

Outer Dowsing Offshore Wind

Environmental Statement

Chapter 24 Hydrology and Flood Risk

Volume 3 Appendices

Appendix 24.3 Flood Risk Assessment: Onshore Substation

4 of 8

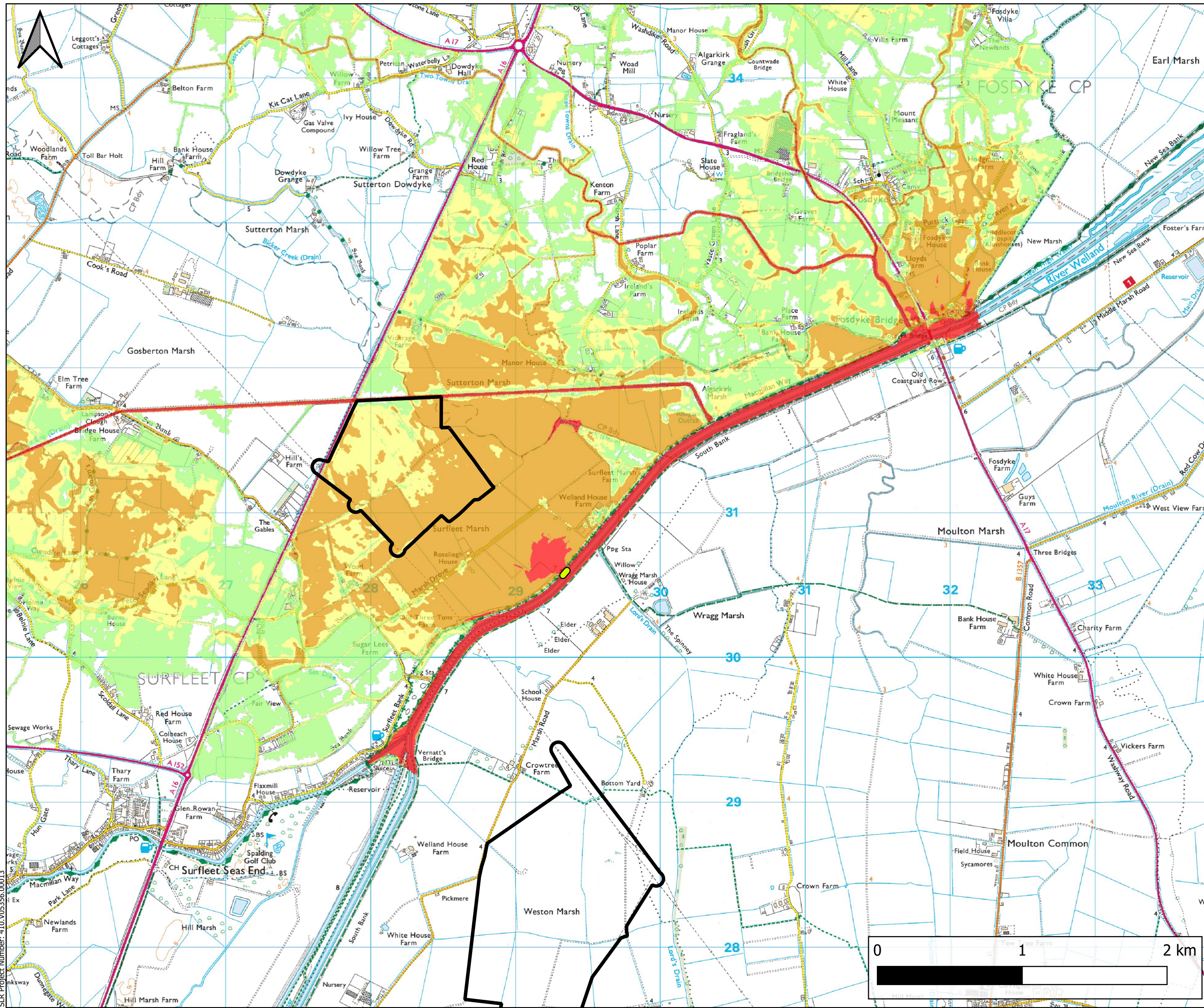
Date: July 2024

Document Reference: 6.3.24.3

Pursuant to APFP Regulation: 5(2)(a) and 5(2)(e)

Rev: 2.0 (Tracked)

| Company: | | Outer Dowsing Offshore Wind | | Asset: | Whole Asset | |
|--------------------------------|------------|---|--------|---|-------------------------|---------------|
| Project: | | Whole Wind Farm | | Sub Project/Package: | Whole Asset | |
| Document Title or Description: | | Appendix 24.3 Flood Risk Assessment: Onshore Substation | | | | |
| Internal Document Number: | | PP1-ODOW-DEV-CS-REP-0196_02 | | 3 rd Party Doc No (If applicable): | N/A | |
| Rev No. | Date | Status / Reason for Issue | Author | Checked by | Reviewed by | Approved by |
| 1.0 | March 2024 | DCO Application | SLR | GoBe | Shepherd and Wedderburn | Outer Dowsing |
| 2.0 | July 2024 | Response to Section 51 Advice | SLR | Outer Dowsing | Shepherd and Wedderburn | Outer Dowsing |



LEGEND

- Substation Search Areas
- Breach Location

Flood Hazard Rating

- <= 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 21

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

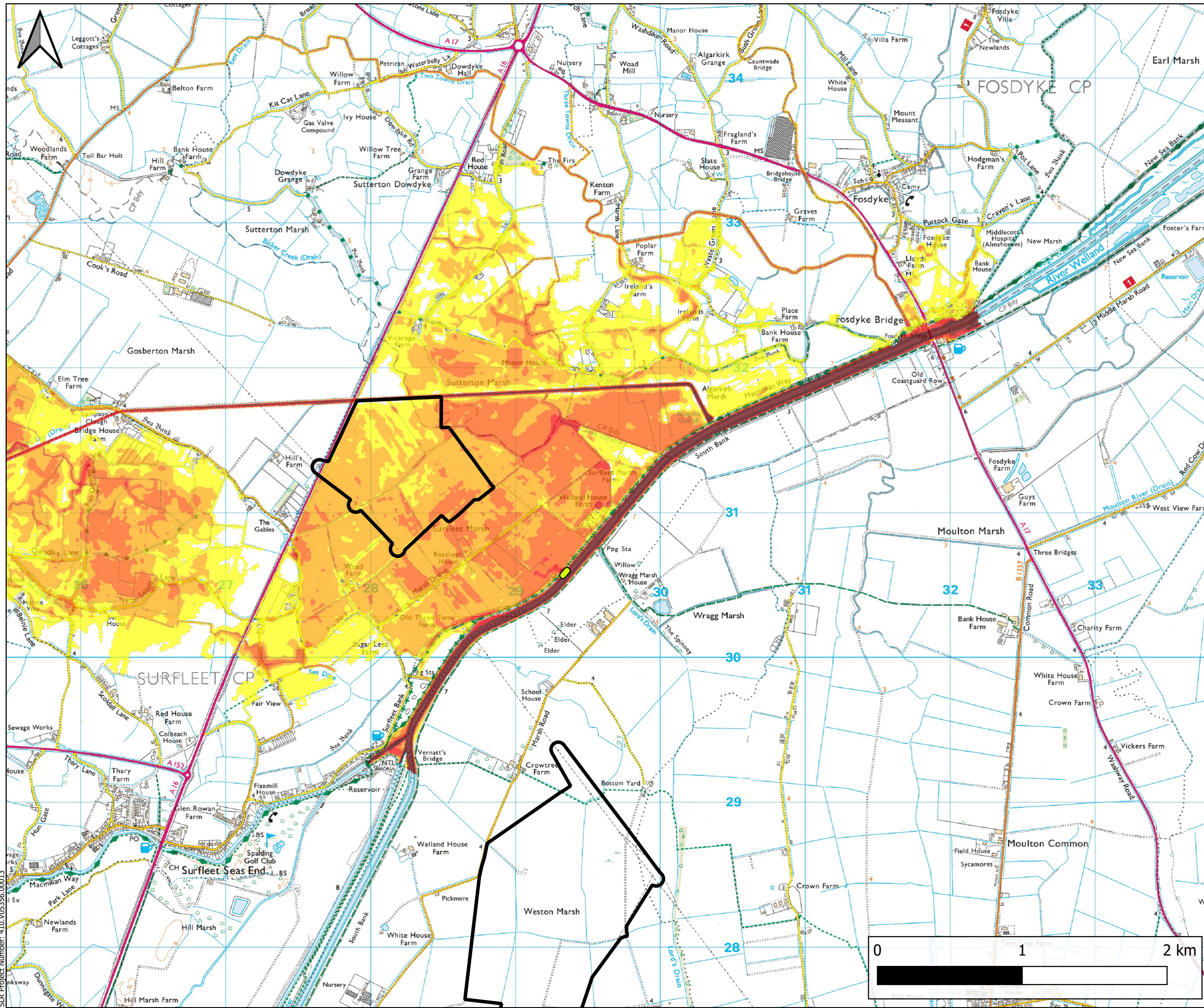
Client
Outer Dowsing Offshore Wind



**Maximum Flood Hazard
1:1000yr+CC North Breach 2
Baseline Scenario**

| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Maximum Flood Depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 22

