



Colonsay Community Moorings Risk Assessment & Method Statement

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Contact

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1. Introduction

1.1 Purpose of the Risk Assessment / Method Statement

The primary purpose of this document is to reduce the risk of adverse impact from seabed mooring installation work and operation on an adjacent SSEN subsea cable (Appendix 1a, 1b) routed on the seabed in Loch Staosnaig (locally known as Queen's Bay), directly south of Scalasaig harbour, and to ensure the Health and Safety of personnel undertaking the mooring installation works. An attestation of the mooring design from Gael Force is included to support this application (Appendix 1c).

A Method Statement and Risk Assessment for the installation is included attached documents (see Appendix 2a, 2b, 2c, 2d).

1.2 Scope of the Risk Assessment / Method Statement

This Risk Assessment / Method Statement (RAMS) provides the framework for recording risks associated with the proposed work and identifies the processes, mitigations and risk control measures that will be used to manage and control these aspects.

This RAMS sets out the proposals and their associated risks for the planning and installation of single-point moorings required with the Colonsay Community Development Company (CCDC) community mooring scheme. No fish farm related activities are to be carried out or fish farm related equipment installed at the proposed site and Mowi will not have use of the moorings after installation has been completed. The scheme is to be owned, operated and maintained by the CCDC; but Mowi have assisted in completing this packet of information.

This document sets out proposals, as identified by Mowi and CCDC in consultation with Scottish and Southern Energy Networks (SSEN), West Highland Anchorages and Moorings Association (WHAM), Crown Estate Scotland and the Royal Yachting Association (RYA), to secure a Marine Licence for the project.

1.3 Project Setting

The proposed community mooring installation is to be located in Loch Staosnaig, directly south of Scalasaig harbour on the Isle of Colonsay. From information and coordinates provided by SSEN (Appendix 1a, Table 2) Mowi have plotted the proximity of the submarine cable to the proposed moorings.

In the southern portion of Loch Staosnaig there is a recognised anchorage (Appendix 1b) which, due to the absence of public moorings or pontoon facilities on the island, vessels will be obliged to use when visiting. There are no formal restrictions on anchoring in the loch and no spatial warning markers, except from depictions on maritime charts, to prevent vessels anchoring close to the cable. It is expected that in rough weather, vessels would seek to anchor in the most sheltered and inshore portion of the bay, which would be very close to where the subsea cable makes land. In addition to shelter in rough weather, vessels may choose to anchor further north in the bay to reduce walking/tendering time to reach Scalasaig village and its amenities.

To mitigate use of moorings in periods where the probability of a severe weather event is increased, it is proposed that moorings shall be submerged during the winter months to prevent vessels from mooring in rough winter seas. The intention is for these moorings to operate in moderate-fair weather to allow short-term access to the Isle of Colonsay during the summer season and not to be used as a safe refuge during severe weather events. Gael Force recommend that the provided mooring design and configuration (Appendix 1) is for boats of up to 15m length and up to 12,000 kg weight. This shall be clearly communicated to visitors; for example, via the community website (www.colonsay.org.uk), the Visit Colonsay campaign (www.colonsay.org.uk) and local noticeboards on the island. It is the intention that visiting boats would register using an online booking system or a Watertight honesty box system. There will be a day rate and multi-day overnight rates.

See §1.4.1 for information related to mooring design and installation procedures, with control and mitigation measures to ensure that during the installation of the moorings the required seabed works will not cause damage/disturbance to the SSEN submarine electricity cable. See §1.4.2 for information relating to mooring maintenance schedules.

Funding is being provided for the community moorings scheme from Mowi and Highlands and Islands Enterprise (HIE). Mowi are providing 50% of equipment costs and 100% equipment installation and administrative support costs. HIE are match-funding 50% equipment costs. A letter of support from HIE is included in Appendix 3.

The CCDC and Mowi have undertaken extensive consultation activities with all key stakeholders (see §2 for details) and we feel, while not universally accepted, that option 3 adequately addresses all raised concerns and therefore has been applied for in the marine licence application form.

1.3.1 Proposal Location – Option 1

Option 1 includes ten single-point moorings, orientated east-west in two rows of five, to be installed approximately 25 m from the SSEN subsea cable.

