

Cardiff Council

Coastal Defence Scheme

Invasive Species Management Plan

March 2024



Neuadd y Sir
Caerdydd,
CF10 4UW
Ffôn: (029) 2087 2088
www.caerdydd.gov.uk

County Hall
Cardiff,
CF10 4UW
Tel: (029) 2087 2087
www.cardiff.gov.uk

CARDIFF COASTAL DEFENCE SCHEME INVASIVE SPECIES MANAGEMENT PLAN

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Details of document preparation and Issue:

Version No	Prepared By	Reviewed By	Auth for Issue	Issue Date	Status
1	Simon Dooley	Michelle Barker	Gary Brown	28/02/2024	Draft for Review

CARDIFF COASTAL DEFENCE SCHEME INVASIVE SPECIES MANAGEMENT PLAN

1. Location and Description of Invasive Species

Introduction

This invasive species management plan has been prepared to support the proposed construction of The Cardiff Coastal Defence Scheme along the banks of The River Rhymney and The Coastal Foreshore. This plan was prepared as a result of multiple surveys within and adjacent to the project site which identified extensive areas of Japanese Knotweed.

An adjacent well developed coastal saltmarsh is considered to be supporting habitat for the Severn Estuary SAC/SPA/Ramsar and as such the control of the invasive species including post construction monitoring and remedial actions if required are considered vital.

Responsible persons and contact details

Name	Role	Organisation	Email
Simon Dooley	Client	Cardiff Council	Simon.dooley@cardiff.gov.uk
David James	Client	Cardiff Council	david.james3@cardiff.gov.uk
Michelle Barker	Project Manager (On behalf of Client)	ARUP	michelle.barker@arup.com
James Perkins	Project Manager (On behalf of Client)	ARUP	James.perkins@arup.com
Russ Charnock	Principal Designer	JBA	russ.charnock@jbaconsulting.com
Jonathan King	Project Manager (Design)	JBA	jonathan.king@jbaconsulting.com
Jonathan Harrison	Environmental Clerk of Works	JBA	jonathan.harrison@jbaconsulting.com
Matthew Colley	Construction Clerk of Works	JBA	matthew.colley@jbaconsulting.com
Tim Waller	Principal Contractor	Knightsbrown	tim.waller@knightsbrown.co.uk
Steve Hunt	Contractor Project Manager	Knightsbrown	steve.hunt@knightsbrown.co.uk

	Site Supervisor	Knightsbrown	
Robert Mitchell	Specialist Knotweed Contractor	Conservation Land Services	

Table 1.1 – Responsible persons*Japanese Knotweed*

Japanese Knotweed is present in numerous locations within and adjacent to the project site and is further detailed in table 1.2 below and location plans in Appendix A.

Location	Description	Approximate Grid Reference
Rear of Rover Way Traveller Camp (Location 12)	Area of Knotweed stems present within the working area and also within the project area itself	ST 21872 76678 ST 22029 76905 ST 22053 77028
Adjacent to Rumney Yacht Club (Location 22)	Area of Knotweed stems present within the working area and also within the project area itself	ST 21848 77418 ST 21691 77500
Bend of River near Southern Way Bridge (Location 32)	Area of Knotweed stems present within the working area	ST 21439 77624
Between Southern Way and Lamby Way (Location 42)	Area of Knotweed stems present within the working area	ST 21503 78010

Table 1.2 – Locations of Know Japanese Knotweed*Aquatic Invertebrate Invasive Species*

Ecological survey and reporting to date has not identified the presence of aquatic invertebrate invasive species. However as species have been recorded further along the shoreline, a marine assessment has been completed as is attached in appendix C.

2. Legislation

JK is listed within Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is a criminal offence to plant or to cause them to grow in the wild under these Regulations. Penalties may include a fine and/or 6 months imprisonment, or 2 years and/or an unlimited fine on indictment.

Legislation covering the handling and disposal of invasive species include the following:

- The Invasive Alien Species (Enforcement and Permitting) Order 2019
- The Highways Act 1980;
- The Control of Pesticides Regulations 1986

- The Environmental Protection Act 1990;
- The Town and Country Planning Act 1990 (as amended);
- The Environmental Protection (Duty of Care) Regulations 1991;
- The Water Resources Act 1991;
- The Landfill (England and Wales) Regulations 2007;
- The Hazardous Waste Regulations 2005;
- The Waste Management Licensing Regulations 1994;
- The Environmental Permitting Regulations 2010 (as amended);
- The Control of Substances Hazardous to Health (COSHH).

3. Current Treatment

There is currently no direct treatment of the Japanese Knotweed at this site however a yearly visual survey is undertaken by Cardiff Councils Public Rights of Way Team to ensure no spreading of Japanese Knotweed is taking place.

