

Project Title	Seagreen Wind Energy Ltd
Document Reference Number	LF000009-MIP-MA-MAN-NOT-0001

Seagreen Offshore Wind Farm.

Weekly Notice of Operations 43/2021

Issue Date – 25th October 2021.

Notice of Operations on Seagreen Offshore Wind Farm.

Work planned for the period 25-10-2021 to 31-10-2021.

Construction activities commenced on Seagreen Offshore Wind Farm on Thursday 17th December with works at the export cable landfall site. This notice will be updated weekly giving information of the progress and resources involved in the construction of the windfarm. The intention is to give notice of the activities involved in the construction phase of the project. Should anyone have any questions regarding construction operations we kindly ask that you put them forward well in advance.

The Seagreen Offshore Wind Farm is located in the outer Firth of Forth and Firth of Tay region of the North Sea. The site is situated approximately 17.5 nautical miles East-southeast of the Port of Montrose where the project Marine Coordination Centre will be located during the construction and operational phases. The first phase of the development will consist of 114 suction bucket foundation structures, with associated 114 10MW offshore wind turbine generators, 1 HVAC offshore substation platform, associated inter array and export cabling. The generated power will be transmitted to the National Grid via 3 subsea transmission cables making landfall at Carnoustie, Angus, to the Southwest of the development site. Grid connection will

be achieved at the Tealing onshore substation. The second phase of the project will consist of 36 piled foundation structures, with associated 36 Wind Turbine Generators, associated inter array and export cabling and one additional 1 HVAC offshore substation platform. The phase 2 transmission cable is proposed to make landfall at Cockenzie, East Lothian (subject to appropriate licensing).

The Seagreen development site is highlighted below in red, the export cable corridor is highlighted in blue.

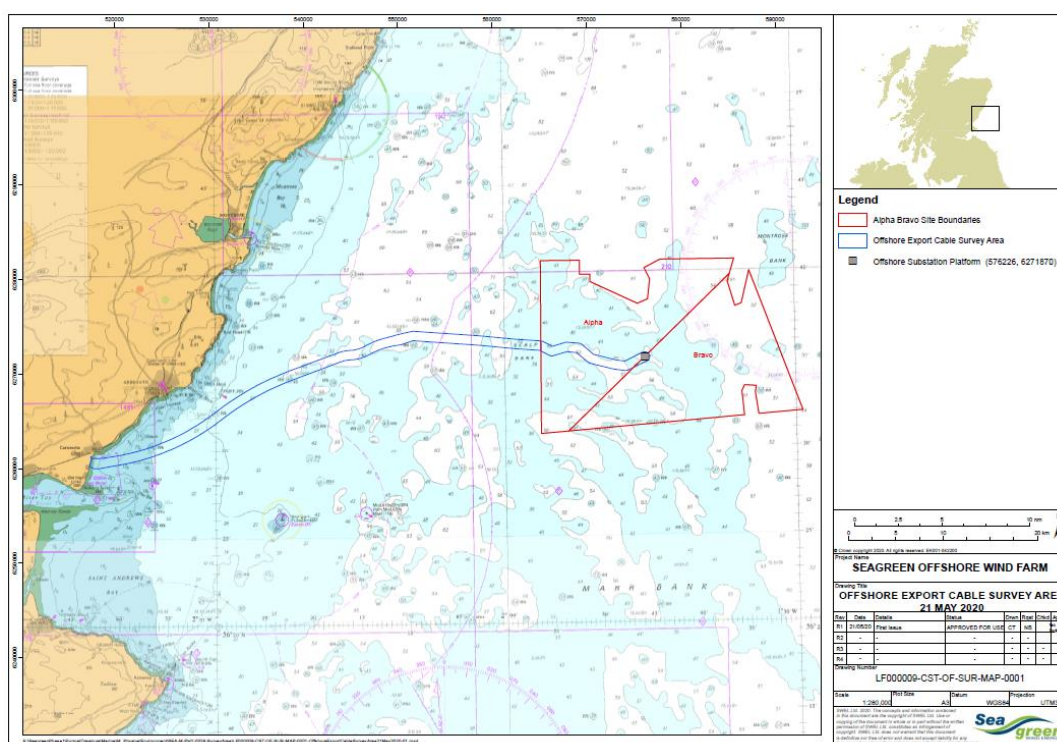


Fig 1 – Seagreen offshore wind farm location and export cable corridor.

