

NOTICE TO MARINERS

West of Orkney Windfarm

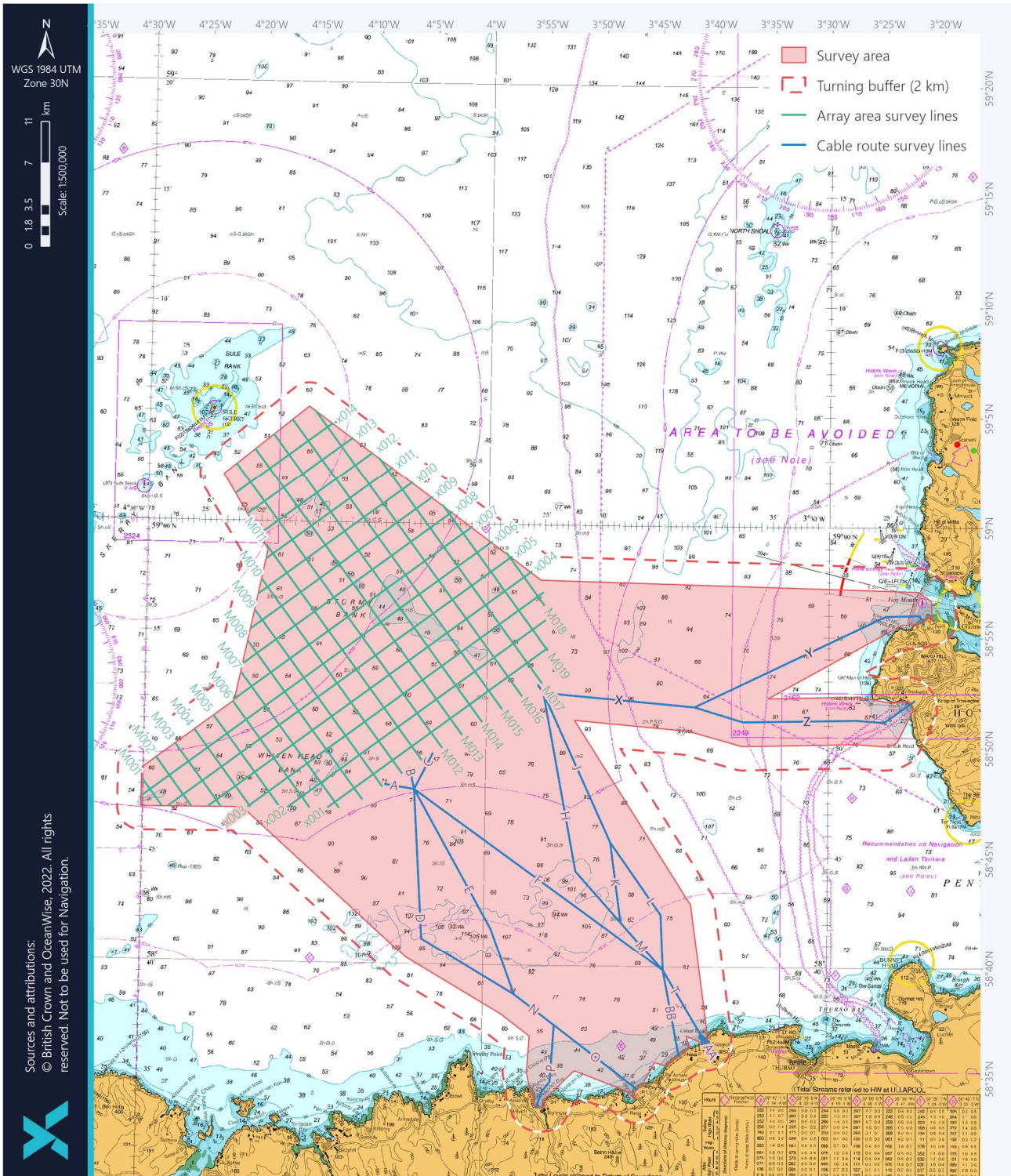
Offshore Geophysical Survey 2022

Rev 03 – Issued: 04/08/2022

This Notice to Mariners shall be updated as the survey progresses.