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

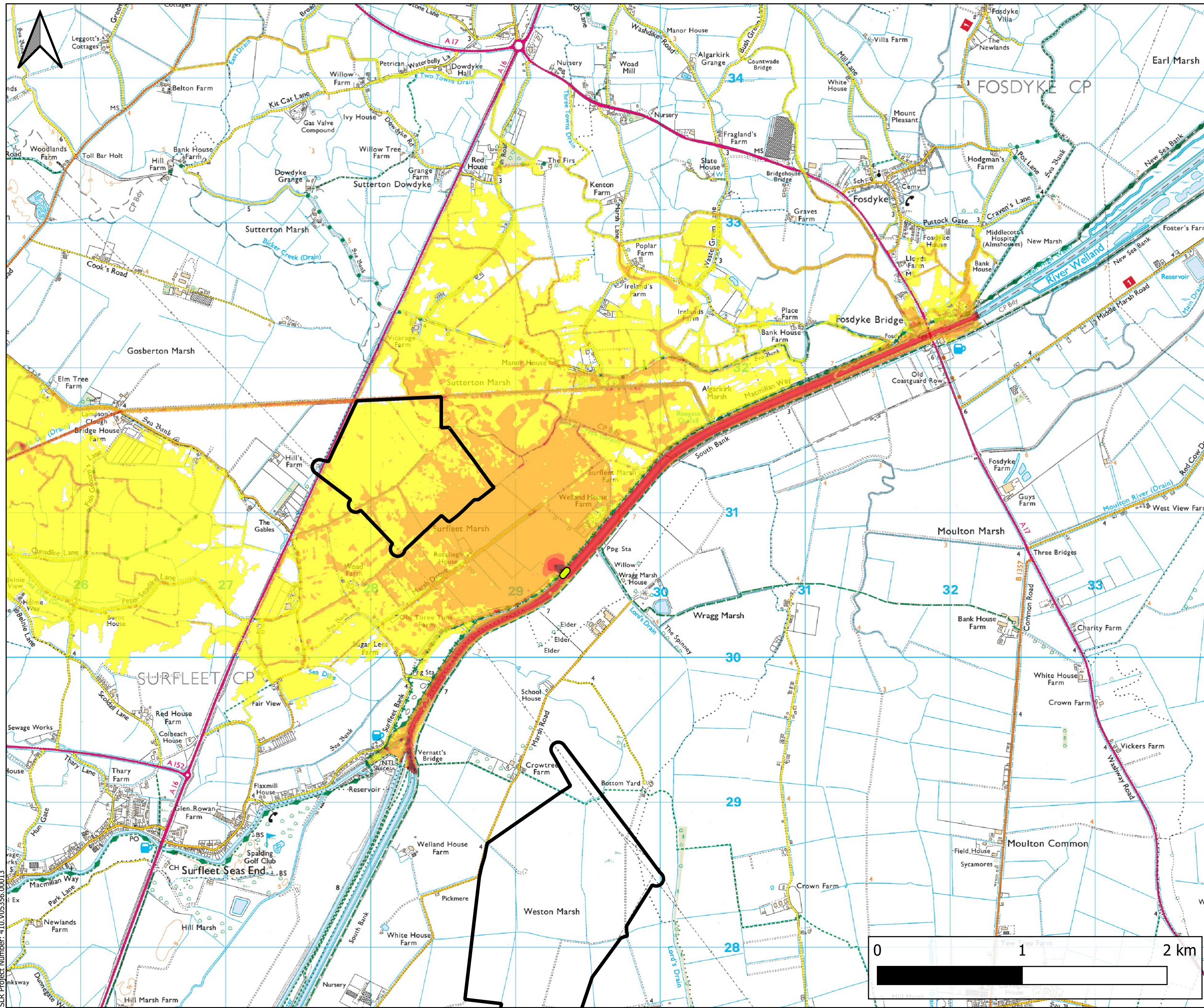


**Maximum Flood Depths
1:1000yr North Breach 2
Baseline Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Maximum Flood Velocity (m/s)

- 0.00 - 0.30
- 0.30 - 1.00
- 1.00 - 1.50
- 1.50 - 2.50
- > 2.50

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 23

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

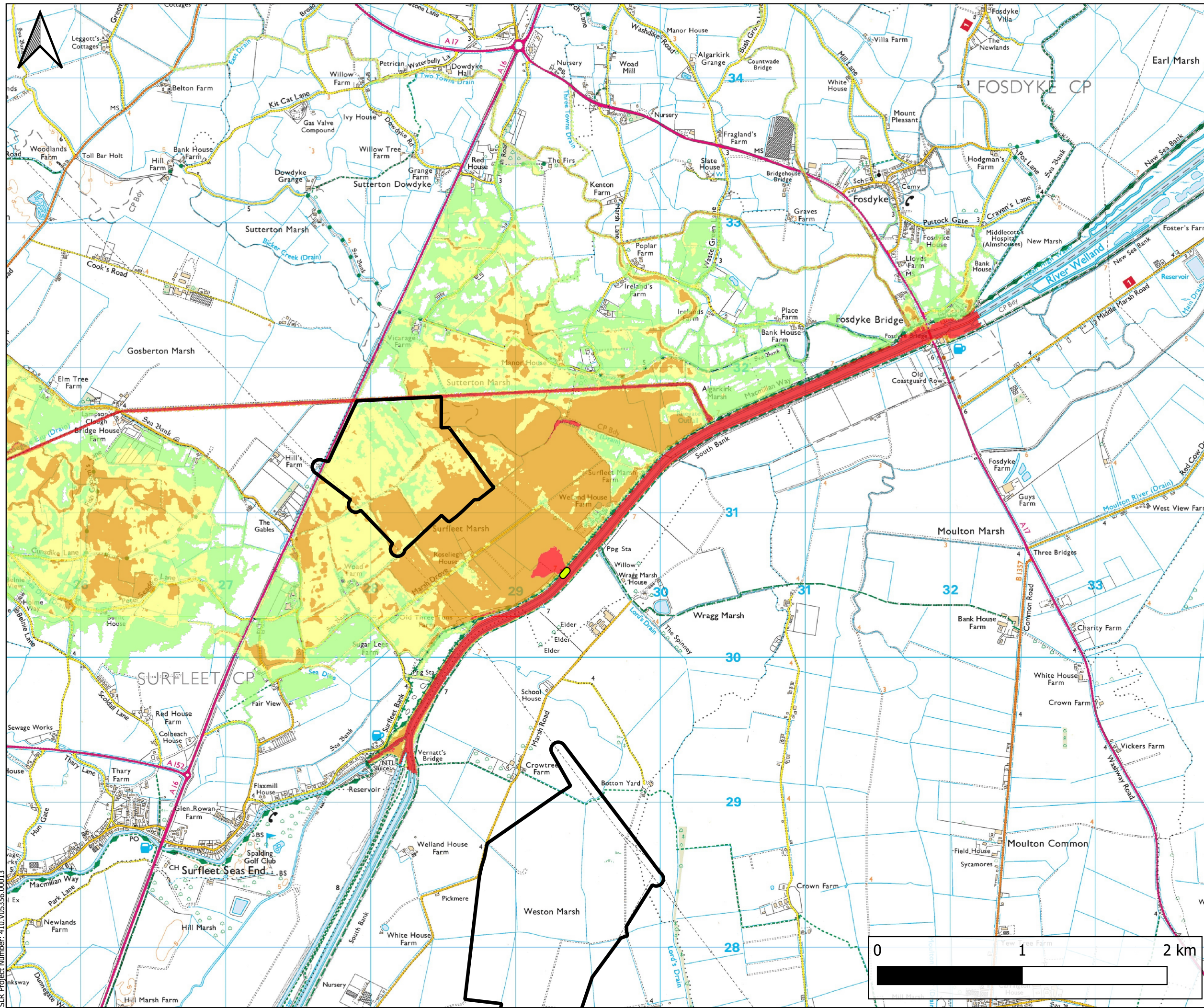


**Maximum Flood Velocity
1:1000yr North Breach 2
Baseline Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Flood Hazard Rating

- ≤ 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 24

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

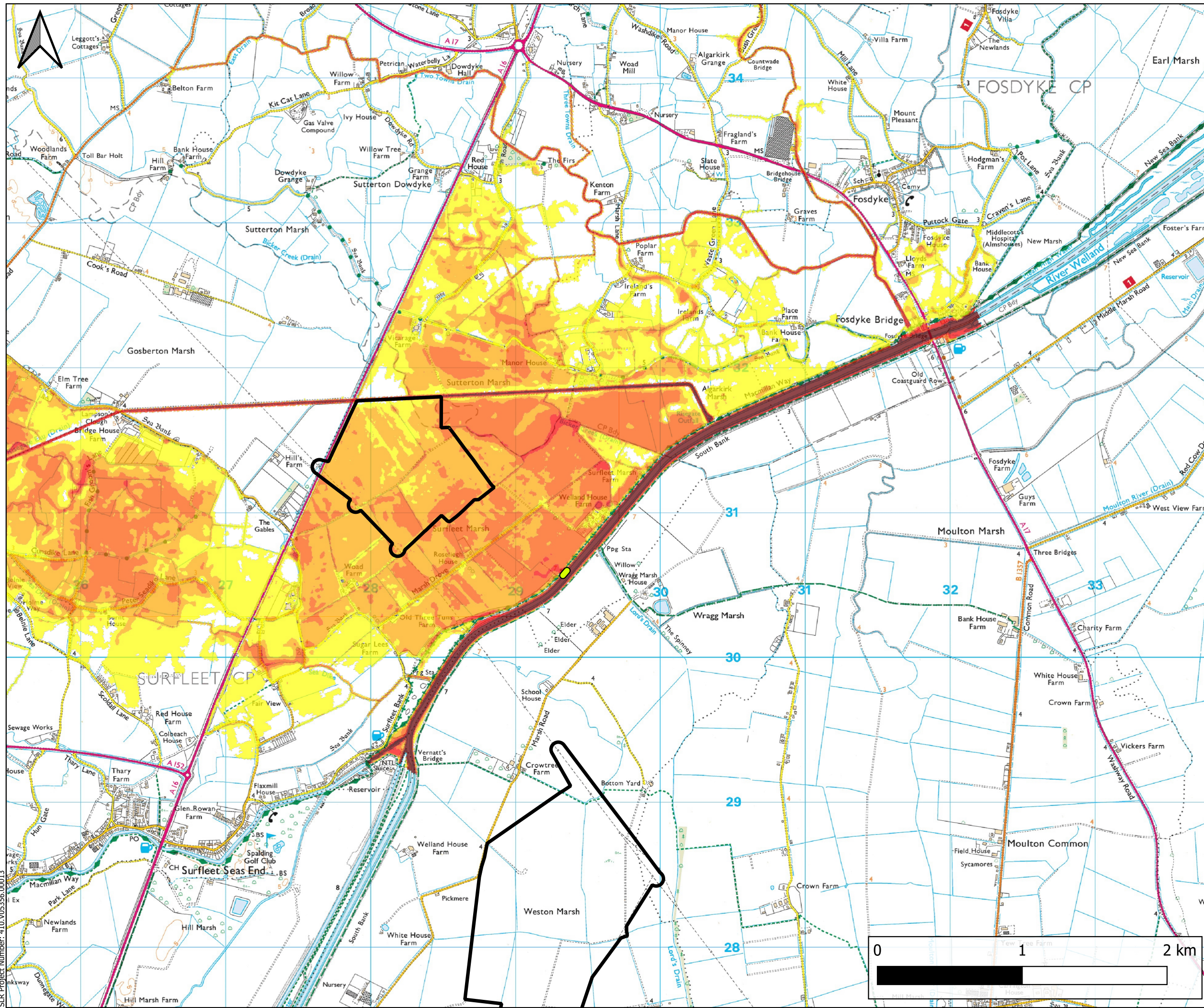
Client
Outer Dowsing Offshore Wind



**Maximum Flood Hazard
1:1000yr North Breach 2
Baseline Scenario**

| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Maximum Flood Depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 25

