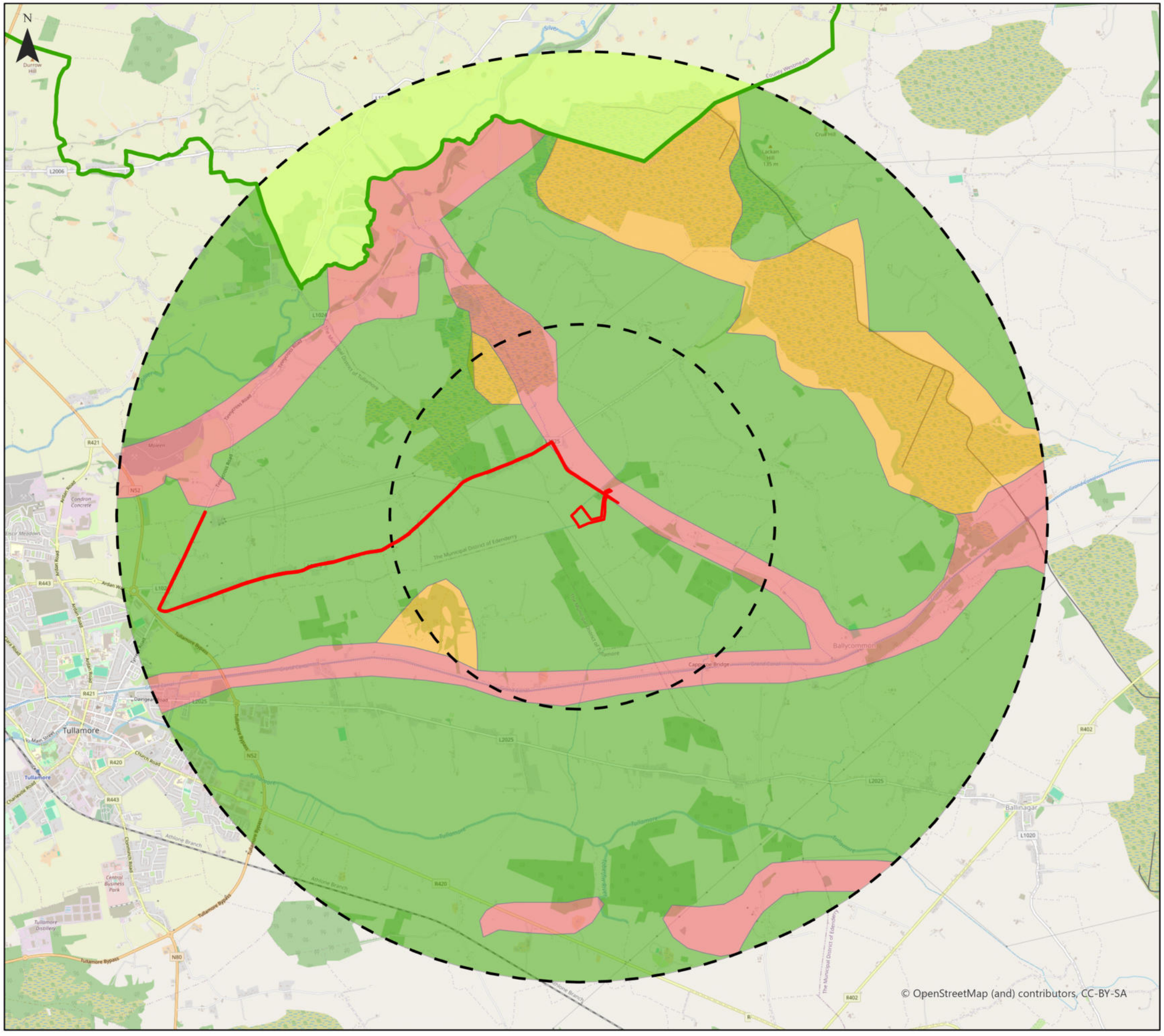
Colehill 110kV Substation Landscape Sensitivity and Landscape Character Areas Figure 1.1



0 5 Kilometres

Key

- County Boundary
- Development Boundary w/ Grid Connection
- 2km, 5km Study Areas

