

# NOTICE TO MARINERS

## 3<sup>rd</sup> of May - 2017

### DUDGEON OFFSHORE WIND FARM CONSTRUCTION WORKS

**NOTICE IS HEREBY GIVEN that construction activities are in progress at the Dudgeon Offshore Wind Farm.**

Wind turbine generators will be installed until Q3 2017. All construction work is planned to be completed late 2017.

#### **Service Operation Vessel**

The ESVAGT NJORD will be performing preparation support for the operation of the wind farm and will be in regular transit between the Dudgeon site and Great Yarmouth.

#### **Wind Turbine Generator Installation**

The SEA CHALLENGER will perform installation of the wind turbine generators (WTG) from January 2017 until Q3-2017. WTG installation and commissioning work will be performed at the following locations in April – May:

| Location    | Easting | Northing  | Lon DD   | Lat DD    | Depth LAT [m] |
|-------------|---------|-----------|----------|-----------|---------------|
| Sub-Station | 391 870 | 5 902 955 | 1,378776 | 53,264808 | -21,1         |
| L01         | 391 174 | 5 901 522 | 1,368835 | 53,251789 | -21,0         |
| L02         | 391 122 | 5 900 148 | 1,368526 | 53,239433 | -19,9         |
| L03         | 391 760 | 5 899 631 | 1,378257 | 53,234918 | -20,2         |
| L04         | 392 399 | 5 899 114 | 1,388002 | 53,230402 | -21,0         |
| L05         | 393 038 | 5 898 596 | 1,397745 | 53,225877 | -20,6         |
| K01         | 392 045 | 5 902 246 | 1,381639 | 53,258473 | -21,5         |
| K02         | 391 907 | 5 900 928 | 1,380019 | 53,246602 | -21,2         |
| K03         | 392 640 | 5 900 334 | 1,391200 | 53,241413 | -20,8         |
| K04         | 393 373 | 5 899 739 | 1,402378 | 53,236214 | -21,0         |
| K05         | 393 676 | 5 898 079 | 1,407470 | 53,221359 | -21,8         |
| T01         | 392 212 | 5 903 533 | 1,383706 | 53,270071 | -21,5         |
| T02         | 392 948 | 5 902 936 | 1,394938 | 53,264856 | -22,1         |
| T03         | 394 241 | 5 900 466 | 1,415137 | 53,242920 | -21,8         |
| T04         | 394 974 | 5 899 873 | 1,426312 | 53,237737 | -22,3         |
| T05         | 394 840 | 5 898 551 | 1,424742 | 53,225832 | -21,2         |
| J01         | 392 777 | 5 901 653 | 1,392808 | 53,253293 | -23,1         |

| Location | Easting | Northing  | Lon DD   | Lat DD    | Depth LAT [m] |
|----------|---------|-----------|----------|-----------|---------------|
| J02      | 393 509 | 5 901 060 | 1,403974 | 53,248112 | -22,5         |
| J03      | 394 107 | 5 899 145 | 1,413569 | 53,231024 | -21,7         |
| J04      | 394 315 | 5 897 562 | 1,417208 | 53,216841 | -22,3         |
| J05      | 394 954 | 5 897 045 | 1,426945 | 53,212322 | -21,2         |
| F01      | 392 353 | 5 904 837 | 1,385377 | 53,281817 | -21,7         |
| F02      | 393 254 | 5 905 526 | 1,398654 | 53,288190 | -23,2         |
| F03      | 392 649 | 5 906 016 | 1,389417 | 53,292470 | -22,8         |
| F04      | 392 044 | 5 906 506 | 1,380177 | 53,296750 | -22,4         |
| F05      | 391 439 | 5 906 996 | 1,370936 | 53,301030 | -22,0         |
| F06      | 390 834 | 5 907 486 | 1,361693 | 53,305308 | -22,3         |
| E01      | 391 477 | 5 904 129 | 1,372486 | 53,275276 | -22,2         |
| E02      | 391 619 | 5 905 431 | 1,374170 | 53,287004 | -22,4         |
| E03      | 390 886 | 5 906 025 | 1,362975 | 53,292191 | -20,7         |
| E04      | 390 153 | 5 906 619 | 1,351778 | 53,297377 | -20,6         |
| E05      | 390 229 | 5 907 976 | 1,352448 | 53,309586 | -21,5         |
| E06      | 389 624 | 5 908 466 | 1,343201 | 53,313863 | -21,1         |
| D01      | 390 741 | 5 904 726 | 1,361247 | 53,280489 | -21,7         |
| D02      | 390 006 | 5 905 323 | 1,350022 | 53,285702 | -20,9         |
| D03      | 389 271 | 5 905 920 | 1,338793 | 53,290913 | -20,1         |
| D04      | 389 420 | 5 907 213 | 1,340577 | 53,302562 | -20,2         |
| D05      | 388 971 | 5 907 930 | 1,333591 | 53,308910 | -20,3         |
| D06      | 388 265 | 5 907 463 | 1,323165 | 53,304566 | -20,3         |
| B01      | 391 313 | 5 902 840 | 1,370468 | 53,263661 | -21,5         |
| B02      | 390 441 | 5 902 117 | 1,357649 | 53,256985 | -19,9         |
| B03      | 389 708 | 5 902 711 | 1,346460 | 53,262170 | -20,5         |
| B04      | 388 975 | 5 903 306 | 1,335268 | 53,267364 | -19,3         |
| B05      | 388 041 | 5 904 311 | 1,320916 | 53,276197 | -18,2         |
| B06      | 387 985 | 5 903 523 | 1,320354 | 53,269105 | -18,2         |
| H01      | 393 086 | 5 904 243 | 1,396567 | 53,276627 | -21,4         |
| G01      | 393 859 | 5 905 036 | 1,407890 | 53,283908 | -23,6         |
| G02      | 394 465 | 5 904 546 | 1,417139 | 53,279626 | -23,6         |
| H02      | 393 820 | 5 903 649 | 1,407769 | 53,271438 | -23,5         |