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

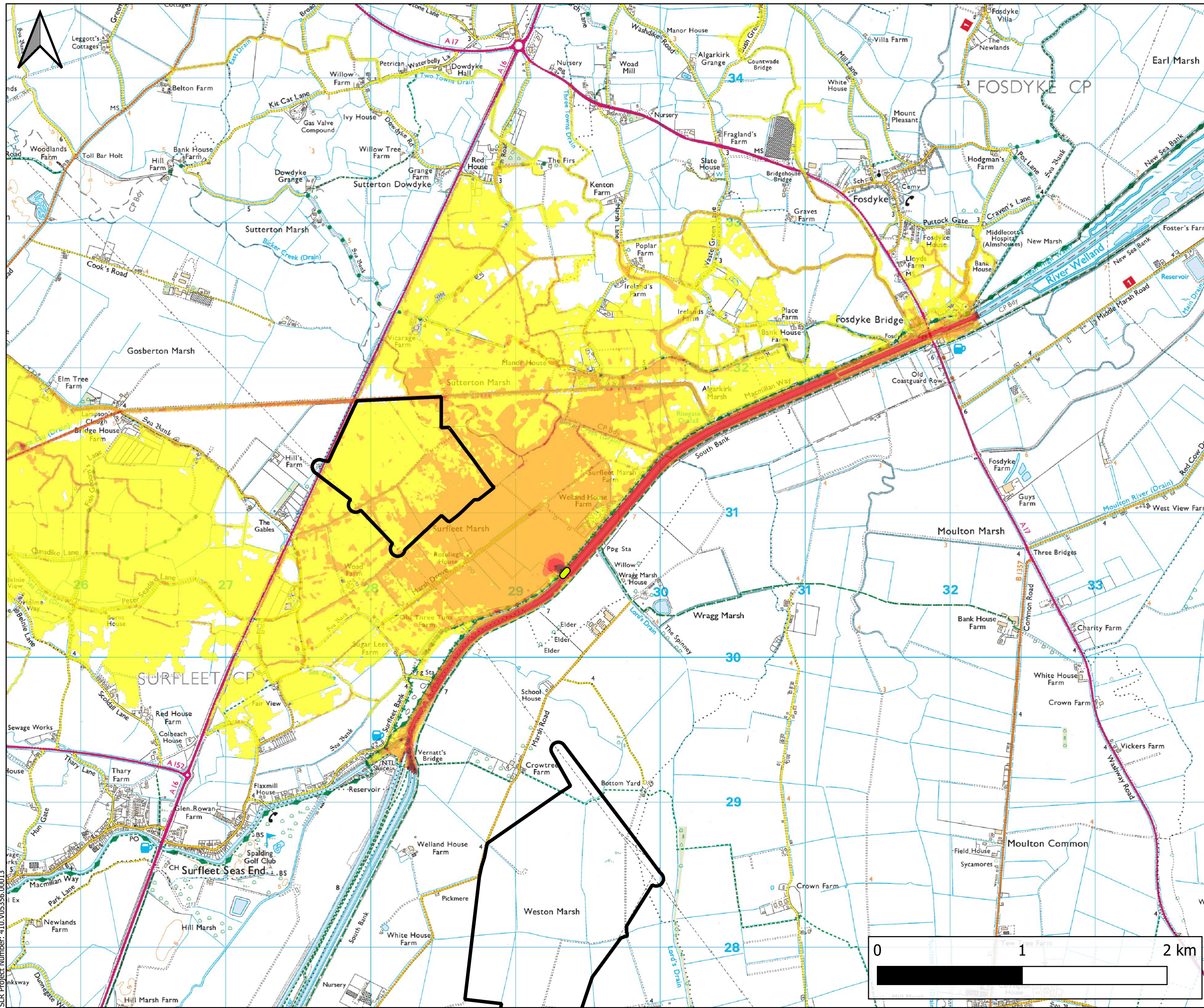
Client
Outer Dowsing Offshore Wind



**Maximum Flood Depths
1:200yr+CC North Breach 2
Baseline Scenario**

| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Maximum Flood Velocity (m/s)

- 0.00 - 0.30
- 0.30 - 1.00
- 1.00 - 1.50
- 1.50 - 2.50
- > 2.50

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 26

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

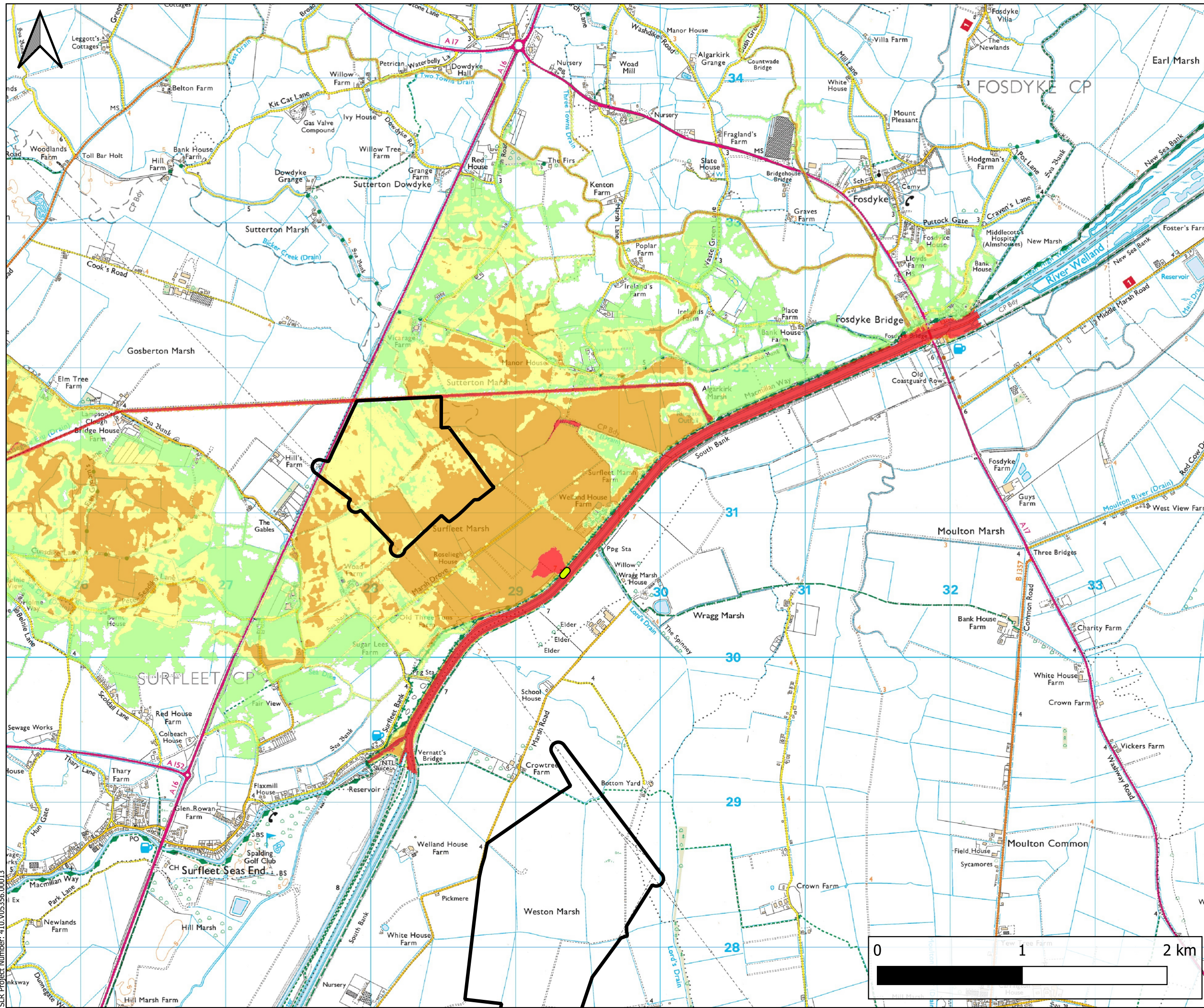


**Maximum Flood Velocity
1:200yr+CC North Breach 2
Baseline Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Flood Hazard Rating