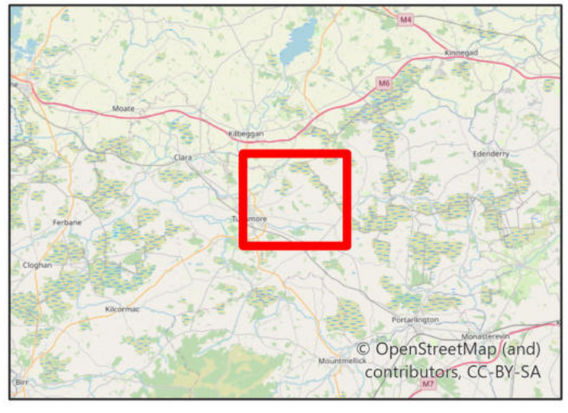
Landscape Sensitivity

- High Sensitivity
- Moderate Sensitivity
- Low Sensitivity

Westmeath Landscape Character Areas

- South Westmeath Eskers

Neo Office Address:
Johnstown Business Centre, Johnstown House, Naas, Co. Kildare



Date: 18/09/2025
Drawn By: Shaun Dowse
Scale (A3): 1:41,636
Drawing No: NEO01104/024I/A

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Colehill 110kV Substation
Zone of Theoretical Visibility (ZTV)
Figure 1.2

Key

- County Boundary
- Development Boundary w/ Grid Connection
- 2km, 5km Study Areas

Zone of Theoretical Visibility (ZTV)

- Masts and Comms Tower (Upper 6m)
- Control Building and Transformers
- Both Features Theoretically Visible

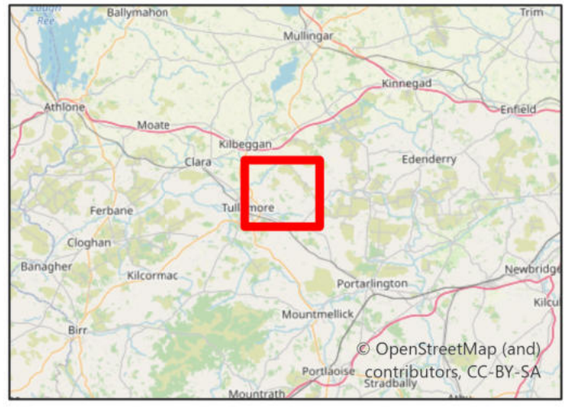
Notes on ZTV Methodology:

The development has been interpreted as a series of spot heights: points at 12m height represent 2/3 of the total height of the 18m Lightning Masts; and a matrix of points 8.4m high represent the proposed Control Building. Ground levels are sourced from the OSi National DTM 10m Height Data - Series 2 (accuracy +/- 1.5m).

The ZTV was calculated on a worst case scenario i.e. no account has been made for screening effects of woodlands, hedges, homesteads, farm buildings or urban areas etc.

The viewer eye-level for the ZTV is 1.7m as recommended in the GLVIA v3 (Landscape Institute, 2013). The ZTV takes into account earth curvature and atmospheric refraction.