4. General Recommendations for Invasive Species Management on construction sites

Japanese Knotweed

As a general rule, a 7m horizontal construction exclusion zone should be implemented around a stand of JK, unless otherwise advised by a specialist and suitably-qualified contractor. This is considered to be the maximum horizontal distance that JK rhizomes are likely to cause infestation of the soil. The JK stand and construction exclusion zone should be isolated with fencing and a restricted access sign attached. There is no specified vertical limit of potential rhizome infestation however, the rhizome rarely penetrates deeper than 3m.

Long Term Herbicide treatment is advised as the first line of treatment with Glyphosate being the preferred product. This required to be undertaken by a qualified contractor and if the knotweed is near open water than a licence is required from NRW.

Japanese Knotweed is located extensively through the project site as described in section 1. A 7m exclusion zone will be implemented around these locations. Where it will not be possible to avoid ground disturbance a management approach will be required as set out in Section 5.

Aquatic invertebrate invasive species

As described in Section 1 there are invasive marine species along the shoreline and as such standard biosecurity requirements will be required to be followed as per the Good site practice below and the risk assessment in Appendix C.

Good Site Practice

Good site practice with sufficient control methods should ensure the following:

- All Japanese Knotweed locations not within the construction zone should be clearly marked to avoid spread
- All vehicles and footwear to be cleaned on arrival
- Any vehicles or personnel required to enter the 7m exclusion zone should be suitably inducted and informed of the risk and boots and vehicles thoroughly checked and cleaned before leaving the exclusion zone
- The designated cleaning area should be within an area of Hardstanding or covered by a membrane that will allow waste collection
- All site staff and contractors should be made aware of their responsibility regarding invasive species. This should be provided by tool box talks
- Any works involving the invasive species should be signed off by the Ecological Clerk of Works

5. Proposed Invasive species management as part of The Cardiff Coastal Defence Scheme

Prior to commencement of works a visual survey will be undertaken by the contractor and Ecological Clerk of Works to ensure no new Knotweed locations have generated.

Further works involving the knotweed is detailed in table 5.1 below:

Location	Treatment
Rear of Rover Way Traveller Camp (Location 12)	<i>Prior to construction:</i> A pre-construction survey will be undertaken to ensure no new locations of Knotweed are present. Japanese Knotweed stems are to be cut 10cm above ground level to avoid spreading the knotweed crown, rhizome and/or propagules. The cutting of the stems at 10cm ensures that all is cut is the winter stems. The Cut Japanese Knotweed stems to be cleared and mulched down on site in areas of known existing Japanese knotweed. <i>During construction:</i> Good site practice to be followed. 1. There will be an initial scrape of 500mm across the area. 2. The PCA CSJK will then identify remaining Japanese Knotweed rhizome that may require further excavation in order to facilitate the required depth for the ground works to take place in such a way as to not result in any spread of the Japanese Knotweed material.

	3. The dumper trucks used to transport the material will be $\frac{3}{4}$ filled to prevent material falling out. 4. The excavated Japanese Knotweed material to be stored within the area already containing Japanese Knotweed, with the topsoil being stored separately to the sub soil. 5. The stored material to be profiled to ensure stability and integrity of the stored material. 6. Exclusion zones to be set up around these storage areas using Heras Fencing and appropriate signage, for ongoing monitoring during the re-engineering process. 7. The signage will indicate that it is stored Japanese Knotweed material and that it is a restricted access area. 8. The storage zones will be mapped and recorded. 9. This excavated material, both the top soil and sub soil to be re-used within identified Japanese Knotweed areas only. 10. The summary is that all excavated material, containing Japanese Knotweed crown and rhizome, will stay within known, identified, Japanese Knotweed zones.
Adjacent to Rumney Yacht Club (Location 22)	<i>Prior to construction:</i> A pre-construction survey will be undertaken to ensure no new locations of Knotweed are present. Japanese Knotweed stems are to be cut 10cm above ground level to avoid spreading the knotweed crown, rhizome and/or propagules. The cutting of the stems at 10cm ensures that all is cut is the winter stems. The Cut Japanese Knotweed stems to be cleared and mulched down on site in areas of known existing Japanese knotweed. <i>During construction:</i> Good site practice to be followed. 1. There will be an initial scrape of 500mm across the area. 2. The PCA CSJK will then identify remaining Japanese Knotweed rhizome that may require further excavation in order to facilitate the required depth for the ground works to take place in such a way as to not result in any spread of the Japanese Knotweed material.