1. Contact details for Marine Coordination

The following contact can provide more information if required.

Telephone Number (24/7 Operations)	+44 (0) 333 344 5255
Email for Marine Coordinator	seagreenmarinecoordination@sse.com
Address	Seagreen Wind Energy Ltd, Inchbraoch House Montrose Port Authority, South Quay Ferryden, Montrose, Angus DD10 9SL

2. Export cable works.

2.1 Export Cable Landfall works.

Export cable nearshore protection and diving support operations will continue this week. Works continue on the reinstatement of Carnoustie beach revetement and the trenching of the three export cable protection pipes. Further details are below in section 2.2. The landfall works area is shown below in Fig 2.



Fig 2 – Landfall works area located at Carnoustie Barry Golf Links.

2.2 Nearshore export cable protection and diving works.

On behalf of Seagreen Wind Energy Ltd, Nexans Norway Dykkerteknikk AS will deliver nearshore protection services and diving assistance in preparation for the pull-in of three export cables at the Carnoustie export cable landfall site.

Works continue at the export cable landfall site at Carnoustie beach as shown above in fig 2. A 272m self-submersible cable protection pipe has been connected to each of the 3 export cable ducts. The 3 self-submersible cable protection pipes will now be trenched awaiting export cable pull-in at a date to be confirmed.

Cable trenching and diving operations will take place from the MPV Sophie.

Six temporary rock bag moorings have been placed on the seabed. They will remain in place and be used during the export cable pull-in. These temporary moorings will be surface marked by day-glo pellet buoys. The locations and coordinates of these temporary moorings are shown below in Fig 3 and Table 1.

Vessel Name – MPV Sophie

General Description and Dimensions:	Multi Purpose vessel. 14.9m x 7.0m x 1.0m
Call Sign:	LK7943
MMSI:	258003500
Direct Bridge/ Masters Number	+47 928 35 222
Onshore Representative:	anders@dykkerteknikk.no ; halvor@dykkerteknikk.no