1.3.1.1 Risk Mitigation – Option 1

The position of WHAM and the RYA is that by locating the mooring array close to the cable, at 25m distance, the risk from vessels choosing to anchor between the moorings and the subsea cable is greatly reduced by encouraging vessels to attach to a fixed point rather than freely anchoring potentially very close to the cable. However, it was expressed by SSEN that the risk of mooring drag in poor weather making contact with the cable is increased due to their close proximity under option 1.

1.3.2 Proposal Location – Option 2

Option 2 for the proposed mooring installation in Loch Staosnaig, is for 10 single-point moorings, oriented east-west in two rows of five, to be installed approximately 250 m from the SSEN subsea cable.

After consultation with SSEN, it was expressed that the mooring array should be located at least 250 m distant from the subsea cable to limit the risk of mooring drag interacting with subsea equipment. The RYA and WHAM have objected to the

mooring array in this location (250 m away from the cable) due to the encroachment on freely available safe anchorage space, which is limited around the Isle of Colonsay.

1.3.2.1 Risk Mitigation – Option 2

It is expected that if option 2 were to be pursued then vessels may be encouraged to anchor between the mooring array and the subsea cable, thereby increasing risk of anchor drag or entanglement with the subsea equipment.

1.3.3 Proposal Location – Option 3 (preferred option, applied for in marine licence application form)

Option 3 for the proposed mooring installation in Loch Staosnaig, is for 10 single-point moorings, oriented east-west in two rows of five, to be installed approximately 100 m from the SSEN subsea cable. This is the preferred option and constitutes the coordinates within the marine licence application form.

This option is the perceived compromise design between the two conflicting positions of key stakeholders laid out in options 1 and 2. The CCDC and Mowi have undertaken extensive consultation activities with all key stakeholders (see §2 for details) and we feel, while not universally accepted, that option 3 adequately addresses all raised concerns and therefore has been applied for in the marine licence application form.

1.3.3.1 Risk Mitigation – Option 3

The risk from mooring drag in adverse weather conditions was seen to be too great by SSEN during consultation. In order to mitigate against potential mooring drag, option 3 proposes to locate moorings 100 m from the subsea cable. By locating moorings 100 m from the subsea cable we can protect against unrequired encroachment into the safe anchorage, which encourages mariners to anchor south of the mooring array, and greatly reduces risk on mooring / anchor drag interacting with the subsea cable.

1.4 Equipment Design and Maintenance

Appropriate mooring array design and maintenance schedules considerably reduce the risks of drag and equipment failure.

Mooring and aquaculture equipment design specialists Gael Force have extensive experience with mooring grid designs and seabed anchored structures.

Mooring installation specialists Mallaig Marine Ltd (MML) have extensive experience in deploying and maintaining different types of mooring structures, from complex aquaculture installations to private moorings.

1.4.1 Moorings Design

Gael Force have provided a mooring design (Figure 2) which they feel best meets the requirements of the installation and appropriately mitigates risk of mooring drag and failure. A mooring attestation is included in Appendix 1c. MML will be contracted to carry out the mooring installation.

Each mooring will be anchored to the seabed with a 2 tonne concrete block, onto which will be attached 4 m of chain and 14 m of chain riser. Each mooring is to be 37.5 m from its neighbour. The mooring buoy will float on the surface and have a 41cm pickup buoy attached. For a schematic see Figure 2. For the spatial plan of all 10 moorings and coordinates see Appendix 1a, b and Table 2.

1.4.2 Maintenance Schedule

A maintenance contract with Mallaig Marine Ltd will be undertaken by the CCDC with the following indicative maintenance schedule:

- Year 1-2: Annual Condition Inspection but little or no maintenance likely to required
- Year 3: Replacing some of the riser chain from wear and rise and fall of the tides
- Year 4: Annual Condition Inspection and possible maintenance
- Year 5: Annual Condition Inspection
- Year 6: Replacing some of the riser chain from wear and rise and fall of the tides

2. Consultation, Consents and Permissions

2.1 Marine Scotland

It has been determined, through email and telephone communication with Marine Scotland, that a marine licence will be required for these works and after a Minute of Agreement has been drawn up with the Crown Estate an application to Marine Scotland can be made.

2.2 Argyll and Bute Council

After email consultation with Argyll and Bute Council, it has been determined that planning permission is not required for this development.

2.3 Crown Estate Scotland

Consultation has been carried out with the Crown Estate and a Minute of Agreement is in preparation in the expectation of the future application of a Commercial Moorings Licence. The licence will be applied for and the moorings operated by the CCDC on behalf of the Colonsay community. The moorings are not to be used for aquaculture related activities. The Crown Estate has expressed concern over the requirement for a 250 m buffer around a subsea cable installation.