- <= 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 27

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

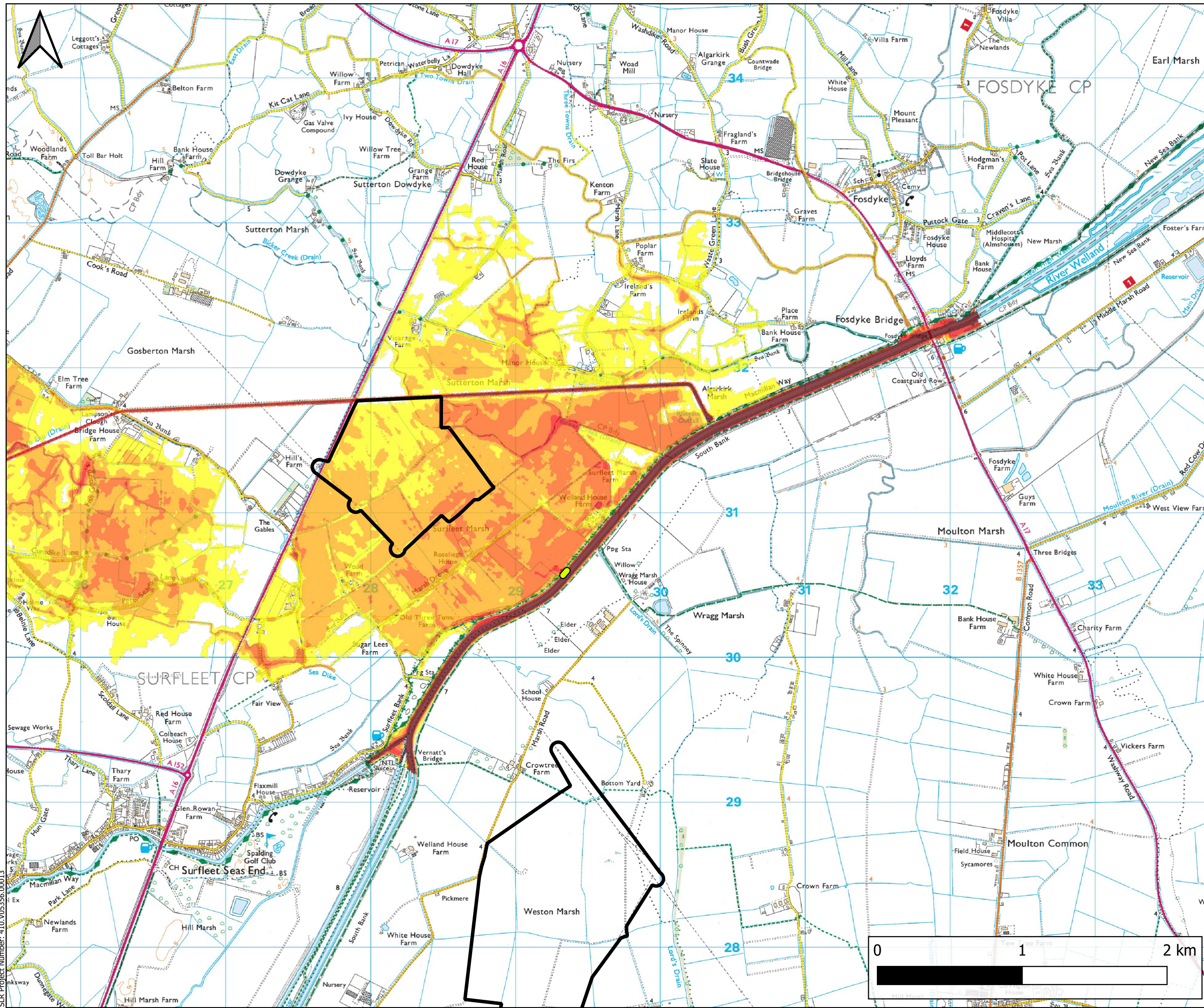
Client
Outer Dowsing Offshore Wind



**Maximum Flood Hazard
1:200yr+CC North Breach 2
Baseline Scenario**

| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Maximum Flood Depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 28

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

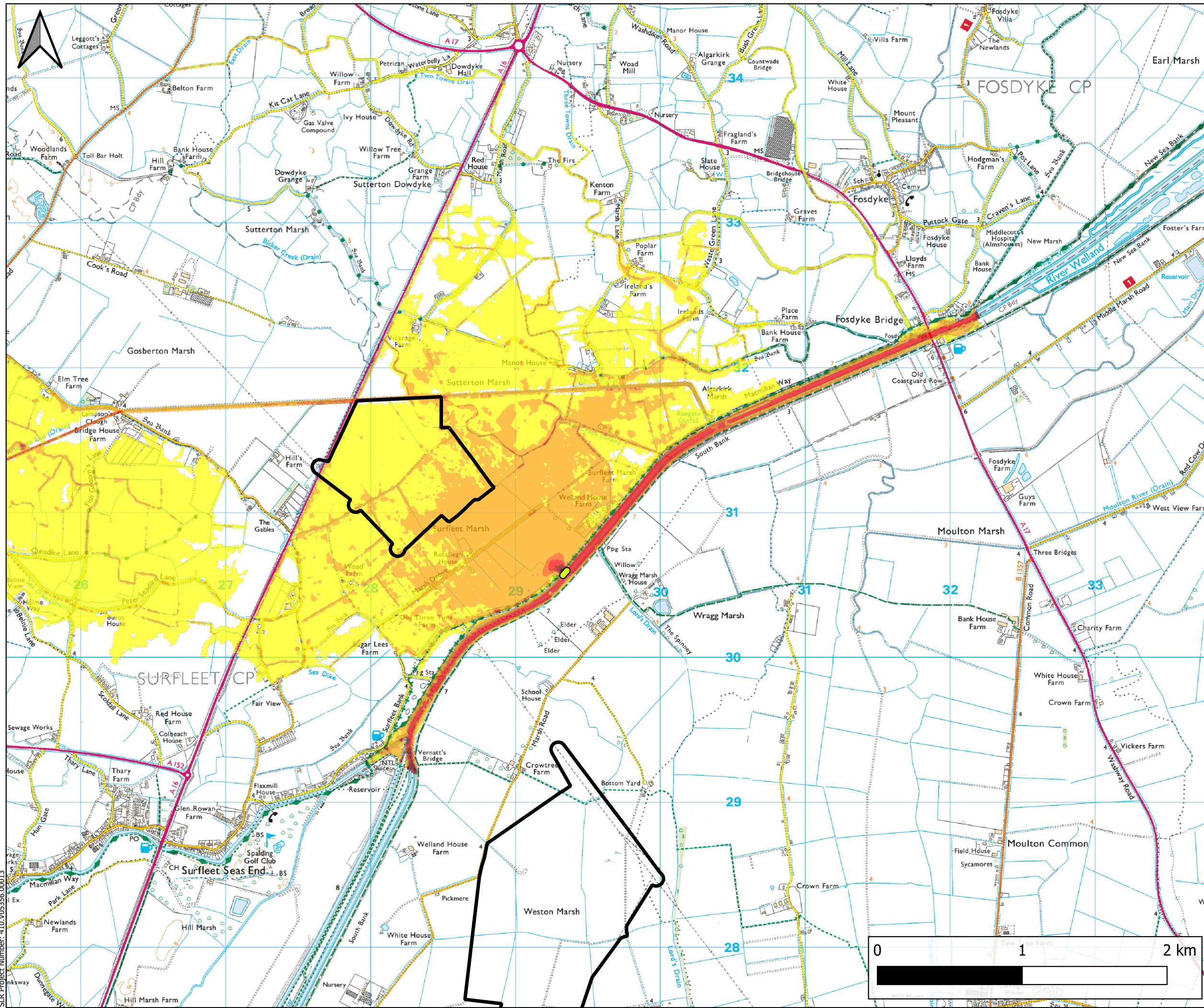


**Maximum Flood Depths
1:200yr North Breach 2
Baseline Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Maximum Flood Velocity (m/s)

- 0.00 - 0.30
- 0.30 - 1.00
- 1.00 - 1.50
- 1.50 - 2.50
- > 2.50

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 29

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

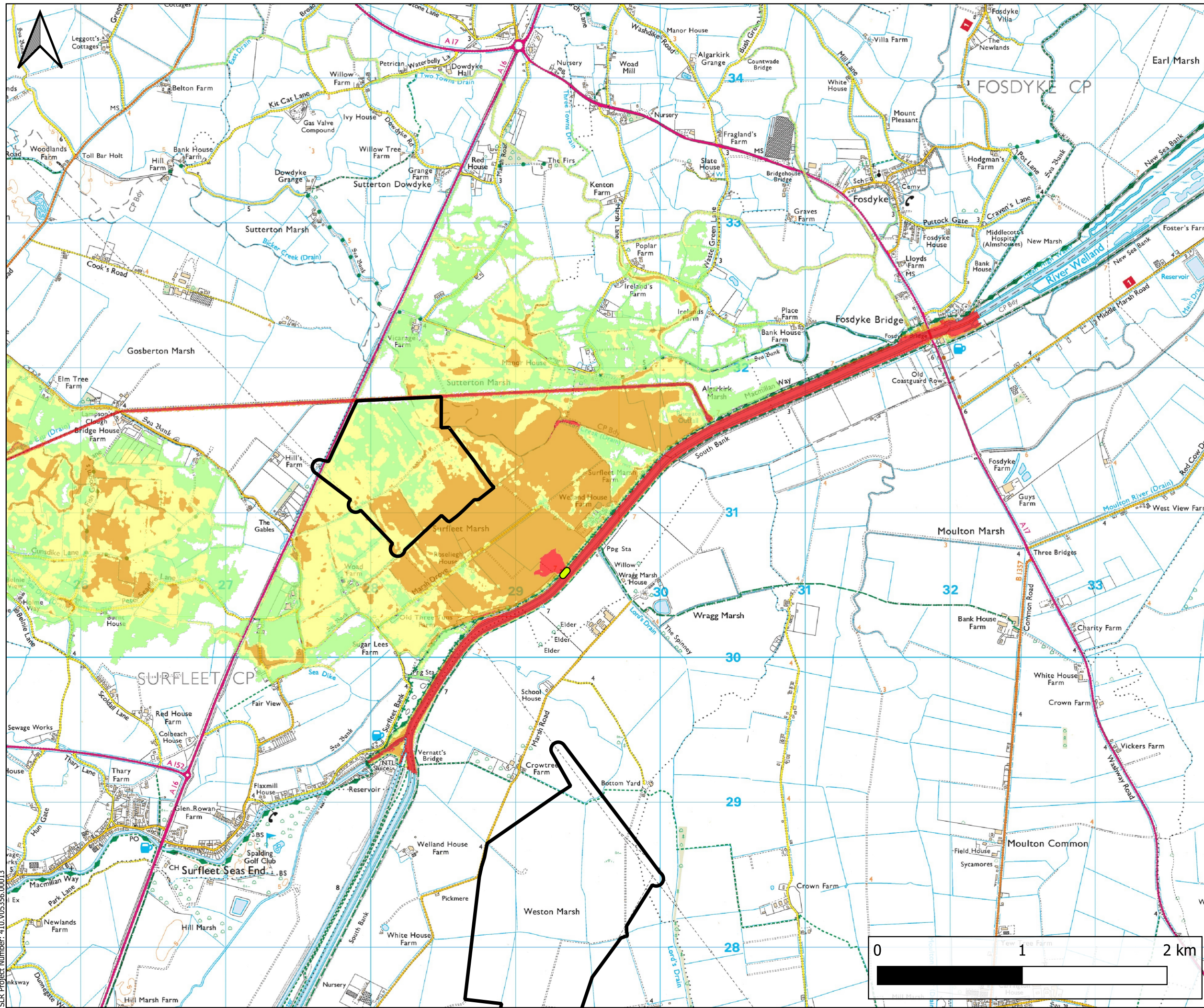


**Maximum Flood Velocity
1:200yr North Breach 2
Baseline Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Breach Location