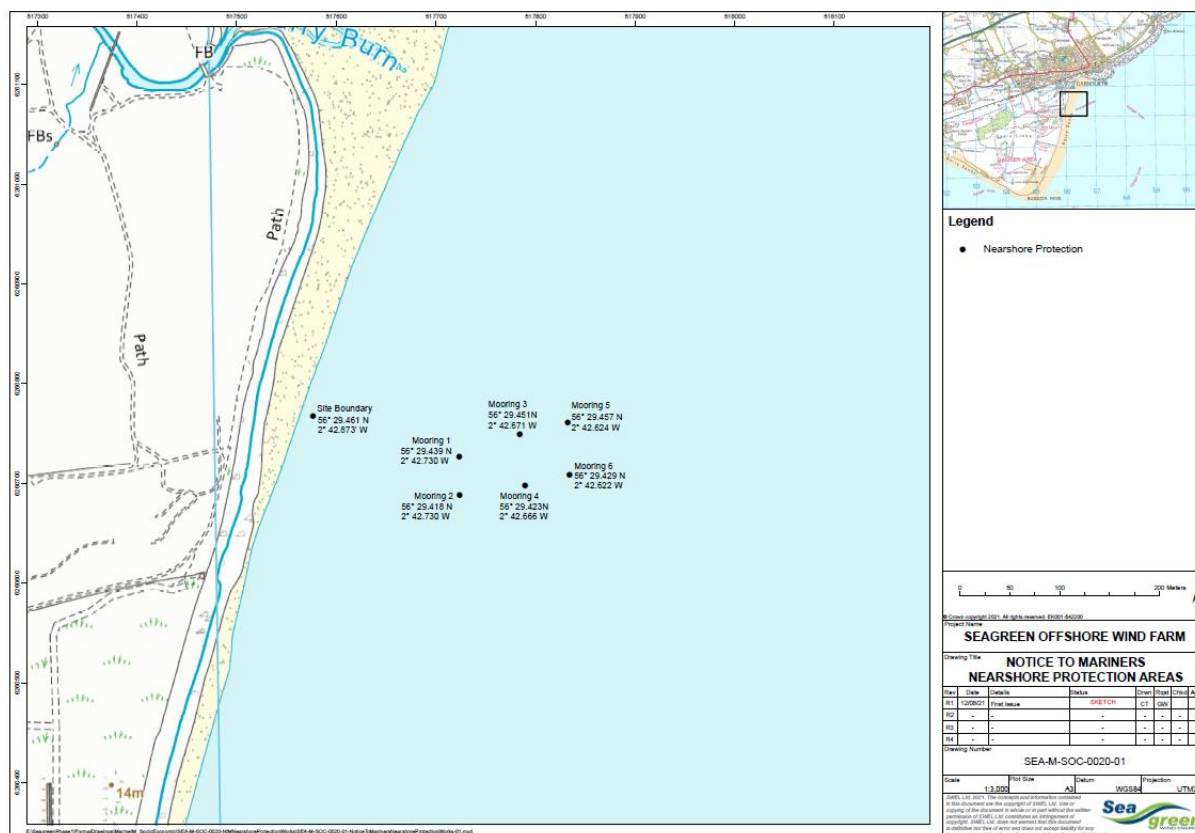


Fig 3

ID	Latitude (DDM WGS 84)	Longitude (DDM WGS 84)
Site Boundary	56° 29.461' N	2° 42.873' W
Mooring 1	56° 29.439' N	2° 42.730' W
Mooring 2	56° 29.418' N	2° 42.730' W
Mooring 3	56° 29.451' N	2° 42.671' W
Mooring 4	56° 29.423' N	2° 42.666' W
Mooring 5	56° 29.457' N	2° 42.624' W
Mooring 6	56° 29.429' N	2° 42.622' W

Table 1 – Temporary mooring coordinates.

2.3 Export cable pre-lay grapnel (PLGR) works.

Nexans AS will conduct pre lay grapnel runs along each of the three export cable routes between the export cable landfall site at Carnoustie, Angus and the offshore sub-station platform location within the Seagreen site boundary a shown below in fig 4.

The PLGR vessel, Havila Phoenix arrived at site on the 17th of October with operations expected to be completed within six days weather conditions permitting. Further details of Havila Phoenix are below.

The pre-lay grapnel runs are required to identify and remove, where possible, any possible obstructions to export cable lay and burial operations. Any debris will be brought ashore for disposal.

The pre-lay grapnel run train, shown below in fig 5 will be deployed to the seabed using the vessels' crane and will be monitored via transponder and can be further monitored using a remotely operated vehicle.