These consultations were carried out over email, telephone and at a meeting held in the Regent Hotel, Oban, on the 20th August 2019. This meeting was attended by representatives of SSEN, The Crown Estate, CCDC, Mowi, RYA, WHAM and a local sailor who anchors at Colonsay regularly.

An application to the Crown Estate for a Commercial Moorings Licence was submitted by the CCDC on 1st April 2020.

2.4 Scottish and Southern Electricity Networks

SSEN have made clear their objection to a mooring installation located less than 250 m from their subsea cable on account of the risks of mooring drag in bad weather. It was the opinion of SSEN that a proximity agreement was the only way to proceed.

These consultations were carried out over email and at a meeting held in the Regent Hotel, Oban, on the 20th August 2019. This meeting was attended by representatives of SSEN, The Crown Estate, CCDC, Mowi, RYA, WHAM and a local sailor who anchors at Colonsay regularly.

2.5 West Highland Moorings and Anchorages and the Royal Yachting Association

In the southern portion of Loch Staosnaig there is a recognised anchorage which, due to the absence of public moorings or pontoon facilities on the island, vessels will be obliged to use when visiting the island. There are no formal restrictions on anchoring in the loch and no spatial warning markers, except from depictions on maritime charts, to prevent vessels anchoring close to the cable. It is expected that in rough weather, vessels would seek to anchor in the most sheltered and inshore portion of the bay, which would be very close to where the subsea cable makes land. In addition to shelter in rough weather, vessels may choose to anchor further north in the loch to reduce walking/tendering time to reach Scalasaig village and its amenities.

By locating moorings 100 m, and further, from the subsea cable it is possible that mariners will be encouraged to anchor in between the moorings and the subsea cable (increasing risk of entanglement) or other locations which are potentially unsafe.

These consultations were carried out over email and at a meeting held in the Regent Hotel, Oban, on the 20th August 2019. This meeting was attended by representatives of SSEN, The Crown Estate, CCDC, Mowi, RYA, WHAM and a local sailor who anchors at Colonsay regularly.

3. Summary of Procedures for Moorings Recovery and Deployment

3.1 Sequence of Operations – Controls and Mitigation

Pre-Notification

- SSEN to be given prior notification of any intended works through agreed channels of communication.

Pre-works checks

- No works to be conducted within 90 m of subsea cable;
- All moorings work commences with a weather check to assess suitable conditions are available for works to be undertaken;
- Only trained personnel are involved in the moorings operations;
- Check all machinery working correctly, any lifting equipment certified i.e. slings, shackles.

Future moorings maintenance works

- Works to be carried out regularly per §1.4.2;
- No works to be conducted within 90 m of subsea cable;
- SSEN to be given prior notification of any intended works through agreed channels of communication.

4. Water Quality and Pollution Prevention

The environmental risks associated with the mooring installation works is considered to be low. The work involved is regular, involving recognised and repetitive tasks carried out on a routine basis by experienced Mowi / MML personnel. The main risks are associated with localised siltation arising from works on the seabed and / or from oil spillages from the vessels carrying out the works.

Mowi and its suppliers are always aware of the need to meet environmental obligations to prevent pollution and maintain high water quality during such operations. Our workboats are modern, adhering to all recognised standards and our mooring deployment and recovery techniques have been adapted to ensure minimal physical and environmental impacts on the seabed.

Separate to our wider environmental responsibilities, the maintenance of good water quality in the vicinity of our fish farms is important for fish welfare and our own product quality requirements. It is therefore considered that the environmental risks can be mitigated by the application of best working practices and incorporation of appropriate pollution prevention techniques during the working period.

Relevant aspects of appropriate pollution prevention guidelines (PPGs) will be followed throughout the course of the works to avoid pollution. PPGs can be found here: http://www.sepa.org.uk/about_us/publications/guidance/ppgs.aspx

5. Procedure for Dealing with an Incident

An Incident is an occurrence that requires an immediate response to protect human life, prevent / control / mitigate vessel damage or to prevent / control / mitigate damage to the integrity of the subsea cable.

