

MARINE BIO SECURITY PLAN

Site Name & Address	Barmouth Viaduct Gardens, Barmouth, LL42 1EL
Revision No.	
Completed by:	Iwan Pritchard
Preparation Date:	15/08/24
Construction Phase Start Date:	07/10/24

1. Introduction

Background

The scheme is to provide flood alleviation to the area known as Viaduct Gardens in Barmouth. The area has suffered a number of flood events over recent years. The source of flooding is complex and has been a result of the sea over topping the existing sea wall and inundation of the existing surface water network. Flooding has also occurred during events where tidal waters impede the free flow of the surface water network due to tide locking. The primary sea wall has also suffered storm damage in 2020 which caused a partial collapse of the wall. The works will be managed by the Principal Contractor (to be appointed) working for Cyngor Gwynedd Council. In brief, the works consist of construction of a new sea wall, new secondary set back wall, new surface water and associated pumping station, install 4No. flood gates and landscaping works. The work comprises the following activities:

- Existing seawall to be rebuilt with precast concrete units, faced with stone masonry cut from stones

in existing seawall.

- New raised section of seawall immediately behind rebuilt seawall, with stone block masonry finish.

- Existing 'temporary' rock armour to be redistributed across front of seawall with additional smaller

stones incorporated as required.

- New surface water outfall on beach further out than existing viaduct.
- Existing outfall and pipe onto beach to be removed.
- Single and double leaf flood gates.
- Control box for new underground pumping station and new chambers (arrangement tbc).
- New setback wall at rear of garden with stone block masonry finish.
- New gulleys and chambers to increase highway drainage capacity at low point (arrangement tbc).
- Existing paviers replaced with raised pedestrian crossing (blending).
- Existing stub wall and railings removed.
- Paved area incorporated into Viaduct Gardens
- New railings creating new perimeter to viaduct gardens.
- New raised section of seawall tapers down from 5.60 in corner to ground under viaduct.

Aims and objectives

The objective of this document is to assess the potential biosecurity risks that may be encountered during the construction phase and to outline a means to control them to ensure that the scheme does not cause harm to the biodiversity of the area through the introduction of invasive or injurious species.

2. Biosecurity Risk Assessment

Procedure

A biosecurity risk assessment has been produced and is provided in Appendix A. Measures will be put in place on site to ensure that all site staff are made aware of this biosecurity risk assessment and it will be periodically re-assessed and updated by the site manager as relevant and with guidance from a project ecologist.

All staff will be provided with a formal induction to the site and made aware of the biosecurity risk assessment. This induction will include identification of the species and risks identified in the document and the means of controlling them. A record of staff inductions should be kept.

Existing records of invasive non-native species

Within the Preliminary Ecological Appraisal Report dated 16th May 2022. No invasive species were recorded during the Extended Phase 1 Habitat survey. However, this survey was conducted out of the growing season, and as such it is recommended that a survey to accurately map the INNS within the Site is conducted in spring and summer, to ensure all INNS are recorded through their respective growing and flowering seasons.

Working methods

- Any sightings of the INNS should be reported to the Site Manager who will report this information to the Project Ecologist.
- Create an exclusion zone around any stands of INNS where necessary to prevent vehicles from entering the area.
- Construction vehicles should keep to pre-determined routes and should be kept in pre-determined parking areas.
- Ensure material entering site is free from any INNS and check that it has not come from a site with INNS.
- Plant and machinery to be cleaned before entering site.
- Rock armour will be transported to site by road, vessels will not be used.

- Vehicles should keep to pre-determined routes and parking areas.

3. Appendices

Appendix A. Biosecurity Risk Assessment

Risk	Means of spreading	Risk during this project	Means of controlling risk
Chytridiomycosis, known as Chytrid - a disease of amphibians causing mortality.	Movement of amphibians, water or materials between sites.	- Found in some parts of the UK and widespread across other parts of the world. - Medium risk as capture and translocation of amphibians may be carried out under licence.	- Amphibians are not to be moved more than 2 km from original site of capture. - All equipment that comes into contact with amphibians to be disinfected between sites. - All footwear to be disinfected between sites if entering water- see additional disinfection guidelines below. - Vehicles entering water will also be disinfected between sites. - Dead amphibians to be treated as high risk and avoided. <i>Disinfection procedure for chytrid:</i> <i>All equipment that has been in contact with amphibians or water will be disinfected.</i> <i>Equipment required:</i> - Bucket - Brush - Disinfectant- Virkon/household bleach - Disposable gloves - Bin bags - Fresh water <i>Where disinfection is required, as identified above, the following procedure will be followed:</i> - Brush off any soil or plant material - Rinse with clean water - Disinfect the boots with Virkon, mixed to the manufacturers guidelines, usually 10mg/ml, for one minute - Fabrics should be washed on a 40 degree cycle, with detergent. If this is not possible between sites, a change of clothes will be required.