	3. The dumper trucks used to transport the material will be $\frac{3}{4}$ filled to prevent material falling out. 4. The excavated Japanese Knotweed material to be stored within the area already containing Japanese Knotweed, with the topsoil being stored separately to the sub soil. 5. The stored material to be profiled to ensure stability and integrity of the stored material. 6. Exclusion zones to be set up around these storage areas using Heras Fencing and appropriate signage, for ongoing monitoring during the re-engineering process. 7. The signage will indicate that it is stored Japanese Knotweed material and that it is a restricted access area. 8. The storage zones will be mapped and recorded. 9. This excavated material, both the top soil and sub soil to be re-used within identified Japanese Knotweed areas only. 10. The summary is that all excavated material, containing Japanese Knotweed crown and rhizome, will stay within known, identified, Japanese Knotweed zones.
Bend of River near Southern Way Bridge (Location 32)	<i>Prior to construction:</i> A pre-construction survey will be undertaken to ensure no new locations of Knotweed are present. Japanese Knotweed stems are to be cut 10cm above ground level to avoid spreading the knotweed crown, rhizome and/or propagules. The cutting of the stems at 10cm ensures that all is cut is the winter stems. The Cut Japanese Knotweed stems to be cleared and mulched down on site in areas of known existing Japanese knotweed. <i>During construction:</i> Good site practice to be followed. 1. There will be an initial scrape of 500mm across the area. 2. The PCA CSJK will then identify remaining Japanese Knotweed rhizome that may require further excavation in order to facilitate the required depth for the ground works to take place in such a way as to not result in any spread of the Japanese Knotweed material.

	3. The dumper trucks used to transport the material will be $\frac{3}{4}$ filled to prevent material falling out. 4. The excavated Japanese Knotweed material to be stored within the area already containing Japanese Knotweed, with the topsoil being stored separately to the sub soil. 5. The stored material to be profiled to ensure stability and integrity of the stored material. 6. Exclusion zones to be set up around these storage areas using Heras Fencing and appropriate signage, for ongoing monitoring during the re-engineering process. 7. The signage will indicate that it is stored Japanese Knotweed material and that it is a restricted access area. 8. The storage zones will be mapped and recorded. 9. This excavated material, both the top soil and sub soil to be re-used within identified Japanese Knotweed areas only. 10. The summary is that all excavated material, containing Japanese Knotweed crown and rhizome, will stay within known, identified, Japanese Knotweed zones.
Between Southern Way and Lamby Way (Location 42)	<i>Prior to construction:</i> A pre-construction survey will be undertaken to ensure no new locations of Knotweed are present. Japanese Knotweed stems are to be cut 10cm above ground level to avoid spreading the knotweed crown, rhizome and/or propagules. The cutting of the stems at 10cm ensures that all is cut is the winter stems. The Cut Japanese Knotweed stems to be cleared and mulched down on site in areas of known existing Japanese knotweed. <i>During construction:</i> Good site practice to be followed. 1. There will be an initial scrape of 500mm across the area. 2. The PCA CSJK will then identify remaining Japanese Knotweed rhizome that may require further excavation in order to facilitate the required depth for the ground works to take place in such a way as to not result in any spread of the Japanese Knotweed material.

	3. The dumper trucks used to transport the material will be $\frac{3}{4}$ filled to prevent material falling out. 4. The excavated Japanese Knotweed material to be stored within the area already containing Japanese Knotweed, with the topsoil being stored separately to the sub soil. 5. The stored material to be profiled to ensure stability and integrity of the stored material. 6. Exclusion zones to be set up around these storage areas using Heras Fencing and appropriate signage, for ongoing monitoring during the re-engineering process. 7. The signage will indicate that it is stored Japanese Knotweed material and that it is a restricted access area. 8. The storage zones will be mapped and recorded. 9. This excavated material, both the top soil and sub soil to be re-used within identified Japanese Knotweed areas only. 10. The summary is that all excavated material, containing Japanese Knotweed crown and rhizome, will stay within known, identified, Japanese Knotweed zones.
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6. Ongoing Monitoring and Management

The Invasive Species Management Plan will be regularly monitored by the persons named in Section 1 and updated where required.

Site workers and the ECW will remain vigilant for the new growth of invasive species within and in close proximity to the works, and this Invasive Species Management Plan will be updated accordingly.

Post construction the flood defences will be inspected annually by a T98 qualified officer. Said officers will also undergo training in invasive species so a visual survey can also be undertaken of the site. Should any remedial works then be required a specialist contractor will be appointed.

Appendix A - Knotweed Locations

Knotweed Plan areas

Pink – Areas of known knotweed

Red – 7m exclusion zone

Blue – Areas of knotweed for removal within work area

Green – Potential sites for storage of removed knotweed.

Location 12



Knotweed Plan areas

Pink – Areas of known knotweed

Red – 7m exclusion zone

Blue – Areas of knotweed for removal within work area

Green – Potential sites for storage of removed knotweed.