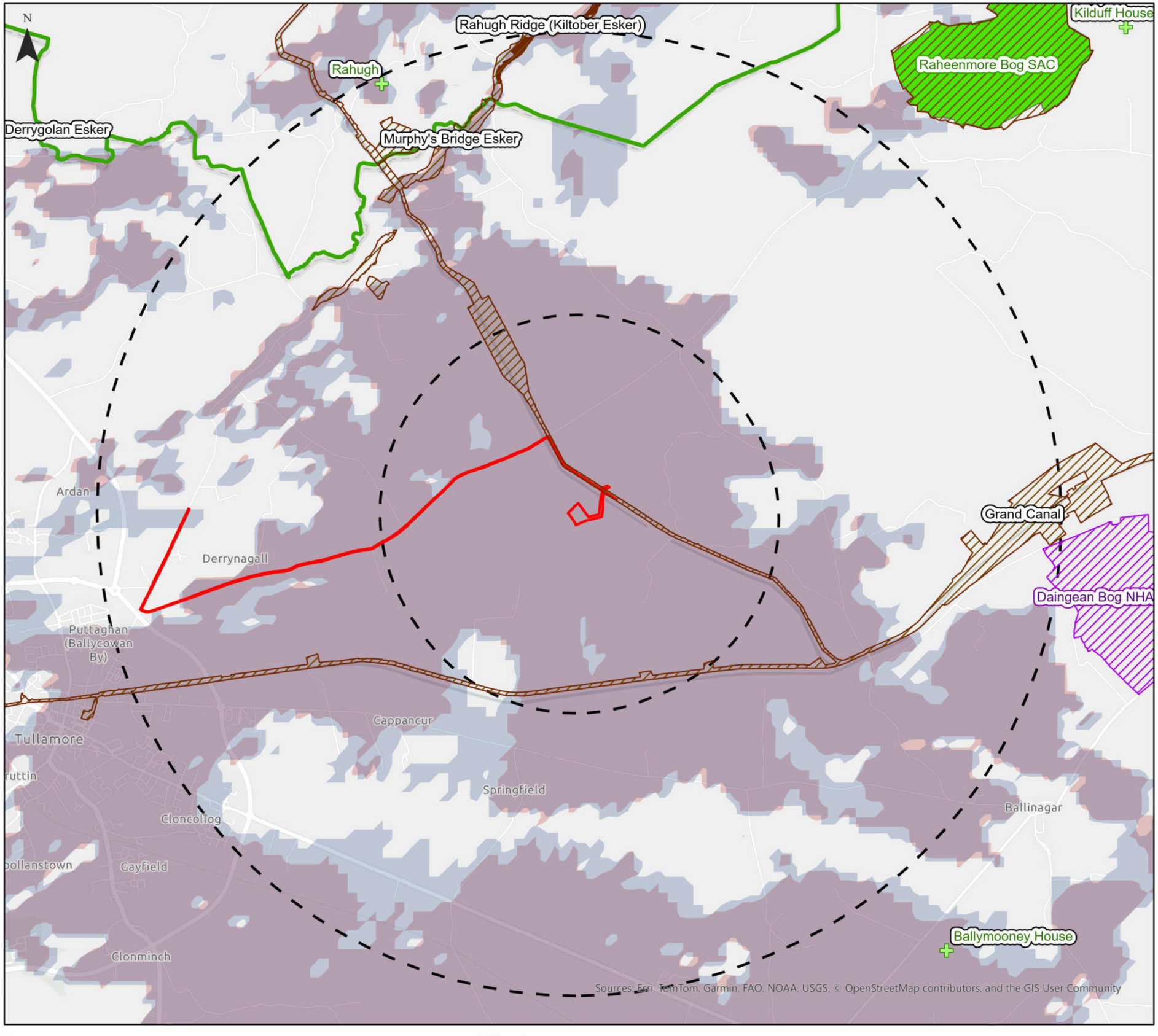
Neo Office Address:
BIA INNOVATOR CAMPUS, Ballygarraun West, Co. Galway, H65 DD86



Date: 18/09/2025
Drawn By: Shaun Dowse
Scale (A3): 1:40,000
Drawing No: NEO01104/025I/A

0 5 Kilometres

Colehill 110kV Substation Landscape Designations with Zone of Theoretical Visibility Figure 1.3



Key

- County Boundary
- Development Boundary w/ Grid Connection
- 2km, 5km Study Areas
- Natural Heritage Area (NHA)
- Proposed Natural Heritage Area
- Nature Reserve / SAC
- Ancient and Long Established Woodland
- Gardens and Designed Landscapes

Zone of Theoretical Visibility (ZTV)

- Masts and Comms Tower (Upper 6m)
- Control Building and Transformers
- Both Features Theoretically Visible

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Date: 18/09/2025
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Scale (A3): 1:40,000
Drawing No: NEO01104/026I/A

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Colehill 110kV Substation Viewpoint Locations with Zone of Theoretical Visibility Figure 1.4

Key

- 110kV Substation Boundary
- 2km, 5km Study Areas
- Viewpoint Locations

Ireland's Cycle Network (Proposed)

- Greenway
- Inter-Urban
- Urban Primary

Local Road Schedule

- Local Primary
- Local Secondary
- Local Tertiary

Zone of Theoretical Visibility (ZTV)

- Masts and Comms Tower (Upper 6m)
- Control Building and Transformers
- Both Features Theoretically Visible

VP 1
VP 2
VP 3
VP 4
VP 5
VP 6

Cruil Hill
Lackan Hill
Moleen
Ballycommon
Tullamore
Ballinagar
Silver
L1024
L1025
L2025
R421
R443
R420
R402
N52

0 5 Kilometres

Neo Office Address:
BIA INNOVATOR CAMPUS, Ballygarraun West, Co. Galway, H65 DD86

Date: 22/09/2025
Drawn By: Shaun Dowse
Scale (A3): 1:40,000
Drawing No: NEO01104/027I/A

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Viewpoint 1: NW on Grand Canal Greenway (South Bank) near Cappyroe Bridge, Ballycommon, Tullamore, Co. Offaly.