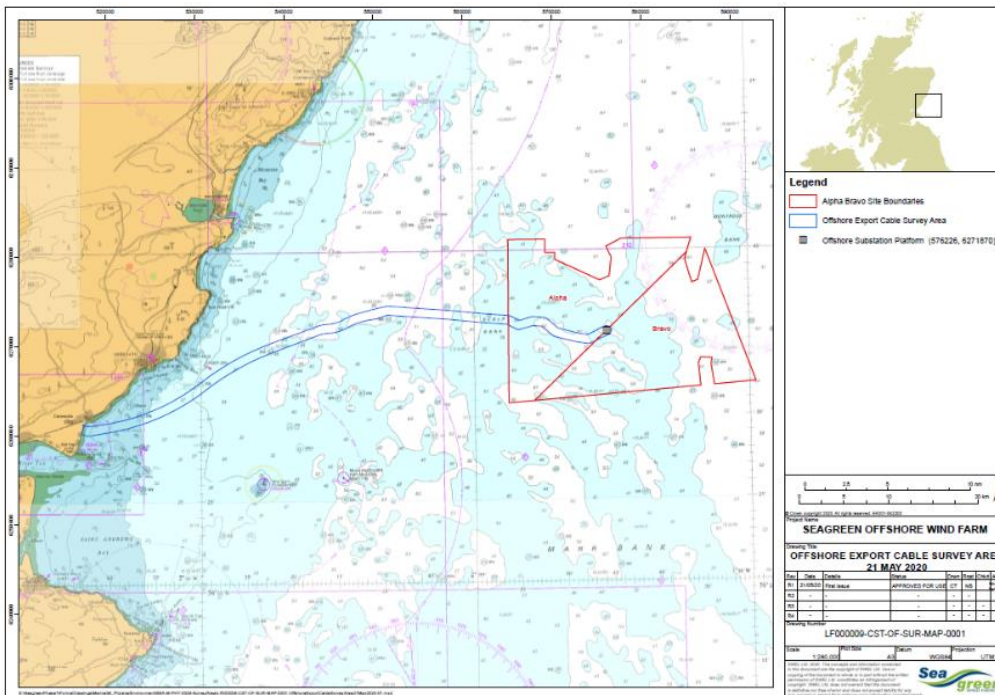


Fig 4 – Seagreen export cable corridor.

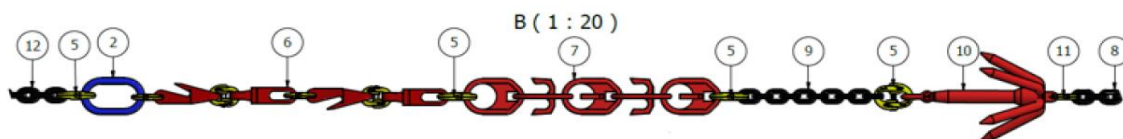


Fig 5 – PLGR train.

During this operation two turn-point anchors will be wet stored within the export cable corridor in the vicinity of the offshore sub-station platform location. These turn point anchors will be repositioned at a later date and used during export cable pull in works at the offshore sub station platform.

The turn point anchors will be wet stowed and later deployed in the positions indicated in fig 6, coordinates are shown in table 2. These turn point anchors will then be repositioned accordingly for each subsequent export cable pull-in operation.