Summary

- This survey shall take place from 2 April 2022 to 26 September 2022 and will occur in three phases:
 - Phase 1 – Course survey lines over the offshore option agreement area and single survey lines along potential cable routes to Caithness (Figure 1) (**single survey lines of the potential cable routes to Orkney will follow at a later date**);
 - Phase 2 - Detailed survey in the offshore option agreement area. This phase is divided into three sub-sections (See Figure 2 – sections 2A, 2B and 2C);
 - Phase 3 – Detailed survey of potential cable corridors to Caithness (Figure 3).
- Contact details
 - Onshore: phone: +44 (0) 7926418820, email: OWPLFisheries@xodusgroup.com;
 - Offshore Fisheries Liaison Officer (FLO) (bridge number): +44 (0)203 7691458.
- Name of vessel carrying out the work and towed equipment used: **Relume**
 - High Frequency Sub-Bottom Profiler (SBP);
 - Multi-Beam Echosounder (MBES);
 - Side Scan Sonar (SSS); sonar fish towed 5 to 10m above seabed, 50 to 300m astern;
 - Sound Velocity Profiler (SVP);
 - Ultra-Short Baseline (USBL); and
 - Magnetometer
- Port of operation: **Scrabster**.



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Figure 1. Phase 1 – Course survey lines over the offshore option agreement area and single survey lines along potential cable routes to Caithness.



