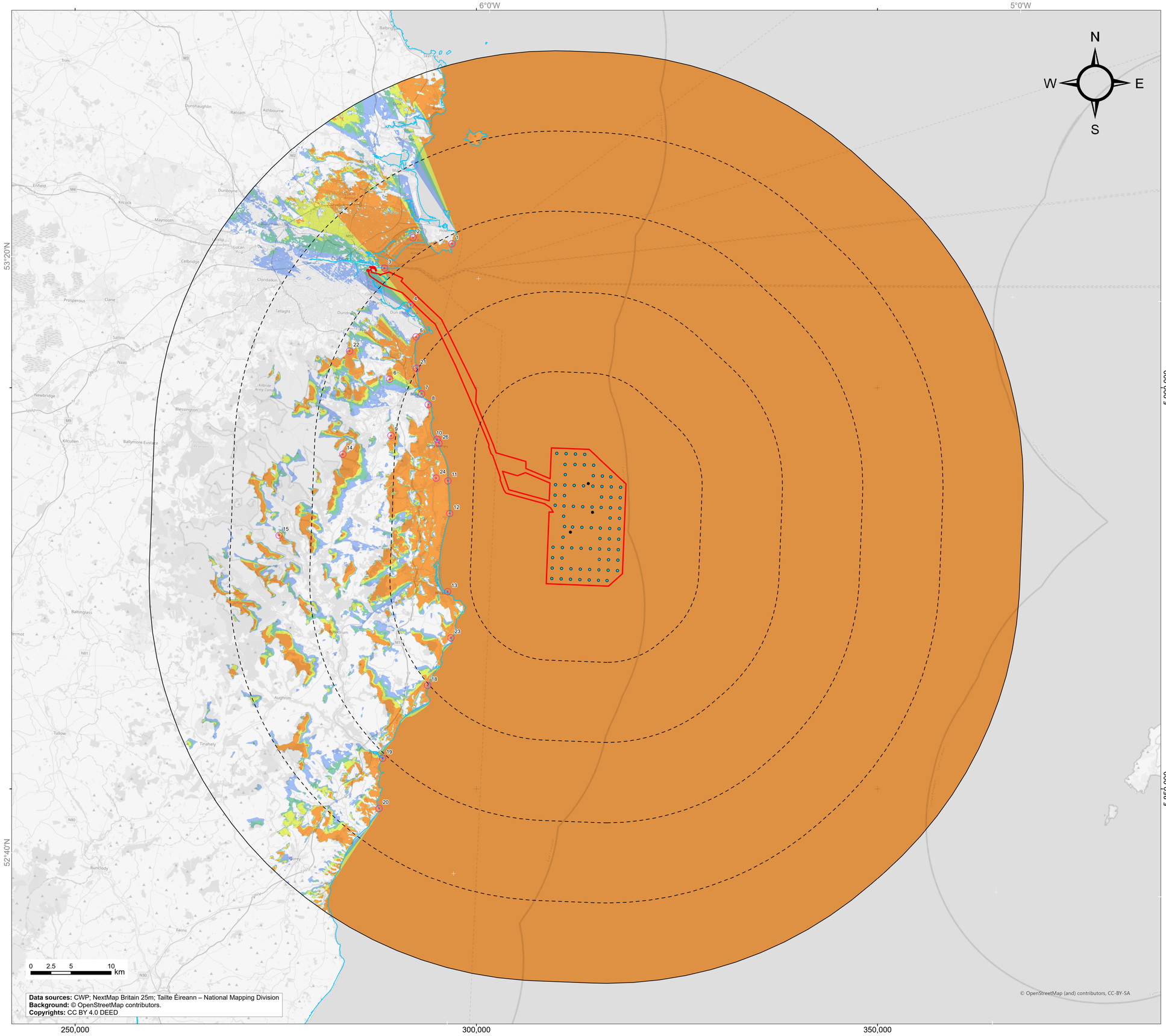
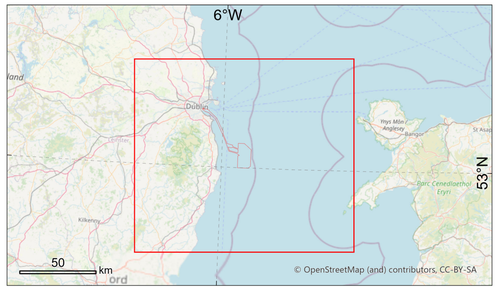
codling wind park

