings and specifications.
Staff are not to approach any homeless person found on site they are to report this to Bam Nuttall (Daryl Charlton: 07881 002 765) and stand down until further instruction. If any drug paraphernalia is found on site, they are to barrier tape off the area and report via the same channel.

Methodology will be with as follows:-

The site will be clearly defined within the pre-start brief inclusive of site-specific risk assessment.

The area will be assessed for nesting birds prior to commencement of works on the day and the team leader will complete a pre-start ecological assessment form. The weather

will be assessed before any work is undertaken to make sure it is suitable to carry out the operations

The prestart in-service inspection forms will be completed for all items on site using our app based job pack system Solarvista.

- The team will access the closed site with the aid of a banksman and proceed to the work area.
- The work will be carried out in a systematic way working to industry best practise, as trained in NPTC PA1, PA6 and PA6W.
- The area will be walked by CTC spraying supervisor to detain the amount of chemical mix needed for site
- Staff will mix the correct strength chemical for the Knapsacks Using the correct PPE, Gloves nitrile rubber EN374, goggles EN166, Category 3 type 6 suit, (and measuring jugs. Following all COSHH instructions.
- All chemicals will be stored in Chemical safes that is sealed and lockable in the van
- Staff will walk site spot spraying all invasive weeds
- Bottom end of site will be sprayed, making sure the spray doesn't enter the water course (Supervisor to hold PA6W(Spraying near water). Spray to be spot sprayed and not fan, dry conditions, not windy and spray away from water.

10.0

Materials/ Tools

Knapsack, Chemical Roundup Provantage, Water.

Staff Qualifications to be held on site -:

NPTC PA1 PA6 PA6W Spraying

PTS

Health, Safety and Welfare

All operatives have received full site induction prior to commencement of any works.

All operatives to wear Hi vis orange vests over the top of spray suits, safety boots, helmets, gloves and safety glass.

Specific PPE requirements related to task all as per generic Risk Assessments.

All vehicles to have banks men when accessing moving around and leaving site with thumbs up before people can pass.

All plant/vehicles to be regularly serviced with records available for inspection as requested including Loler.

First aid kits and fire extinguishers to be carried in all site vehicles.

Welfare facilities available on site office and hand wipes in the vehicle on site.

Any accidents/near misses and dangerous occurrences to be reported as applicable.

Chemical has no Danger to other staff / contractors on site, keep 10m from other staff / contractors to stop contamination.

11.0

Emergency Rescue

Access and Egress information as above.

12.0 Environmental

The weather will be assessed before any spraying is commenced to make sure the wind isn't going to affect the direction of the spray.
Extra care taken when spraying near water.

13.0 Ecology

At the time of the site visit there were no outstanding ecological issues on site but will be checked on the day and throughout the day the works are undertaken.

12.0 Appendix B: Subcontractors Invasive Species Management Plan for excavation activities and disposal.

MANCHESTER NORTH JAPANESE KNOTWEED MANAGEMENT PLAN

Job Number: IPM 22 1024

Date of Plan: June 2022

Client: BAM Nuttall

DOCUMENT VERIFICATION

Site Address	Site off Hargreaves Street, Manchester, M4 4EJ		
Job Title	Manchester North		
Document Title	Japanese Knotweed Management Plan		
Job Number	IPM 22 1024	Document Ref.	Management Plan
Date Issued	28 th October 2022	Report Version	001
Prepared By	Dene Marland	Signature	
Reviewed By	Conor Leyden	Signature	

DISCLAIMER

This report has been prepared by IPC who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant experienced in preparing reports of a similar scope.

However, to the extent that the report is based on or relies upon information contained in records, reports or other materials provided to IPC which have not been independently produced or verified, IPC gives no warranty, representation or assurance as to the accuracy or completeness of such information.