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			5. Any nets used should be boiled, or if the fabric allows, sprayed with a bleach/disinfectant. 6. Allow to dry or if going on to another site rinse equipment with clean water 7. If the above is not possible until off site, then field equipment and footwear must be transported in plastic bags to avoid transmitting chytrid. 8. Disinfectants would ideally be poured down a drain after use. If this is not possible they may be poured onto a hardstanding away from vegetation.
New Zealand pygmyweed (<i>Crassula</i>) – Non-native alien aquatic plant.	Spreads via equipment, footwear or vehicles that have been in contact with water containing <i>Crassula</i> .	• Low risk as the species has not been recorded in the area.	• Disinfection of equipment, footwear and vehicles if any pond is visited/entered, as per the procedure for dealing with Chytrid would also be effective for dealing with <i>Crassula</i>.
Japanese knotweed - An invasive alien plant.	Spreads via machinery or moving soil between sites, via rhizomes from the roots/stems.	• The plant is known to be present along the highway route. • There is therefore considered to be a medium risk.	• Induction will include a section on making contractors and staff aware of the identification of this plant. • Ensure that the contractor is aware of the location of any stands of this plant. • Any sightings of the plant should be reported to the Site Manager who will report this information to the Project Ecologist. • Create an exclusion zone around any stands of the plant where necessary to prevent vehicles from entering the area. • Construction vehicles should keep to pre-determined routes and should be kept in pre-determined parking areas. • If exclusion is not possible then the plant should be eradicated from the area using best practice guidelines. • Soil will not be moved between sites. • Vehicle wheel arches and tyres will be cleaned between sites and a suitable disinfectant used. • Vehicles should keep to pre-determined routes and parking areas.

Himalayan balsam- An invasive alien plant.	Spreads via machinery or moving soil between sites; via seeds.	- The species has been recorded in the area. - There is therefore considered to be a medium risk.	- Induction will include a section on making contractors and staff aware of identification of this plant. - Any sightings of the plant should be reported to the Site Manager who will report this information to the Project Ecologist. - Create an exclusion zone around any stands of the plant where necessary to prevent vehicles from entering the area. - Construction vehicles should keep to pre-determined routes and should be kept in pre-determined parking areas. - If any plants are identified within the working areas these should be pulled up and left to dry before the seeds set (June to August). - Soil will not be moved between sites. - Vehicle wheel arches and tyres will be cleaned between sites and a suitable disinfectant used.
Giant hogweed – An invasive alien plant.	Spread via seed or contaminated soil.	- The species is not known to be present in the working areas but is present in the county. - There is therefore considered to be a low risk.	- Induction will include a section on making contractors and staff aware of identification of this plant. - Any sightings of the plant should be reported to the Site Manager who should report this information to the Project Ecologist. - Site staff should not be in contact with this plant as it can cause inflammation to the skin
Giant rhubarb – An invasive alien plant.	Spreads via machinery or moving soil between sites, via rhizomes from the roots/stems.	- The species has been recorded in the area. - There is therefore considered to be a medium risk.	- Induction will include a section on making contractors and staff aware of the identification of this plant. - Any sightings of the plant should be reported to the Site Manager who should report the information to the Project Ecologist. - Ensure that the contractor is aware of the location of any stands of this plant. - Create an exclusion zone around any stands of the plant where necessary to prevent vehicles from entering the area.

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Phytophthora - a parasitic fungi causing dry rot in plants.	Spreads through traversing heathland and woodlands sites, spread via soil and material.	- There is limited felling works taking place and it is understood that no larch trees are to be felled - There have been no Statutory Plant Health Notices served in relation to the species on Anglesey - There is therefore considered to be a low risk	- All soil and material to be removed from wheel arches, tyres, machinery and footwear sprayed with 'Propeller' disinfectant. - Any suspected signs of the disease will be reported to Natural Resources Wales (NRW).
TB/Foot and Mouth - Notifiable diseases of livestock.	Contact with animals and animal faeces.	The works will cover multiple farms over the route and so a precautionary principle should be applied.	- Wash soil and animal faeces from tyres, wheel arches and footwear before moving to different farms. - Spray with a virkon solution or similarly effective chemical.
Chalara - Ash dieback disease- fungus eventually causing the death of the ash tree affected.	Mostly spread through the air.	- There will be some felling works and there are recent reports of the disease to the north of the highway improvement route. - There is therefore considered to be a medium risk.	Any suspected signs of the disease will be reported to Natural Resources Wales (NRW).
Garden escapees (e.g. montbretia <i>Crocsmia</i> and spanish bluebell).	Spread via machinery or moving soil between sites.	<i>Crocsmia</i> has been recorded in the area - The species is known to grow on road verges and in hedgerows. - There is therefore considered to be a medium risk.	- Ensure that contractors are aware of the location of any <i>crocsmia</i> and are able to identify it. - Any sightings of the plant should be reported to the Site Manager who should report the information to the Project Ecologist. - Create an exclusion zone around any stands of <i>crocsmia</i> where necessary to prevent vehicles from entering the area.

			• Construction vehicles should keep to pre-determined routes and should be kept in pre-determined parking areas. • If exclusion is not practical then the plant should be eradicated from the area using best practice guidelines. • Soil will not be moved between sites. • Vehicle wheel arches and tyres will be cleaned between sites and a suitable disinfectant used.
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