SALIX RIVER AND WETLAND SERVICES LIMITED
Construction Phase Method Statement for Rhymney Polder Installation, Great Wharf, Newton, Cardiff Rev: A

Client:
NRW

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Distribution:	

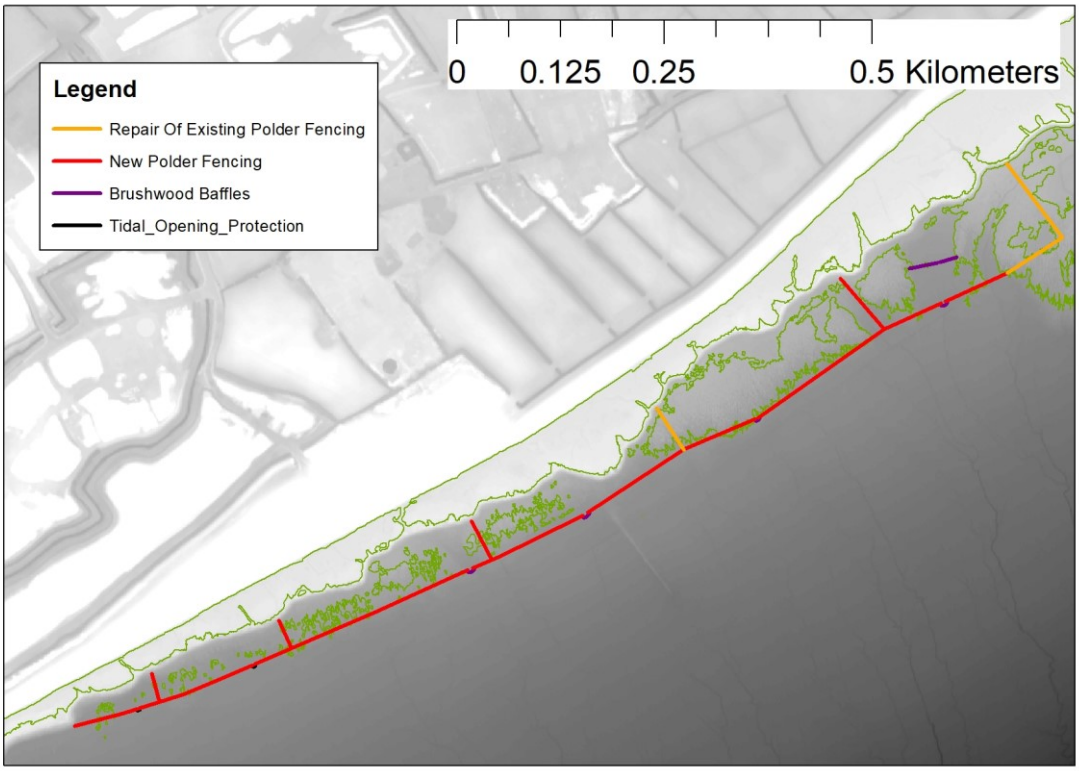
SALIX RW
RHYMNEY POLDERS

CONTENTS

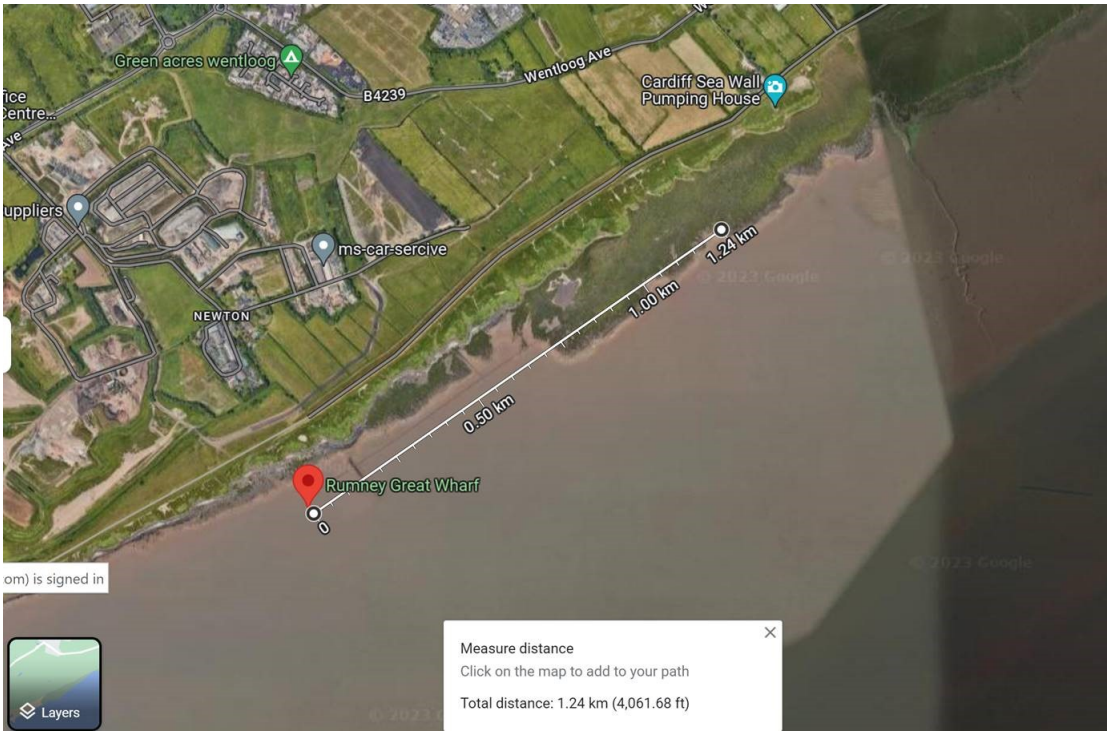
1.0 The Works

1.1 Scope

The project involves creating brushwood revetments or polders to encourage sediment to build up and vegetate on the mud flats seaward of the salt marsh and flood bank.