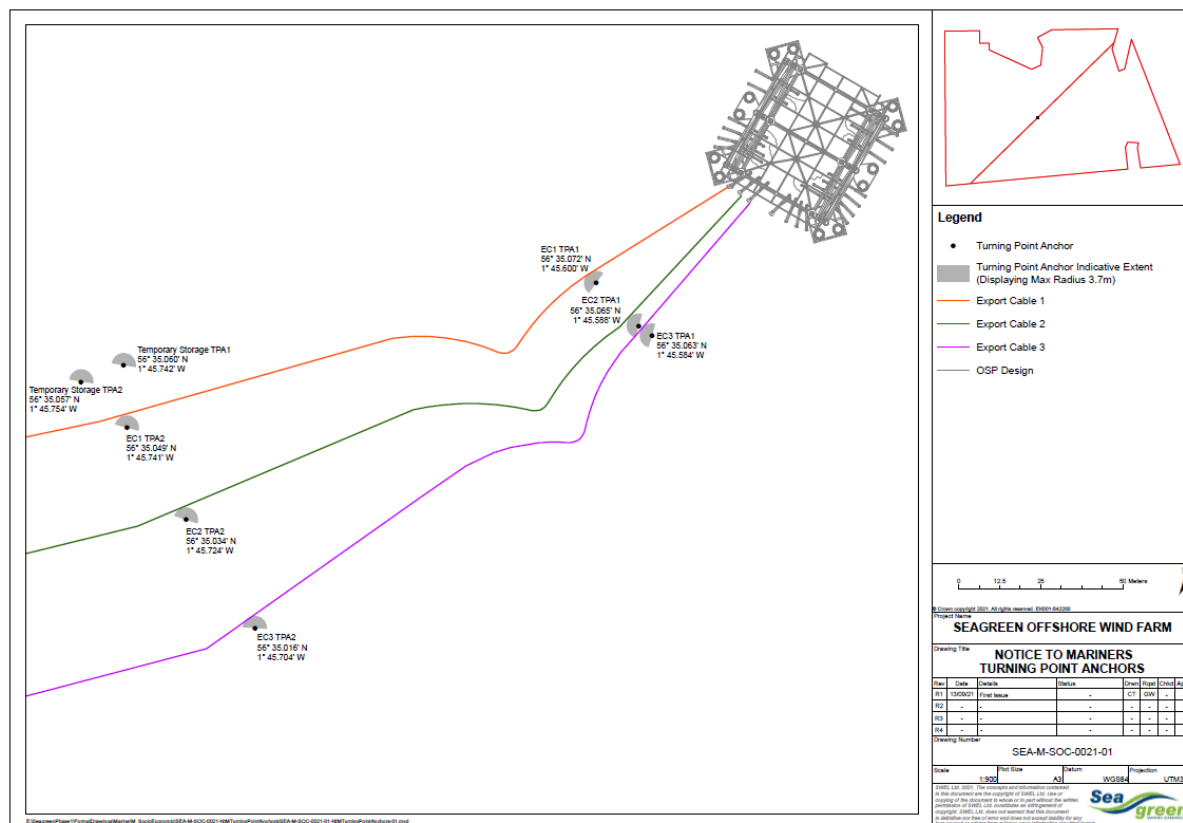


Fig 6 – Turn point anchor wet-stow and deployment positions

Turn point Anchors.	Latitude (DDM WGS 84)	Longitude (DDM WGS 84)
Temporary storage – TPA1	56° 35.058' N	1° 45.741' W
Temporary storage – TPA2	56° 35.055' N	1° 45.753' W
Export cable 1 – TPA 1	56° 35.072' N	1° 45.600' W
Export cable 1 – TPA 2	56° 35.049' N	1° 45.741' W
Export cable 2 – TPA 1	56° 35.065' N	1° 45.588' W
Export cable 2 – TPA 2	56° 35.034' N	1° 45.724' W
Export cable 3 – TPA 1	56° 35.063' N	1° 45.584' W
Export cable 3 – TPA 2	56° 35.016' N	1° 45.704' W

Table 2 – Turn point anchor wet-stow and deployment coordinates.

Vessel Name – Havila Phoenix

General Description and Dimensions:	Multi Purpose Offshore Vessel, 127.4m LOA, 23.5m beam, 5.8m draught
Call Sign:	LAMQ8
MMSI:	257721000
Satellite communications details	Inmarsat C – +881 677 771 113
Direct Bridge/ Masters Number	0047 23 67 78 80 0047 97 46 17 69
Onshore Representative:	Geir Korstrad, Nexans AS 0047 95 02 06 34