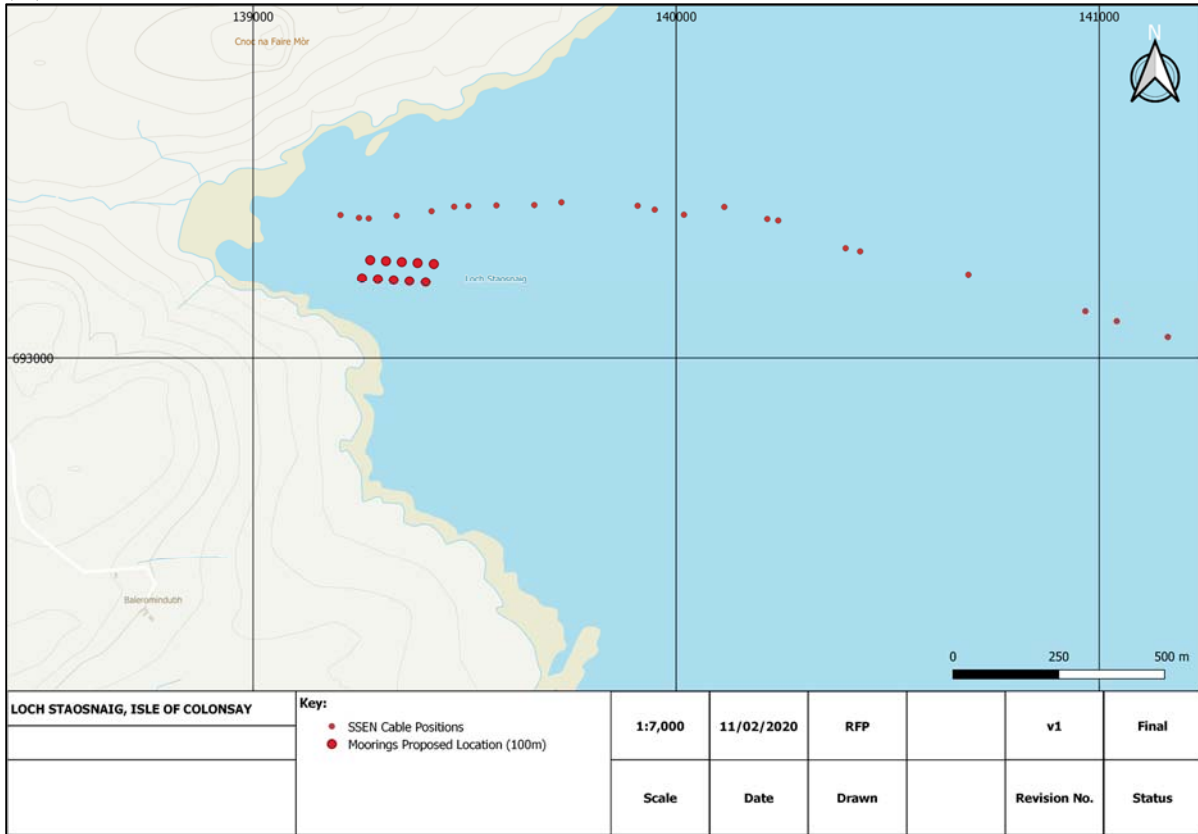
This procedure does not assume an increased risk of an incident, however provides an agreed action plan in the unlikely event of an incident occurring which requires a timely response.

Table 1: Procedure for dealing with an Incident

1	If human life is at risk, inform the Emergency Services by dialling 999 and asking for the Coastguard or local police.	All persons
2	Inform the Colonsay Community Development Company (CCDC) Contact no: 01951 200244	All persons
3	Assess the risk that the incident poses to the health and safety of people on site and in the surrounding vicinity; the environment	CCDC and Maintenance Contractor
4	If appropriate, contact Mowi for potential help with local vessel/personnel resource	CCDC
5	If appropriate, contact Scottish and Southern Energy Networks (SSEN) if damage to the cable has occurred / is anticipated	CCDC
6	Develop an Action Plan that sets out various courses of action that are appropriate to the types of environmental / equipment incidents that has occurred.	CCDC, Maintenance Contractor, SSEN Personnel
7	Implement the action plan as developed in item 6.	CCDC, Maintenance Contractor, SSEN Personnel

Appendix 1: Figures

(A)



(B)

