This Biosecurity Plan Template is intended to be used by marine maintenance dredging operators and contractors in order to minimise the risks posed by marine invasive non-native species (INNS), particularly related to minimising spread to new areas. It is difficult to directly manage INNS in the marine environment once they are present, therefore, prevention is key which is recognised in the GB Invasive Non-native Species Strategy (2015)

"Where direct management is not feasible, as is often the case in the marine environment, we will seek to reduce the spread of species by improved and targeted biosecurity".

There are a number of legislative drivers for this work including the Marine Strategy Framework directive (MSFD); EU IAS (Invasive Alien Species) Regulation and the Wildlife and Countryside Act (W&CA) 1981, Schedule 9. Section 14 of the W&CA states that it is an offence to '*release or allow to escape into the wild any animal which is not ordinarily resident in Great Britain or any species listed in Schedule 9 of the Act'.* Schedule 9 of the act lists a number of marine INNS particularly relevant to marine dredging activities, these include the Chinese mitten crab (*Eriocheir sinensis*), American Oyster Drill (*Urosalpinx cinerea*) and the American Slipper Limpet (*Crepidula fornicata*).

With respect to maintenance dredging activities in Wales and in order for the potential risks posed by these species to be managed in the most effective way it is important that NRW obtain as much information as possible. In certain circumstances where the activity is deemed not to contribute to the further geographic spread of those species on Schedule 9 (W&CA), NRW may issue an exemption in the form of a 'General Species Licence', however, this will be assessed as part of the licensing process.

1. Introduction

Please provide a brief background/overview about the maintenance dredging activity

The objective of the works is to remove accumulated silts and fine sands from within Monkstone Marina and to clear the harbour entrance using the method of Water Injection Dredging. This system is designed to remove silty material from the seabed, by injecting a large volume of water at low pressure into the sediment layer. This lowers the density of the soil, until it become fluidized and can be transported, in the lower part of the water column away from the dredge area. This natural horizontal transport is driven by the hydrostatic pressure differences, the gradient of the seabed and the current

1.1. Applicant Name: *Van Oord UK Ltd*.

1.2. Marine Licence reference number: *Insert previous ref: no if applicable*

1.3. Description of Operation: *Monkstone Marina Maintenance Dredge*

1.4. Dredge and disposal Site Location(s): *Insert both the dredge and disposal site locations associated to the planned operation.*

The dredge location will be within Monkstone Marina and at the entrance to the harbour. The dredged material will be re-mobilised into the surrounding environment as a result of the Water Injection Dredging, which will be naturally dispersed using bed gradient and tidal flows into the surrounding environment. This has the advantage that no material is being removed from the local sediment budget (only redistributed within the coastal region) and does not require a designed dump site.

1.5. Activity period: *Insert the start and end date indicating the maintenance dredge activity period under the current licence*

Estimated start date March 2022, for a duration of one week.

1.6. Biosecurity Manager/Officer: *Plant Manager & Project Manager*

1.7. Approval Date: *To be completed by NRW Marine Licensing Team*

1.8. Document version number:

2. Information related to the Environmental conditions affecting biosecurity

	Source environment/location	Receiving environment/location
Marine Non-native species known to be present	*Insert evidence related to the presence/absence of known marine Invasive Non Native Species (INNS) in the source port or local environment. This may include national species distribution records, evidence from recent surveys, and reports or scientific literature.* *No evidence available*	*Insert information related to any evidence related to the presence/absence of known marine INNS in the receiving/destination port or local environment. This may include national species distribution records, evidence from recent surveys, and reports or scientific literature.* *Requires input from Client*

3. Vessels & equipment involved in the operation[1] *(please list all vessels, barges*

[1] The licence holder should update and submit a revised plan as a result of any amendments to the list of vessels and/or equipment to be utilised as part of current licence.

and equipment to be used as part of the maintenance dredging operation – insert additional rows as necessary)