**COORDINATE REFERENCE SYSTEM:**

Datum: WGS84

Projection: UTM Zone 31N

### **Accommodation Vessel**

The VESTLAND CYGNUS will be on location until Q4-2017 as accommodation vessel for Turbine commissioning.

### **Commissioning activities**

For the commissioning and construction work there are several Crew Transfers Vessels operating in the wind farm area on a daily basis. This activity is ongoing and will continue until commissioning completes in Q4 2017.

### **Rock Installation – around WTG Turbine Foundation**

A rock installation campaign for scour protection of foundations will be ongoing in the period early May until mid-June. Vessel spread; Rock installation vessel Van Oord – HAM 602, a survey vessel, and 4 bulk carriers for rock supply.

Plots for rock installation sequence and the three intended anchor locations for the rock transfer from the bulk carriers are included later in this notice.

No fishing activities allowed near rock installation vessels.

### **Rock Installation – around OSS**

The vessel Smit Kamara will install/adjust the rock armour layer around the OSS. This operation will be performed in May, lasting a few days.

### **Guard Vessel**

The RESOLUTE or the ADVENTURE will be present at the site to safe guard the wind farm area.

### **GENERAL**

**MARINERS ARE HEREBY INFORMED** that a statutory construction Safety Zone (exclusion zone) is in place at the wind farm site. This safety zone is defined by:

- A 500 metres radius around each wind turbine, offshore sub-station and their foundations whilst work is being performed as indicated by the presence of construction vessels; and
- A 50 metres radius around each wind turbine, the offshore sub-station platform and associated foundation structures installed, complete or

incomplete but waiting to be commissioned as part of the Dudgeon offshore wind farm where personnel are present on, or are being landed on or being taken from the structures.

**All vessels will exhibit appropriate lights and shapes prescribed by the International Regulations for Preventing Collisions at Sea.**

**ALL VESSELS ARE REQUESTED** to give all construction and support vessels a wide berth.

**MARINERS ARE ADVISED** to navigate with caution and keep continued watch on VHF Ch. 16 when navigating the area.

A further notice to mariners will be issued when these works are completed, expected autumn 2017.

Please direct any enquiries regarding this notice to Statoil Wind Control Centre: [statoilwindcontrol@statoil.com](mailto:statoilwindcontrol@statoil.com)

A copy of this notice can also be found at:

<http://dudgeonoffshorewind.co.uk/news/notice-to-mariners>

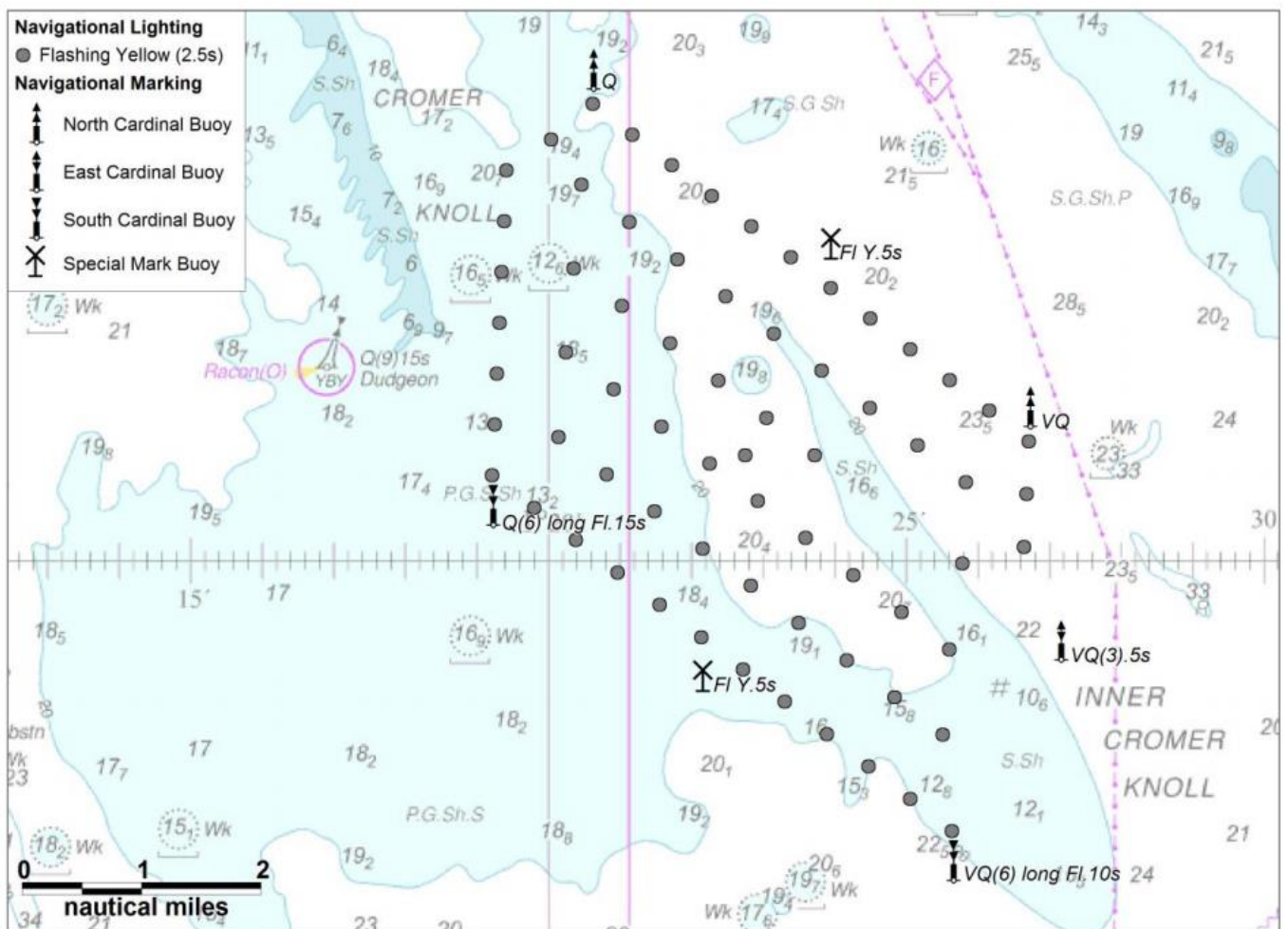
### Fishing

**The Dudgeon Wind Farm area is closed to fishing.** The coordinates for the area of the closed area are included below.

## SITE DETAILS

### Position of Navigation Buoys demarcating the Dudgeon Offshore Wind Farm site

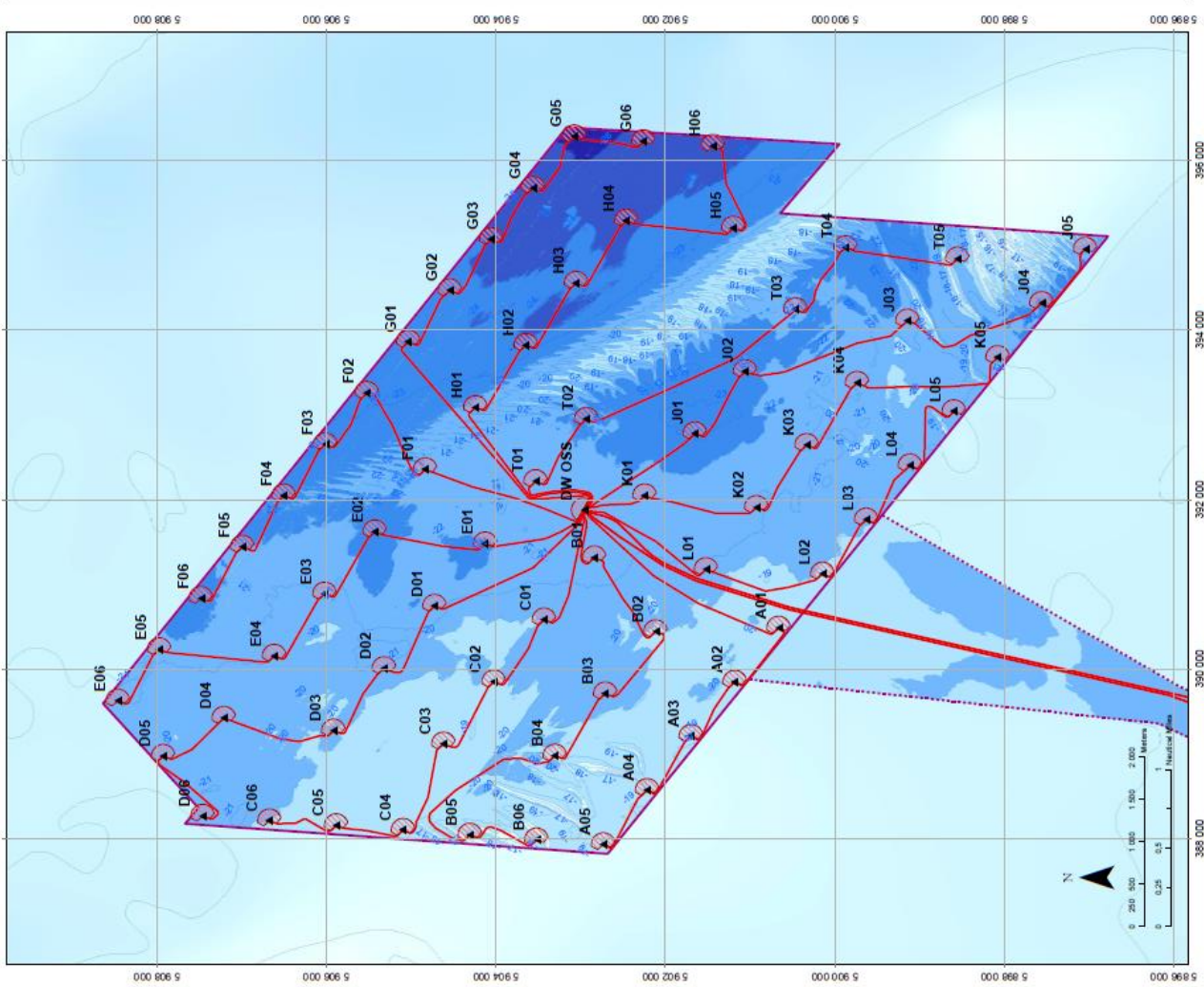
| Mark           | Location            | Name                | Latitude      | Longitude    | Status           | Flash Character   | Code | Range |
|----------------|---------------------|---------------------|---------------|--------------|------------------|-------------------|------|-------|
| North Cardinal | NW Cardinal         | <b>N-DOW</b>        | 53° 19,102' N | 1° 20,592' E | Temporary        | Q                 | 601  | 5nm   |
| Special Mark   | Special Mark North  | <b>DOW - SM - N</b> | 53° 17,631' N | 1° 23,919' E | Temporary        | Fl.Y.5s           | 328  | 5nm   |