UK - West of Orkney Windfarm Main Survey Area

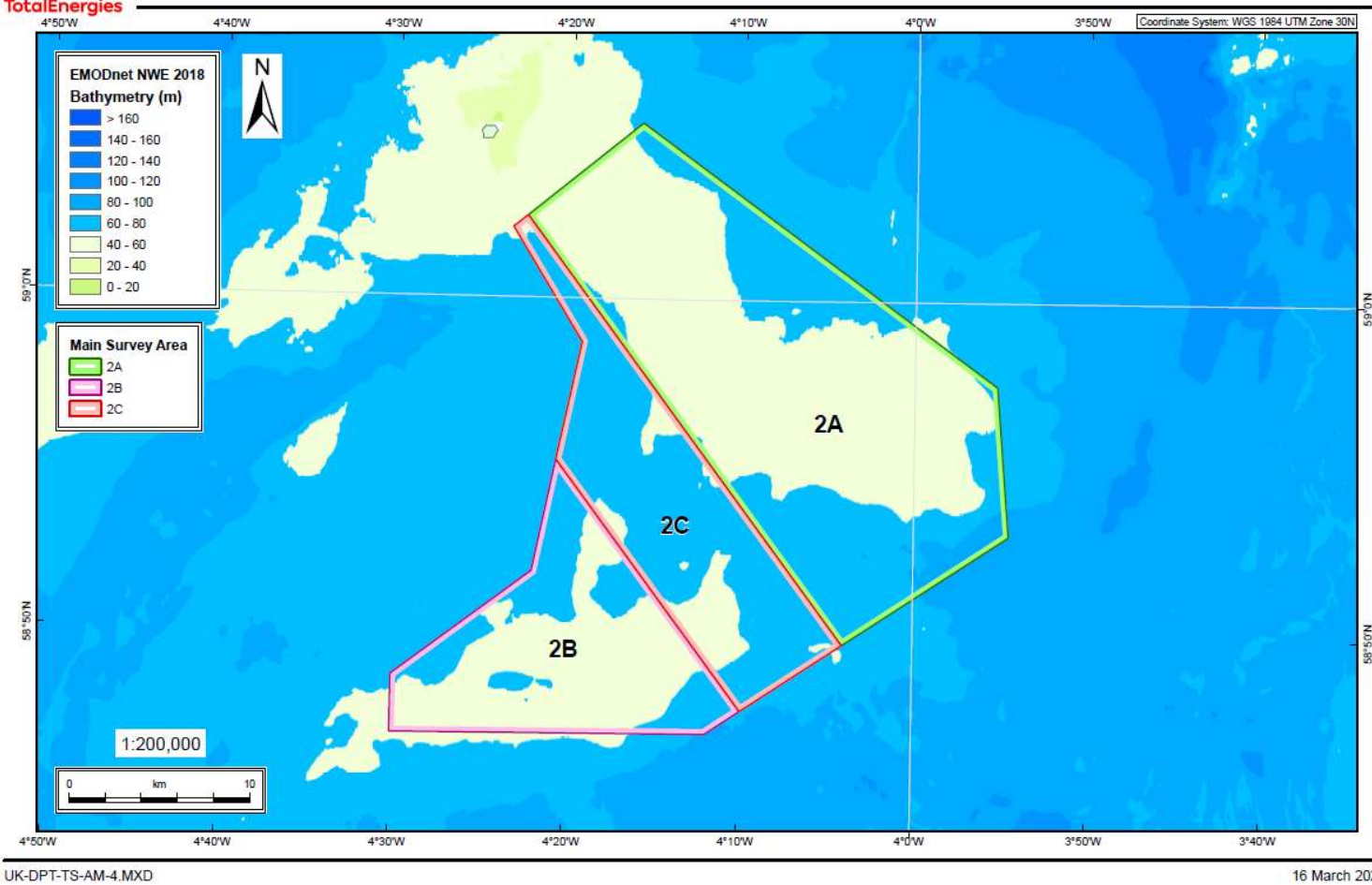


Figure 2. Phase 2 - Detailed survey in the offshore option agreement area. This phase is divided into three sub-sections 2A, 2B and 2C.