A line of brushwood fascine revetments will be installed that will link into existing polder that will be repaired. Five returns between the outer line and existing marsh will create six cells each with a tidal opening.
Brushwood baffles will be installed in cell 1 as detailed below.



Above plan of the proposed polder installation / repair



Above: Site location, existing shoreline and proposed new shoreline locations

1.2 Key Safety Issues

- Soft Ground
- Tidal Working
- Exposed Location
- Difficult casualty recovery

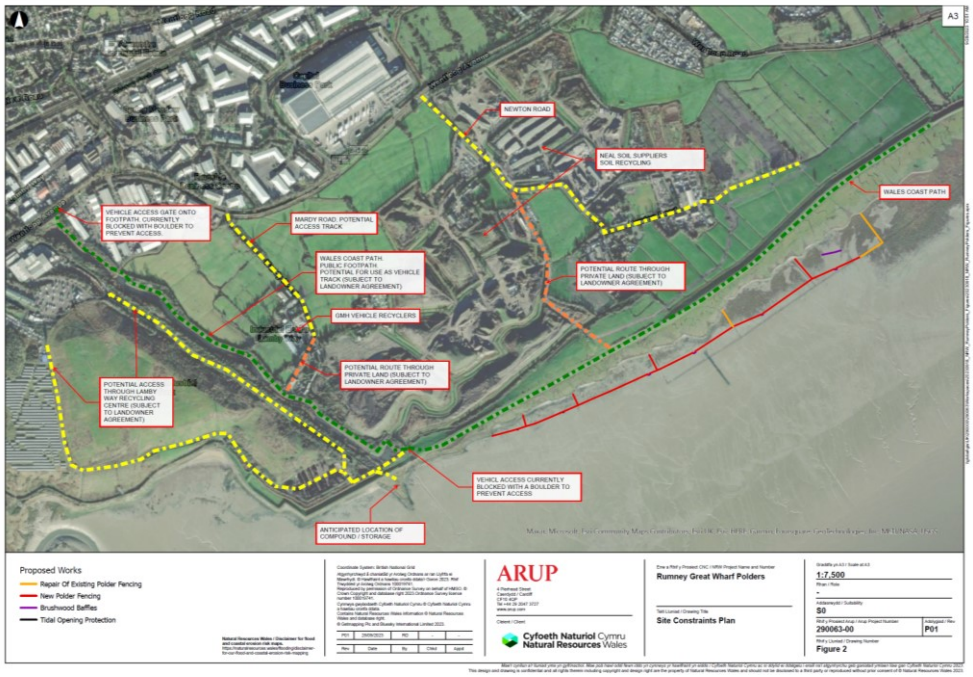
1.3 A & E Hospital

University Hospital of Wales
Lower Ground
The Gateway
Cardiff
CF14 4XW
Tel: 029 2074 8047