Environmental Impact Assessment Report

Volume 4

Appendix 15.12 Bare Earth Zone of Theoretical Visibility(s) at A1





- Planning Application Boundary (PAB)
- SLVIA study area (50 km buffer of the array site / wind farm site)
- 10 km incremental buffers of array site / wind farm site
- Low water mark
- Wind Turbine Generator (WTG) option A location
- Offshore Substation Structure (OSS) location
- Viewpoints selected for the SLVIA

Blade tip height Zone of Theoretical Visibility (ZTV) (bare earth)

Number of turbines theoretically visible to blade tip height:

- 1 - 20
- 20 - 38
- 38 - 57
- 57 - 75

ZTV notes:
* ZTV produced for 75 turbines of 288m blade tip height.
* Visibility removed beyond the 50 km study area.
* Viewpoint height set to 2m AGL.
* Visibility is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the viewshed routine in the ESRI ArcGIS Suite. The areas shown are the maximum theoretical visibility, taking into account topography only, which has been included in the model with the heights obtained from Nextmap 25.
The model does not take into account any above ground features and therefore gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on Nextmap 25 DTM data and has a 25m^2 resolution.

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Appendix 15.12 Figure 15.12a Blade tip height Zone of Theoretical Visibility (ZTV) of Wind Turbine Generator (WTG) option A (bare earth) (A1)

CWP doc. number: CWP-LDA-ENG-08-01-MAP-1021

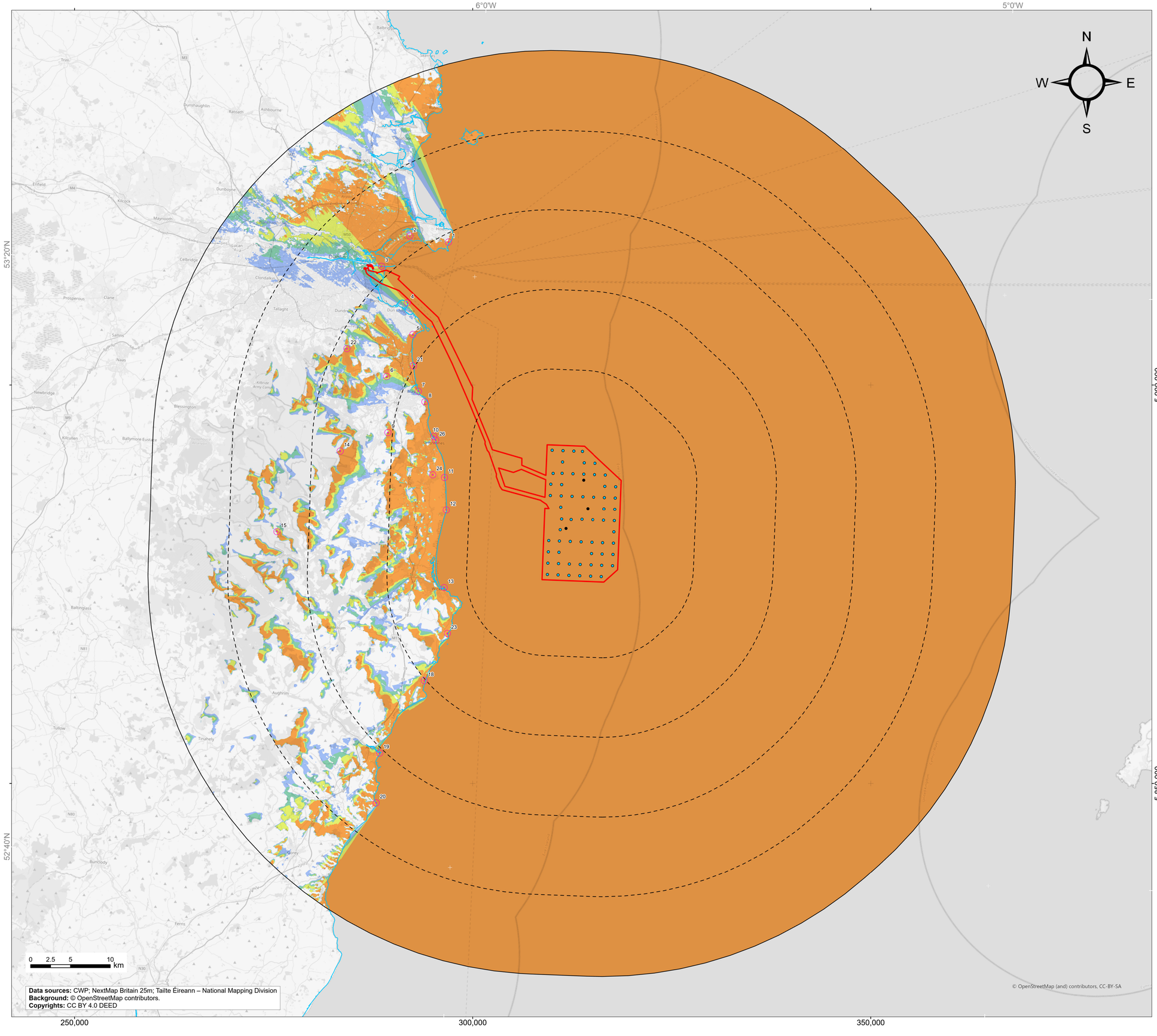
Internal descriptive code: ALL - PAB..WF.RLB.BUFF.50km..ZTV.TIP.A..DTM.. ONSH.VPs - - (EIAR.FIG.15.12a..(A1))