Location 22



Knotweed Plan areas

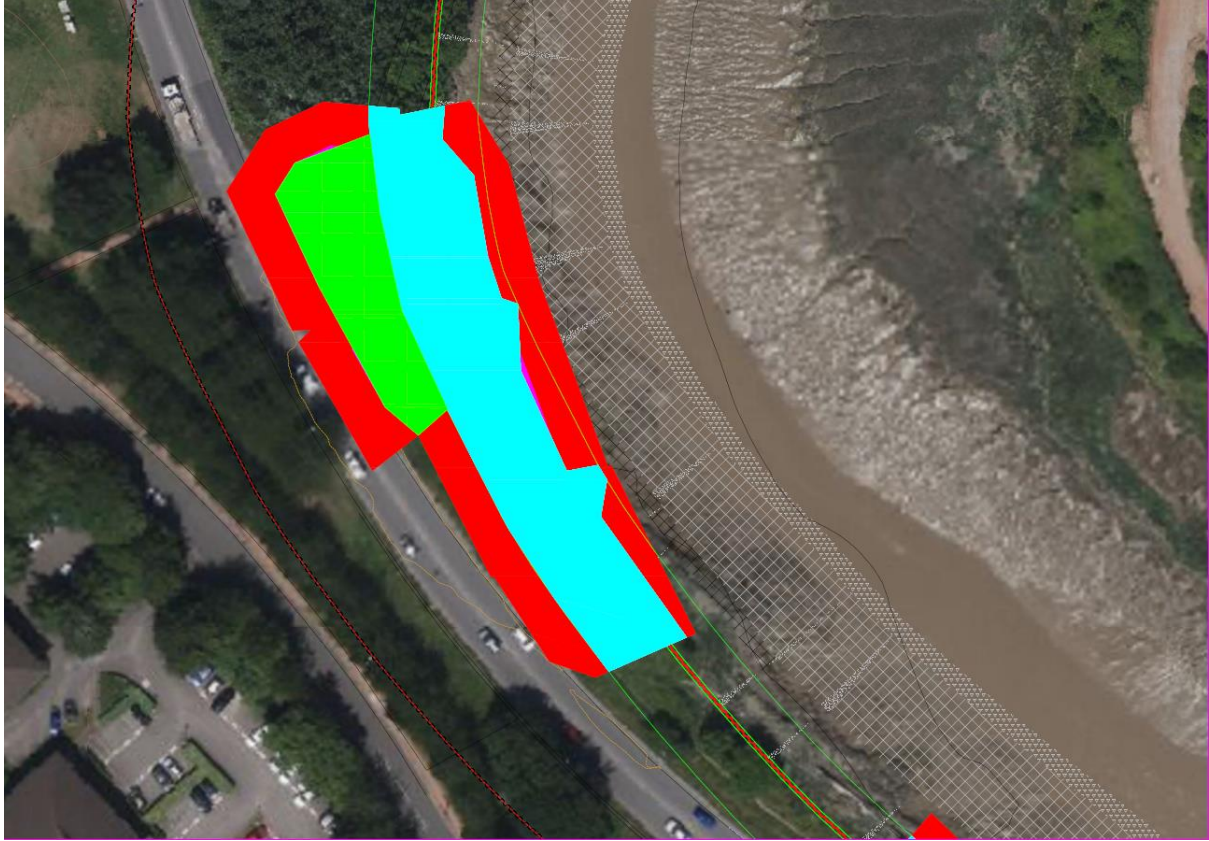
Pink – Areas of known knotweed

Red – 7m exclusion zone

Blue – Areas of knotweed for removal within work area

Green – Potential sites for storage of removed knotweed.

Location 32



Knotweed Plan areas

Pink – Areas of known knotweed

Red – 7m exclusion zone

Blue – Areas of knotweed for removal within work area

Green – Potential sites for storage of removed knotweed.

Location 42



Appendix B - Method Statement



Method statement for Japanese Knotweed control
MS10-10007

River Rhymney
Rover Way
Cardiff

Written by Robert Mitchell
Certificated Surveyor in Japanese Knotweed
Member of Property Care Association Invasive Weed Group

16th February 2024

Method statement for Japanese Knotweed along River Rhymney Rover Way Cardiff

Prepared by	Robert Mitchell
On behalf of	Knights Brown
Written by	Robert Mitchell
Issue Status	Final
Signed	
Date	16 th February 2024
Additional project documents	MS10-10005 with Appendix 1

Project: Control of Japanese Knotweed to support work to be carried out along the River Rhyymney Rover Way Cardiff.

What is the issue?

There is Japanese Knotweed present, in various locations, within the area of proposed ground works to be carried out along the River Rhyymney, Rover Way, Cardiff.

The purpose of this document is to supply a method of working and associated protocols to enable the ground works to be carried out without causing additional spread of the already established areas of Japanese Knotweed.

Supporting narrative.