2.0 Mobilising

2.1 Access

The access to the site will be agreed with the client and will be suitable for low loader and articulated lorry deliveries. Preferred access route will be at the contractor's discretion, several routes can be identified below. Access via Lamby Way or Newton Road appear least restrictive, subject to landowner permission.



Above potential site access routes

2.2 Deliveries & Site Access

All material deliveries will be planned, and deliveries will phone ahead to be met by a banksman who will supervise movement on site including reversing and turning. Delivery wagons to have edge protection or come palletised/bundled for safe unloading by tele-handler.

Materials unloaded by the telehandler will be transferred to the tracked dumper for distribution to the working area.

The access to the working area will be agreed with the client. The contractor will agree the location and number of access points from the existing marsh down onto the mud flats. It will be necessary to either remove the existing rock armour to the cliff or to ramp over it with fill material. Whichever method is adopted the accesses must be reinstated to their original condition on completion.

Above Rock Armor to remove and replace or ramp over at access points

2.3 Site Compound/Welfare

A safe fenced compound will be required for the storage of materials and the siting of welfare, fuel bowser etc.
The bowser will be bunded, maximum of 2000ltrs and locked when not in use. Spill kits and drip trays will be used with the bowser. Bowser to be sited at least 20m away from any watercourse or receptors such as drains or natural slopes leading to a watercourse.

The welfare will consist of a self-contained type unit for six operatives and will include toilet, messing and drying facilities. As the welfare may be some distance from the work area a portaloo will be provided at a suitable location behind the flood bund.

3.0 Method of work

3.1 NRW Marine Licence

The licence is to be applied for and held by the client.
The Contractor will comply with any conditions stipulated in the licence.

3.2 Brushwood & Stake revetment (polder) installation methods as per design section/s

Each days work will be planned around the tide times and predicted tidal heights.
As the work is expected to be delivered over a period of approximately eight weeks flexible working times will be adopted.
Machine work can commence directly behind a falling tide but must be completed 1 hour in advance of a rising tide giving an hours response time should there be a plant failure or the like.
The site manager will monitor tides and weather and decide when and where to work. They have the authority to stand down should weather conditions raise any safety concerns.

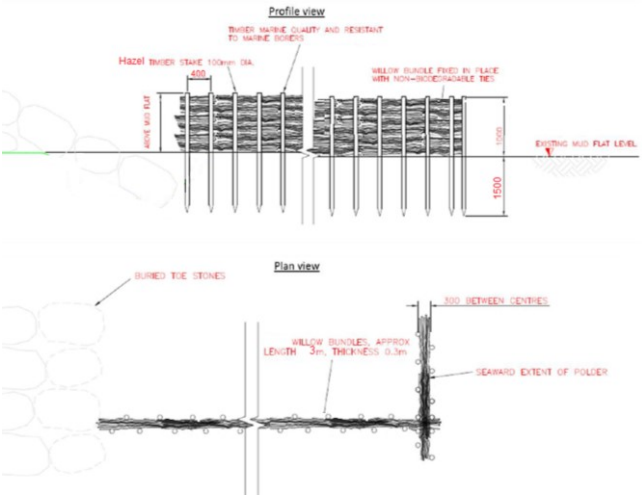
No lone working at any time on the mud flats.

The line of the polders will be marked out with ranging rods installed by hand held post knocker. A line can be strung between the ranging rods to give a line the posts can be driven to.
The string can also be set up to give an average depth of 1000mm above ground level to give a smoot top line in areas of undulation.