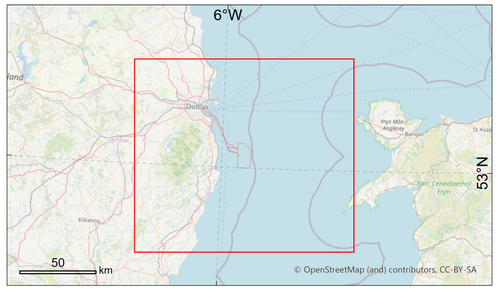
Size: A1

Scale: 1:230,000

CRS: EPSG 25830

Rev.	Description	Date	By	Chk'd	App'd
A	First issue	2024/06/06	VW	IH/EA	MBo/SL





- Planning Application Boundary (PAB)
- SLVIA study area (50 km buffer of the array site / wind farm site)
- 10 km incremental buffers of array site / wind farm site
- Low water mark
- Wind Turbine Generator (WTG) option B location
- Offshore Substation Structure (OSS) location
- Viewpoints selected for the SLVIA

Blade tip height Zone of Theoretical Visibility (ZTV) (bare earth)

Number of turbines theoretically visible to blade tip height:

- 1 - 15
- 15 - 30
- 30 - 45
- 45.- 60

ZTV notes:
* ZTV produced for 60 turbines of 314m blade tip height.
* Visibility removed beyond the 50 km study area.
* Viewpoint height set to 2m AGL.
* Visibility is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the viewshed routine in the ESRI ArcGIS Suite. The areas shown are the maximum theoretical visibility, taking into account topography only, which has been included in the model with the heights obtained from Nextmap 25.
The model does not take into account any above ground features and therefore gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on Nextmap 25 DTM data and has a 25m^2 resolution.

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Appendix 15.12 Figure 15.12b
Blade tip height Zone of Theoretical Visibility (ZTV) of Wind Turbine Generator (WTG) option B (bare earth) (A1)