| North Cardinal | North East Cardinal | <b>NE - DOW</b>     | 53° 16,277' N | 1° 26,691' E | Temporary        | VQ                | 501  | 5nm   |
| East Cardinal  | East Cardinal       | <b>E- DOW</b>       | 53° 14,320' N | 1° 27,123' E | Temporary        | VQ(3).5s          | 508  | 5nm   |
| South Cardinal | SE Cardinal         | <b>S - DUDGEON</b>  | 53° 12,470' N | 1° 25,617' E | <b>Permanent</b> | VQ(6) long Fl.10s | 516  | 5nm   |
| Special Mark   | Special Mark South  | <b>DOW - SM - S</b> | 53° 14,012' N | 1° 22,132' E | Temporary        | Fl.Y.5s           | 328  | 5nm   |
| South Cardinal | SW Cardinal         | <b>SW - DOW</b>     | 53° 15,451' N | 1° 19,188' E | Temporary        | Q(6) long Fl.15s  | 631  | 5nm   |





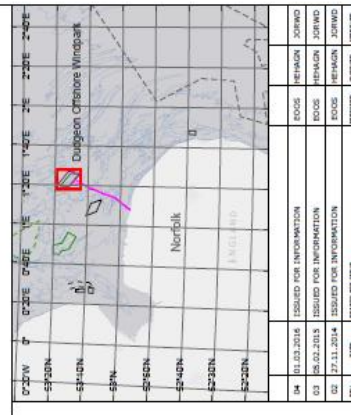
# WTG ID and locations (coordinates)