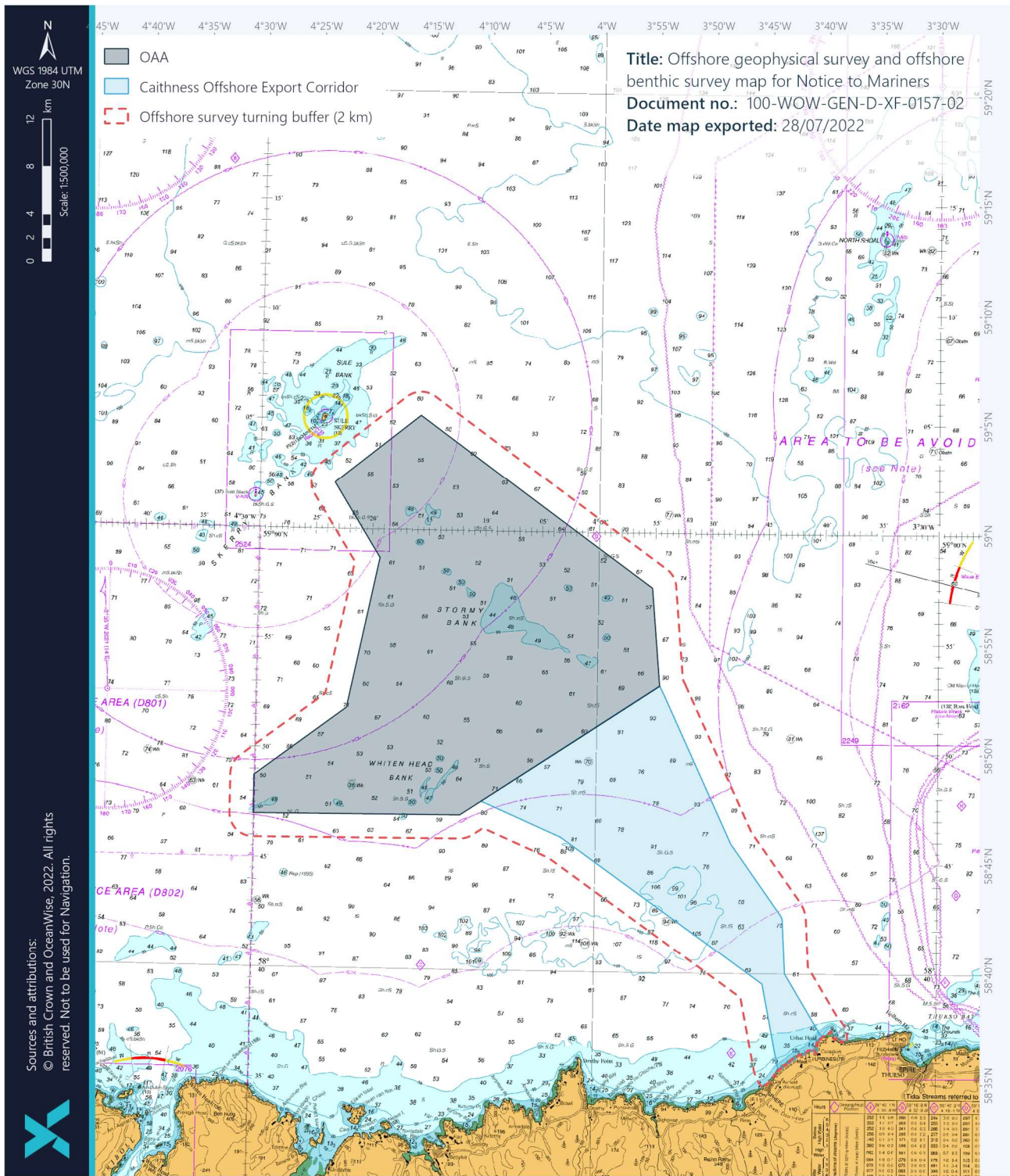


Figure 3. Phase 3 – detailed survey of potential cable corridors to Caithness, including a 2km buffer.

Full information

Mariners are advised that a survey vessel and equipment will be used within the N1 PO, and associated export cable corridor route options to Caithness. Orkney cable routes may be surveyed later this year. Vessel turning areas will extend up to 2km beyond the survey lines.

Geophysical survey work will be carried out by MMT using survey vessel **Relume** from 2 April 2022.

Vessel information



Vessel	Relume
IMO	9280720
Owner	International Foundation for Aids to Navigation (IFAN)
Vsat	+44 (0) 203 7691458 or +44 (0) 203 7691749
Email	relume_master@relume-mmsl.com

During surveying activities within the survey areas, the vessel will have restricted ability to manoeuvre and approaching vessels are requested to pass at a safe speed and distance. The proposed survey is an offshore geophysical survey, which is essential to inform the project design specifications of the proposed array site and cable route and to inform the design process for reasons including but not limited to:

- Avoidance of challenging seabed features or sediments which would impede cable installation;
- Determination of any protected benthic habitats and/or species to ensure correct mitigations are in place;
- To allow for the design to avoid environmental constraints identified; and
- Informing burial and protection requirements in order to provide a reliable cable system, whilst ensuring the safety of other legitimate users of the sea.

Project Description

The West of Orkney Windfarm survey will be conducted by MMT on behalf of Offshore Wind Power Limited (OWPL).

Offshore Geophysical Survey Task

An offshore geophysical survey will be carried out within the N1 PO, and associated export cable corridor route options to Caithness (see Figure 1, 2, 3) and coordinates of the grid corridor and cable lines are provided in Appendix A.1 and A.2.

The offshore geophysical survey will include use of the following survey equipment at each of the surveyed areas:

- Side-scan sonar - used to generate an accurate image of the seabed, which may include 3D imagery. An acoustic beam is used to obtain an accurate image of a narrow area of seabed to either side of the instrument by measuring the amplitude of back-scattered return signals;
- Multi-beam echosounder - used to obtain detailed Three-Dimensional (3D) maps of the seafloor which show water depths. A transducer emits a sound pulse vertically downwards towards the seafloor, and a receiver records the return of the pulse once it has been reflected off the seafloor;
- Sub-bottom profiler - used to identify and characterise layers of sediment under the seafloor. A transducer emits a sound pulse vertically downwards towards the seafloor, and a receiver records the return of the pulse once it has been reflected off the seafloor. These devices can operate across a range of frequencies depending on the purpose of the survey;
- Ultra-Short Baseline (USBL) positioning system - used to determine the position of subsea survey items, including ROVs, towed devices, grab samplers, etc. A USBL system consists of a transducer, which is mounted on the vessel and a transponder attached to the ROV. The transducer transmits acoustics through the water and the transponder sends a response which is detected by the transducer;
- Magnetometer - used to detect any ferrous metal objects on the seabed, such as wrecks, UXO, or any other obstructions;
- Sound Velocity Profiler (SVP) - to gather data on the marine environment and are used to measure the speed of sound within the water column to calibrate geophysical survey equipment. The SVP continuously emits high frequency pulses as it is lowered towards the seafloor in order to measure the speed of sound within the water column.

Mariners are advised to keep a safety clearance of the vessel of no less than 500m.

Port of Operation

MMT will mobilise / operate out of the port of **Scrabster**.

Survey duration

The survey will commence on 2 April 2022 and run through to 26 September 2022. The total duration for survey activity is expected to take 130 days. Please note that the survey will be a phased process. The survey vessel will be present in the region for an overall period of up to 178 days allowing for time to travel between the survey sites and an indicative 70% downtime for weather and technical constraints.