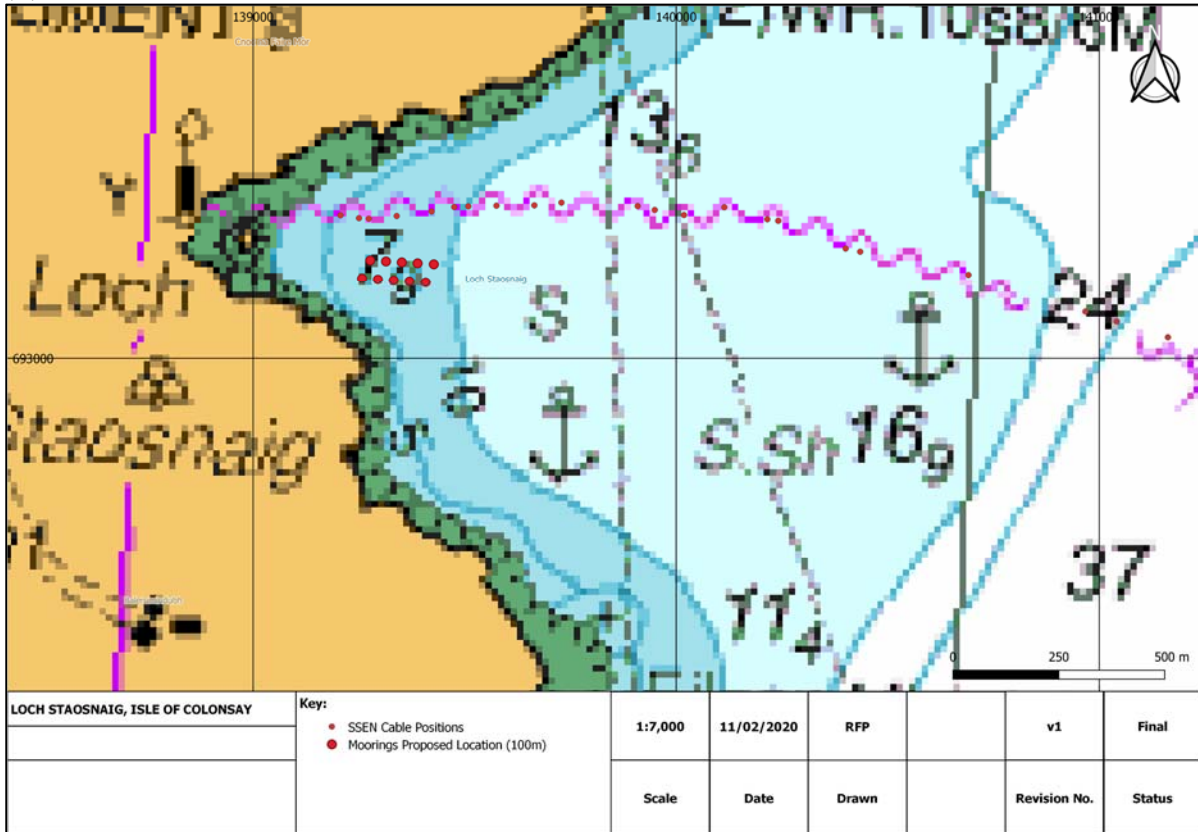


Figure 1: Mooring co-ordinates – Proposed Option 3 (preferred option), 1B shows moorings on a chart background.