Vessel name	**Photo reference** (*Please insert images in the appendix)*	**Vessel type**	**Details, Risk factors & Justification** *e.g. Pathway, vessel speed, biofouling control, Inspection history, Internal treatment history etc..*	**Risk:** *(High/Medium/Low)*
WID BALDR & HAVIK	*See vessel specification sheet.*	*Water Injection Dredger*	*Antifouling paint and anodes on hull.*	*Low*
WID BORR	*See vessel specification sheet.*	*Water Injection Dredger*	*Antifouling paint and anodes on hull.*	*Low*

3.1. Vessel & Disposal site Proposed activity log

In relation to maintenance dredging activities, marine invasive non-native species typically have three main vectors by which spread can potentially occur from one location to another. These are hull fouling, transfer in vessel ballast water and transfer within marine sediments. In order to better understand the potential risks associated to the current operation it is important to outline a brief history of vessel/equipment movements. This includes information such as vessel/equipment recent activity history (including any periods of inactivity) as well as information on ports visited and dredge/disposal site locations associated to the current licensable activity.

(Please note: a separate row should be inserted for changes in vessel and/or disposal site)

Vessel name	**Brief description of vessel activity over the last 12 months**	**Transit ports** *(list all ports to be visited on route to the current dredge activity if applicable)*	**Transit ports arrival and departures**		**Disposal site name & reference**
			Arrival date	**Departure date**	
WID BALDR & HAVIK	*Vessel transport between ports by road. Not kept in the water for long periods of time.*	*Hythe (Havik only)*	*28-08-20*	*30-09-20*	*WID Dredging no disposal sites required.*
		Thames	*13-11-20*	*30-11-20*	
		Tayport	*06-01-21*	*30-01-21*	
		Salcombe	*11-03-21*	*23-03-21*	
		Thames	*16-05-21*	*07-06-21*	
		tbc			
WID BORR	*Vessel transport between ports by road. Not kept in the water for long periods of time.*	*Chatham*	*14-07-20*	*21-07-20*	*WID Dredging no disposal sites required.*
		Liverpool	*22-07-20*	*16-08-20*	
		Doca de Alcantara (Portugal)	*17-08-20*	*13-09-20*	
		Grimsby	*14-09-20*	*30-09-20*	
		Tilbury Docks	*01-09-20*	*12-09-20*	
		Kilroot	*13-09-20*	*01-11-20*	
		Liverpool	*02-11-20*	*24-11-20*	
		Tilbury	*25-11-20*	*05-01-21*	
		River Parrett	*05-01-21*	*31-01-21*	
		Harwich	*17-03-21*	*29-03-21*	
		Tilbury	*30-03-21*	*11-04-21*	
		Liverpool	*12-02-21*	*11-05-21*	
		Calais (France)	*12-05-21*	*01-06-21*	
		Moerdijk (Holland)	*02-06-21*	*17-06-21*	
		Thames	*18-06-21*	*28-06-21*	
		Liverpool	*29-06-21*	*tbc*	
		tbc			

4. Activities which have a significant risk of introducing or spreading marine invasive non-native species *(Please provide as much detail as possible of how each of the activities have the potential to increase the risk of introduction or onward spread of marine invasive non-native species – insert additional rows as necessary)*

Activity and brief description	Details of how this could potentially increase the risk of introducing and/or spreading MINNS	Mitigation and Biosecurity measures to be implemented
Movement of a vessel from one port to another in relation to maintenance dredging activities.	- *Inadequate anti-fouling of vessel may cause transfer of certain MINNS from one port to another* - *Inadequate biosecurity measures related to the cleaning/flushing of equipment and screens before moving to the next location*[2]*.Measures*	

[2] There may be instances where such mitigation measures may not be needed due to movement within the same biogeographic region, however, this will be reviewed as part of the assessment.