| WTG and Substation Locations |          |          |         |          |           |          |          |          |          |           |
|------------------------------|----------|----------|---------|----------|-----------|----------|----------|----------|----------|-----------|
| WTG                          | Easting  | Northing | Lon DD  | Lat DD   | Depth LAT | WTG      | Easting  | Northing | Lon DD   | Depth LAT |
| A01                          | 380483.0 | 500066.0 | 1.38777 | 53.24347 | -18.5     | F06      | 380634.0 | 500749.0 | 1.391683 | 53.30508  |
| A02                          | 388945.0 | 501153.0 | 1.34842 | 53.24869 | -18.6     | G01      | 388890.0 | 500036.0 | 1.407890 | 53.25308  |
| A03                          | 388206.0 | 500218.0 | 1.33629 | 53.25282 | -18.2     | G02      | 384465.0 | 500656.0 | 1.417139 | 53.27928  |
| A04                          | 385588.0 | 500278.0 | 1.32849 | 53.25702 | -18.2     | G03      | 385070.0 | 500485.0 | 1.426371 | 53.27543  |
| A05                          | 387628.0 | 500278.0 | 1.31878 | 53.26201 | -18.6     | G04      | 386675.0 | 500356.0 | 1.435801 | 53.27109  |
| A06                          | 391131.0 | 500247.0 | 1.32796 | 53.26683 | -21.5     | G05      | 388251.0 | 500257.0 | 1.444772 | 53.26503  |
| B01                          | 380709.0 | 500711.0 | 1.34648 | 53.26985 | -19.6     | H01      | 380280.0 | 500430.0 | 1.396567 | 53.27693  |
| B02                          | 380709.0 | 500308.0 | 1.33628 | 53.26370 | -19.3     | H02      | 383820.0 | 500348.0 | 1.407789 | 53.27148  |
| B03                          | 388941.0 | 500431.0 | 1.32091 | 53.27810 | -18.2     | H03      | 384553.0 | 500365.0 | 1.418863 | 53.26746  |
| B04                          | 387685.0 | 500362.0 | 1.32054 | 53.28105 | -18.2     | H04      | 385287.0 | 500461.0 | 1.430149 | 53.28104  |
| B05                          | 380580.0 | 500344.0 | 1.35027 | 53.28289 | -20.1     | H05      | 385204.0 | 501189.0 | 1.428321 | 53.24688  |
| B06                          | 388948.0 | 500427.0 | 1.34810 | 53.27404 | -18.8     | H06      | 380170.0 | 501440.0 | 1.443716 | 53.25063  |
| C01                          | 388117.0 | 500462.0 | 1.33683 | 53.27928 | -18.4     | T01      | 382212.0 | 500363.0 | 1.383706 | 53.270071 |
| C02                          | 388117.0 | 500596.0 | 1.32147 | 53.28328 | -18.4     | T02      | 382248.0 | 500396.0 | 1.394638 | 53.26466  |
| C03                          | 388117.0 | 500687.0 | 1.32040 | 53.29032 | -21.7     | T03      | 384241.0 | 500460.0 | 1.416137 | 53.24200  |
| C04                          | 388206.0 | 500676.0 | 1.32262 | 53.29474 | -20.0     | T04      | 384674.0 | 500873.0 | 1.428312 | 53.23737  |
| C05                          | 390741.0 | 500476.0 | 1.36124 | 53.29748 | -20.9     | T05      | 384940.0 | 500853.0 | 1.42742  | 53.23532  |
| C06                          | 388206.0 | 500523.0 | 1.35022 | 53.28570 | -20.2     | J01      | 382777.0 | 501053.0 | 1.392808 | 53.25393  |
| D01                          | 388271.0 | 500520.0 | 1.33878 | 53.28091 | -20.2     | J02      | 383509.0 | 501060.0 | 1.403974 | 53.24812  |
| D02                          | 388420.0 | 500713.0 | 1.34057 | 53.30262 | -20.2     | J03      | 384107.0 | 500945.0 | 1.413569 | 53.23104  |
| D03                          | 388871.0 | 500790.0 | 1.33359 | 53.30891 | -20.3     | J04      | 384315.0 | 500762.0 | 1.417208 | 53.21694  |
| D04                          | 388206.0 | 500746.0 | 1.32316 | 53.30466 | -20.3     | J05      | 384654.0 | 500704.0 | 1.420845 | 53.21232  |
| D05                          | 391477.0 | 500412.0 | 1.37478 | 53.27527 | -22.2     | K01      | 382045.0 | 500246.0 | 1.381639 | 53.259473 |
| D06                          | 391610.0 | 500431.0 | 1.37478 | 53.28104 | -22.4     | K02      | 381807.0 | 500093.0 | 1.380018 | 53.246002 |
| E01                          | 388117.0 | 500816.0 | 1.35178 | 53.29218 | -20.7     | K03      | 382940.0 | 500334.0 | 1.381300 | 53.241413 |
| E02                          | 388206.0 | 500791.0 | 1.32448 | 53.30686 | -21.5     | K04      | 383373.0 | 500079.0 | 1.402378 | 53.236214 |
| E03                          | 388206.0 | 500946.0 | 1.34301 | 53.31383 | -21.1     | K05      | 383670.0 | 500079.0 | 1.402470 | 53.221369 |
| E04                          | 388206.0 | 500946.0 | 1.34301 | 53.31383 | -21.1     | L01      | 381174.0 | 500152.0 | 1.388836 | 53.251789 |
| E05                          | 388206.0 | 500946.0 | 1.34301 | 53.31383 | -21.1     | L02      | 381122.0 | 500146.0 | 1.388836 | 53.239433 |
| E06                          | 388206.0 | 500946.0 | 1.34301 | 53.31383 | -21.1     | L03      | 381700.0 | 500661.0 | 1.393657 | 53.249618 |
| F01                          | 382524.0 | 500520.0 | 1.38807 | 53.28167 | -23.2     | L04      | 381700.0 | 500661.0 | 1.393657 | 53.249618 |
| F02                          | 382524.0 | 500520.0 | 1.38807 | 53.28167 | -23.2     | L05      | 383039.0 | 500659.0 | 1.393745 | 53.23577  |
| F03                          | 382524.0 | 500520.0 | 1.38807 | 53.28167 | -23.2     | Sub St   | 381870.0 | 500265.0 | 1.378776 | 53.25408  |
| F04                          | 382524.0 | 500520.0 | 1.38807 | 53.28167 | -23.2     | (OW COS) |          |          |          |           |
| F05                          | 381430.0 | 500696.0 | 1.37068 | 53.30103 | -22.0     |          |          |          |          |           |