OWPL Offshore Survey 2022

Notice to Mariners

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Contact Details for Fisheries Liaison

Fisheries Liaison is being carried out by Xodus Group, for all fisheries enquires please contact Xodus Group Fisheries Liaison Officer (FLO).

Telephone number	+44 (0) 7 926 418820
Email	OWPLFisheries@xodusgroup.com

A.1 Coordinates of coarse grid lines in option agreement area (1st phase)

Line Number	Start of Line		End of line	
	Latitude (N)	Longitude(W)	Latitude(N)	Longitude(W)
M001	58° 46.983'	04° 28.265'	58° 48.175'	04° 30.000'
M002	58° 46.997'	04° 25.685'	58° 49.194'	04° 28.850'
M003	58° 47.010'	04° 23.104'	58° 49.823'	04° 27.193'
M004	58° 47.021'	04° 20.525'	58° 50.473'	04° 25.535'
M005	58° 47.032'	04° 17.943'	58° 51.123'	04° 23.876'
M006	58° 47.043'	04° 15.362'	58° 51.772'	04° 22.217'
M007	58° 47.052'	04° 12.782'	58° 53.088'	04° 21.525'
M008	58° 47.445'	04° 10.757'	58° 54.498'	04° 20.968'
M009	58° 48.045'	04° 09.029'	58° 55.908'	04° 20.412'
M010	58° 48.644'	04° 07.298'	58° 57.318'	04° 19.855'
M011	58° 49.243'	04° 05.568'	58° 58.877'	04° 19.514'
M012	58° 49.841'	04° 03.835'	59° 02.573'	04° 22.29'
M013	58° 50.439'	04° 02.103'	59° 03.258'	04° 20.674'
M014	58° 51.037'	04° 00.369'	59° 03.943'	04° 19.055'
M015	58° 51.634'	03° 58.634'	59° 04.627'	04° 17.437'
M016	58° 52.231'	03° 56.899'	59° 05.047'	04° 15.432'
M017	58° 52.827'	03° 55.161'	59° 02.936'	04° 09.746'
M018	58° 56.362'	03° 55.045'	58° 58.701'	03° 58.408'
M019	58° 54.319'	03° 54.707'	59° 00.821'	04° 04.072'
x001	58° 47.048'	04° 13.73'	58° 54.396'	03° 54.721'
x002	58° 47.035'	04° 17.222'	58° 56.92'	03° 55.137'
x003	58° 47.020'	04° 20.714'	58° 56.92'	03° 55.137'
x004	58° 47.004'	04° 24.207'	58° 57.864'	03° 56.178'
x005	58° 46.986'	04° 27.699'	58° 58.527'	03° 57.946'
x006	58° 47.434'	04° 29.999'	58° 59.191'	03° 59.716'
x007	58° 51.919'	04° 21.985'	58° 59.854'	04° 01.486'
x008	58° 53.513'	04° 21.358'	59° 00.517'	04° 03.259'
x009	58° 55.106'	04° 20.729'	59° 01.179'	04° 05.032'
x010	58° 56.699'	04° 20.099'	59° 01.841'	04° 06.806'

Line Number	Start of Line		End of line	
	Latitude (N)	Longitude(W)	Latitude(N)	Longitude(W)
x012	58° 59.386'	04° 20.125'	59° 03.163'	04° 10.358'
x013	59° 00.305'	04° 21.23'	59° 03.824'	04° 12.135'
x014	59° 01.224'	04° 22.336'	59° 04.485'	04° 13.914'

A.2. Coordinates of the single survey lines of potential cable routes to Caithness (1st phase) and Orkney (to be surveyed later)