		- *Regular antifouling paint and anodes on hull of vessel.* - *Emptying of ballast at working location before being lifted out to travel.* - *Dredge material not transferred through vessel with dredging operations.* - *Dredge pump/pipe emptied of water on lifting out of vessel.*

5. Mitigation & Biosecurity Control Measures – Instructions for staff/contractors/site users (*insert additional rows as necessary)*

Who	What	Where	When
Example: Vessel owner and/or Skipper	*Ensure vessel logbook is up to date and vessel has conformed to best practice under ballast water and hull fouling guidance.*	*Vessel logbook*	*To be kept up to date during normal operations*
Project Manager	*Dredge Licence required prior to start of works for WID operations, to ensure that the material being dredged is suitable for dispersion into the surrounding environment.*	*Dredge Licence*	*Prior to start of works.*
Project Manager	*Minimised the length of time the vessels remains idle in the water allowing biofouling. Always lift vessel out of the water where possible.*	*Planning*	*Ongoing*
Skipper	*All ballast water tanks to be emptied before lifting out of the water, and therefore preventing transfer of ballast water between ports.*	*n/a*	*Each site*
VO Ship Management Department	*Annual maintenance and cleaning of vessel hull to remove any marine growth. Check of anodes on the vessel assist in preventing marine growth.*	*VO Yard*	*During Maintenance periods.*

6. Operational surveillance and reporting procedure

Information to be inserted related to any planned surveillance and reporting procedures. For example: This may include surveillance and reporting of vessels for presence of INNS or any marine debris present before moving out of dock for the next deployment. This will only be necessary when the vessel is moving outside of the localised biogeographic area).

7. Contingency Plan *(i.e. when changes to the plan necessary and have been identified - insert additional rows as necessary)*

Action	Responsibility	Location of Equipment
Example: Use of alternative equipment, vessels or methodologies	*Who will oversee this action?*	*Where is this equipment coming from and to? Does the vessel and/or equipment need to be make bio-secure before use in the current operation?*
Alternative Dredger WID Borr	*Project Manager*	*UK*

8. Location of biosecurity logbook

Insert location of biosecurity logbook - this could be on the vessel or administrative office.
Not currently in use.

9. Annual Review Date

Insert date of annual review of the plan
Not currently in use.

Useful reference documents

IMO Guidelines for the control and management of ships biofouling to minimize the transfer of invasive aquatic species
http://www.imo.org/blast/blastDataHelper.asp?data_id=30766

Shetland Biosecurity Plan
http://www.nafc.uhi.ac.uk/departments/marine-science-and-technology/BiosecurityPlan.pdf

Marine Biosecurity Planning Guidance (England & Wales November 2015 – adapted from SNH, Payne, Cook Macleod February 2014)
https://secure.fera.defra.gov.uk/nonnativespecies/downloadDocument.cfm?id=1401

GB non-natives species secretariat
Marine biosecurity - key guidance documents and ___websites

Non - native species records can be accessed via the local record centres
http://www.lrcwales.org.uk/?AspxAutoDetectCookieSupport=1
or the National Biodiversity Network
http://www.nbn.org.uk/
or the marine biological Association
http://www.mba.ac.uk/

NRW marine experts can also give advice on Non-native species records.

Appendix

Additional supporting material to be added here e.g. vessel/equipment photographs