**Legend Main Map**

- Evacuation Zone
- Sub Station
- Planned Interarray Cable Route
- Planned Export Cable Route
- Consented Field Outline
- Bathymetry (m rel. to LAT)
  - < -26
  - 24 -26
  - 22 -24
  - 20 -22
  - 18 -20
  - 16 -18
  - 14 -16
  - 12 -14



**Dudgeon Offshore Windpark**

STATIONARY REFERENCE SYSTEM  
Primaries: UTM Zone 31N  
Parameters: UTM  
PROJECTION: UTM  
UNIT: METRE  
EPOCH: 1982

ISSUED FOR INFORMATION  
DATE: 11.03.2016

ISSUED FOR INFORMATION  
DATE: 28.02.2015

ISSUED FOR INFORMATION  
DATE: 27.03.2014

ISSUED FOR DATA

STATIONARY REFERENCE SYSTEM  
Primaries: UTM Zone 31N  
Parameters: UTM  
PROJECTION: UTM  
UNIT: METRE  
EPOCH: 1982

UK / North Norfolk

Scale: 1:50000

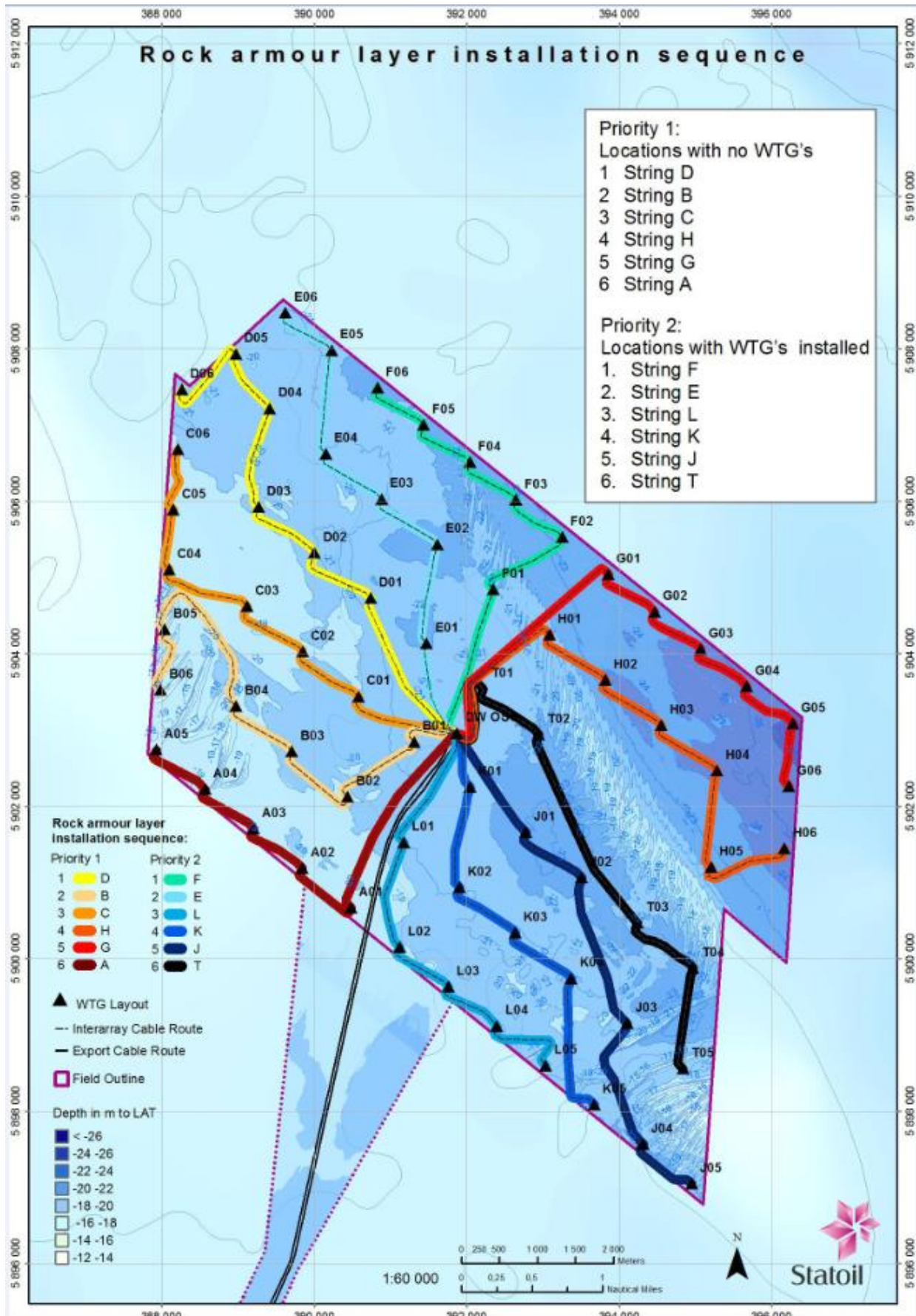
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Map Date: 2016