This report is prepared solely for the benefit of BAM Nuttall. It may not be relied upon by or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

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OVERVIEW

Project Description:

The LK Group was asked to provide a management plan and method statement for Japanese Knotweed (JK) within the site of the propose new development AT Manchester North off Hargreaves Street, Manchester.

Invasive Species

Site Visit

Following receipt of McCafferty Consulting Limited, Drawing No. MCL/BAM2201/004 indicating the suspected presence of Japanese Knotweed on site, the Invasive Plant Company (IPC) conducted a site survey on the 10th of June 2022 to review locations and quantities affected by the infestation.

The Japanese Knotweed is located in several areas across the site, see Figure 1 below.

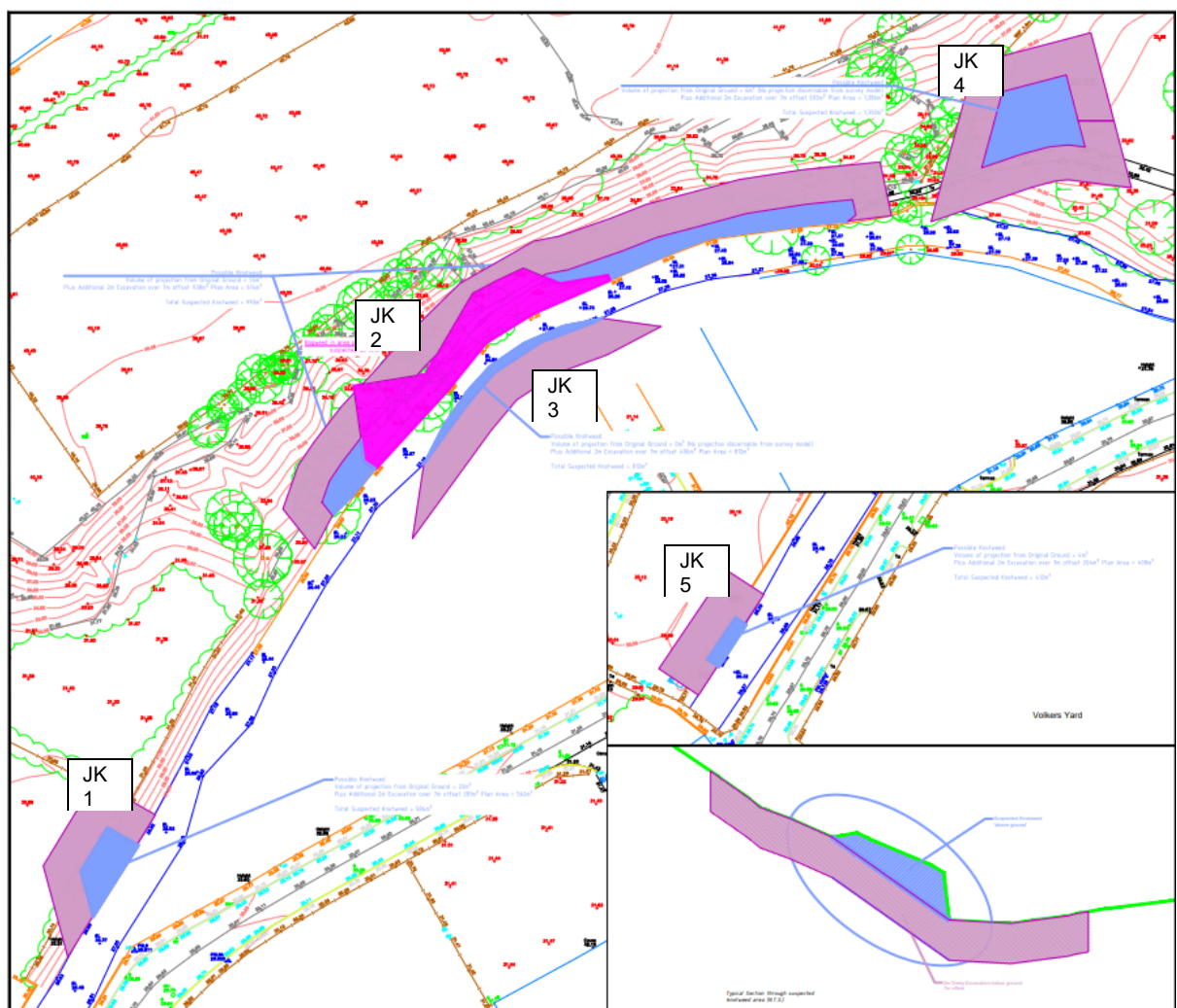


Figure 1: Refer to the Appendix showing the full site plan

Japanese Knotweed:

The recommended management plan is to undertake a “controlled excavation” of the material within the development area and remove this material to a segregated stockpile within the IPC working compound indicated on Figure 2 below.



Figure 2: Showing the IPC compound and potential stockpile locations

The impacted stockpile will be removed from site via licenced haulier to a licensed waste facility.

The following section will provide the necessary detail on excavation, relocation and treatment of the Japanese Knotweed.

We will also install a geo-textile root barrier membrane at the angel of safe batter along the eastern boundaries (behind the retaining wall) to provide additional protection form any off site areas of Japanese knotweed.

We understand that the area in the easement where the stockpile will be formed will remain as soft landscaping and will not receive any hard landscaping.

SEQUENCE OF OPERATIONS

The sequence of operations shall be as follows:

- The demarcation and isolation of all contaminated areas to prevent any spread from other contractors.
- Excavation of Japanese Knotweed.
- Installation of geo-textile root barrier membrane.
- Stockpile of Japanese Knotweed arisings.
- Final tidy and completion.
- Ongoing herbicide treatment of Japanese Knotweed located within the banks of River Irk and St. Catherines Wood as indicated on Figure 1.

1 WORKING AREA

The working area shall allow sufficient space for operatives to work safely adjacent to the site plant (i.e. 360° hydraulic excavator & 8 wheel wagon) and will include:

- The areas contaminated with JK
- The JK stockpile area
- The easement area
- The clean material stockpile area

1.1 Controlled Excavation

Before any ground disturbance is carried out a Permit to Dig form will be filled out (See Appendix 1).

The areas subjected to the remediation program shall be excavated with a ditching bucket on a 8t/14t tonne 360° excavator and 9t dual view dumper. The detailed method proposed is as follows:

- All JK plants shall be demarcated before any work takes place on site to prevent any spread from existing contaminated areas to 'clean' areas from plant and operatives on site.
- Where practical, excavate from outside the contaminated area to the extent of the JK rhizomes. This reduces the likelihood of getting contaminated material on the tracks and spreading around site. Where it is not possible the tracks will be cleaned in situ before the excavator moves elsewhere on site.
- The excavated material is then transported and stockpiled using a separate "Dirty" 9t dual view dumper in a waste management area ready for removal from site.
- When an area or section appears to be clean, a careful search of the surface shall be carried out by experienced personnel. If no JK rhizomes are found a further 100mm layer shall be removed and moved to the stockpile area.
- If no more JK is found, a further 200-300mm of material shall be loosened and searched. If on this third check no rhizomes are found, the material shall be left in-situ.
- If more JK material is found at any stage, the whole process is repeated.
- When moving the JK material from the "Dirty" excavator to the "Dirty" dumper, great care will be taken to ensure no cross contamination takes place. This will involve filling each instrument to at least 20cm of the top and through thorough checks of the tyres and tracks.
- A root barrier membrane will be installed along the River Irwell retaining wall (of excavations) to protect the site from future regrowth.
- Due to the nature of the works, the IPC will work in 5m-10m strips at a time, installing membrane and backfilling with a "Clean" excavator, "Clean" dual view dumper and clean material provided by BAM Nuttall, before moving onto the next section.
- Backfill material will be placed prior to being compacted by a Ramax remote control roller in 300mm levels.
- The edges of the excavations shall be battered back to a safe angle (approximately 30°), to ensure safe working conditions for the site operatives.