3. Boulder clearance works.

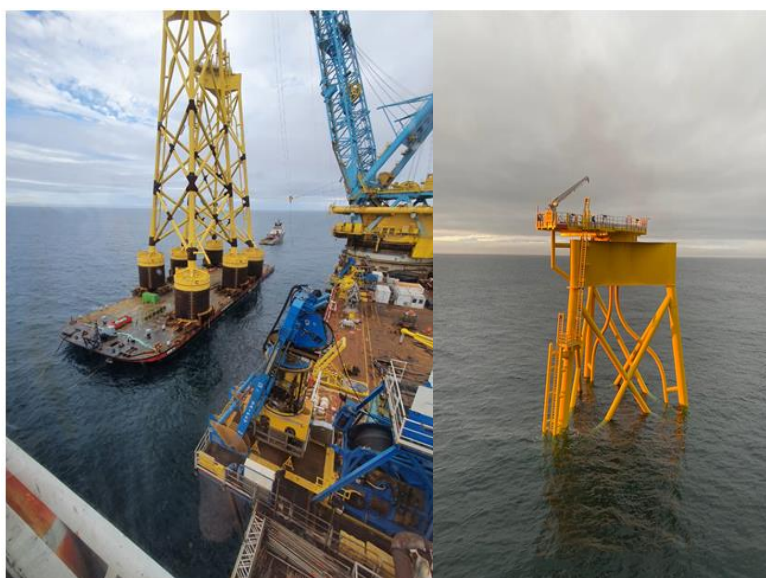
Boulder clearance campaign

The boulder clearance campaign has been temporarily suspended with the MMA Pinnacle having been released from the project. A replacement boulder clearance vessel is currently being sourced and details will be promulgated when known. The completion date of the campaign will be promulgated when known.

4. Installation of suction bucket caisson jacket foundations.

4.1 Foundation Installation

Installation of 114 suction bucket caisson foundation jacket structures has commenced utilising the Heavy Lift Vessel Saipem 7000. The installation is expected to continue until September 2022. The foundation jacket structures will be towed from Nigg, in the Moray Firth. The Tug Nicobar will assist the Saipem 7000 with barge mooring operations. There will be various tugs and vessels utilised in towing the barges and associated operations. Further details are given below including the Saipem 7000. Examples of barge lifting operations and an installed foundation jacket structure is shown below.



4.2 Scour Protection Installation

Seaway 7 will install seabed scour protection rock to the wind turbine generator suction caisson foundation structures within the Seagreen site boundary.

The Flexible Fall Pipe Vessel (FFPV) Bravenes will transport the scour protection rock to the Seagreen site and install it on the seabed using its flexible fall pipe system. This allows scour protection to be installed around the suction caisson foundation structures to a high degree of accuracy. At the end of the fall pipe a remotely operated vehicle will be used to control the flow of rock to the seabed.

The FFPV Braveness arrived on site to commence works on the 24th of October 21. Further details of the Bravenes are shown below.

5. Foundation Grout Installation

Seaway 7 will install grout to the wind turbine generator foundation suction caisson voids within the Seagreen site boundary.

The supply vessel EDT Hercules will transport the grouting mix to the Seagreen site. The vessel will set up at the required foundation location and connect a grout hose to the suction caisson. The grouting mixture will then be injected into the caisson void. A remotely operated vehicle (ROV) will also be utilised in this operation.


The EDT Hercules is expected to arrive on site to commence works on or around the 26th October 2021. An example of a wind turbine generator foundation and suction caisson is shown below.




WTG foundation structure



Foundation caisson

Vessel Name – Saipem 7000	
General Description and Dimensions:	Heavy lift vessel: LOA 129.9 x 87m Beam
Call Sign:	C6NOS
MMSI:	309461000
Satellite communications details	Inmarsat 00870773163946 V-Sat 00390252027520
Direct Bridge/ Masters Number	S7000.Captain@Saipem.com S7000.Marine@saipem.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – Tug Nicobar	
General Description and Dimensions:	Tug: LOA 70.9 x 16.0m Beam
Call Sign:	ORRT
MMSI:	205684000
Satellite communications details	Sat +870 773 308935 Mobile +31 621 927 591
Direct Bridge/ Masters Number	nicobar-bridge@boskalis.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – EDT Hercules

General Description and Dimensions:	Grouting Vessel: LOA 88.8m x 19.6m Beam
Call Sign:	5BAM4
MMSI:	210776000
Satellite communications details	Mobile +44 2037 699906
Direct Bridge/ Masters Number	hercules.bridge@edtoffshore.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02



Vessel Name – Tug Eraclea


General Description and Dimensions:	Tug: LOA 50.0m x 15.0m Beam
Call Sign:	IITX2
MMSI:	247278500
Satellite communications details	Sat +870 773 130947 Mobile +39 345 280 8217
Direct Bridge/ Masters Number	eraclea@augustea.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02