CWP doc. number: CWP-LDA-ENG-08-01-MAP-1022

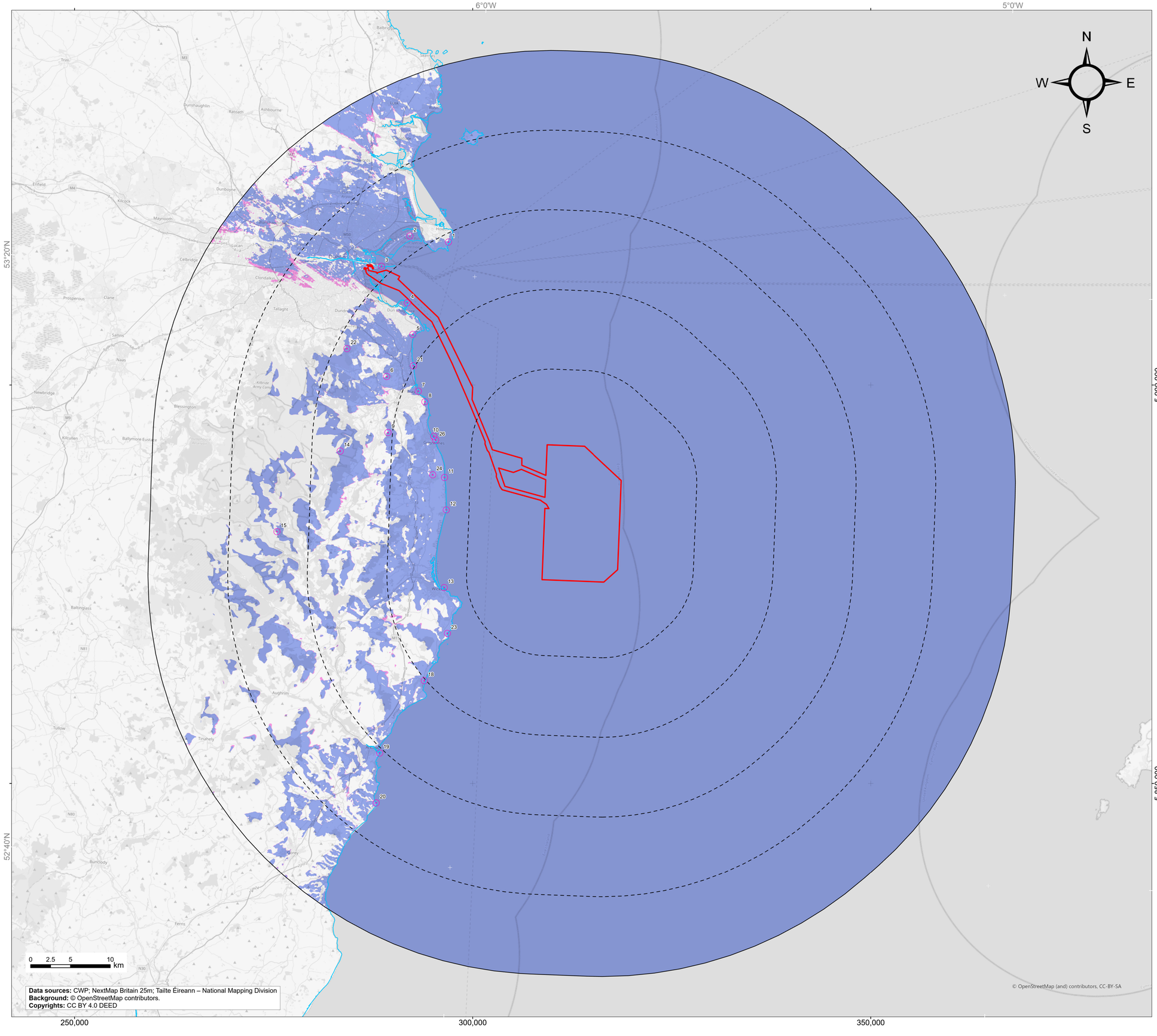
Internal descriptive code: ALL - PAB..WF.RLB.BUFF.50km..ZTV.TIP.B.DTM.. ONSH.VPs - - (EIAR.FIG.15.12b..(A1))

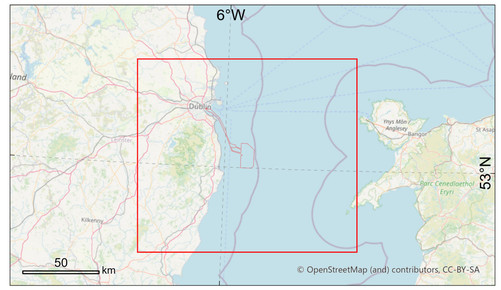
Size: A1

Scale: 1:230,000

CRS: EPSG 25830

Rev.	Description	Date	By	Chk'd	App'd
A	First issue	2024/06/06	VW	IH/EA	MBo/SL





Planning Application Boundary (PAB)

SLVIA study area (50 km buffer of the array site / wind farm site)

10 km incremental buffers of array site / wind farm site

Low water mark

Viewpoints selected for the SLVIA

Blade tip height Zone of Theoretical Visibility (ZTV) (bare earth)

Option A

Option B

ZTV notes:
* ZTV produced for 75 option A turbines of 288m to blade tip height and 60 option B turbines at 314 m to blade tip height.
* Visibility removed beyond the 50 km study area.
* Viewpoint height set to 2m AGL.
* Visibility is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the viewshed routine in the ESRI ArcGIS Suite. The areas shown are the maximum theoretical visibility, taking into account topography only, which has been included in the model with the heights obtained from Nextmap 25.
The model does not take into account any above ground features and therefore gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on Nextmap 25 DTM data and has a 25m^2 resolution.

