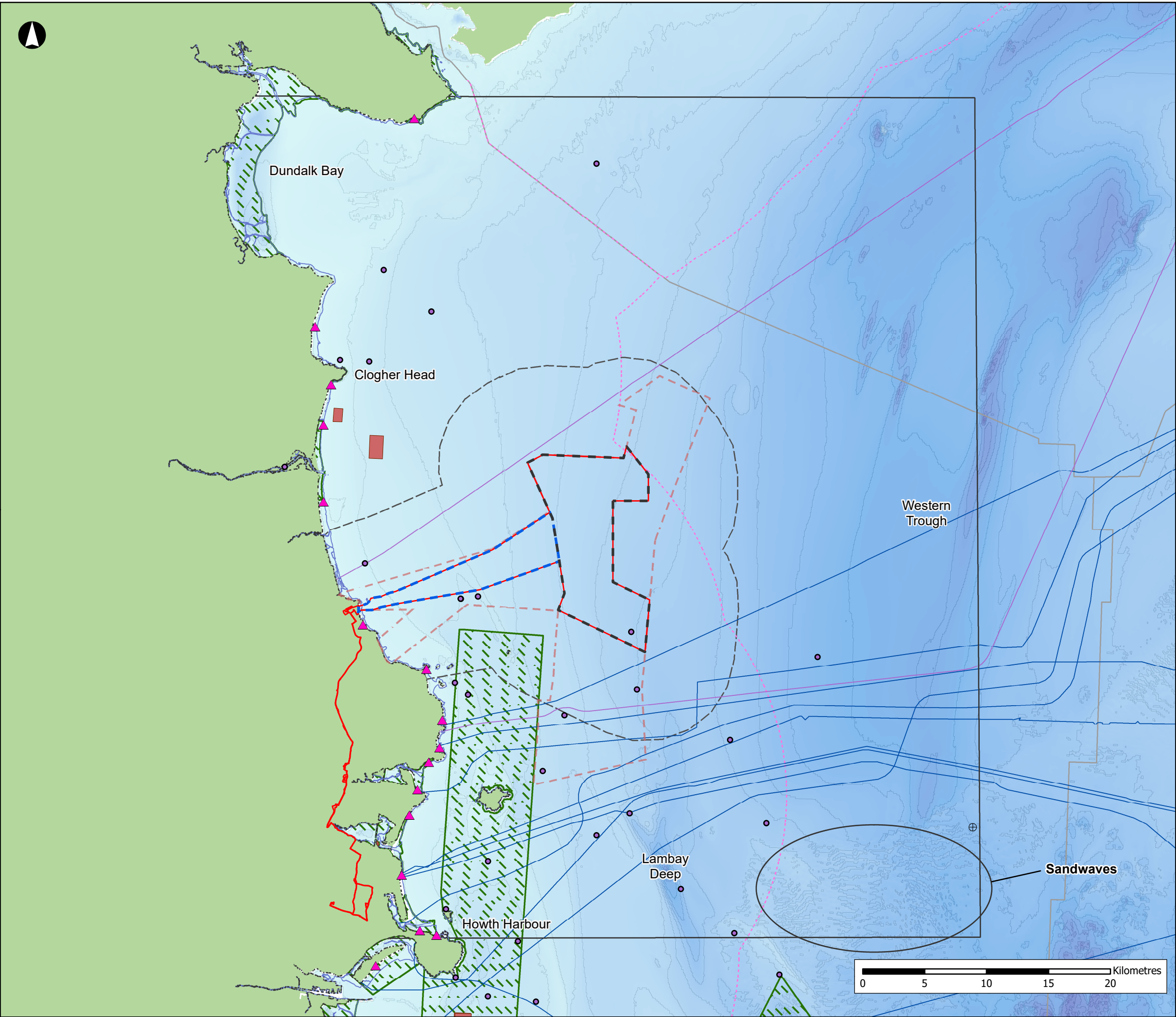


Volume 7A: Figures

Figures for Chapter 10 Marine Geology, Oceanography and Physical processes



Proposed Development Boundary

Array Area

Offshore Export Cable Corridor

MAC Boundary

Study Area

Tidal Excursion Buffer

Low Water Mark

High Water Mark

EEZ Boundary

National EEZ (12nm)

Disposal At Sea Sites (Active)

Pipelines

Cables

Bathing Water Locations

M2 Buoy Location

Surveyed Shipwrecks

Special Areas of Conservation

Bathymetry (m)

0

200

NISA

North Irish Sea Array

ARUP

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Project

North Irish Sea Array Offshore Wind Farm

Figure Title

Study Area and Key Receptors for Marine Processes

Job No: 281240

Date: May 2024

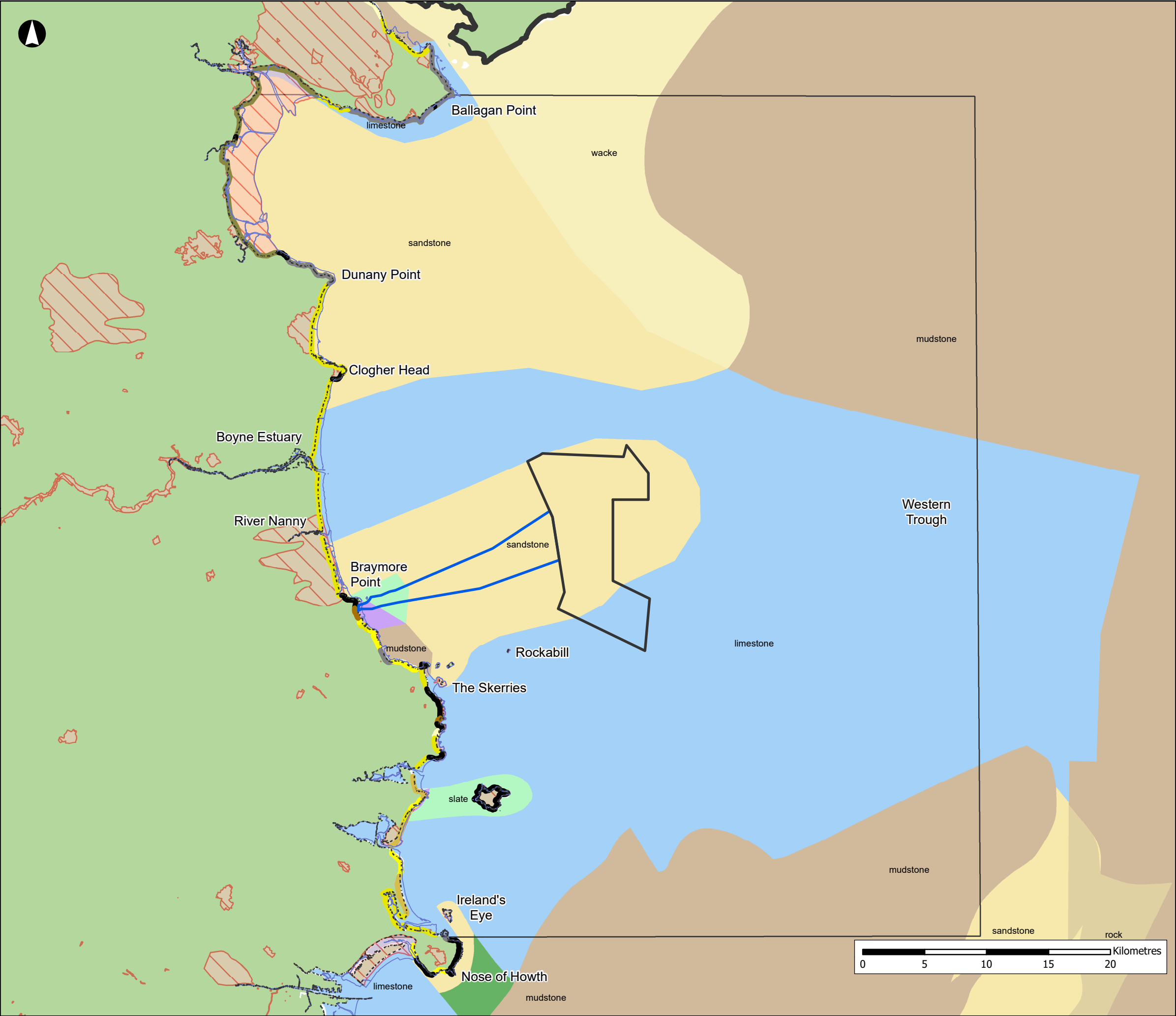
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Status: Issue