Flood Hazard Rating

- ≤ 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 30

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

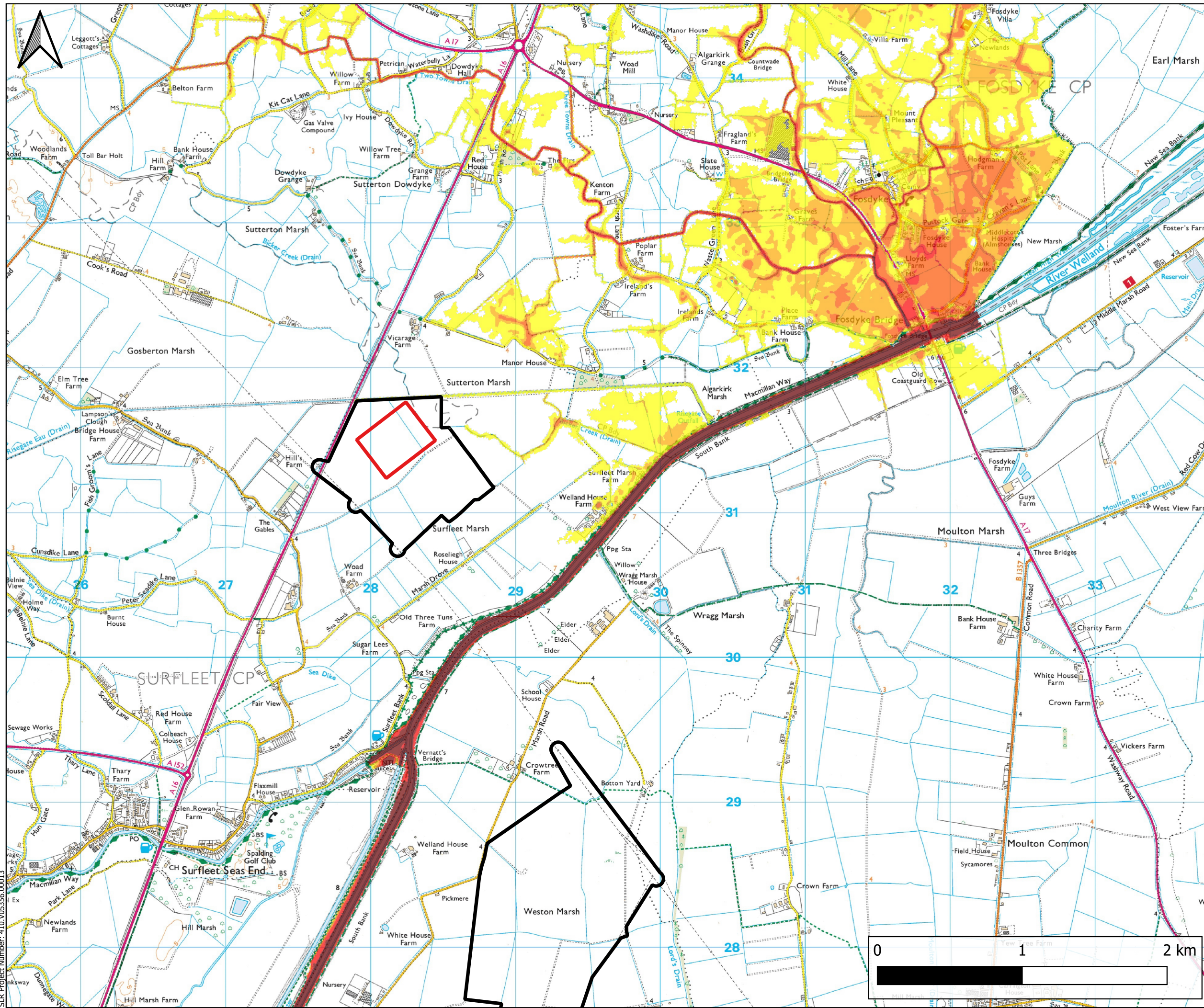
Client
Outer Dowsing Offshore Wind



**Maximum Flood Hazard
1:200yr North Breach 2
Baseline Scenario**

| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Maximum Flood Depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 31

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

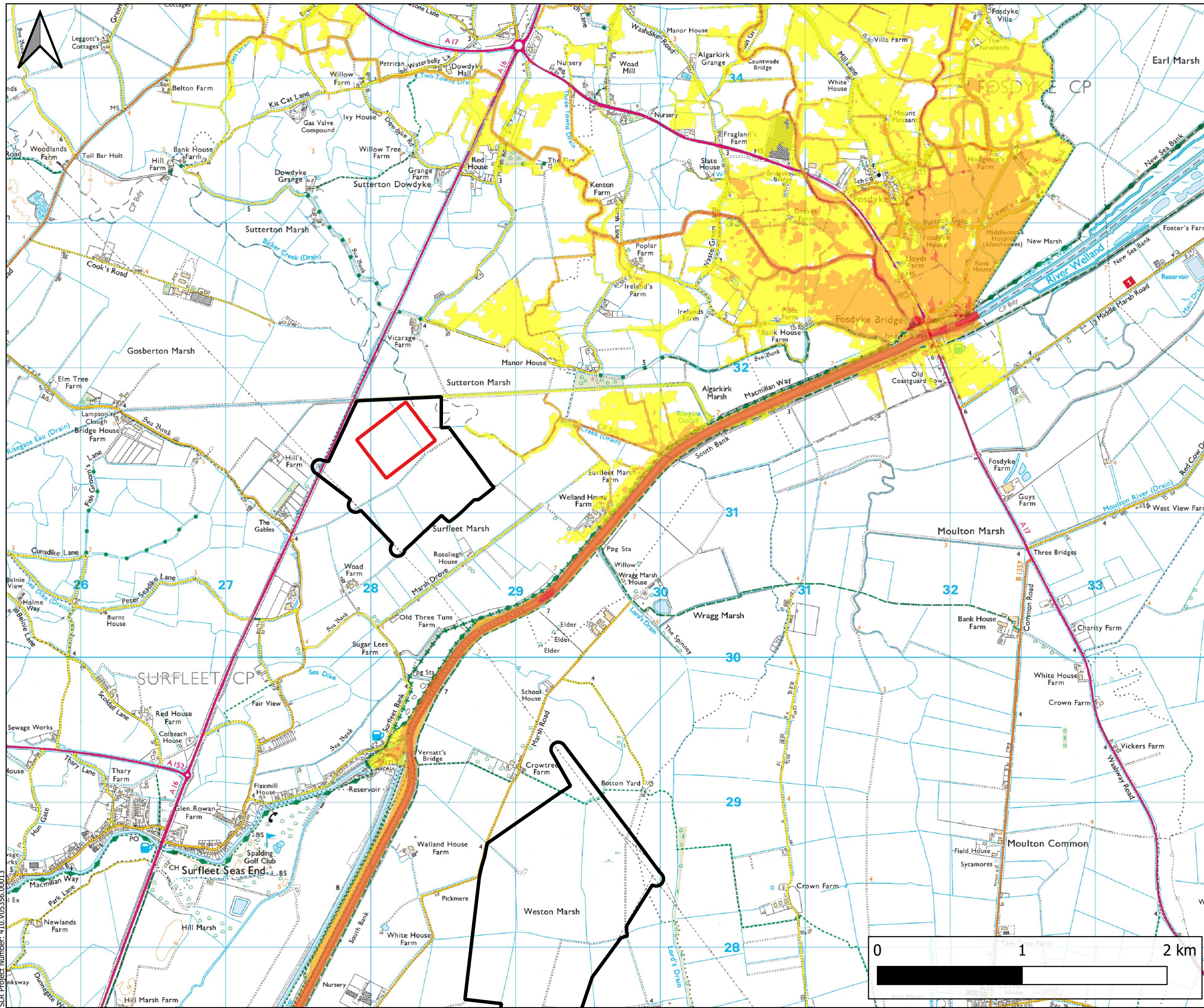


**Maximum Flood Depths
1:1000yr+CC Overtopping
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Maximum Flood Velocity (m/s)