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Appendix 15.12 Figure 15.12c Comparative tip height Zone of Theoretical Visibility (ZTV) of Wind Turbine Generator (WTG) options A & B (bare earth) (A1)

CWP doc. number: CWP-LDA-ENG-08-01-MAP-1023

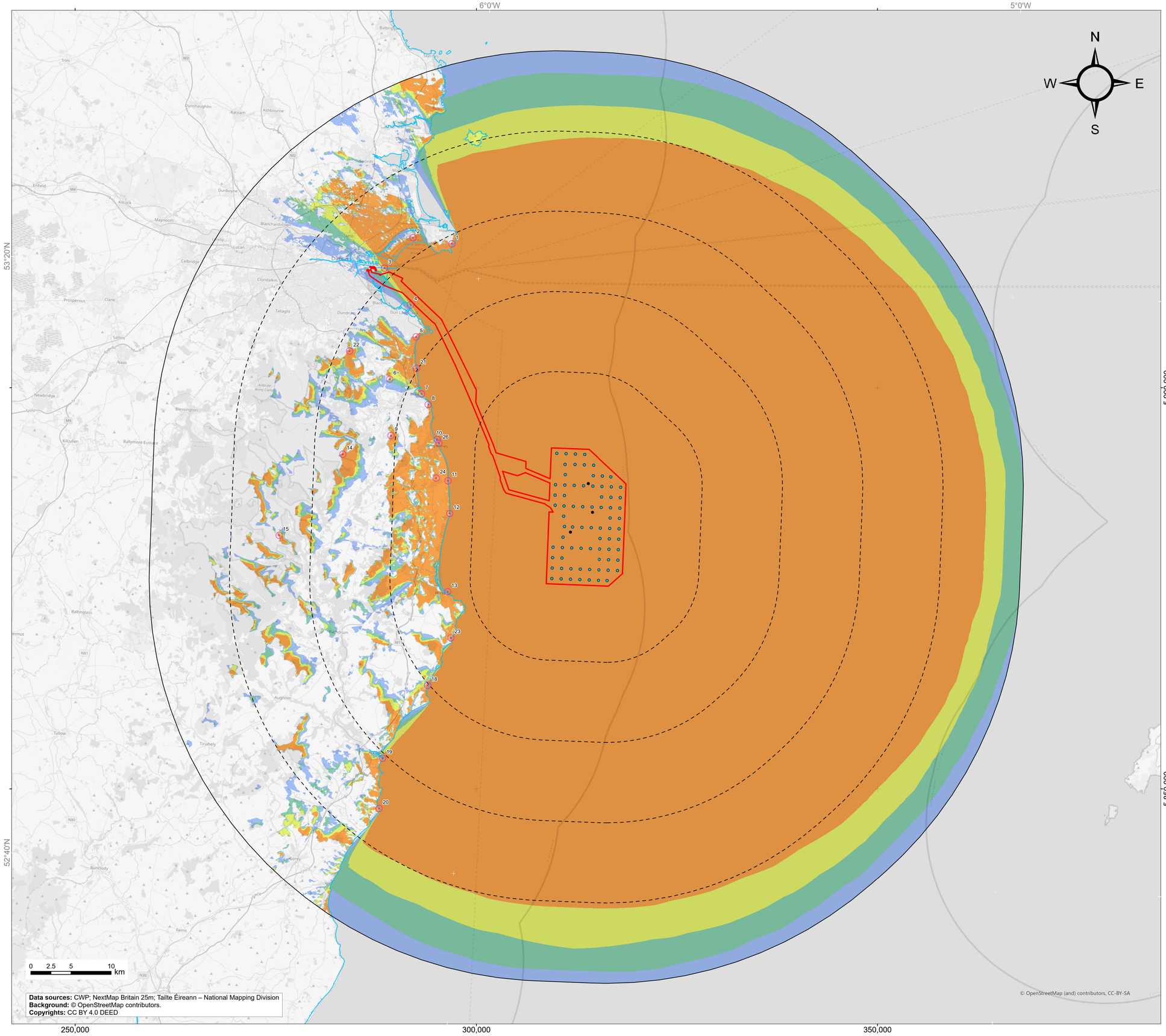
Internal descriptive code: ALL - PAB..WF.RLB.BUFF.50km..ZTV.TIPs.A.B.DTM.. ONSH.VPs - - (EIAR.FIG.15.12c..(A1))