OS Reference: E240737 N225667
Eye Level: 74.5m
Direction of View: 320°
Distance to Site: 2.100km

Horizontal Field of View: 90 Degrees
Vertical Field of View: 18.7 Degrees
Paper Size (A3): 420x270mm

Camera: Canon 6D
Lens: 50mm
Camera Height: 1.5m AGL
View flat at comfortable arm's length

Viewpoint 2: W at farm on local road L-1023, Ballycommon, Tullamore, Co. Offaly.

OS Reference: E241979 N227362
Eye Level: 90.5m
Direction of View: 270°
Distance to Site: 2.500km

Horizontal Field of View: 90 Degrees
Vertical Field of View: 18.7 Degrees
Paper Size (A3): 420x270mm

Camera: Canon 6D
Lens: 50mm
Camera Height: 1.5m AGL
View flat at comfortable arm's length

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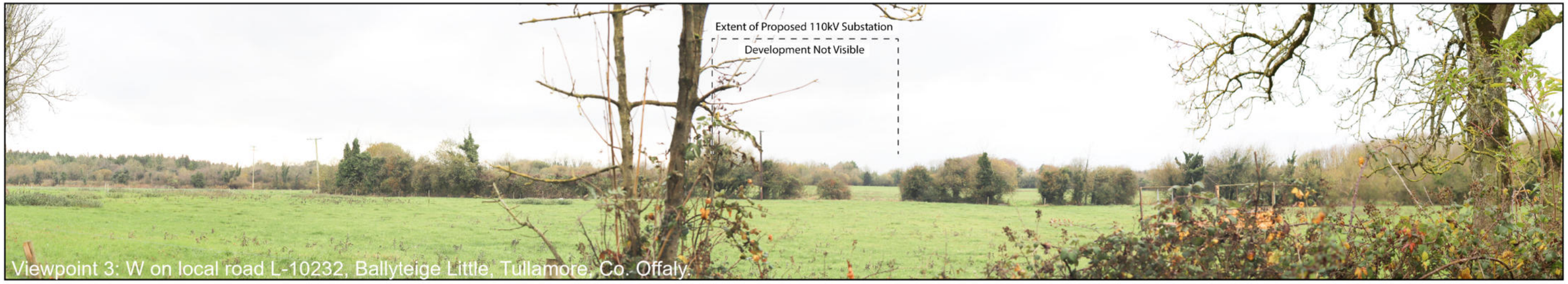
BIA INNOVATOR CAMPUS, Ballygarraun West,
Co. Galway, H65 DD86

Figure 1.5

Date: 07/10/2025
Drawn By: Shaun Dowse
Drawing No.: NEO00989/028I/A



Viewpoint 3: W on local road L-10232, Ballyteige Little, Tullamore, Co. Offaly.

OS Reference: E240632 N227566
Eye Level: 85.5m
Direction of View: 255°
Distance to Site: 0.930km

Horizontal Field of View: 90 Degrees
Vertical Field of View: 18.7 Degrees
Paper Size (A3): 420x270mm

Camera: Canon 6D
Lens: 50mm
Camera Height: 1.5m AGL
View flat at comfortable arm's length

Viewpoint 4: SW at St Francis' of Assisi and St Brigid RC Church, Ballyteige Little, Tullamore, Co. Offaly.

OS Reference: E239679 N227559
Eye Level: 81.5m
Direction of View: 235°
Distance to Site: 0.330km

Horizontal Field of View: 90 Degrees
Vertical Field of View: 18.7 Degrees
Paper Size (A3): 420x270mm

Camera: Canon 6D
Lens: 50mm
Camera Height: 1.5m AGL
View flat at comfortable arm's length

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BIA INNOVATOR CAMPUS, Ballygarraun West,
Co. Galway, H65 DD86

Figure 1.6

Date: 07/10/2025
Drawn By: Shaun Dowse
Drawing No.: NEO00989/028I/A

Viewpoint 5: S on Grand Canal Greenway L-60051 (near RC Church), Ballyteige Little, Tullamore, Co. Offaly.