- 0.00 - 0.30
- 0.30 - 1.00
- 1.00 - 1.50
- 1.50 - 2.50
- > 2.50

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 32

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

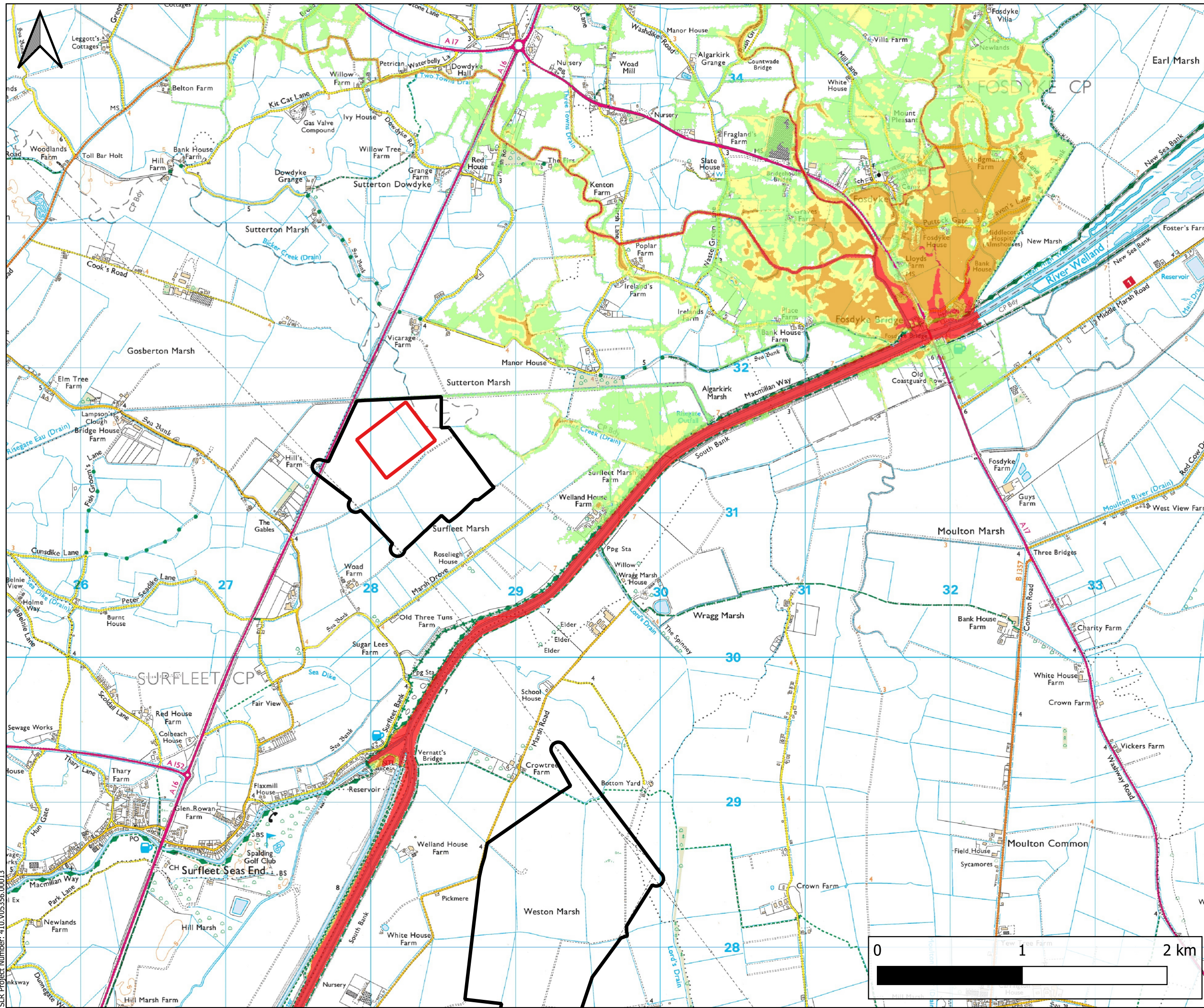
Client
Outer Dowsing Offshore Wind



**Maximum Flood Velocity
1:1000yr+CC Overtopping
Proposed Scenario**

| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Flood Hazard Rating

- <= 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



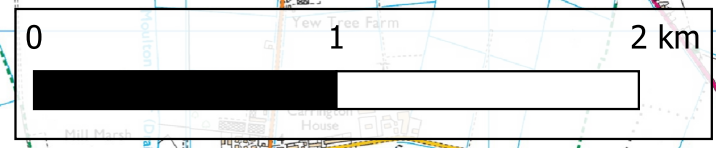
Figure No. 33

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

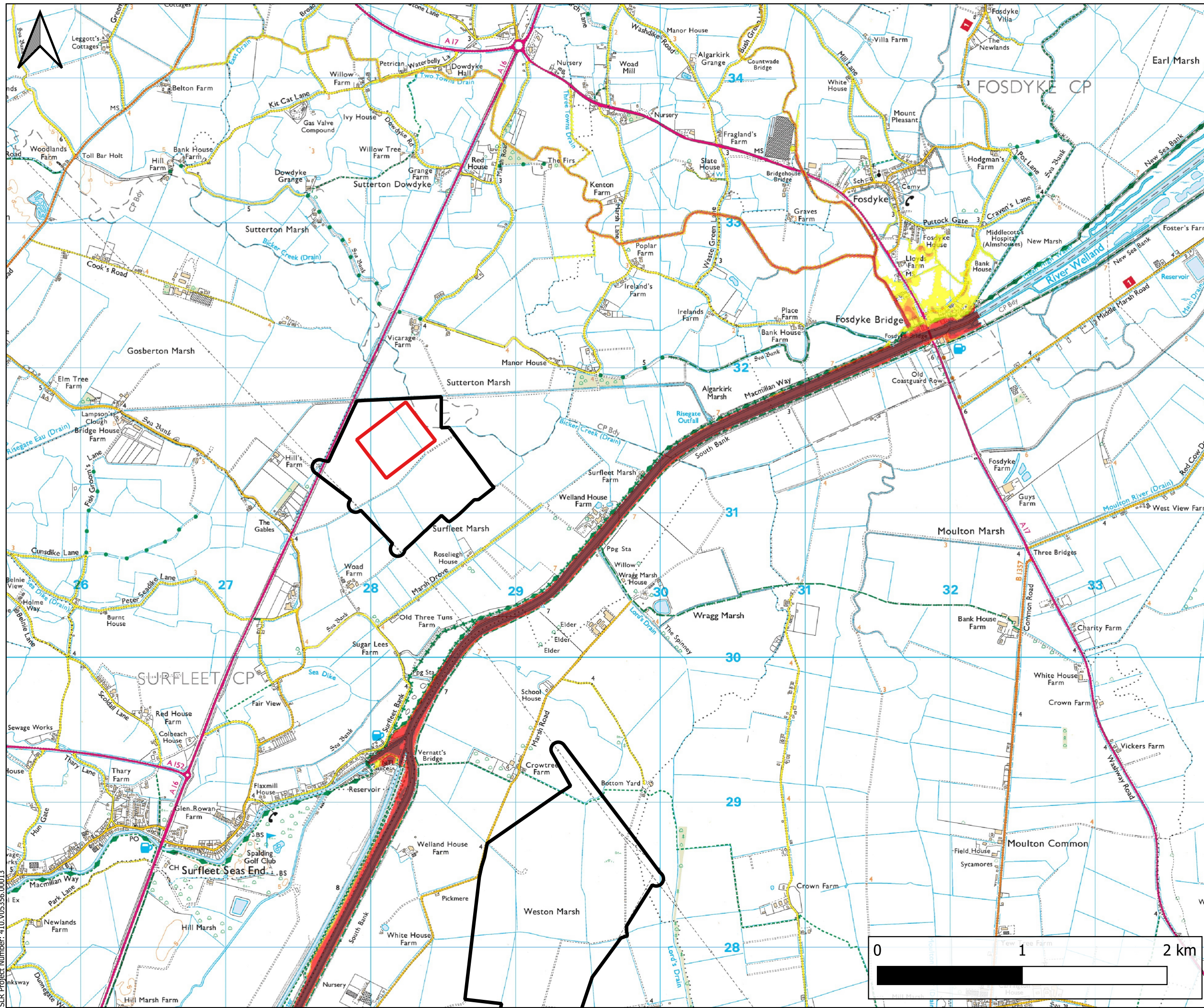


**Maximum Flood Hazard
1:1000yr+CC Overtopping
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Maximum Flood Depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 34

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

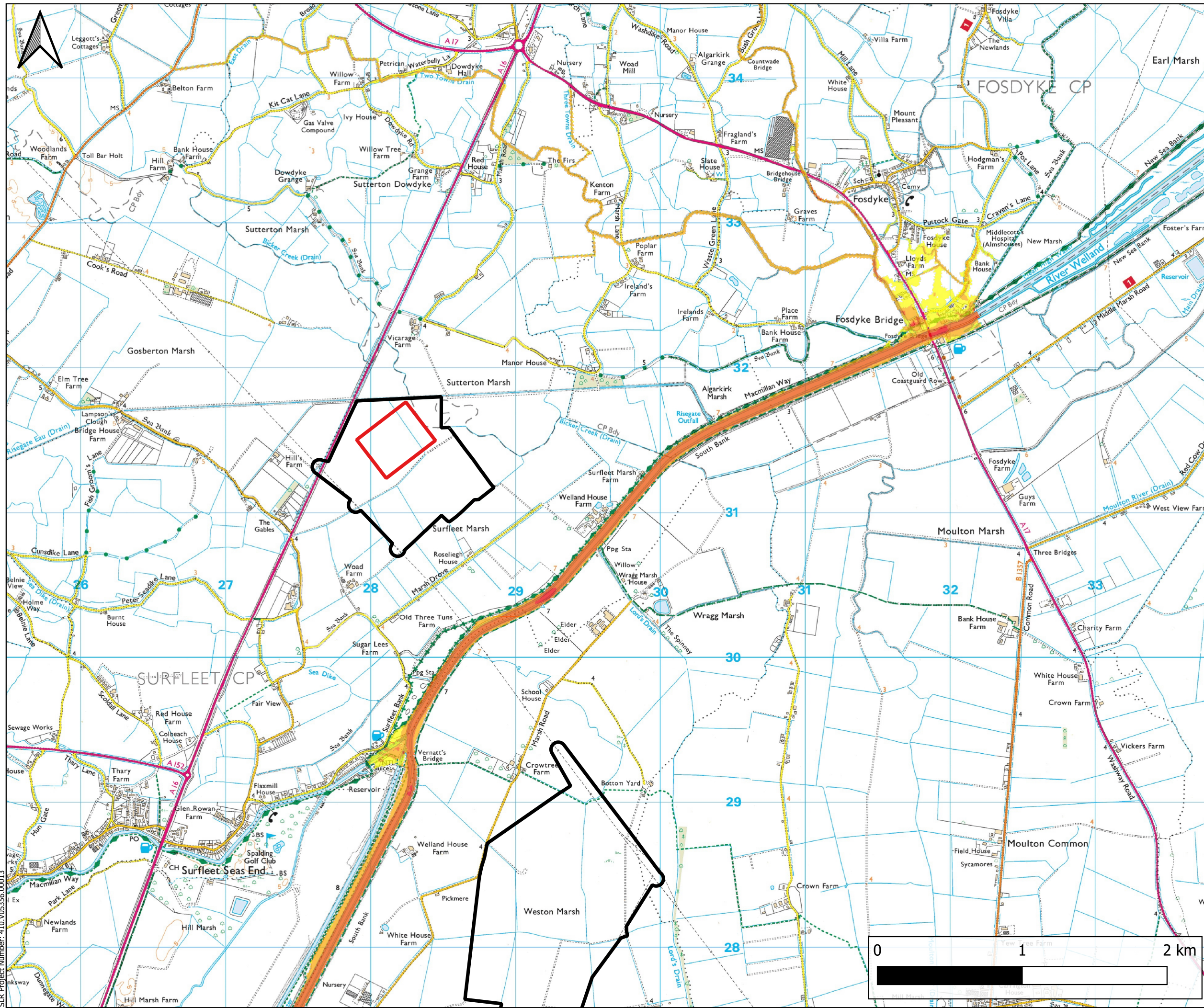


**Maximum Flood Depths
1:1000yr Overtopping
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Maximum Flood Velocity (m/s)