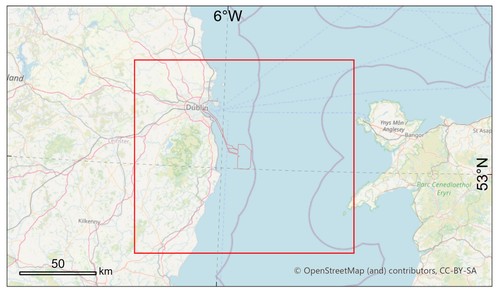
Size: A1

Scale: 1:230,000

CRS: EPSG 25830

Rev.	Description	Date	By	Chk'd	App'd
A	First issue	2024/06/06	VW	IH/EA	MBo/SL





- Planning Application Boundary (PAB)
- SLVIA study area (50 km buffer of the array site / wind farm site)
- 10 km incremental buffers of array site / wind farm site
- Low water mark
- Wind Turbine Generator (WTG) option A location
- Offshore Substation Structure (OSS) location
- Viewpoints selected for the SLVIA

Hub height Zone of Theoretical Visibility (ZTV) (bare earth)

Number of turbines theoretically visible to hub height:

- 1 - 20
- 20 - 38
- 38 - 57
- 57 - 75

ZTV notes:
* ZTV produced for 75 turbines of 163m hub height.
* Visibility removed beyond the 50 km study area.
* Viewpoint height set to 2m AGL.
* Visibility is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the viewshed routine in the ESRI ArcGIS Suite. The areas shown are the maximum theoretical visibility, taking into account topography only, which has been included in the model with the heights obtained from Nextmap 25.
The model does not take into account any above ground features and therefore gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on Nextmap 25 DTM data and has a 25m^2 resolution.

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Appendix 15.12 Figure 15.12d
Hub height Zone of Theoretical Visibility (ZTV) of Wind Turbine Generator (WTG) option A (bare earth) (A1)

CWP doc. number: CWP-LDA-ENG-08-01-MAP-1024

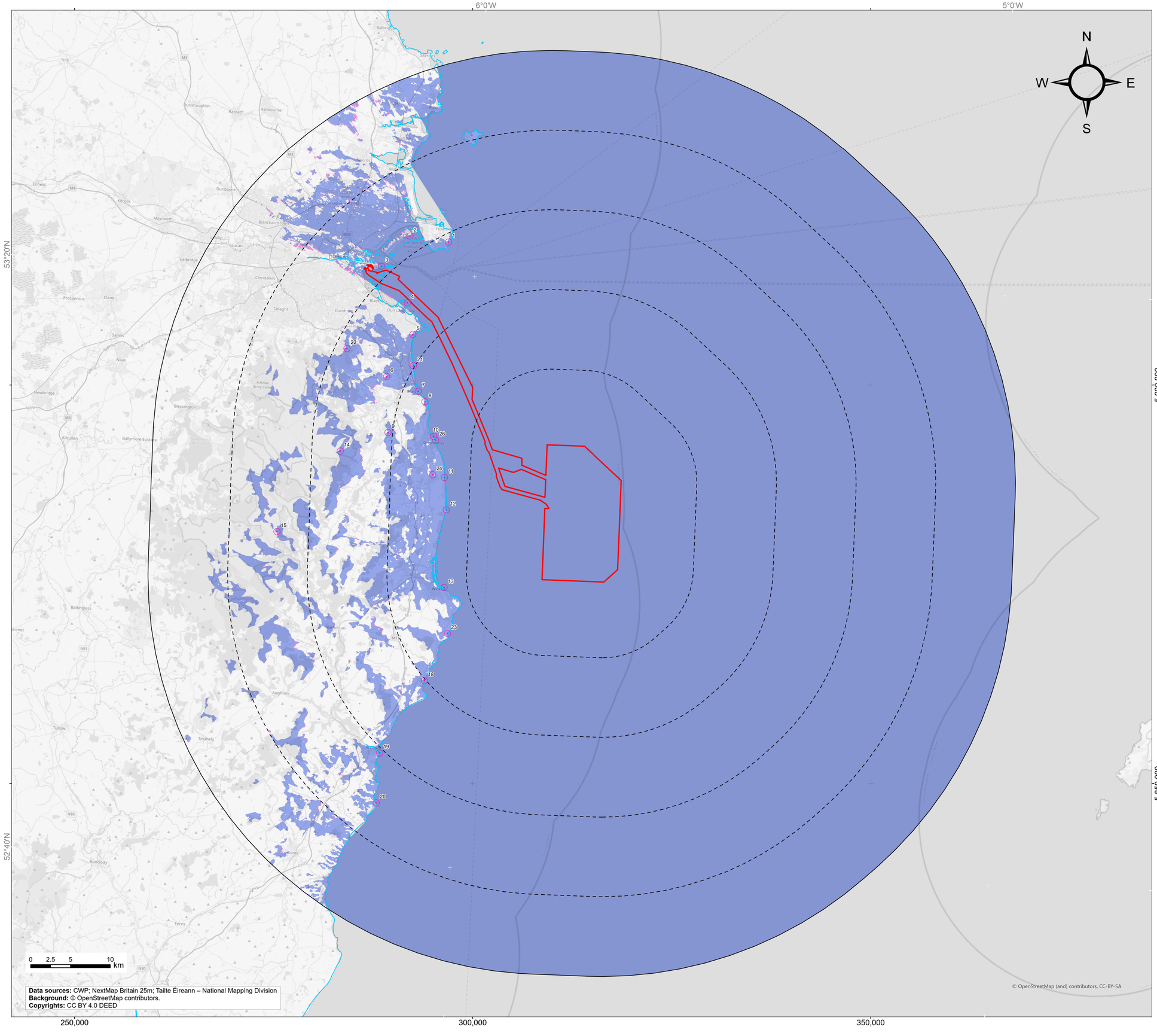
Internal descriptive code: ALL - PAB..WF.RLB.BUFF.50km..ZTV.HUB.A.DTM.. ONSH.VPs - - (EIAR.FIG.15.12d..(A1))