Datum: WGS84 Projection: UTM30N

Figure No:

10.1



Array Area

Offshore Export Cable Corridor

Study Area

Low Water Mark

High Water Mark

GSI Geological Heritage Site

Coastal Types (EMODnet):

Beach that is part of extensive non-cohesive sedimentary systems (barrier, spit, tombolo)

Beach with rocky platform

Erodible rock and/or cliff, with rock waste and sediments (sand or pebbles) at its base

Erosion-resistant rock and/or cliff, without loose eroded material in the fronting sea

Gravel beach fronting upland (> 1 km long)

Muddy coastline, including tidal flat, salt marsh

Pocket beaches (< 200 m long)

Sand beach fronting upland (> 1 km long)

Small beaches

Pre-Quaternary Lithology (EMODnet)

Fine Grained Igneous Rock

Limestone

Metamorphic Rock

Mudstone

Rock

Sandstone

Slate

Wacke

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North Irish Sea Array Offshore Wind Farm

Figure Title

Notable Geological Features within the Study Area

Job No: 281240

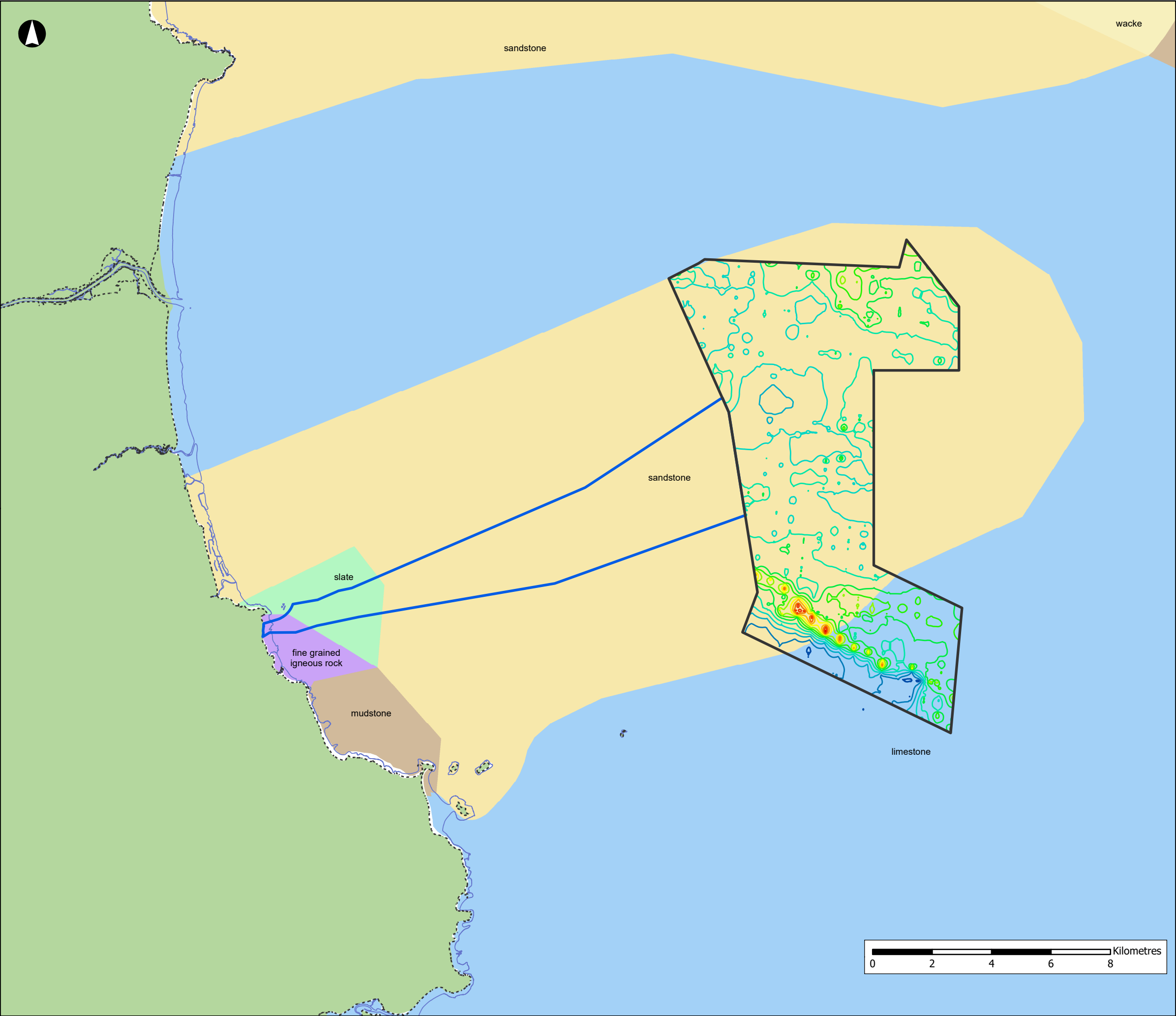
Date: May 2024

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Status: Issue

Datum: WGS84 Projection: UTM30N

Figure No: 10.2



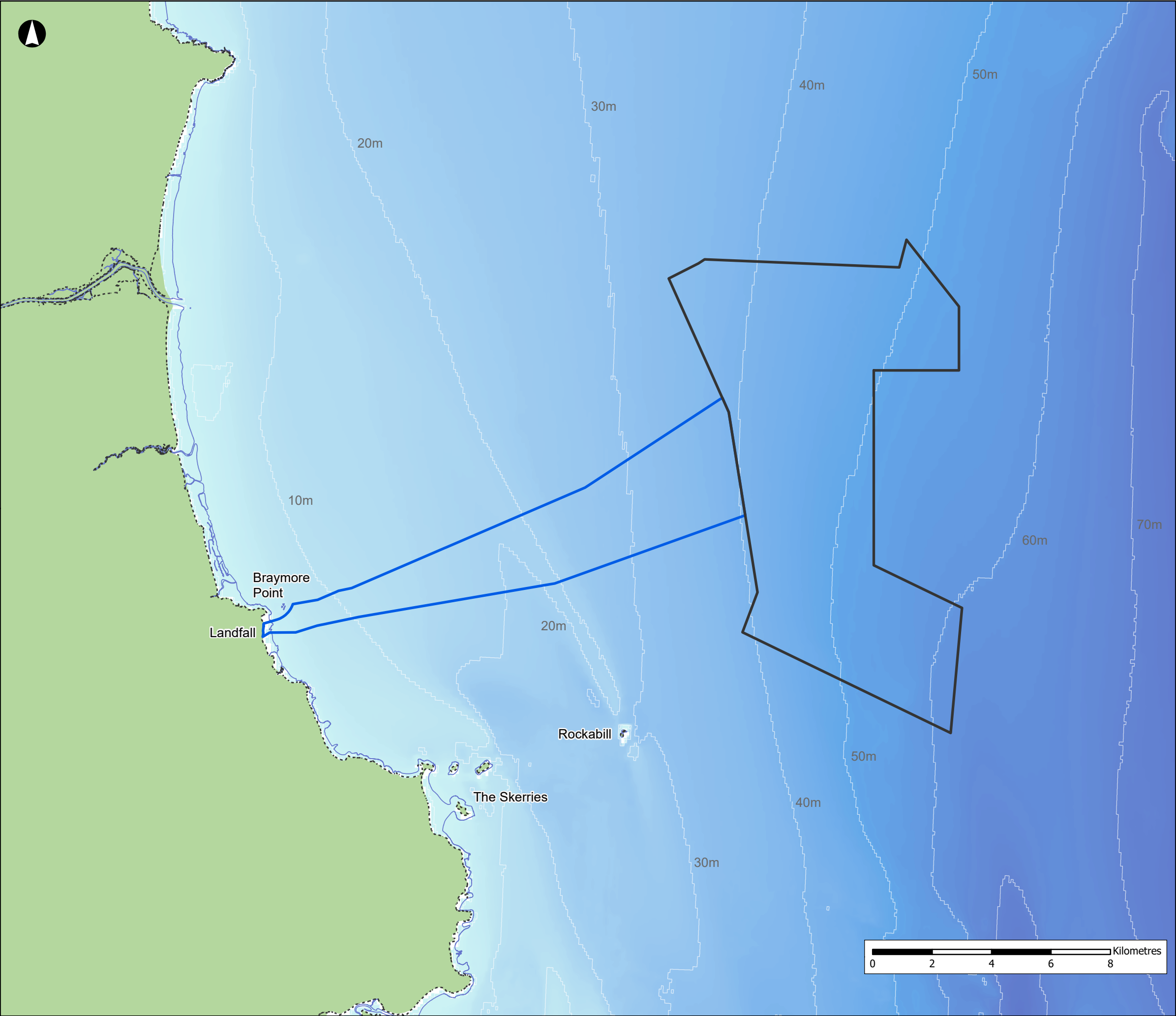
NISA
North Irish Sea Array

ARUP **GoBe**

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North Irish Sea Array
Offshore Wind Farm

Figure Title
Depth to Rockhead across the
Array Area

Job No: 281240	Datum: WGS84 Projection: UTM30N
Date: May 2024	Figure No: 10.3
Scale: 1:125,000 @A3	
Status: Issue	



Array Area

Offshore Export Cable Corridor

Low Water Mark

High Water Mark

Bathymetry (m)

0

100

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North Irish Sea Array

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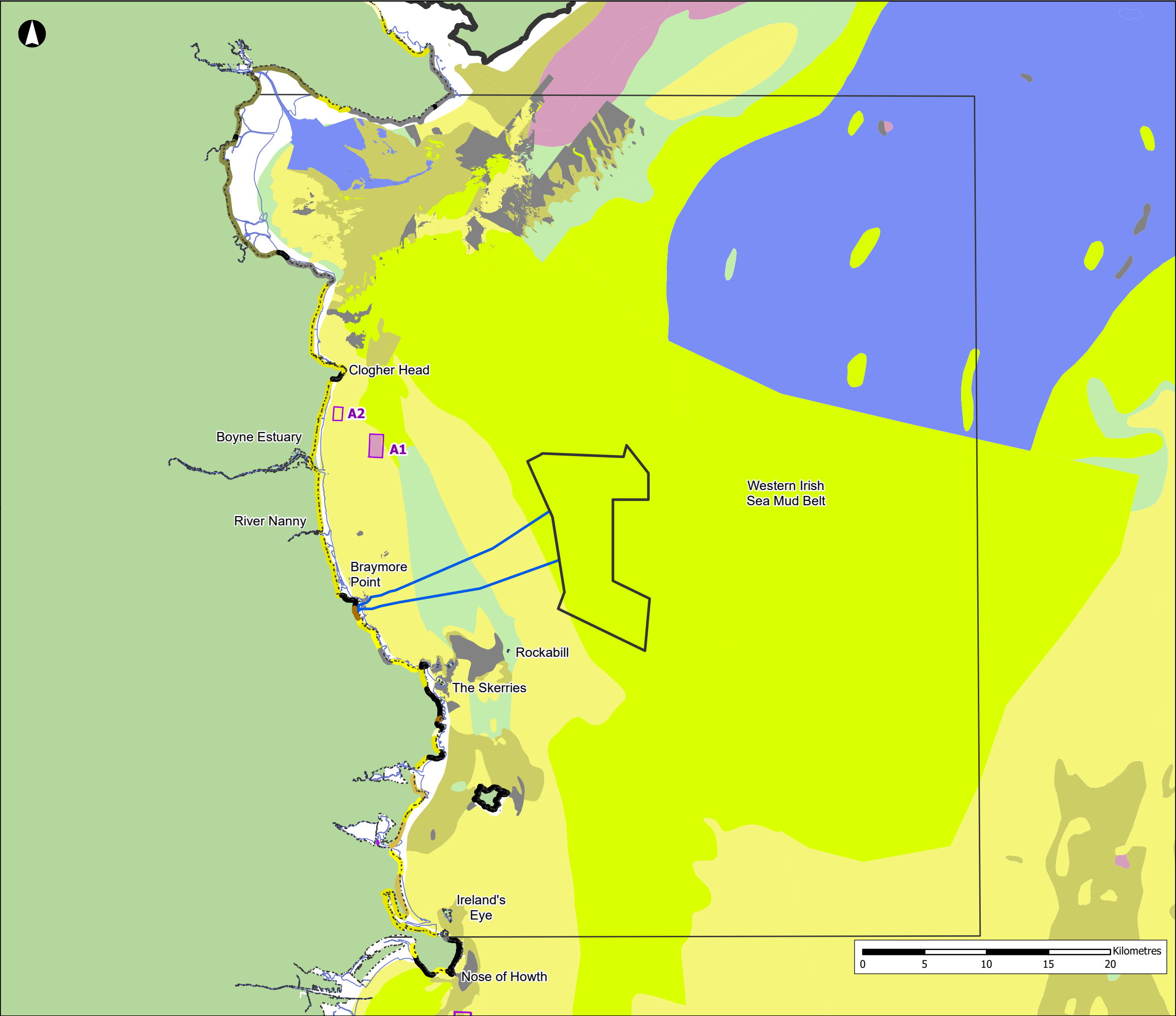
Project