Vessel Name – AHT Ievoli Blue	
General Description and Dimensions:	Tug: LOA 70.0m x 16.0m Beam
Call Sign:	IBYK
MMSI:	247279900
Satellite communications details	Sat +87 077 3913315 Mobile +39 348 096 0206
Direct Bridge/ Masters Number	ievoliblu@gmail.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – Tug Carlo Martello	
General Description and Dimensions:	Tug: LOA 55.4m x 15.5m Beam
Call Sign:	IBCO
MMSI:	247153600
Satellite communications details	Sat +870 7731 30214 Mobile +39 335 806 9554
Direct Bridge/ Masters Number	carlo.martello@augustea.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – Tug Kamarina	
General Description and Dimensions:	Tug: LOA 55.4m x 15.5m Beam
Call Sign:	IITW2
MMSI:	247278400
Satellite communications details	Sat +870 773 130505 Mobile +39 345 281 1846
Direct Bridge/ Masters Number	kamarina@augustea.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Barge – Wagenborg 9 & 11, CC Atlantique, AMT Crusader, AMT Challenger,	
General Description and Dimensions:	Barge: LOA 122m x 36.5m Beam
Call Sign:	n/a
MMSI:	n/a
Satellite communications details	n/a
Direct Bridge/ Masters Number	n/a
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – Forties Sentinel	
General Description and Dimensions:	Supply Vessel: LOA 61m x 15m
Call Sign:	2IGM9
MMSI:	235109554
Satellite communications details	+31629725402
Direct Bridge/ Masters Number	forties.sentinel@sentinel-marine.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – Sea Gull	
General Description and Dimensions:	Supply Vessel: LOA 88.8m x 20m
Call Sign:	LAGK8
MMSI:	257504000
Satellite communications details	+31 (0)62 972 54 02
Direct Bridge/ Masters Number	Frits.vanDorst@subsea7.com
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02
	

Vessel Name – FFPV Bravenes

General Description and Dimensions:	Flexible Fall Pipe Vessel 154.4m LOA, 28m beam, 8.2m draught
Call Sign:	PDCF
MMSI:	244860916
Satellite communications details	Iridium – +88 1677 742 882
Direct Bridge/ Masters Number	+47 233 98649
Onshore Representative:	Frits Van Dorst Frits.vanDorst@subsea7.com +31 (0)62 972 54 02



6. Guard Vessel Deployment.

In line with foundation installation activities commencing Seaway 7 has deployed a site Guard Vessel. The Guard vessel will make six hourly VHF radio broadcasts containing information regarding the Seagreen development including installation activity, safety zone information and site demarcation buoyage information. The Guard Vessels' shall be relieved regularly, the first vessel to arrive will be Renown, FR246, further details are below.

Vessel Name – GV Renown FR246	
General Description and Dimensions:	Fishing vessel. 14.9m x 7.0m x 1.0m
Call Sign:	GJLQ
MMSI:	235001860
Direct Bridge/ Masters Number	+44 7542 772777 renownfr246@hotmail.co.uk
Onshore Representative:	Alastair Macdonald Alastair.Macdonald@Subsea7.com



The Guard Vessel Shemarah II (LH 65) is scheduled to relieve the Renown on the 26th October. Details of the vessel are below.

Vessel Name – GV Shemarah II LH65	
General Description and Dimensions:	Fishing vessel. 27.0m x 8.0m x 1.0m
Call Sign:	MVRR7
MMSI:	232007650
Direct Bridge/ Masters Number	+44 7774 810625 donaldmoodie@moodiemarine.com
Onshore Representative:	Alastair Macdonald Alastair.Macdonald@Subsea7.com



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7. Website

The official website for Seagreen Offshore Wind Farm can be found at

<https://seagreenwindenergy.com>

This contains all Seagreen Weekly Notices of Operations and Notices to Mariners, together with a large amount of general information about the project.

There is also a Twitter feed at [@seagreenwind](#)

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8. Seagreen weekly vessel report.