Van Oord

Marine ingenuity

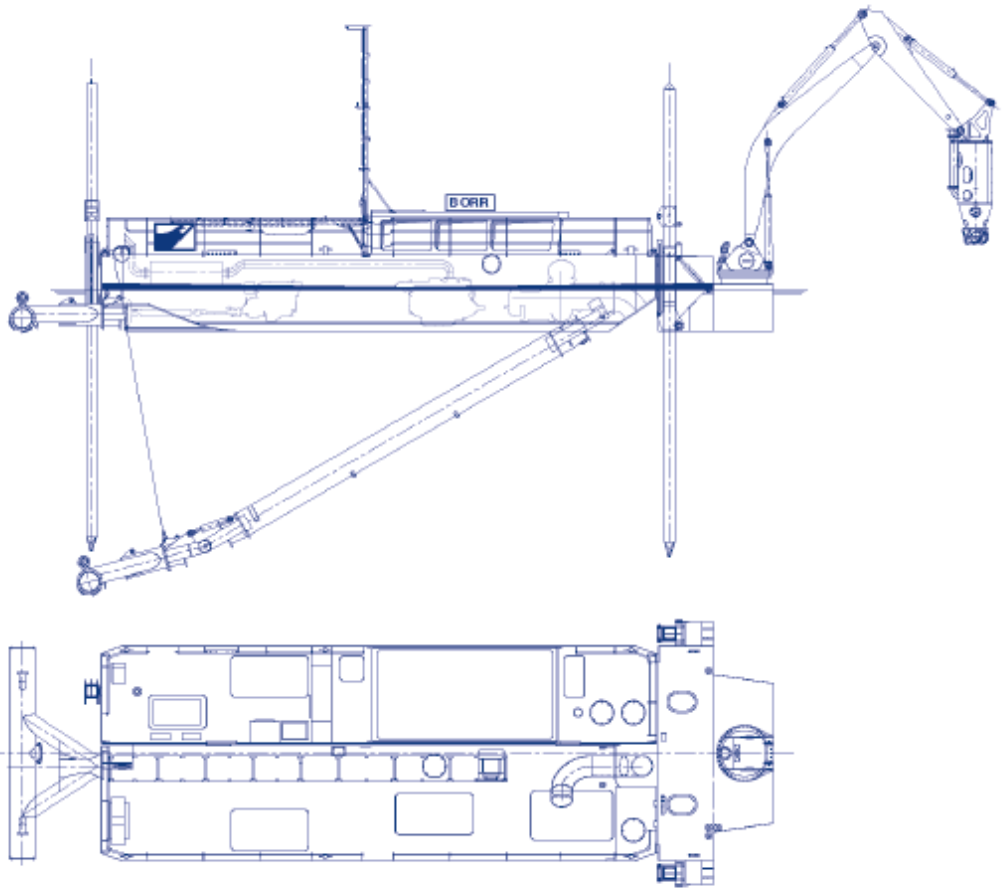
Equipment

Water injection dredger
Borr

Dredging and Marine Contractors

Principal particulars

Van Oord
Marine ingenuity



Borr

Name	Borr	
Type	Water injection dredger	
Description	Borr:	Dismountable dredger, transportable on two trailers
	Farrell:	Pontoon with spuds, hydraulic crane with clamshell or cutter unit
Sailing and dredging area	Inland waters only	
Year of construction	2015	
Dimensions Borr	Length overall	18.73 m
	Breadth overall	5.32 m
	Moulded depth	1.80 m
Dimensions Borr & Farrell	Length overall	21.73 m
	Breadth overall	6.70 m
	Moulded depth	1.80 m
Maximum dredging depth	Borr:	14.00 m
	Farrell:	8.00 m
	with clamshell or cutter unit	

Width injection pipe	5.16 m
Propulsion	2 x 89 kW
Total power installed	460 kW
Jet pump	260 kW