North Irish Sea Array Offshore Wind Farm

Figure Title

Bathymetry across the Array Area and along the ECC

Job No: 281240	Datum: WGS84 Projection: UTM30N
Date: May 2024	Figure No: 10.4
Scale: 1:125,000 @A3	
Status: Issue	



Array Area

Offshore Export Cable Corridor

Study Area

Low Water Mark

High Water Mark

Disposal At Sea Sites (Active)

Coastal Types (EMODnet):

Beach that is part of extensive non-cohesive sedimentary systems (barrier, spit, tombolo)

Beach with rocky platform

Erodible rock and/or cliff, with rock waste and sediments (sand or pebbles) at its base

Erosion-resistant rock and/or cliff, without loose eroded material in the fronting sea

Gravel beach fronting upland (> 1 km long)

Muddy coastline, including tidal flat, salt marsh

Pocket beaches (< 200 m long)

Sand beach fronting upland (> 1 km long)

Small beaches

Sediment Classification

Folk-7

Gravel
100%

80%

30%

5%

Mud

1 : 9

1 : 1

9 : 1

Sand

Mixed sediment

Coarse substrate

Mud

sandy Mud

muddy Sand

Sand

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North Irish Sea Array Offshore Wind Farm

Figure Title

Regional Description of Surficial Sediment

Job No: 281240

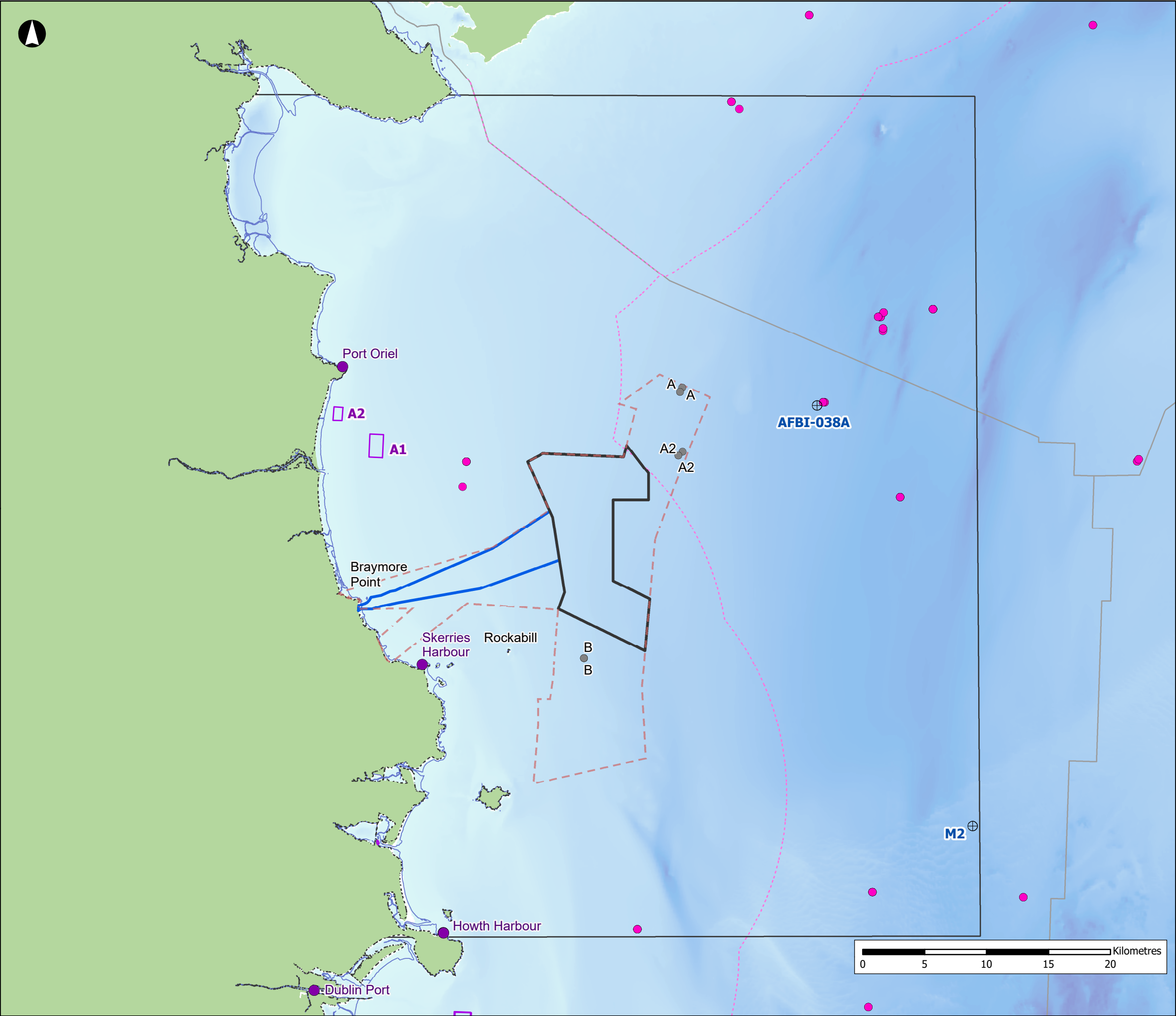
Date: May 2024

Scale: 1:300,000 @A3

Status: Issue

Datum: WGS84 **Projection:** UTM30N

Figure No:
10.5



Array Area

Offshore Export Cable Corridor

MAC Boundary

Study Area

Low Water Mark

High Water Mark

EEZ Boundary

National EEZ (12nm)

Disposal At Sea Sites (Active)

Metocean Survey Deployment Sites

Wave Buoys

BODC Moorings

Tide Gauge Sites

Bathymetry (m)

0

200

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North Irish Sea Array Offshore Wind Farm