Seagreen Offshore Windfarm Vessels & Operators

Reference to Marine Licence Conditions 3.1.2 (OWF Alpha and Bravo ML), 3.1.2 (OTA ML) and 3.1.2 (Open Cut at Landfall ML)

Seagreen
WIND ENERGY

Vessel Data Matrix OWF/OTA/Open Cut at Landfall

Insert date 25-10-21

	Vessel Picture	Vessel Name / I	Type / Function	Operator	Contact / contact details	Call sign / MM IMO	LOA (m) Bt (m) Draft (m)	Date on Si	Marine Licence(s) applicable
1		MPV Sophie	Multi Purpose Vessel	Nexans AS	Per-Kristina Pedersen Nexans Senior Project Engineer +47 476 40 021 Per-Kristina.Pedersen@nexans.com	LKT943 25800350	14.9m x 7m x 1m	20/08/2021	OTA ML & Open Cut at Landfall ML
2		Saipem 7000	Heavy Lift Vessel	Seaway7	Frits Van-Dorst Project Engineer +31 62972 5402	C6N05 303461000	175m x 87m	01/10/2021	OWF Alpha & Bravo ML
3		FFPV Bravens	Scour Protection Vessel	Seaway7	Frits Van-Dorst Project Engineer +31 62972 5402	PDCF 244860916	1154m x 28m	23/10/2021	OWF Alpha & Bravo ML
4		AHT Nicobar	Tug	Seaway7	Frits Van-Dorst Project Engineer +31 62972 5402	ORRT 205684000	71m x 16m	01/10/2021	OWF Alpha & Bravo ML
5		AHT Ievoli Blue	Tug	Seaway7	Frits Van-Dorst Project Engineer +31 62972 5402	IBYK 247279300	70m x 15.1	01/10/2021	OWF Alpha & Bravo ML
6		AHT Eraclea	Tug	Seaway7	Frits Van-Dorst Project Engineer +31 62972 5402	ITX2 247270500	50m x 15m	01/10/2021	OWF Alpha & Bravo ML

7		AHT Carlo Martello	Tug	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	IBCO 247266600	55.4m x 15.5	01/10/2021	OVF Alpha & Bravo ML
8		AHT Kamarina	Tug	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	ITW2 247278400	50m x 15m	01/10/2021	OVF Alpha & Bravo ML
9		GV Shemarah II	Guard Vessel	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	MYRR7 232007650	27m x 8m	26/10/2021	OVF Alpha & Bravo ML
10		GV Reawwa	Guard Vessel	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	GJLG 235001860	14.3m x 7m	01/10/2021	OVF Alpha & Bravo ML
11		Sea Gull	Supply Vessel	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	LAGE8 257504000	88.8m x 20m	01/10/2021	OVF Alpha & Bravo ML
12		Forties Seatiel	Supply Vessel	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	2IGM3 235103554	61m x 15m	01/10/2021	OVF Alpha & Bravo ML
13		Vem 4	CTV	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	MI2P8 232035358	25mx7m	06/10/2021	OVF Alpha & Bravo ML
14		Seacat Volunteer	CTV	SWEL	Graceme Watters Lead Marine Coordinator +44 (0) 7932 229828	2HCP6 235102528	25.1mx 8m	15/10/2021	OTA ML & Open Cut at Landfall ML & OVF Alpha & Bravo ML
15		Havila Phocaix	MultiPurpose Offshore Vessel Pre-lay Grapple Rea	Nexans AS	Per-Kristian Pedersen Nexans Senior Project Engineer +47 476 40 021 Per-Kristian.Pedersen@nexans.com	LAMQ8 257721000	127.4m x 23.5m	16/10/2021	OTA ML & Open Cut at Landfall ML
16		EDT Hercules	Offshore Supply Vessel Grouting Operations	Seaway7	Fritz Vaa-Dorst Project Engineer +31 62372 5402	5BAM4 210776000	88.8m x 19.6m	26/10/2021	OVF Alpha & Bravo ML