This method statement is to provide protocols for an appropriate mitigation strategy, to make it 'safe', in terms of preventing the spread of the Japanese Knotweed, for the required ground works to be carried out and to prevent the spread of Japanese Knotweed already present within the project area, during the duration of this project.

This is not a method statement for a control programme for the Japanese Knotweed.

This method statement provides protocols to ensure that the situation is a net zero sum; the area of Japanese Knotweed already present will remain the same and will not be spread beyond where it is already present.

What is the legislation relevant to the task?

Wildlife and Countryside Act (1981)

Japanese Knotweed is one of the 40 plants listed within Schedule 9 Part 2 of the Wildlife and Countryside Act (1981).

Within the Wildlife and Countryside Act (1981) it is an offence to plant, or otherwise cause to grow (including allowing to spread) any plant species listed within Schedule 9 Part 2 in the 'wild'.

And, if transported off site, there is a duty of care regarding the disposal of any part of the plant that may result in the establishment of the plant within the wild and cause environmental harm.

Environmental Protection Act 1990

Any waste containing Japanese Knotweed is classified as controlled waste and consequently there is a legal requirement to observe the appropriate duty of care for its proper handling, under the Environmental Protection Act 1990.

Treatment and disposal of invasive non-native plants in Wales: RD 58

Outlines requirements within Wales that individuals/companies must adhere to, if disposing of invasive non – native plant material and the material it is contained within.

Summary

Vegetation containing Japanese Knotweed is considered controlled waste and consequently has to be handled as controlled waste.

Timing of the project.

All the vegetation in location 12, 22 and 32 will be stripped before the end of February 2024 due to entering bird nesting season. Any de-veg after 1st March will be supervised by an ecologist to check for nesting birds. However Location 42 and 52 will be cleared next winter as works are not planned until next year in these 2 areas – please refer to appended phasing drawing for construction work dates

The duration and monitoring of the stored excavated material containing Japanese Knotweed will be in line with the submitted phasing drawing.

Each area of stored material will be under monitoring until each area is reinstated.

First task; mapping of the Japanese Knotweed locations.

To locate and map the areas of Japanese Knotweed.

This document will be used to assist the overseeing of the vegetation clearance and excavation of the Japanese Knotweed, that falls within the known ground work areas, to be stored within agreed exclusion zones, to enable the ground works to proceed without spreading the Japanese Knotweed material.

Second task; clearance of the vegetation.

To be carried out under the supervision of a Property Care Association (PCA) Certificated Japanese Knotweed Surveyor(CSJK).

The machinery used will be 13 to 14 ton 360 excavators with a flail attachment.

The exclusion zones will be established by using Heras fencing with appropriate signage indicating that this is an area of Japanese Knotweed and is a restricted access zone.

The mulch zones are contained within each area of Japanese Knotweed. The areas of Japanese Knotweed have already been mapped and recorded [see first task] and by definition of this, all zones are equally known and mapped.

Tool box talk on day 1 will be carried out by the PCA CSJK to;

1. brief the contractors the protocols for Japanese Knotweed,
2. showing the already identified areas of the Japanese Knotweed within the document from Task 1 and explaining the correct buffer zones,

Clearing the vegetation.

3. PCA CSJK to confirm each area of vegetation without any Japanese Knotweed.
4. Once the non Japanese Knotweed areas have been cleared this will provide clear working area for the winter stems of the Japanese Knotweed , which are inert and non-viable, to be cut 10cm above ground level to avoid spreading the Japanese Knotweed crown, rhizome and/or propagules. The cutting of the stems at 10cm ensures that all the cut is only the inert winter stems and there is no viable material inadvertently collected.

5. As work progresses to currently inaccessible areas, the PCA CSJK to initially establish each area of vegetation not containing Japanese Knotweed and, as above, for this to be cleared first.
6. Once the second phase areas of vegetation not containing Japanese Knotweed have been cleared, then the PCA CSJK to oversee clearance of the areas containing Japanese Knotweed.
7. The cut Japanese Knotweed stems to be cleared and mulched down stored on site and allowed to compost down, using 13 to 14 ton excavators with flail attachment.

Third task; Excavation of the Japanese Knotweed material, relevant to the ground works, for storage and monitoring.

To be carried out under the supervision of a Property Care Association Certificated Japanese Knotweed Surveyor.

The machinery used will be 13 to 14 ton 360 caterpillar tracked excavators and 9 ton dumper trucks (wheeled).

Note: The majority (approximately 80 to 85%) of the Japanese Knotweed crown and rhizome is found in the first 500mm.

Process of excavation.