The stakes and brushwood bundles will be transported to the work area using the tracked dumper.

Each full round chestnut stake 2.5m long peeled and pointed will be pitched and driven to level using the hydraulic post knocker attachment on the excavator.
A double row of posts driven in pairs 300mm apart and at 600mm centres.
The 2.5 m stake wont extend above the 1000mm of brushwood as shown.

Each 3000mm x 300mm brushwood bundle will be placed between the stakes and each layer trodden down with the bottom layer being pushed into the soft mud.
Each layer will be trodden in to form a compact wall of brushwood with no gaps or large voids.
The brushwood is then wired over using a plain fencing wire secured to the stakes with u nails.



All sections MUST be fully secured at the end of each shift.

Within Reach 3, brushwood packing will occur to fill 2m of the rills where the brushwood polder and rill intersect. Brushwood packing will be placed between stakes and each layer trodden down with the bottom layer being pushed into the soft mud. The brushwood is then wired over the top using a plain fencing wire, secured to the stakes with u nails.

Above photograph of the works completed on the River Roding, near the Barking Barrier, London. The photo partially demonstrates the method of securing fascines within the rills at Rhymney Great Wharf, beneath the polder fencing. The brushwood must be packed into the rills with the bottom layer being pushed into the underlying mud.

3.2 Resources

People

Site Manager
Plant Operators x 2
Skilled Labourers x 3

Plant

Tracked people carrier / recovery vehicle

Super low ground Pressure 8-ton Excavator

Tracked dumper

6 Bunded fuel Bowser
Excavator mounted post knocker
Storage containers
Tele-handler at Compound
Welfare/dry room at Compound

4.0 Safety and Environmental Issues

The area of works is a SSSI / SPA designated for the saltmarsh and mudflat habitat. As such, access for all machines will be low ground pressure and operate on both biodegradable hydraulic oils and HVO fuel. The access routes will be agreed with the client.

4.1 Site inductions and method statement briefings

Prior to commencement of work all site personnel involved in the operation will have received a site induction and a briefing on the method statement, recovery plan and NRW marine licence.
Site safety and site security rules will be explained.
Site induction to be given by Salix Safety Advisor/Management staff and recorded. .
Site attendance sheets will be completed each day to include start and finish times.
Cards & competences checked by Salix.

4.2 Operatives Certificates and training

All personnel will be experienced and competent to carry out their required tasks and be experienced working in water related environments.
All operatives to attend a site safety induction.
All operatives to hold CSCS cards.
All machine drivers to hold CPCS cards.
All lifting equipment certified and tested.
First Aider permanently on site.
Site Manager to be SMSTS Managing Safety Qualified.

4.3 Site Safety

The site is remote any casualty will be moved onto the tracked dumper for evacuation.

All emergencies will be coordinated by the site manager by phone to the emergency services or by contacting the coast guard on VHF16 emergency channel.

Any emergency will be relayed to the PM as soon as practicable.

All tasks are to be covered by a risk assessment.
All changes to working methods are to be reassessed, documented and actioned before work continues.
Toolbox talks will be given to cover the changing aspects of the works e.g. wet weather work.
Evidence of toolbox talks given will be supplied upon request and a copy will be available on site for inspection.
Appropriate COSHH details will be issued by Salix for the relevant materials. (Oils & Fuel) The site will be kept clean and tidy to minimise the risk of trip, slip and fall hazards.

First aid boxes to be stationed on excavator and dumper at the works location.

Two first aid qualified staff will be present on site.

4.4 Recovery Plan

In the event of anyone becoming stuck in the mud or requiring assistance or man in water will be reported to the coast guard immediately on VHF CH16.
A recovery harness will be deployed & attached to the excavator, to allow the person to be recovered/lifted out/freed. The condition of the casualty will be reported to the coast guard so they can decide on the best form of recovery from site if required.

A Jason's cradle stationed on the excavator, ready to be deployed if required. Casualty can be lifted on/rolled into the cradle & then the excavator can lift the cradle to a safe position on the bank side or dumper for 1st aider to attend too until emergency response arrives on site.