Figure Title

Metocean Data Sites

Job No: 281240

Datum: WGS84 Projection: UTM30N

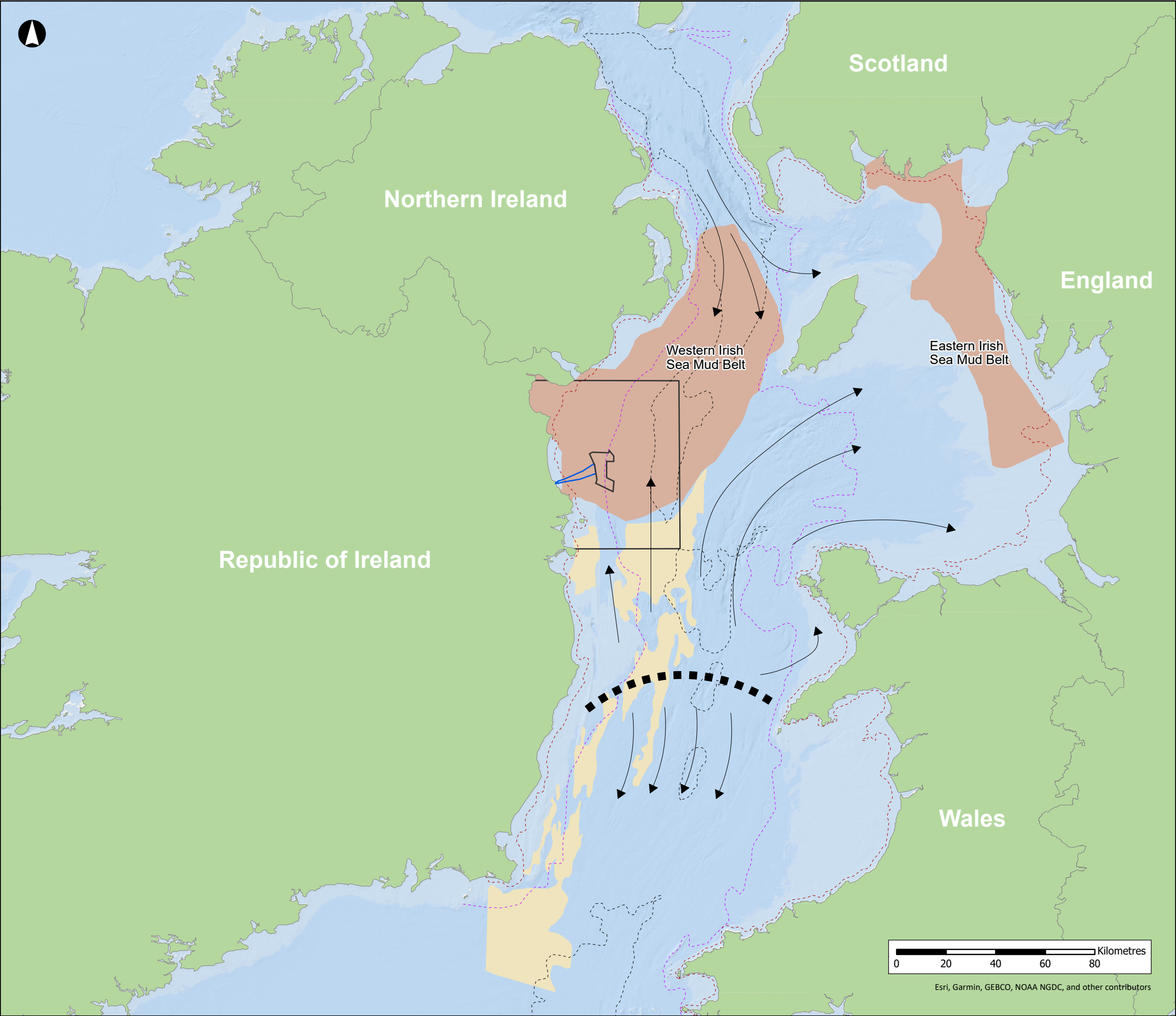
Date: May 2024

Figure No:

Scale: 1:300,000 @A3

10.7

Status: Issue



Array Area

Offshore Export Cable Corridor

Study Area

Sediment Wave Field

Mud Belts
(Sediment Transportation)

Depth (10m)

Depth (50m)

Depth (100m)

Sediment Transport Direction

Bedload Parting Zone

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North Irish Sea Array
Offshore Wind Farm

Figure Title

Generalised pattern of net
sediment transport across the
Irish Sea (Coughlan, 2015).