1. There will be an initial scrape of 500mm across the area.
2. The PCA CSJK will then identify remaining Japanese Knotweed rhizome that may require further excavation in order to facilitate the required depth for the ground works to take place in such a way as to not result in any spread of the Japanese Knotweed material.
3. The dumper trucks used to transport the material will be $\frac{3}{4}$ filled to prevent material falling out.
4. The excavated Japanese Knotweed material to be stored within the area already containing Japanese Knotweed, with the topsoil being stored separately to the sub soil.
5. The stored material to be profiled to ensure stability and integrity of the stored material.
6. Exclusion zones to be set up around these storage areas using Heras Fencing and appropriate signage, for ongoing monitoring during the re-engineering process.
7. The signage will indicate that it is stored Japanese Knotweed material and that it is a restricted access area.
8. The storage zones will be mapped and recorded.
9. This excavated material, both the top soil and sub soil to be re-used within identified Japanese Knotweed areas only.
10. The summary is that all excavated material, containing Japanese Knotweed crown and rhizome, will stay within known, identified, Japanese Knotweed zones.

These storage areas to be subject to regular monitoring by a Property Care Association Certificated Japanese Knotweed Surveyor.

Bio-security protocols.

All exclusion areas, containing the stored excavated Japanese Knotweed material, to be fenced with Heras Fencing and appropriate signage warning of the presence of Japanese Knotweed material and restricted access.

These storage areas to be 10m from a watercourse.

All vehicles involved with the excavation and transport of the Japanese Knotweed, will be inspected for any Japanese Knotweed material by the PCA CSJK and the wheels, tracks and buckets to be cleaned, using spades and brushes before being allowed to exit the area.

All cleaning to be carried out within the Japanese Knotweed zone.

Jet washes are not to be used as this creates a 'slop' that can not be correctly contained or controlled and gives rise to a potential spread of the Japanese Knotweed material.

Risk Assessment concerning the Japanese Knotweed.

What are the hazards with Japanese Knotweed?	EXISTING CONTROL MEASURES	Severity	Likelihood	Existing Risk High/Medium / Low	FURTHER ACTIONS REQUIRED (Yes/No)
1 Japanese Knotweed is listed on Schedule 9 Part 2 of the Wildlife and Countryside Act (1981). This means all viable or live propagules are controlled waste.	A full briefing to be given on day 1 explaining that all Japanese Knotweed crown and rhizome is potentially viable live propagule and has to be handled as controlled waste. All areas of Japanese Knotweed, within the area of the project, to be mapped and recorded to ensure there is full knowledge of the Japanese Knotweed zones. This information to be used to identify known likely pathways of infestation and spread to inform the decisions regarding appropriate routes of access for plant and machinery and which areas of Japanese Knotweed will require the agreed mitigation contained within the method statement.	3	1	Low	no

2 In handling a moving Japanese Knotweed material there is a risk of spreading the current infestation.	Full briefing concerning this risk given before work begins and informing of the established bio-security protocols concerning not loading any dumper to more than ¾ full and cleaning of machinery. Any transport of material containing Japanese Knotweed to only take place along agreed haulage routes and for these haulage routes to be monitored for any dropped material and to be checked once the transport has been completed. All work concerning Japanese Knotweed material to be supervised by a PCA CSJK.	3	1	Low	no
3. Inappropriate storage of Japanese Knotweed material can lead to uncontrolled spread of the material and lead to new infestations.	All material containing Japanese Knotweed to be stored within restricted access areas using Heras Fencing and signage indicating the presence of Japanese Knotweed material and restricted access.	3	1	Low	no

Client: Knights Brown

3 Charnwood Park,
Waterton,
Bridgend CF31 3PL
Steve Hunt

DD: 07970 798655 email : steve.hunt@knightsbrown.co.uk

Site: River Rhymney, Rovers Way, Cardiff

Date of works: To Be Confirmed

Supervision and personnel

- Mr Robert Mitchell (Conservation Land Services Ltd) - 07518 456090

Training

All operatives are adequately trained to carry out required tasks.

Robert Mitchell holds a current certification and has the following training:

- Certificated Japanese Knotweed Surveyor (PCA) and examiner.

**Appendix C Cardiff Coastal
eng-marine-inns-biosecurity-ra-and-management-
plan**

<i>Document version number: (to be completed by marine licensing team)</i>	
<i>Approval date: (to be completed by marine licensing team)</i>	

Marine Invasive Non-native Species Biosecurity Risk Assessment and Management Plan

A Marine Biosecurity Risk Assessment and Management Plan enables marine operators and contractors to understand and minimise the risk of introducing or spreading marine invasive non-native species (INNS). Management of marine INNS is extremely challenging once they are introduced to a new area. Effective biosecurity measures that minimise the risk of introduction or spread are therefore key to effective management.

Filling in this form:

To help you fill in this form, see accompanying document “Guidance for completing NRW’s Biosecurity Risk Assessment and Management Plan”. The accompanying document contains clarification of many key terms and also provides guidance on potential pathways of introduction for INNS (Table 1) and level of risk associated with each pathway (Table 2).