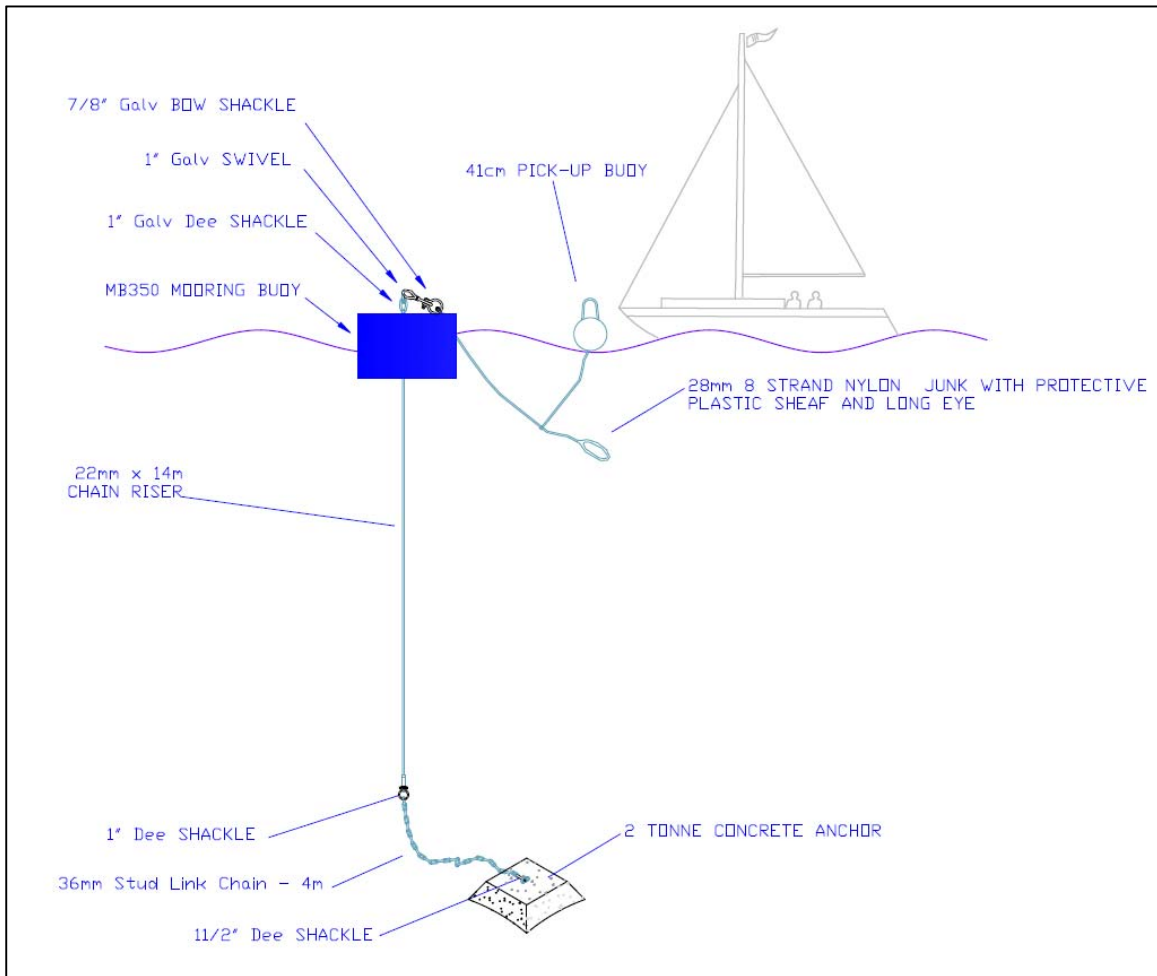


Figure 2: Design for a single mooring. 10x this design will be placed in 2 rows of 5, 35m away from each other E-W and 50m from each other N-S, as in Figure 1.

Table 2: Power Cable Coordinates (supplied by SSEN)

Lat	Long
56.05962	-6.15304
56.05961	-6.15431
56.05962	-6.15527
56.05969	-6.15626
56.06006	-6.15946
56.06033	-6.16144
56.0605	-6.16264
56.06114	-6.16716
56.0615	-6.17131
56.06155	-6.17187
56.06205	-6.17448
56.06207	-6.1749
56.06227	-6.17656
56.06215	-6.1173
56.06205	-6.17807
56.06212	-6.17919
56.06218	-6.17984

56.06215	-6.18273
56.06206	-6.18375
56.062	-6.18519
56.06196	-6.18625
56.06192	-6.18678
56.0618	-6.18763
56.06166	-6.18894
56.06157	-6.18999
56.06156	-6.19036
56.0616	-6.19107

Table 2: Proposed Colonsay community moorings coordinates

Lat	Long
56.06068	-6.18984
56.06068	-6.18924
56.06068	-6.18864
56.06068	-6.18804
56.06068	-6.18742
56.06028	-6.19011
56.06028	-6.18951
56.06028	-6.18891
56.06028	-6.18831
56.06028	-6.18769

Appendix 2: Risk Assessment and Method Statement – Loch Staosnaig Mooring Installation

Mowi intend to use contractor Mallaig Marine Ltd to carry out the mooring installations. Mallaig Marine Ltd have undertaken a systematic examination of the tasks and processes that will be carried out during the moorings deployment and recovery works for the purpose of identifying the significant hazards, the risk of someone being harmed and deciding what further control measures are required to reduce the risks to an acceptable level. This has been fully documented in the separately attached documents:

- 2a - Extract of Method Statement 004 Anchor handling for single point moorings
- 2b - Risk Assessment for Crane operation
- 2c - Risk Assessment for winch operation
- 2d - Risk Assessment for working on water