Job No: 281240

Datum: WGS84 Projection: UTM30N

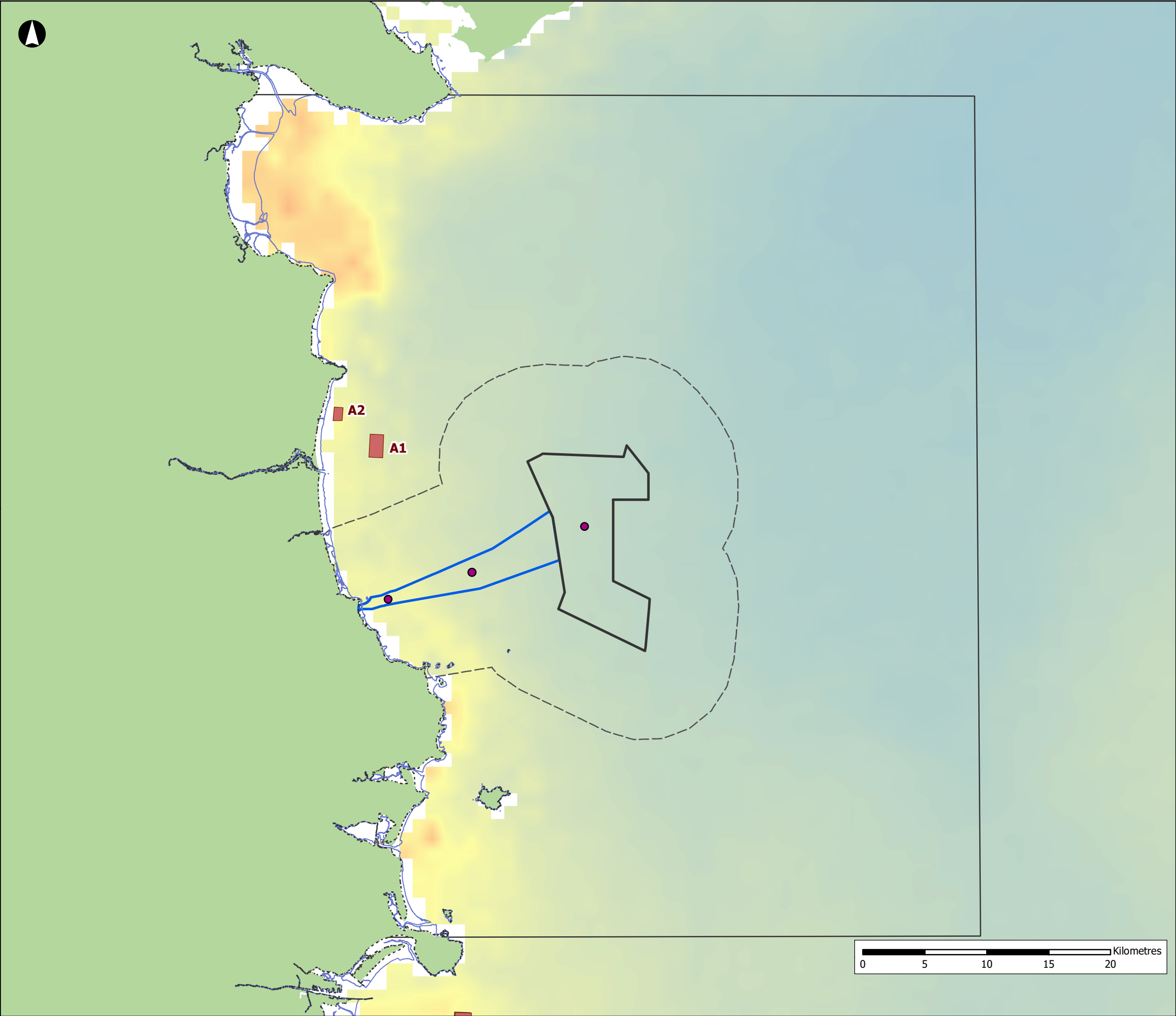
Date: May 2024

Figure No:

Scale: 1:1,500,000 @A3

10.8

Status: Issue



Array Area

Offshore Export Cable Corridor

Study Area

Tidal Excursion Buffer

Low Water Mark

High Water Mark

Disposal At Sea Sites (Active)

SPM Sites

Sea Surface SPM (mg/l)

High : 20

Low : 0

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North Irish Sea Array Offshore Wind Farm

Figure Title

Monthly Mean Sea Surface SPM for January, based on Data from Cefas (2016)

Job No: 281240

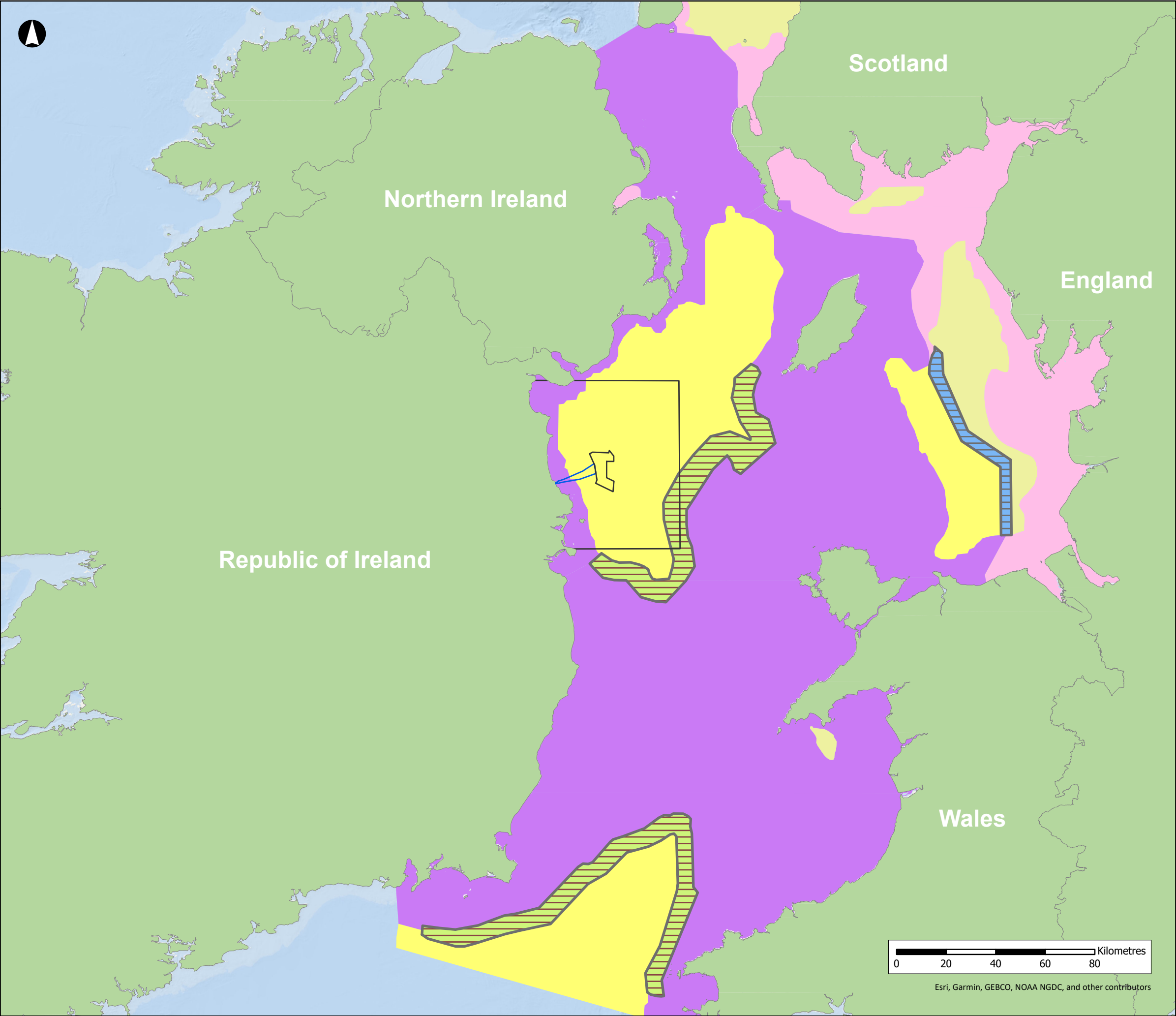
Date: May 2024

Scale: 1:300,000 @A3

Status: Issue

Datum: WGS84 Projection: UTM30N

Figure No: 10.9



Array Area

Offshore Export Cable Corridor

Study Area

Sea Fronts:

Permanent Front

Seasonal Front

Water Column Types:

Mixed & High Salinity

Mixed & Low Salinity

Stratified & High Salinity

Stratified & Low Salinity

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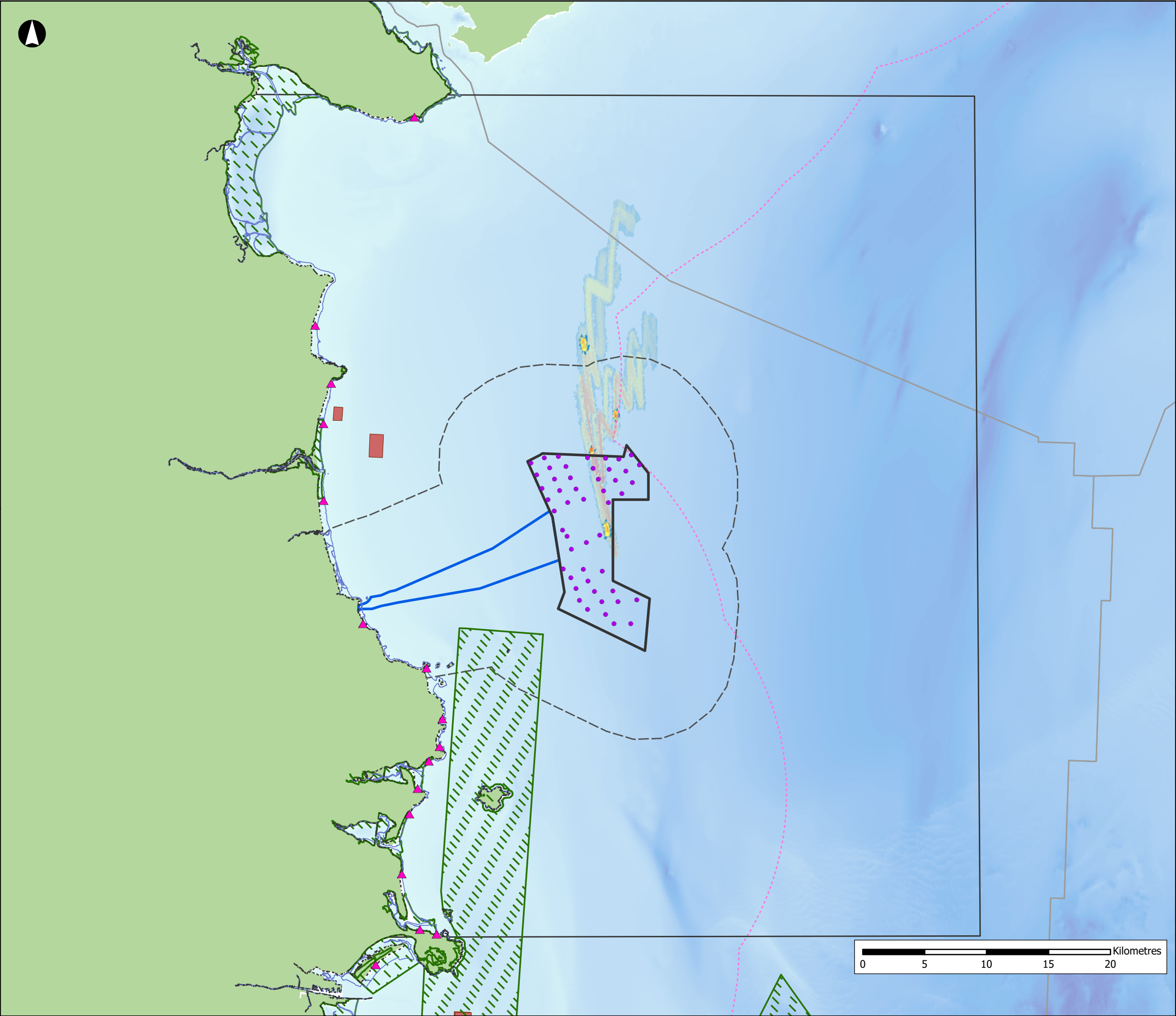
Project

North Irish Sea Array Offshore Wind Farm

Figure Title

Water Body Characterisation across the Irish Sea (JNCC, 2004)

Job No: 281240	Datum: WGS84 Projection: UTM30N
Date: May 2024	Figure No:
Scale: 1:1,500,000 @A3	10.10
Status: Issue	



Array Area

Offshore Export Cable Corridor

WTG Layout (Project Option 2)

Study Area

Tidal Excursion Buffer

Low Water Mark

High Water Mark

EEZ Boundary

National EEZ (12nm)

Disposal At Sea Sites (Active)

Bathing Water Locations

Special Areas of Conservation

Suspended Sediment (mg/l)

<1 (trace level)

1 - 2 (normal variation)

2 - 5 (background level)

5 - 10 (background level)

10 - 20 (background level)

20 - 50 (4 * background)

50 - 100 (10 * background)

100 - 200 (20 * background)

200 - 500 (40 * background)

500 - 1000 (100 * background)

>1000 (200 * background)

Bathymetry (m)

0

200

NISA

North Irish Sea Array

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North Irish Sea Array Offshore Wind Farm