Structure of this form:

You will need to fill in Sections A and C. Fill in sections B1 to B5 when relevant to your activity. For further information on what is included in each section see the accompanying guidance document.

Section A: Activity overview

You should complete this section.

Section B: Risk Assessment

B.1 Assessing the pathway risks associated with vessels

If you are using a vessel (or vessels) as part of your licensed activity you should complete this section. Information on any equipment to be used which can be separated from the vessel should be provided in Section B.4.

B.2 Assessing the pathway risks associated with non-biological materials and water

If your activity involves the use or transfer of non-biological materials (e.g. water, sediment, construction material) you should complete this section.

B.3 Assessing the pathway risks associated with biological material

If your activity involves the use or transfer of biological material (including aquaculture) you should complete this section.

B.4 Assessing the pathway risks associated with equipment

If your activity involves use of equipment which can be separated from their vessel you should complete this section.

B.5 Assessing other pathway risks

This should be filled in if previous sections do not capture aspects of your activity.

Section C: Management Measures

You should complete this section.

Section D: Recommendations

You should consider this section.

Section A: Activity overview

Please fill out the activity details below:

Applicant name:	Cardiff City Council (Simon Dooley)
Short description of activity: <i>(please provide enough detail for NRW to understand the location and the different elements of the project. Links to other documents which describe the project can be provided)</i>	Construction of new erosion protection rock armour to Cardiff Foreshore and protection of the riverbank of the Rhymney River. In addition, to the above, the existing flood bunds in the area will be raised to a new higher level. With the exception of a rescue vessel that will be used when working on the new riverbank near low water levels and a sonar survey boat, all other works will be from the land.
Estimated timings of proposed licensed activities:	February 2024 to September 2026

Section B: Risk Assessment

B.1 Assessing the pathway risks associated with vessels

B.1.1. Please list all ports within the UK or overseas that all vessel(s) to be used (both during construction and maintenance) have visited over the 12 months prior to this licensed activity, or since the last out of water period (whichever is most recent).

Please state **N/A** if vessels have not entered any port since the last out of water period.

If you do not yet have the information to complete this section, please state **Unknown**. NRW may ask for this section to be updated when these details are known. The risk should be set as High.

Vessel name	Port / location visited over last 12 months (listed chronologically with dates if known)	Which marine invasive non-native species known to be present at this port(s) / location(s)?	Has the vessel had antifouling? 12 months prior to activity for biocidal coatings, 24 months for biocide-free coatings
Alu Star – Rescue boat	None – The boat is not moored in port, but is removed and stored out of water	N/A	Not required, boat dry docked between use and washed clean
Pioneer (survey boat)	Date: <i>Feb 14th 2024</i> Job: <i>A9298 CVSLC Mooring</i> Location: <i>Chew Valley Sailing Club - Bristol</i>	None known at time of deployment	No
	Date: <i>July 17th-23rd 2023</i> Job: <i>A8330 Aled Isaf</i> Location: <i>Aled Isaf Reservoir - Conwy</i>	None known at time of deployment	No

	Date: <i>May 31st - June 9th 2023</i> Job: <i>A9044 Bristol Reservoirs</i> Locations: <i>Barrow Reservoir No.1 - Bristol</i> <i>Chew Lake - Bristol</i> <i>Blagdon Lake - Bristol</i> <i>Cheddar Reservoir - Bristol</i>	None known at time of deployment	No
	Date: <i>April 11th - 16th 2023</i> Job: <i>A9007 Marchwood Diving</i> Location: <i>Marchwood Power Station - River Test, Southampton</i>	None known at time of deployment	No

Please add more rows if necessary

Please indicate the INNS risk level and justification of the risk below, separately for each vessel based on the locations visited in last 12 months. This should take into account the probability of biofouling and vessel antifouling regime. **Note:** Examples of risk levels are given in Table 2 of the accompanying guidance document and there is further information about this section in the accompanying guidance document.

Vessel name / type	Risk Level (High, Medium, Low)	Justification of risk level
Alu Star	Low	Rescue boat, not used for dredging, or movement of materials, Dinghy is stored out of the water between operations, the dinghy does not have ballast tanks. The vessel has only been used in UK waters for the last 12 months
Pioneer survey boat	Low	Survey boat mostly used in reservoirs for last 12 months, one instance in river test 11 months ago.

B.1.2 Please provide details of the vessels (identified in Table B.1.1), which have not had antifouling (within the 12 months prior to the licensed activity for biocidal coatings, or 24 months for biocide-free coatings) and if there is an alternative antifouling management regime.

If there are not additional measures or an alternative biofouling management regime, then please put **None**, and the risk level would not change.