The site manager will use "what three words " to provide a casualties position to the emergency services.

4.5 PPE

All personnel will be required to wear safety footwear, offering steel toe caps and adequate ankle support.
Suitable windproof and waterproof clothing for exposed remote working.
Full Hi-vis PPE to be worn by all hi-vis, Jacket, Vest/hard hat/safety glasses/suitable gloves will be worn to be a minimum Cut 5 standard.

All to wear 275N Life jackets, correctly fitted with crotch staps used when working on water or next to water.
Throw lines and harness to be stored on the excavator and dumper, both ready to deploy if an operative gets stuck in the mud.

4.6 Working in and around water, Soft mud

Working with contaminated wet material can increase the risk of contracting leptospirosis (Weil's disease). Site staff will be made aware of the symptoms at the induction and how to minimise the risk of contracting the disease.
Water proof gloves/or glove liners to be worn.
Weather, tides, water levels to be monitored by the Site Manager and reviewed if they deteriorate, before works continue.
Soft mud represents a risk of sinking and drowning.
Uni-floats will be deployed to allow for a firm/safe work platform.
No lone working.

Spill kits are carried in all Salix vehicle's & Machines
Spills will be reported and dealt with immediately.
Diesel and machine oils are the possible polluting agents.
All operatives will receive a "**Tool Box Talk**" on spill precautions, being observant and treatment of spills.
In the event of a spill operatives will first make the machine operator aware and instruct the operator to remove the machine from the bank edge to minimise the volume of diesel/oil.
Operatives will remove the absorbent pads and rolls from the spill kit.
Rolls are to be placed around the periphery of the spill with the pads placed on the surface of the water to absorb the spill.
Rolls and pads will be continuously added until the spill is absorbed. All saturated pads and rolls will be placed in a sealed disposal bag and taken to a suitably licensed Local Authority tip or in the site skip. After the spill, a review of the causes will be conducted.
Any spill incident to be reported to the PM asap

4.7 Daily supervisor briefings

The site manager will hold daily briefings to define the day's objectives, discuss any points arising during the works such as tide times, safety, weather or changes to working methods and risks that need to be re-evaluated.

4.8 Safety Policy

All work will be carried out in accordance with the Salix safety policy
A copy will be kept on site for reference with the site safety file.

4.9 Bio security

All plant coming from a previous job within a watercourse will be disinfected and washed down in accordance with Salix bio security policy.
Any plant that has been on other sites with known invasive species will be thoroughly washed and fully dried before being transported to site.

Following the Clean, Check, Dry Process.

Check. All clothing, tools and machinery should be thoroughly inspected and any visible debris (mud, plant or animal matter) should be removed and left at the water body where it was found. Particular attention must be paid to the seams and seals of boots and waders. Any pockets of pooled water should be emptied.

Clean. Tools and machinery should be hosed down or pressure-washed on site. Washings should be left at the water body where the equipment was used, or contained and not allowed to enter any other watercourse or drainage system.

Dry. Thoroughly drying is the best method for disinfecting clothing and tools. Tools and machinery should be thoroughly dry for 48 hours before they are used elsewhere. Some non-native species can survive for as many as 15 days in damp conditions and up to 2 days in dry conditions, so the drying process must be thorough

4.10 Waste

Minimal waste on this scheme, mainly material packaging & welfare rubbish, all which will be placed in to a suitable skip located within the compound area, supplied & managed by the main contractor.

SITE SAFETY RULES

1. 275n Life Jackets, Full Hi-vis PPE Jacket/Safety Glasses/Hard hat, Gloves Minimum Cut 5 standard & Protective footwear must be worn at all times.
2. The site speed limit is 5 MPH
3. Only authorised personnel are to operate plant & machinery.
4. Look out for and stop for walkers using the costal path
5. No lone working
6. Keep mess hut & toilets tidy
7. Report all accidents / incidents to the Site Manager
8. Raise any concerns or doubts you may have with the Site Manager or Safety Manager

METHOD / RISK STATEMENT EXPLANATION ATTENDANCE SHEET

NAME	SIGNATURE	COMPANY	DATE
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Explained by:……Date……

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