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Van Oord

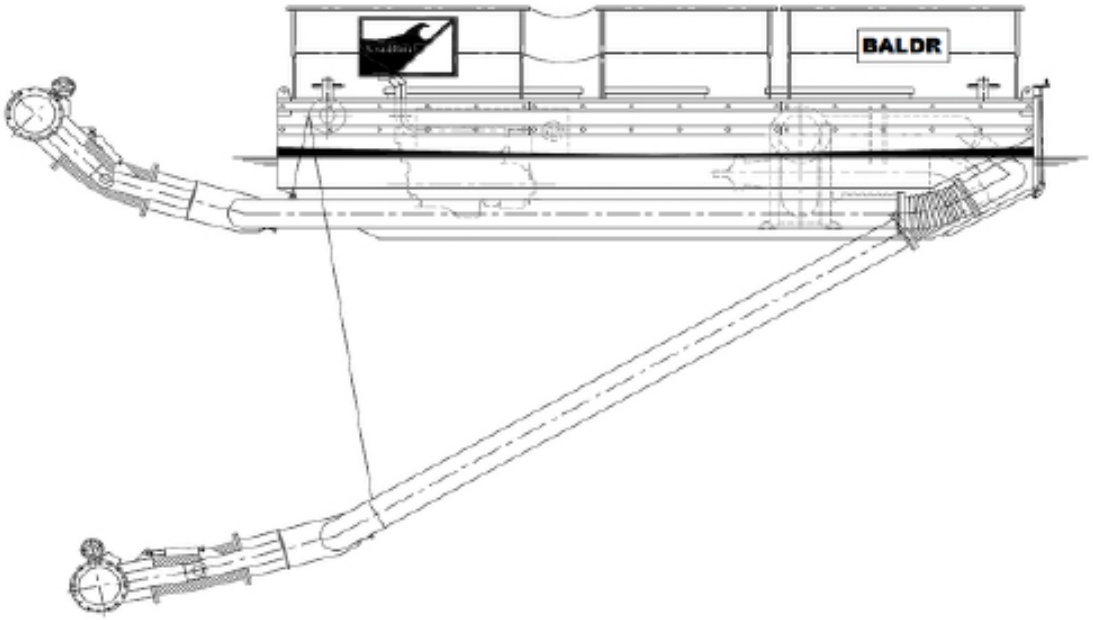
Marine ingenuity

Equipment

Water Injection Dredger

Baldr

Dredging and Marine Contractors

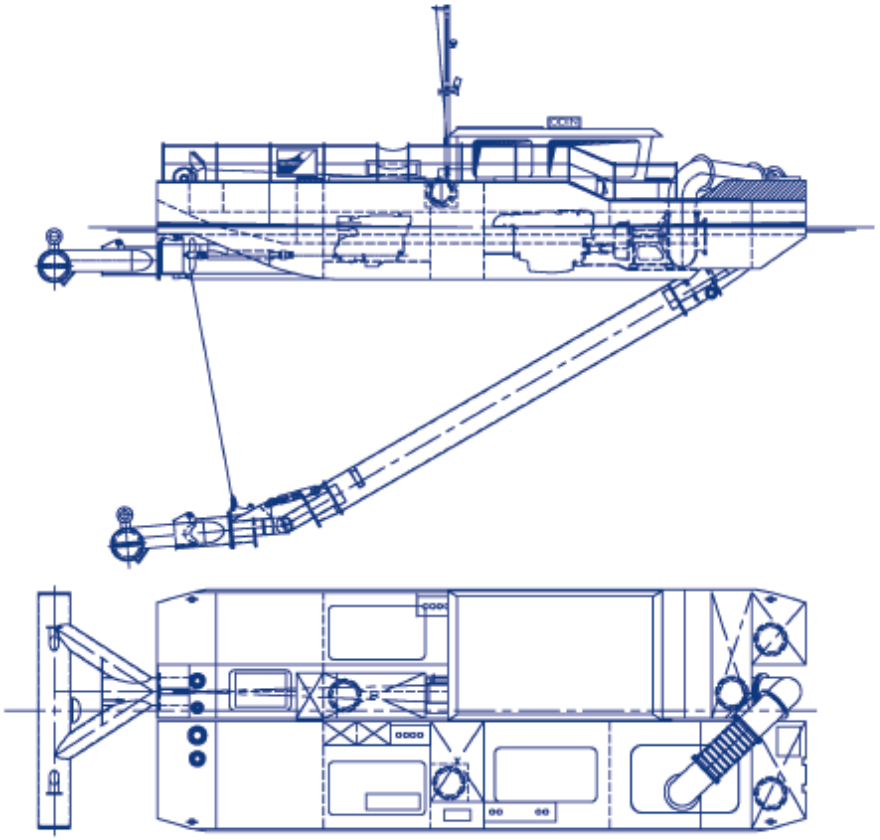


Baldr

Name	Baldr
Type	Water Injection Dredger
Sailing and dredging area	Inland waters only
Year of construction	2017
Dimensions	11.00 m length [O.A.]
	2.92 m width
	0.95 m draught
	1.15 m airdraught
Propulsion	by external pushboat [e.g. Havik]
Installed power	130 kW
Jet pipe	2.0-4.0 width
Special features	V-shaped jetbar for slope dredging available
	Road transportable
	Mass Flow Excavation modus

Dredging and Marine Contractors

Van Oord
Marine ingenuity



Odin

Name	Odin	
Type	Water injection dredger	
Sailing and dredging area	Inland waters only	
Year of construction	2007	
Dimensions	Length overall	17.50 m
	Breadth overall	4.50 m
	Moulded depth	1.80 m / 1.25 m
	Draught maximum	1.45 m
Maximum dredging depth	10 m	
Width injection pipe	4.40 m	
Propulsion	2 x 89 kW	
Total power installed	410 kW	
Jet pump	220 kW	

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