Figure Title

Seabed Levelling Sediment Plumes

Job No: 281240

Date: May 2024

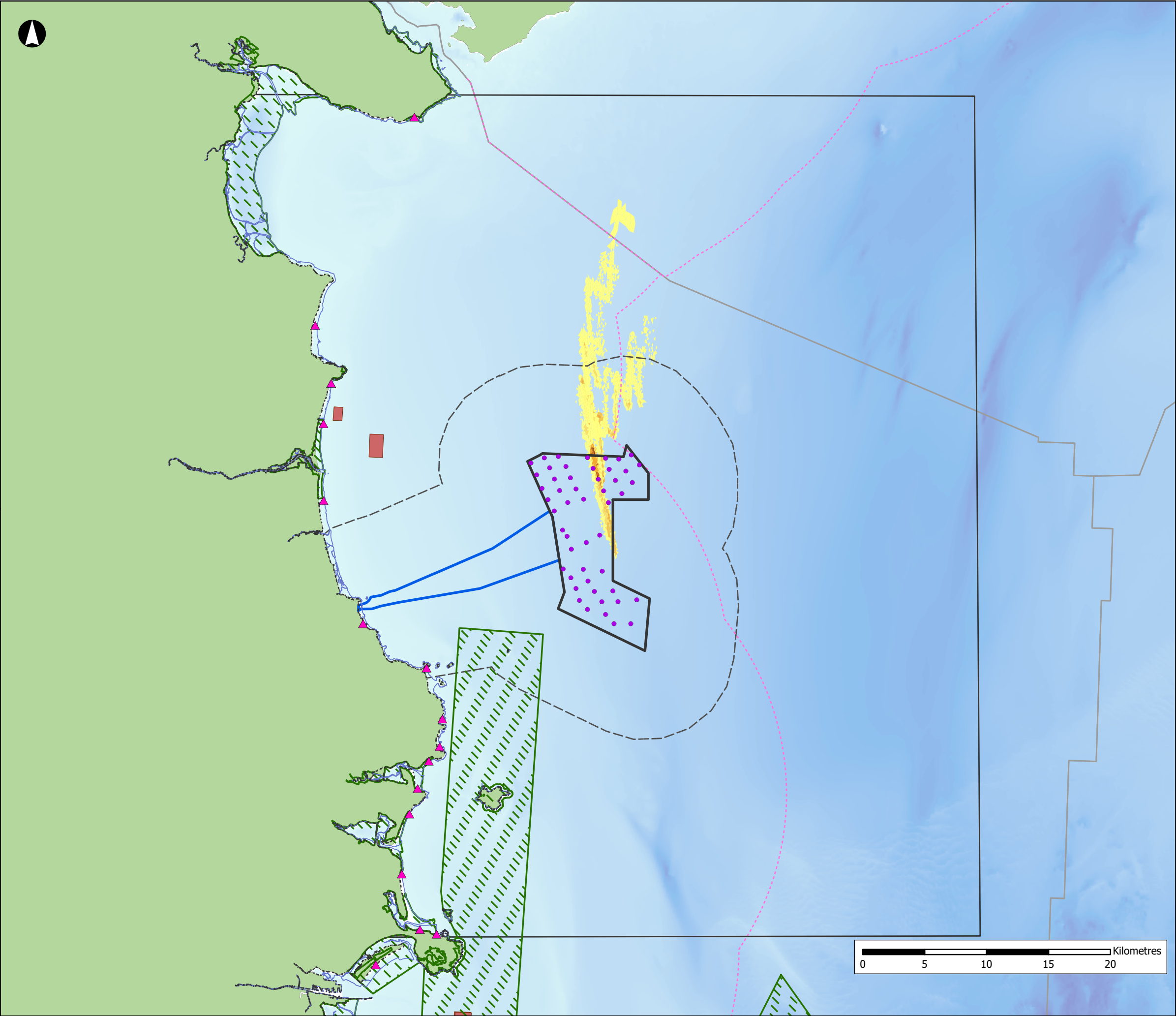
Scale: 1:300,000 @A3

Status: Issue

Datum: WGS84 Projection: UTM30N

Figure No:

10.11



Array Area

Offshore Export Cable Corridor

WTG Layout (Project Option 2)

Study Area

Tidal Excursion Buffer

Low Water Mark

High Water Mark

EEZ Boundary

National EEZ (12nm)

Proposed Oriel OWF

Disposal At Sea Sites (Active)

Bathing Water Locations

Special Areas of Conservation

Deposition (mm)

<1

1 - 2

2 - 5

5 - 10

10 - 20

20 - 50

50 - 100

Bathymetry (m)

0

200

NISA

North Irish Sea Array

ARUP

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Project

North Irish Sea Array Offshore Wind Farm

Figure Title

Seabed Levelling Deposition

Job No: 281240

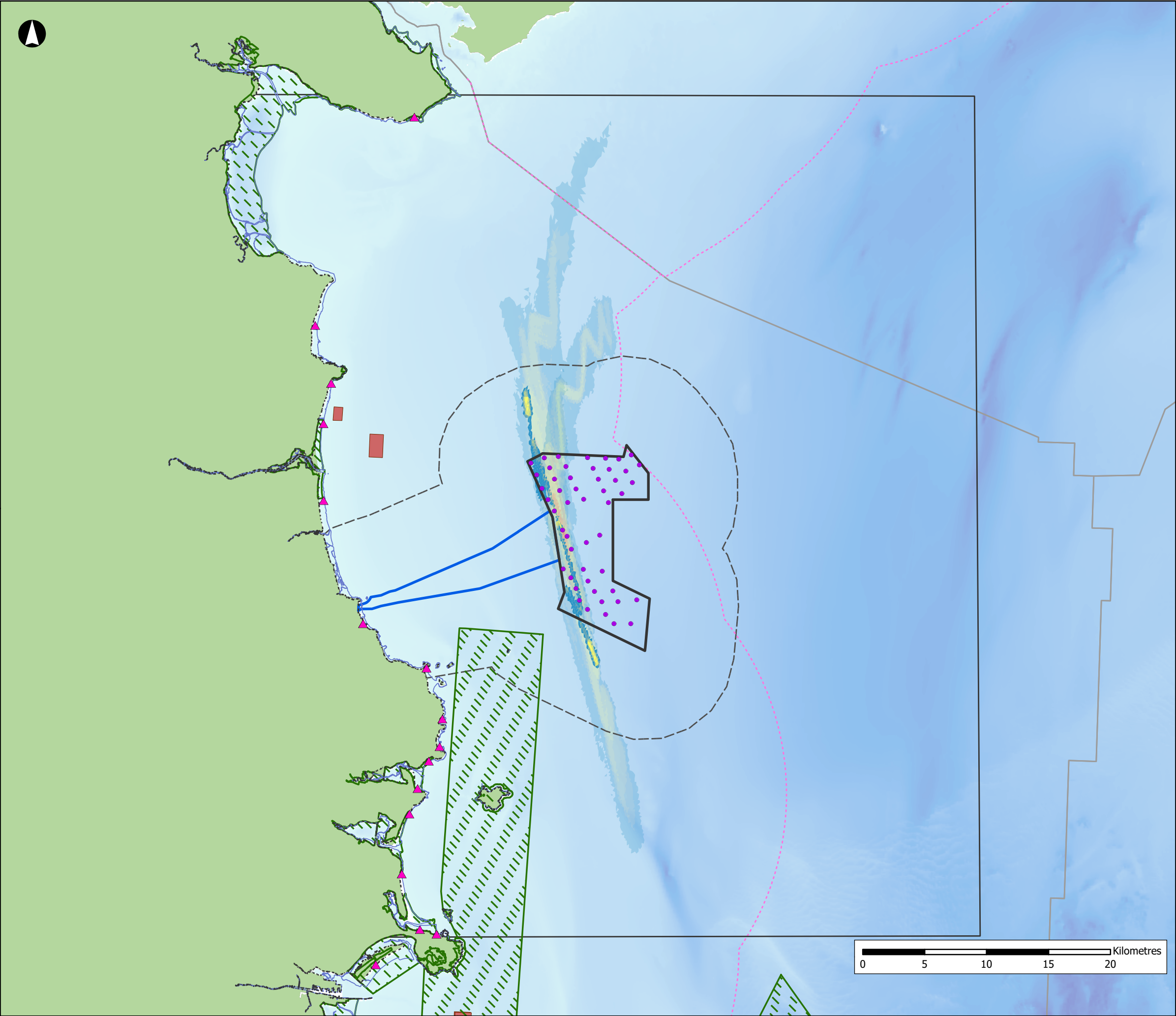
Date: May 2024

Scale: 1:300,000 @A3

Status: Issue

Datum: WGS84 Projection: UTM30N

Figure No: 10.12



Array Area

Offshore Export Cable Corridor

WTG Layout (Project Option 2)

Study Area

Tidal Excursion Buffer

Low Water Mark

High Water Mark

EEZ Boundary

National EEZ (12nm)

Disposal At Sea Sites (Active)

Bathing Water Locations

Special Areas of Conservation

Suspended Sediment (mg/l)

<1 (trace level)

1 - 2 (normal variation)

2 - 5 (background level)

5 - 10 (background level)

10 - 20 (background level)

20 - 50 (4 * background)

50 - 100 (10 * background)

100 - 200 (20 * background)

200 - 500 (40 * background)

500 - 1000 (100 * background)

>1000 (200 * background)

Bathymetry (m)

0

200

NISA

North Irish Sea Array

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North Irish Sea Array

Offshore Wind Farm

Figure Title

Foundation Drilling Sediment

Plumes

Job No: 281240

Date: May 2024

Scale: 1:300,000 @A3

Status: Issue

Datum: WGS84 Projection: UTM30N

Figure No:

10.13