Information related to the excavation of the contaminated area shall be recorded using the Dig Control Form (**see Appendix 2**). All occurrences on site will be recorded in the Foreman's Diary of Works Form (**see Appendix 3**).

1.2 Monitoring and Spraying Program

A spraying and monitoring programme should be implemented to inspect the whole site to review any unexpected regrowth. The monitoring program, which includes spraying as required, is recommended to last for a three to four-year period.

The **recommended** monitoring program is as follows:

- Year 1 – at least 2 visits
- Year 2 – at least 2 visits
- Year 3 – at least 2 visits
- Year 4 – at least 2 visits

The application of herbicide shall be undertaken by knapsack sprayers, using telescopic or extended lances. Pressure limitation valves will be set at 1 Bar and coarse droplet nozzle shall be used to reduce drift to a minimum. Glyphosate bioactive will be used in all circumstances within this site.

Information related to the monitoring and spraying programme shall be recorded using the Site Monitoring and Spraying Log (**see Appendix 4**).

2 OPERATIONAL RISK MANAGEMENT

Cross Contamination

All JK plants shall be demarcated using road pins and hi-vis tape before any work takes place on site

In order to prevent cross-contamination, tracks/wheels and compartments of machines in addition to any tools used on the site shall be inspected and cleaned as required before moving from the contaminated areas.

There will be two teams present, a “Clean” team consisting of an 8t tracked excavator, 9t dual view dumper, remote controlled padfoot trench roller. A “Dirty” team consisting of an 8t tracked excavator, an 14t tracked excavator and a 9t dual view dumper. No team will be allowed to enter another team working section without authorisation.

IPC requires that information relating to the physical and chemical nature of the ground containing the JK areas are provided. The information will assist IPC in its Health & Safety plan for the site and will also ensure that no preferential pathways will be created for contaminants that may be present in the ground.

Edge Protection

To reduce the risk of falls into the River Irwell, a temporary edge protection will be installed consisting of 4ft scaffolding tubes driven vertically into the soils behind the retaining wall at 3m intervals. Across these, 6m lengths of scaffolding tubes will be horizontally fastened using scaffolding couplers provided by Bam Nuttall.

These temporary barriers will be removed prior to the installation of the root barrier membrane.

PPE

All operatives shall wear appropriate PPE, including but not limited to orange hi-vis clothing, hard hat, gloves, steel toe-capped boots and any other task-specific PPE.

If an operative is working near the river, they will be required to wear Type 275 rated life jackets.

3 **ADDITIONAL SERVICES**

In addition to the services described, The LK Group shall provide the resources and management to:

- Manage and control the JK on site to enable other trades and construction work to undertake their activities with the least hindrance.
- To provide documentary and photographic evidence to be able to demonstrate to any legislative or other interested bodies that due care has been taken to address all issues relating to the on-site Japanese Knotweed problem.

The site will be monitored for a minimum of 4 years post completion with relevant reports being issued where necessary.

HEALTH & SAFETY MANAGEMENT PROPOSALS

All staff shall wear the appropriate safety clothing, including protective headgear, safety boots, and high-visibility jackets/vests.

The work shall be carried out in conformity with the Requirements of the Health and Safety Executive Guidance Notes:

- No. GS6 'Avoidance of Danger from Overhead Electrical Cables';
- No. HS(G) 47 'Avoiding Danger from Underground Services'.

Spraying shall be undertaken by operatives qualified to recognised national standards and shall follow all training guidelines and label recommendations and DEFRA off-label recommendations, where applicable. Spraying activities shall comply with the relevant legislation including:

- The *Control of Pollution Act 1974*;
- The *Control of Pesticides Regulations 1986*;
- The *Code of Practice for the Use of Approved Pesticides in Amenity Areas 1988*;
- The *Control of Substances Hazardous to Health Regulations (COSHH) 2004*;
- The *Control of Pesticides Regulations under the Food and Environment Protection Act (FEPA) 1995*;
- And, *Pesticides: Codes of Practices 1990*.