- 0.00 - 0.30
- 0.30 - 1.00
- 1.00 - 1.50
- 1.50 - 2.50
- > 2.50

Ordnance Survey(OS) 1:25000
Raster Basemap



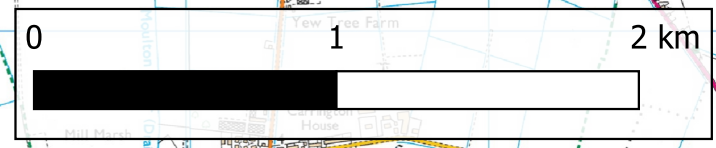
Figure No. 35

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

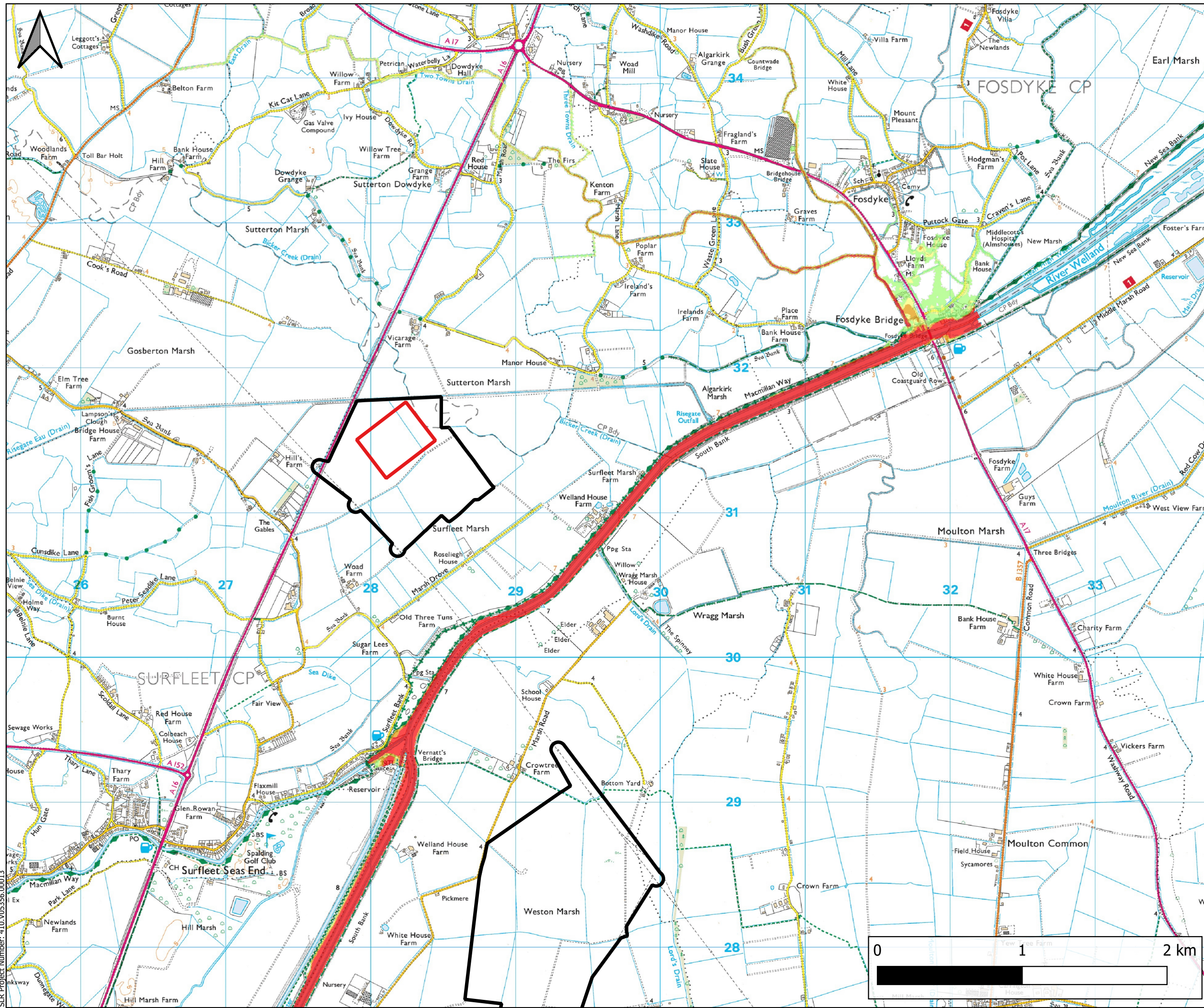


**Maximum Flood Velocity
1:1000yr Overtopping
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Flood Hazard Rating

- ≤ 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 36

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

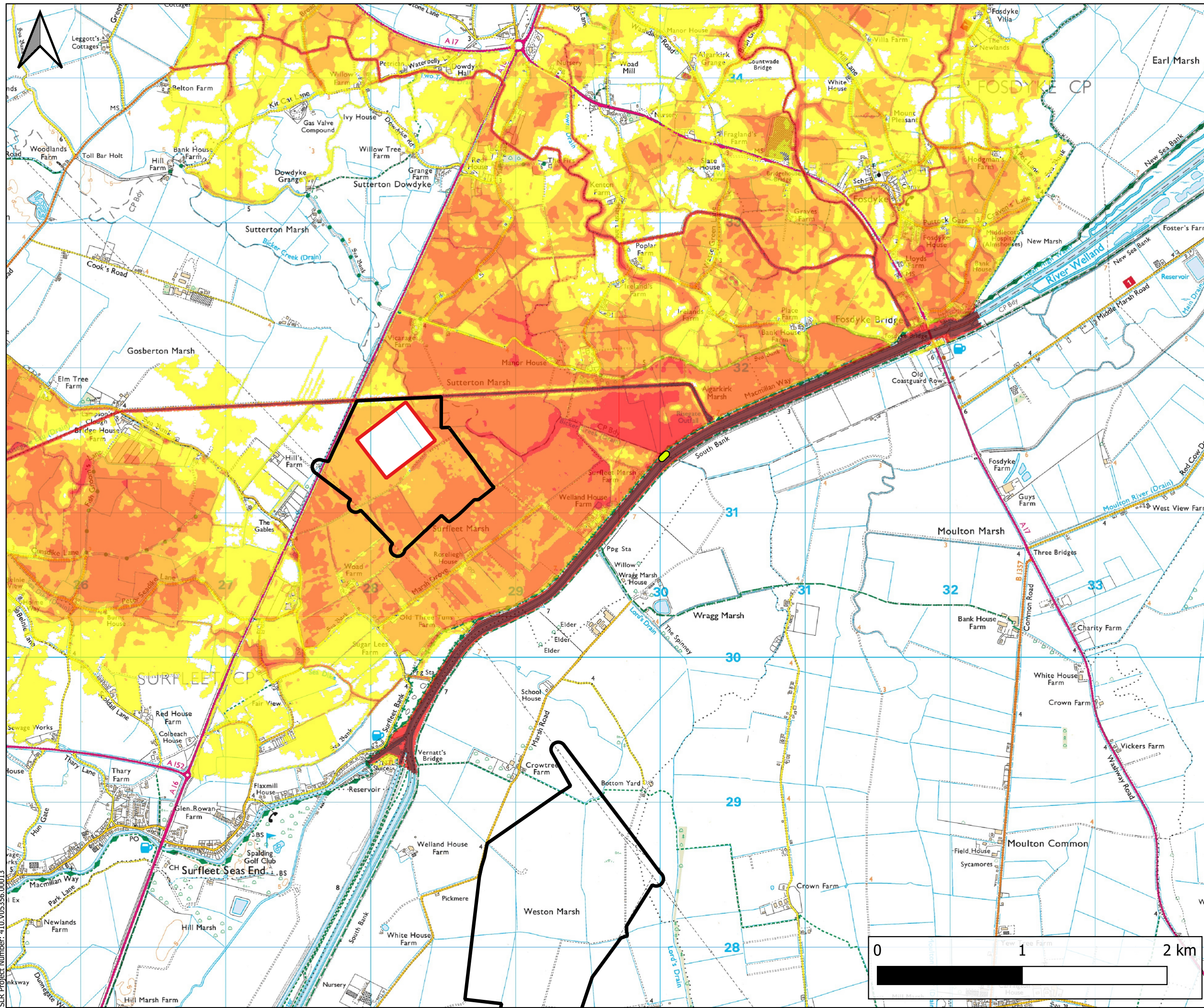


**Maximum Flood Hazard
1:1000yr Overtopping
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Maximum Flood Depth (m)

- 0.00 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 37

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

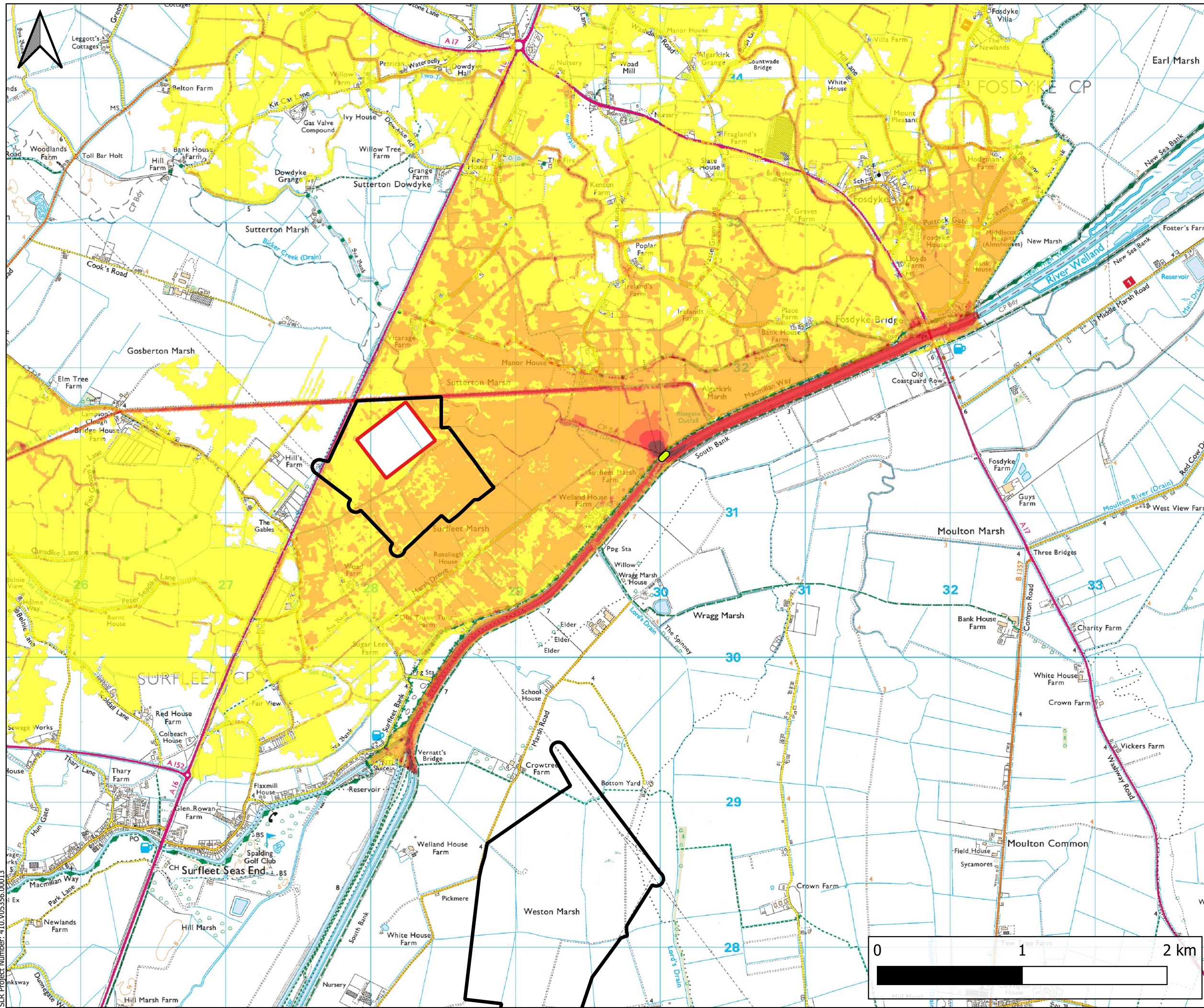


**Maximum Flood Depths
1:1000yr+CC North Breach 1
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Maximum Flood Velocity (m/s)