OS Reference: E239464 N227697
Eye Level: 79.5m
Direction of View: 195°
Distance to Site: 0.290km

Horizontal Field of View: 90 Degrees
Vertical Field of View: 18.7 Degrees
Paper Size (A3): 420x270mm

Camera: Canon 6D
Lens: 50mm
Camera Height: 1.5m AGL
View flat at comfortable arm's length

Viewpoint 6: SE on local road L-1025 at Wood of O, Ballyteige Little, Tullamore, Co. Offaly.

OS Reference: E238937 N228085
Eye Level: 79.5m
Direction of View: 150°
Distance to Site: 0.780km

Horizontal Field of View: 90 Degrees
Vertical Field of View: 18.7 Degrees
Paper Size (A3): 420x270mm

Camera: Canon 6D
Lens: 50mm
Camera Height: 1.5m AGL
View flat at comfortable arm's length

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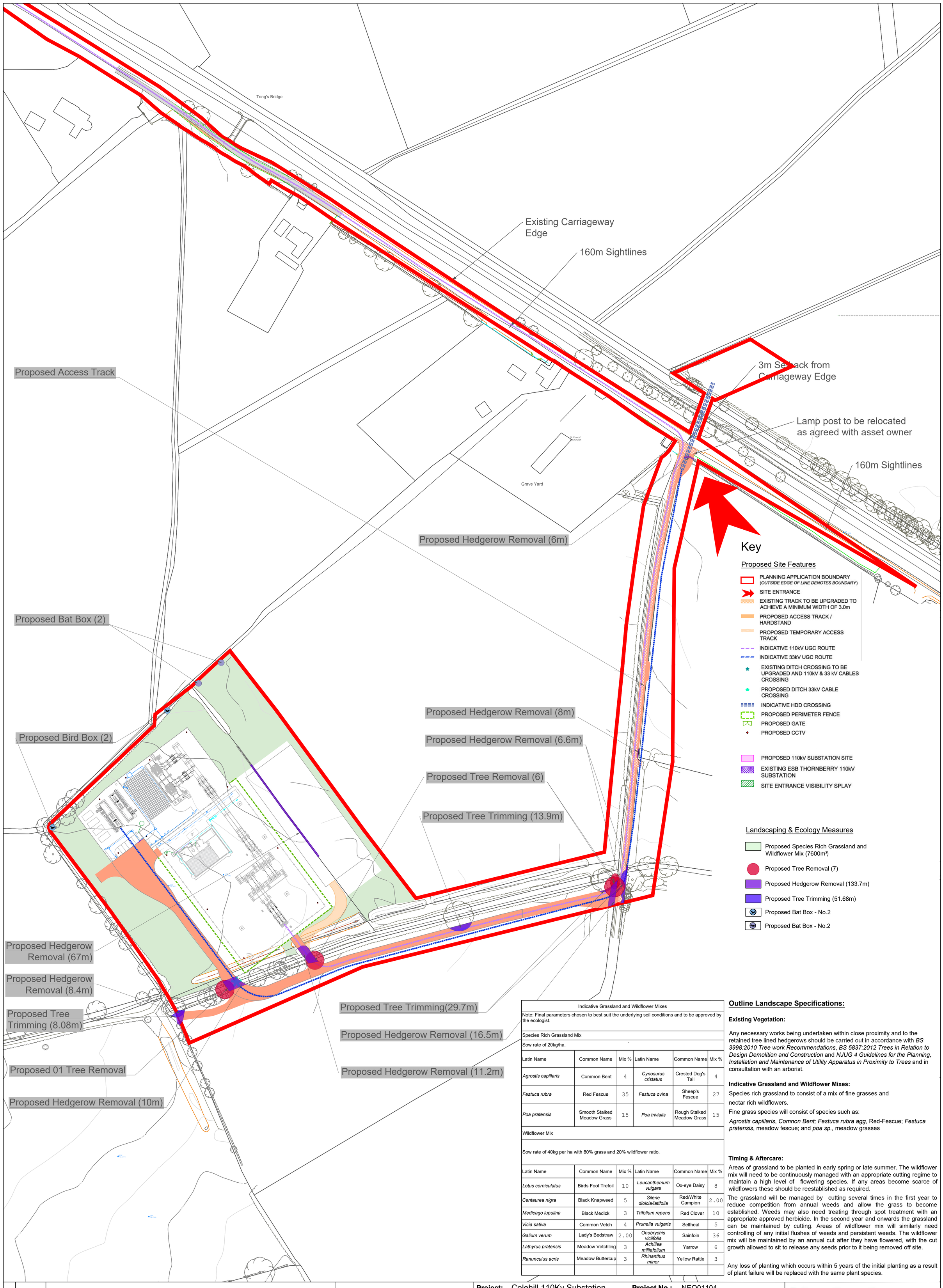
BIA INNOVATOR CAMPUS, Ballygarraun West,
Co. Galway, H65 DD86