Target Programme:

IPC confirm that the works can be completed on-site within a 6-week period however this period is subject to the weather and resultant site conditions.

We understand that the anticipated start date not before 01st December 2022.

OPERATIVES CONFIRMATION

All operatives will sign and date below which states that they have read and understood this Method statement and associated Risk Assessments

Name

Signature
Date

.....		
.....		
.....		
.....		
.....		
.....		
.....		
.....		

APPENDICES

APPENDIX 1 – PERMIT TO DIG FORM

Project:.....**Date:**.....**Time:**.....



The LK Group
Eton Business Park
Eton Hill Road
Greater Manchester
M33 2WJ

Tel: 0161 763 7200
Fax: 0161 763 7318

Location:.....

Section 1 (to be completed by IPC Site supervisor)

- Have current drawings showing location, type and status (i.e. live or dead) of all underground services been provided Yes/No
- Has a visual inspection of the dig area been carried out Yes/No
- Has a Cable Locating Device (CAT) been used to sweep the area to establish underground services Yes/No
- Are all operatives conversant with safe digging practices? Yes/No
- Are appropriate tools available Yes/No

Any other precautions (if any)

I hereby declare that the above precautions will be put into effect prior to the work commencing

Name:**Sign:**.....**Date:**.....**Time:**.....

Section 2 Control

I am satisfied that the precautions identified above are satisfactory for the works to be undertaken

Digging may proceed Yes/No

Further action required: (Specify)

Name:**Sign:**.....**Date:**.....**Time:**.....

Section 3 Completion

I am satisfied that the work area has been left in a safe condition and therefore this permit is hereby cancelled

Name:**Sign:**.....**Date:**.....**Time:**.....

APPENDIX 2 – DIG CONTROL FORM



The LK Group
Eton Business Park
Eton Hill Road
Greater Manchester
M33 2WJ

Tel: 0161 763 7200
Fax: 0161 763 7318

Site Name:

Job Number:

Area/ Section	(A) Dig to visual extent of JK & search	(B) Dig a further 100mm layer & search	(C) Dig & loosen a further 200-300 & search	Arising's fate	Initials	Date
...						
...						
...						
...						
...						

I confirm that the works to the above site have been carried out according to the method statement for Japanese Knotweed treatment, submitted for works on this site.

Supervisor for IPC	Client representative (if applicable)
Name:.....	Company:.....
Date:.....	Name:.....
Signed:.....	Date:.....
	Signed:.....



APPENDIX 3 – FORMAN’S DIARY OF WORKS



The LK Group
Eton Business Park
Eton Hill Road
Greater Manchester
M33 2WJ

Tel: 0161 763 7200
Fax: 0161 763 7318

Job No:	Address:	Client:
Date started:	Foreman:	