- 0.00 - 0.30
- 0.30 - 1.00
- 1.00 - 1.50
- 1.50 - 2.50
- > 2.50

Ordnance Survey(OS) 1:25000
Raster Basemap

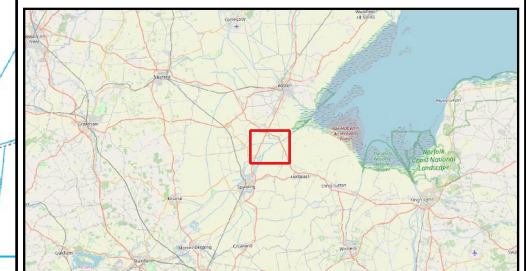


Figure No. 38

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

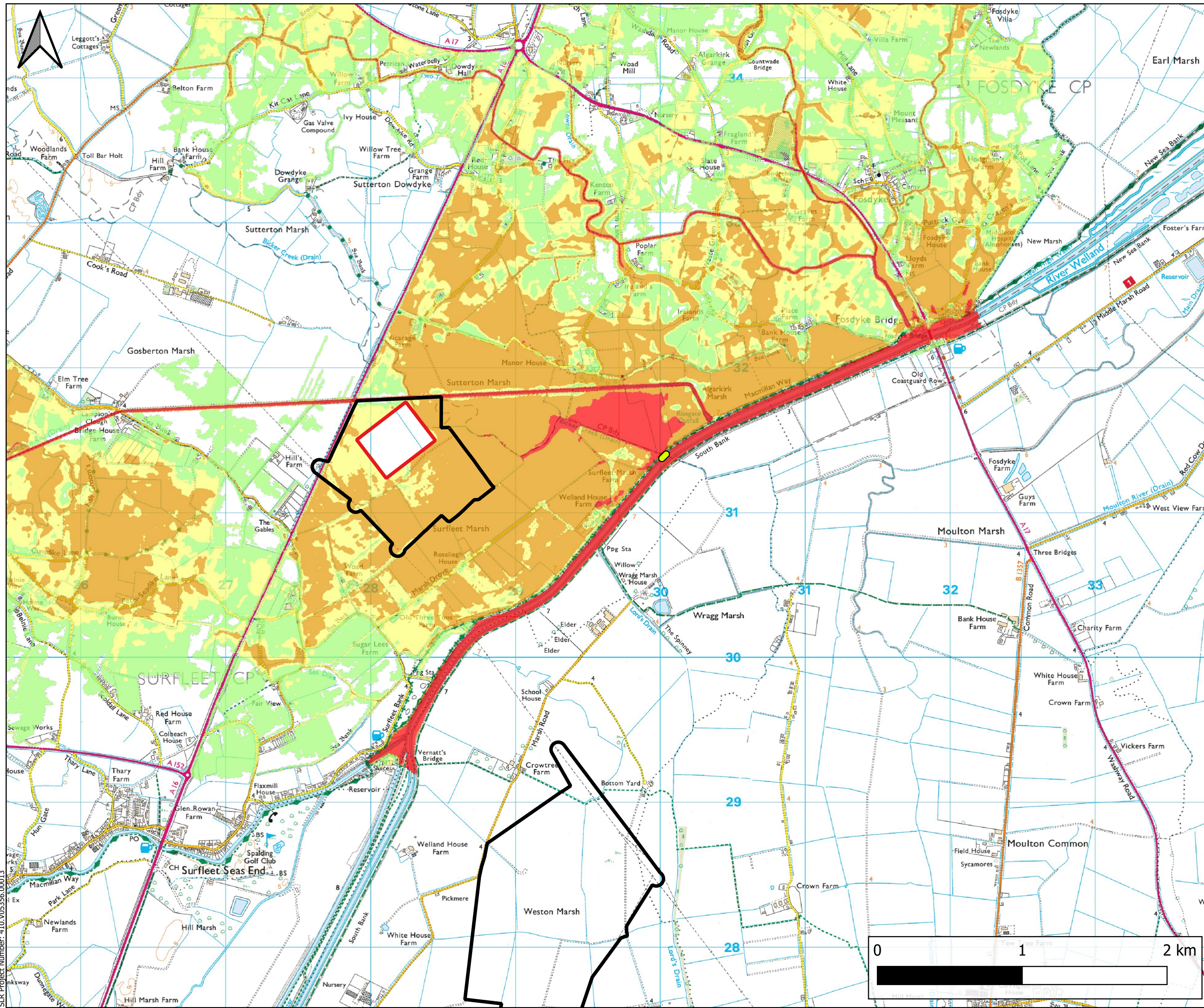


**Maximum Flood Velocity
1:1000yr+CC North Breach 1
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Flood Hazard Rating

- ≤ 0.75
- 0.75 - 1.25
- 1.25 - 2.00
- > 2.00

Ordnance Survey(OS) 1:25000
Raster Basemap



Figure No. 39

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind

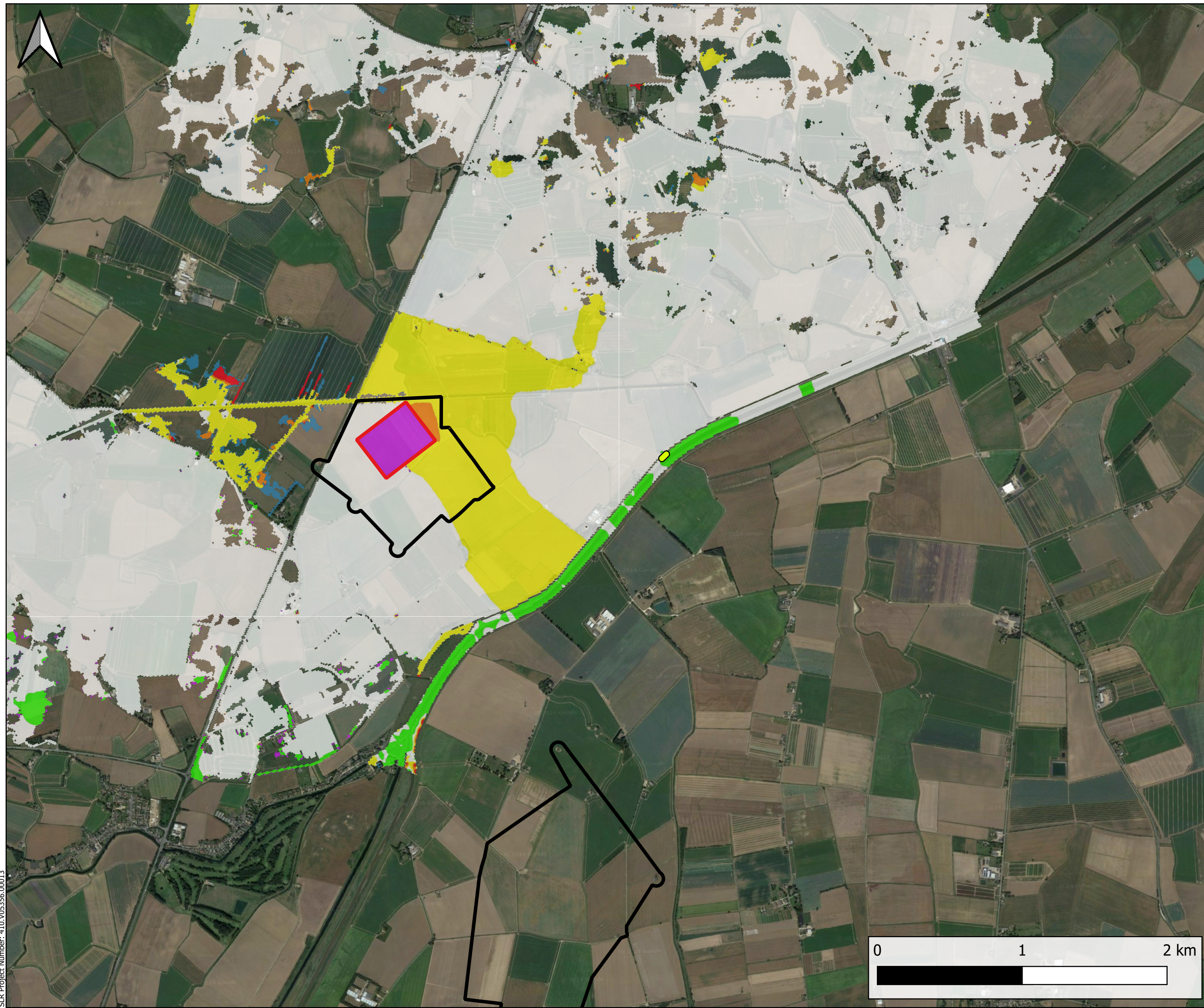


**Maximum Flood Hazard
1:1000yr+CC North Breach 1
Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013



LEGEND

- Substation Search Areas
- Onshore Substation Area
- Breach Location

Difference in Depth (m)

- ≤ -0.01
- $-0.01 - 0.01$
- $0.01 - 0.03$
- $0.03 - 0.05$
- $0.05 - 0.15$

Change in Conditions

- Was wet now dry
- Was dry now wet

Google Satellite



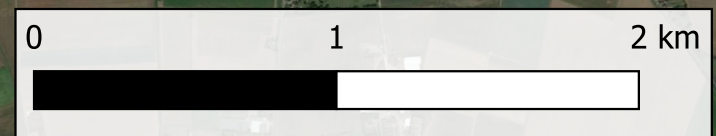
Figure No. 40

Project
Outer Dowsing Offshore Wind Farm - Flood Inundation Mapping

Client
Outer Dowsing Offshore Wind



**Flood Depth Difference
 1:1000yr+CC North Breach 1
 Proposed Scenario**



| | | |
|-------------|----------------|-------------------|
| Scale A3 | Version 2.0 | Date June 2024 |
|-------------|----------------|-------------------|

SLR Project Number: 410.V05356.00013