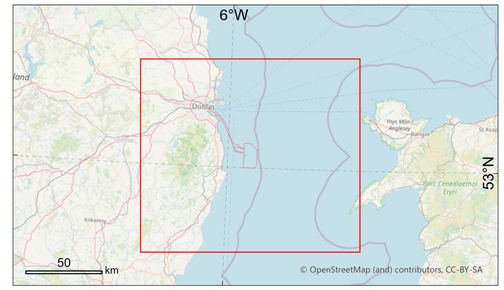
Size: A1

Scale: 1:230,000

CRS: EPSG 25830

Rev.	Description	Date	By	Chk'd	App'd
A	First issue	2024/06/06	VW	IH/EA	MBo/SL





Planning Application Boundary (PAB)

SLVIA study area (50 km buffer of the array site / wind farm site)

10 km incremental buffers of array site / wind farm site

Low water mark

Viewpoints selected for the SLVIA

Hub height Zone of Theoretical Visibility (ZTV) (bare earth)

Option A

Option B

ZTV notes:
* ZTV produced for 75 option A turbines of 163m to hub height and 60 option B turbines at 176m to hub height.
* Visibility removed beyond the 50 km study area.
* Viewpoint height set to 2m AGL.
* Visibility is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the viewshed routine in the ESRI ArcGIS Suite. The areas shown are the maximum theoretical visibility, taking into account topography only, which has been included in the model with the heights obtained from Nextmap 25.
The model does not take into account any above ground features and therefore gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be noticeably less than that suggested by this plan and visibility from principal settlements is likely to be possible from peripheral areas only.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on Nextmap 25 DTM data and has a 25m^2 resolution.

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Appendix 15.12 Figure 15.12f Comparative hub height Zone of Theoretical Visibility (ZTV) of Wind Turbine Generator (WTG) options A & B (bare earth) (A1)

CWP doc. number: CWP-LDA-ENG-08-01-MAP-1026

Internal descriptive code: ALL - PAB..WF.RLB.BUFF.50km..ZTV.HUBs.A.B.DTM.. ONSH.VPs - - (EIAR.FIG.15.12f..(A1))

Size: A1

Scale: 1:230,000

CRS: EPSG 25830

Rev.	Description	Date	By	Chk'd	App'd
A	First issue	2024/06/06	VW	IH/EA	MBo/SL