Segment	Latitude (N) DDD MM	Longitude (W) DDD MM
A	58° 48.140' N	4° 08.755' W
	58° 47.937' N	4° 06.204' W
B	58° 48.877' N	4° 6.626' W
	58° 47.937' N	4° 6.204' W
C	58° 49.567' N	4° 4.630' W
	58° 47.937' N	4° 6.204' W
D	58° 47.937' N	4° 6.204' W
	58° 41.157' N	4° 5.375' W
	58° 38.667' N	3° 57.224' W
E	58° 47.937' N	4° 6.204' W
	58° 41.638' N	3° 59.338' W
	58° 38.667' N	3° 57.224' W
F	58° 39.844' N	3° 44.271' W
	58° 42.143' N	3° 50.424' W
	58° 47.937' N	4° 6.204' W
H	58° 42.004' N	3° 48.009' W
	58° 44.301' N	3° 51.996' W
	58° 52.378' N	3° 55.004' W
J	58° 45.634' N	3° 48.984' W
	58° 52.378' N	3° 55.004' W
K	58° 42.004' N	3° 48.009' W
	58° 45.634' N	3° 48.984' W
L	58° 39.844' N	3° 44.271' W
	58° 42.370' N	3° 44.515' W
	58° 45.634' N	3° 48.984' W

Segment	Latitude (N) DDD MM	Longitude (W) DDD MM
M	58° 39.844' N	3° 44.271' W
	58° 42.004' N	3° 48.009' W
N	58° 38.667' N	3° 57.224' W
	58° 37.292' N	3° 53.705' W
O	58° 37.292' N	3° 53.705' W
	58° 34.420' N	3° 46.385' W
P	58° 37.292' N	3° 53.705' W
	58° 34.727' N	3° 54.006' W
	58° 34.219' N	3° 54.750' W
	58° 33.526' N	3° 55.139' W
T	58° 36.949' N	3° 40.937' W
	58° 39.844' N	3° 44.271' W
X	58° 52.378' N	3° 55.004' W
	58° 51.801' N	3° 41.740' W
Y	58° 51.801' N	3° 41.740' W
	58° 55.971' N	3° 25.024' W
	58° 56.013' N	3° 22.057' W
	58° 55.635' N	3° 21.655' W
Z	58° 51.801' N	3° 41.740' W
	58° 51.145' N	3° 37.476' W
	58° 51.253' N	3° 27.519' W
	58° 51.166' N	3° 25.113' W
	58° 52.148' N	3° 22.449' W
AA	58° 36.382' N	3° 40.284' W
	58° 36.949' N	3° 40.937' W
BB	58° 35.953' N	3° 42.814' W
	58° 39.844' N	3° 44.271' W

A.3. Coordinates of the detailed survey (phase 3)

Point ID	Latitude	Longitude
1	58° 36.925' N	003° 37.759' W
2	58° 37.421' N	003° 39.181' W
3	58° 37.033' N	003° 40.203' W
4	58° 36.395' N	003° 40.406' W
5	58° 36.610' N	003° 40.707' W
6	58° 36.367' N	003° 41.833' W
7	58° 34.832' N	003° 45.042' W
8	58° 35.236' N	003° 45.565' W
9	58° 35.417' N	003° 45.717' W
10	58° 35.643' N	003° 45.853' W
11	58° 38.903' N	003° 47.078' W
12	58° 45.170' N	004° 4.042' W
13	58° 46.473' N	004° 9.818' W
14	58° 46.177' N	004° 10.675' W
15	58° 45.977' N	004° 11.870' W
16	58° 45.896' N	004° 29.977' W
17	58° 46.193' N	004° 31.430' W
18	58° 46.974' N	004° 32.075' W
19	58° 48.719' N	004° 32.077' W
20	58° 49.581' N	004° 31.252' W
21	58° 52.467' N	004° 23.892' W
22	58° 58.482' N	004° 21.516' W
23	59° 1.514' N	004° 25.166' W
24	59° 2.347' N	004° 25.443' W
25	59° 2.935' N	004° 24.726' W
26	59° 6.061' N	004° 17.219' W
27	59° 6.300' N	004° 15.916' W
28	59° 6.094' N	004° 14.673' W
29	58° 58.363' N	003° 54.010' W
30	58° 58.085' N	003° 53.493' W
31	58° 57.582' N	003° 53.155' W
32	58° 53.357' N	003° 52.462' W
33	58° 46.449' N	003° 46.280' W
34	58° 43.288' N	003° 41.958' W

Point ID	Latitude	Longitude
35	58° 42.940' N	003° 41.610' W
36	58° 42.538' N	003° 41.434' W
37	58° 40.331' N	003° 41.212' W
38	58° 37.977' N	003° 38.505' W
39	58° 37.550' N	003° 37.886' W
40	58° 36.925' N	003° 37.759' W