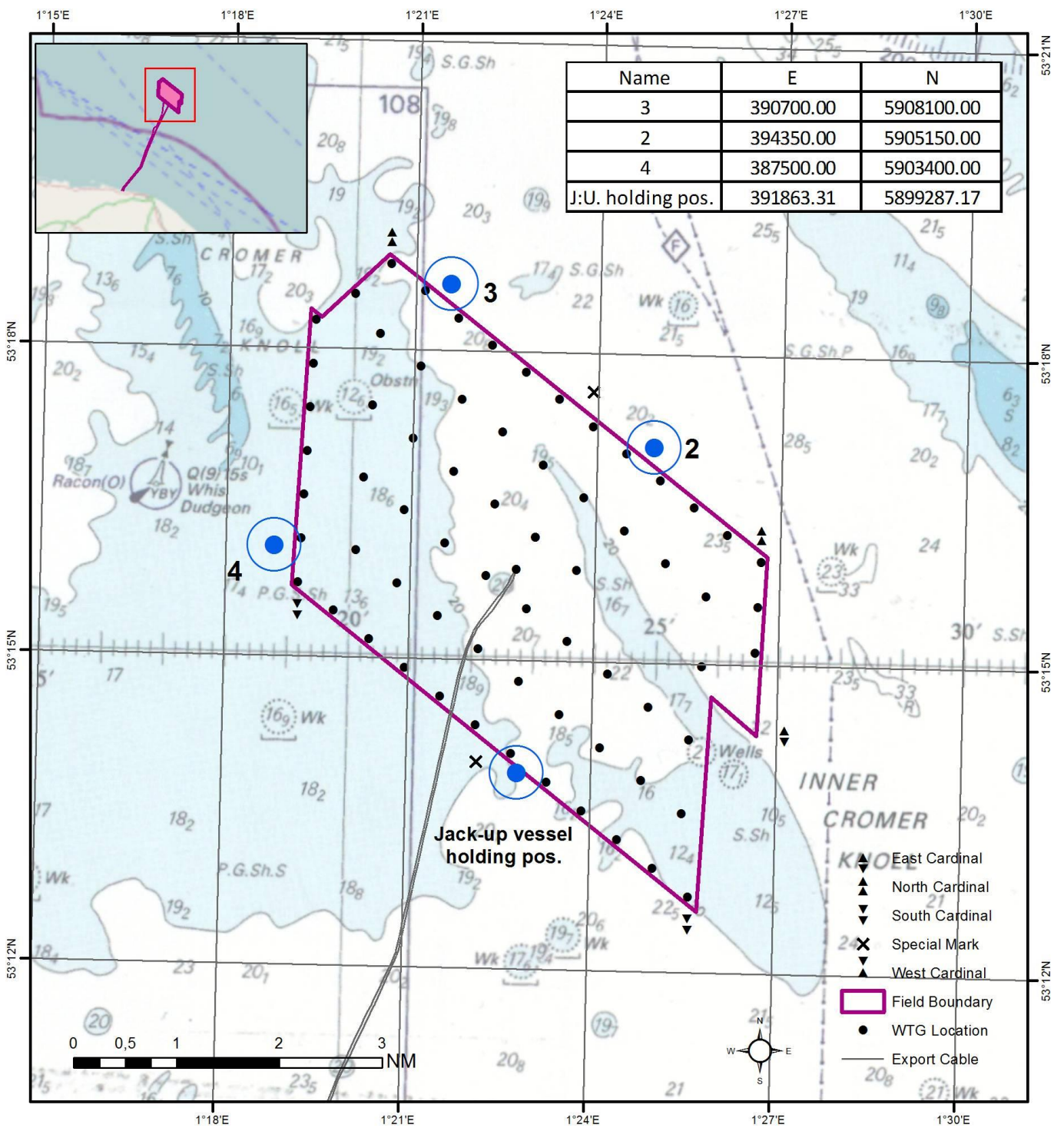
This map features bathymetry from seabed survey: ST-13504 DOWF Sub and Seabed Mapping (2013) according to the subcontractor's error budget for this survey the accuracy is as follows:  
The (horizontal) accuracy for navigation is +/- 20 cm (horizontal determined by the dynamic position calibration for primary and secondary navigation system)  
The (vertical) accuracy bathymetry: At 20m water depth the Total Uncertainty is +/- 27cm. At 50m water depth the Total Uncertainty is +/- 33 cm.