Date	Time Started	Persons Present	Notes	Time Finished

APPENDIX 4 – MONITORING PROGRAM FORM



The LK Group
Eton Business Park
Eton Hill Road
Greater Manchester
M33 2WJ

Tel: 0161 763 7200
Fax: 0161 763 7318

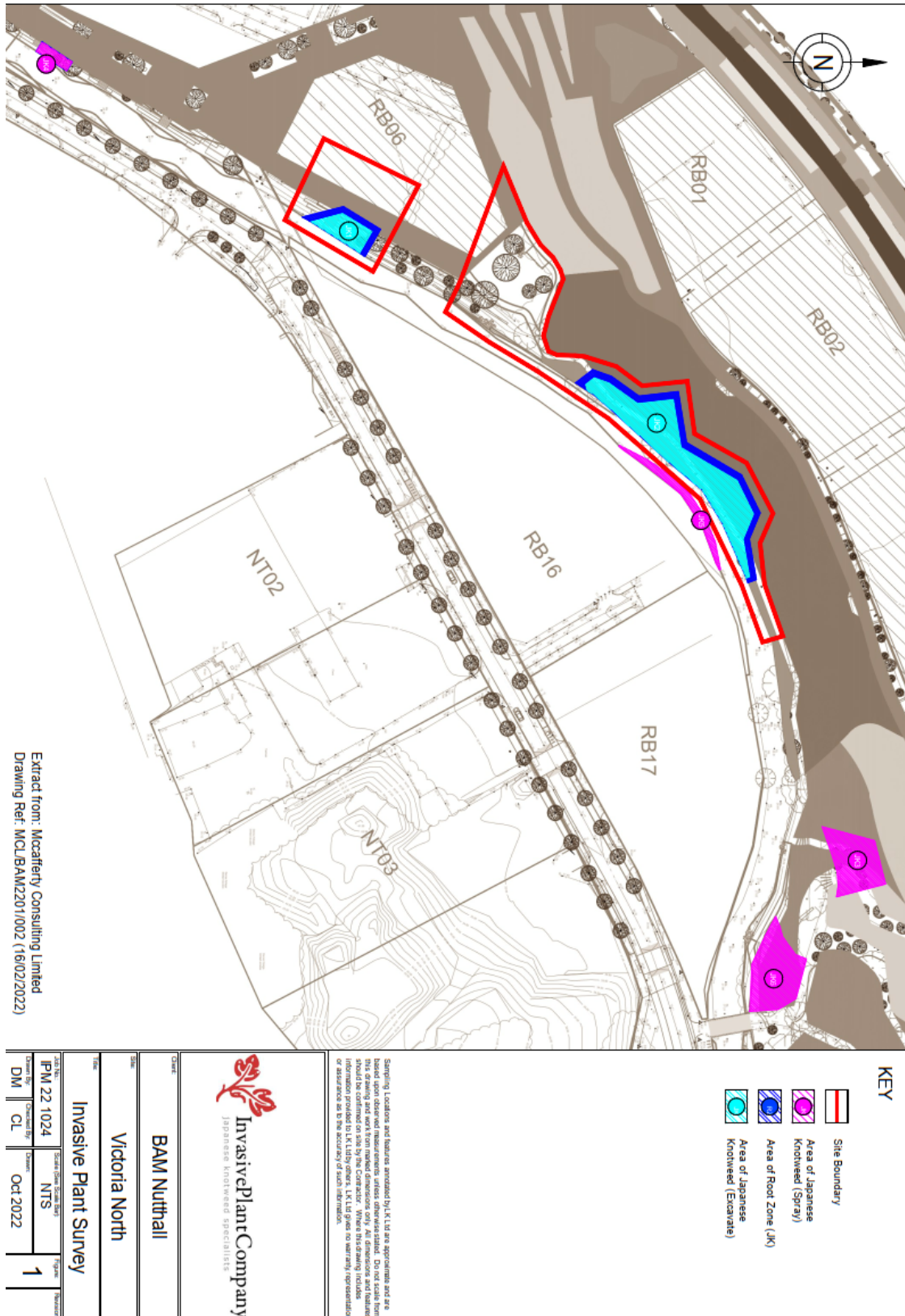
Site:	Client:	Date:
Job No:	Visit No:	Time on site:
Operatives Names:		Time off site:

Area No	Est % or m ² live	Details	Photo No

Herbicide used	Rate ml/litre	No of (L) mix used	Total Chem	Wind	Weather

Operatives Signature:	Client representative (when applicable)
	Client signature (when applicable)

APPENDIX 5 – SITE PLAN INDICATING WHERE THE JAPANESE KNOTWEED IS LOCATED





VALIDATION REPORT



This section is populated when the works are complete.

Appendix C: Tree Retention and Removal Plan