Vessel	Alternative biofouling management regime (e.g. different timeframes for antifouling treatment, vessel storage on land etc.)	Risk Level (High, Medium, low)
Alu Star	Stored out of water	Low
Pioneer survey boat	Fresh water use (not sea water) over past 12 months	Low

B.2 Assessing the pathway risks associated with non-biological materials and water

B.2.1: Please provide information about the source and receiving environments for non-biological materials and water transferred through the licensed activity from different pathways (for example hopper water, dredge material, construction material).

Pathway	Location (including Coordinates, WGS84)		Relevant Environmental Conditions for INNS species (e.g. salinity and depth differences between source and receiving environments)	List of INNS known to be present	Risk Level (High, Medium or Low)	Justification of risk level
N/A	Source	N/A	N/A	N/A	N/A	N/A
	Receiving	N/A	N/A	N/A	N/A	N/A

Please add more rows if necessary

B.3 Assessing the pathway risks associated with biological material

B.3.1 Please provide information about the species that will be used or transferred through the licensed activity and the potential for INNS to be contained in the biological material.

N/A

B.3.2: Please provide information about the source and receiving environments for biological material used or transferred through the licensed activity. Pathways include, for example, transfer of seeded ropes with seaweed or shellfish.

Pathway	Location (coordinates, WGS84) and / or name of culture facility		Relevant environmental conditions for INNS species (e.g. salinity and depth differences between source and receiving environments)	List of INNS known to be present in the location or culture facility	Risk Level (High, Medium or Low)	Justification of risk level
N/A	Source	N/A	N/A	N/A	N/A	N/A
	Receiving	N/A	N/A	N/A	N/A	N/A

Please add more rows if necessary

B.3.3. If a relevant pathway is identified in Table B.3.2, please outline any relevant biosecurity measures or protocols in place to prevent contamination of material by marine INNS, and introduction or spread of marine INNS.

N/A

B.3.4. Does the transfer have the relevant documentation from the Fish Health Inspectorate at CEFAS (Aquaculture Production Business Registration), or follow other relevant codes of conduct for prevention of the introduction or spread of marine INNS? Please place an X in the relevant box.

Yes	No	Don't know	Not relevant
N/A	N/A	N/A	N/A

B.4 Assessing the pathway risks associated with immersible equipment

B.4.1. Please list the immersible equipment expected to be used in this licensed activity in the box below.

Ground investigation Drilling rig

B.4.2. Will all the immersible equipment used in this licensed activity undergo washing, rinsing and / or drying as part of routine maintenance at the times described below? Please place an X in the relevant box.

	Yes	No
Immediately prior to departing the <u>port of origin</u> to undertake the licensed activity.	X (The equipment is not currently in a port as it is a land based drill)	
Immediately prior to leaving the licensed activity area on completion of the licensed activity.	X	

B.4.3. Will all the immersible equipment used in this licensed activity undergo washing, rinsing and / or drying between different deployments within the activity area of this licensed activity (e.g. different specific locations of dredging or sampling covered under this marine licence)? Please place an X in the relevant box.

Yes	No (please provide reason)
X	

If you answer No to any of the questions in B.4.2 or B.4.3, then please complete B.4.4 below.

B.4.4. Please provide information on the previous location the equipment will have been used prior to the vessel being used for this licensed activity.

Equipment	Location (Coordinates, WGS84)	Risk Level (High, Medium or Low)	Justification of risk level
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

B.5 Assessing other pathway risks

B.5.1 Please provide any other information on the licensed activity that may produce a risk of the introduction or spread of marine INNS that is not covered in the sections above.

Pathway	Risk Level (High, Medium or Low)	Justification of risk level
N/A	N/A	N/A

Section C: Management Measures

C.1 Management Measures

Enter the management measures for the pathways identified in the sections above.

All **high and medium risk** pathways identified in the previous risk assessment (sections B.1 to B.5) should have some degree of additional control or mitigation measures. Low risk pathways may also need additional control or mitigation measures. You may want to consider keeping a logbook to help demonstrate compliance if this is requested.

Pathway (identified in sections above)	Risk Level (High, Medium or Low)	Risk management measure/s	Risk level after management (High, Medium or Low)
Survey Boat (Pioneer)	Low	Will be washed down after use and has been in freshwater for previous 12 months	Low
Rescue Boat (Alu Star)	Low	Washed Down with freshwater and allowed to dry after each deployment and movement to new area within the construction site	Low
Ground Investigation Drilling rig	Low	Washed Down with freshwater and allowed to dry after each deployment and movement to	Low

		new area within the construction site	
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Please add more rows if necessary

Section D. Recommendations

You may want to consider how compliance with the management measures will be recorded, for example in a log book or via photos.

- A log book will be kept with all information on deployment and wash down procedure
- All staff will be given training on INNS and the possibility of transfer by the schemes ecologist before work takes place.
- Any instances of INNS will be reported to the site manager who will then alert the project team. The licence holder (cardiff council) will then report to NRW.