## Rock Installation Campaign. Installation sequence



# Rock Installation Campaign. Anchor locations for rock transfer





## KEY CONSTRUCTION VESSEL CONTACT DETAILS

### ESVAGT NJORD



**Call sign:** OWZN2

**Bridge Phone:** VSAT.TEL: +45 32 71 26 89; / GSM: +45 32 71 26 85

**E-mail:** njord@esvagtvesel.com

### SEA CHALLENGER



**Call sign:** OWLQ2

**Bridge Phone:** V-sat: +45 89 88 90 10

**Master phone:** vsat +45 89 88 90 11 / GSM +45 52 13 95 80

**E-mail:** seachallenger@a2sea.com / Master mast\_sc@a2sea.com

## VESTLAND CYGNUS



**Callsign:** C6BW7

**Bridge Phone:** VSAT.TEL: +4723677230; +4723677230 / GSM: +47 41 43 02 07

**E-mail :** [captain.cygnus@vestlandoffshore.no](mailto:captain.cygnus@vestlandoffshore.no) ; [bridge.cygnus@vestlandoffshore.no](mailto:bridge.cygnus@vestlandoffshore.no)

## Van Oord – HAM 602



**Callsign:** PENF

**Bridge Phone:** +31 888 26 3946

**E-mail:** [0602.bdg@vanoord.com](mailto:0602.bdg@vanoord.com)



## ADVENTURE



**Callsign:** 2IFE4

**Bridge Phone:** V-sat 01947750717

**E-mail:** [adventureGS@gmail.com](mailto:adventureGS@gmail.com) / [adventure.guard1@gmail.com](mailto:adventure.guard1@gmail.com)

## Resolute



**Callsign:** MLPD5

**Bridge Phone:** +44 284 179 8209

**E-mail:** [resolute.guard1@gmail.com](mailto:resolute.guard1@gmail.com)



## Advance WY77



**Callsign:** MZNA6

**Bridge Phone:** Sat. Phone: 00870773231090/01947 240024

**E-mail:** [adventureGS@gmail.com](mailto:adventureGS@gmail.com)

## Smit Kamara



**Callsign:** ORLB

**Bridge Phone:**

**E-mail:**



## **AASLI**

**Call Sign: ZDKD7**  
**Bridge: +47 45 96 07 98**  
**IMO Number: 9060778**  
**Email Bridge: mvaasli@outlook**

### **Vessel Master**

**Tel: +47 97 76 99 97**  
**E-mail: mvaasli@outlook.com**

 M/V Norbris



## Norbris

Call Sign: LAXQ7  
Bridge: +47 940 26 991  
IMO Number: 9247132  
Email Bridge: [norbris@arrivashipping.no](mailto:norbris@arrivashipping.no)

Vessel Master

Tel: +47 940 26 991

E-mail: [norbris@arrivashipping.no](mailto:norbris@arrivashipping.no)





## Liamare

Call Sign: PBBH  
Bridge: +31 6 27 872 686  
IMO Number: 9166481  
Email Bridge: [liamare@liamareshipping.nl](mailto:liamare@liamareshipping.nl)

### Vessel Master

Tel: +31 6 22 701 989  
E-mail: [liamare@liamareshipping.nl](mailto:liamare@liamareshipping.nl)