Figure 1.7

Date: 07/10/2025
Drawn By: Shaun Dowse
Drawing No.: NEO00989/029I/A



Indicative Grassland and Wildflower Mixes					
Note: Final parameters chosen to best suit the underlying soil conditions and to be approved by the ecologist.					
Species Rich Grassland Mix					
Sow rate of 20kg/ha.					
Latin Name	Common Name	Mix %	Latin Name	Common Name	Mix %
Agrostis capillaris	Common Bent	4	*Cynosurus cristatus*	Crested Dog's Tail	4
Festuca rubra	Red Fescue	35	*Festuca ovina*	Sheep's Fescue	27
Poa pratensis	Smooth Stalked Meadow Grass	15	*Poa trivialis*	Rough Stalked Meadow Grass	15
Wildflower Mix					
Sow rate of 40kg per ha with 80% grass and 20% wildflower ratio.					
Latin Name	Common Name	Mix %	Latin Name	Common Name	Mix %
Lotus corniculatus	Birds Foot Trefoil	10	*Leucanthemum vulgare*	Ox-eye Daisy	8
Centaurea nigra	Black Knapweed	5	*Silene dioicia/latifolia*	Red/White Campion	2.00
Medicago lupulina	Black Medick	3	*Trifolium repens*	Red Clover	10
Vicia sativa	Common Vetch	4	*Prunella vulgaris*	Selfheal	5
Galium verum	Lady's Bedstraw	2.00	*Onobrychis viciifolia*	Sainfoin	36
Lathyrus pratensis	Meadow Vetchling	3	*Achillea milliefolium*	Yarrow	6
Ranunculus acris	Meadow Buttercup	3	*Rhinanthus minor*	Yellow Rattle	3

Outline Landscape Specifications:

Existing Vegetation:

Any necessary works being undertaken within close proximity and to the retained tree lined hedgerows should be carried out in accordance with *BS 3998:2010 Tree work Recommendations*, *BS 5837:2012 Trees in Relation to Design Demolition and Construction* and *NJUG 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* and in consultation with an arborist.

Indicative Grassland and Wildflower Mixes:

Species rich grassland to consist of a mix of fine grasses and nectar rich wildflowers.

Fine grass species will consist of species such as:

Agrostis capillaris, *Comnon Bent; Festuca rubra agg*, Red-Fescue; *Festuca pratensis*, meadow fescue; and *poa sp.*, meadow grasses

Timing & Aftercare:

Areas of grassland to be planted in early spring or late summer. The wildflower mix will need to be continuously managed with an appropriate cutting regime to maintain a high level of flowering species. If any areas become scarce of wildflowers these should be reestablished as required.

The grassland will be managed by cutting several times in the first year to reduce competition from annual weeds and allow the grass to become established. Weeds may also need treating through spot treatment with an appropriate approved herbicide. In the second year and onwards the grassland can be maintained by cutting. Areas of wildflower mix will similarly need controlling of any initial flushes of weeds and persistent weeds. The wildflower mix will be maintained by an annual cut after they have flowered, with the cut growth allowed to sit to release any seeds prior to it being removed off site.

Any loss of planting which occurs within 5 years of the initial planting as a result of plant failure will be replaced with the same plant species.

G	24/11/25	Landscape and Ecology Management Plan Updates
F	07/10/25	Landscape and Ecology Management Plan Updates
E	06/10/25	Landscape and Ecology Management Plan Updates
D	01/10/25	Landscape and Ecology Management Plan Updates
C	19/09/25	Landscape and Ecology Management Plan Updates
B	12/06/25	Landscape and Ecology Management Plan

Project: Colehill 110Kv Substation
Client: RES Ltd.
Drawing: Landscape & Ecology Management Plan
Project No.: NEO01104
Drawing No. : NEO01104_016
Drawn: LP **Checked:** KB **Approved:** PN
Scale: 1:1000 **Revision:** G
Date: 24th November 2025

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Glasgow Office: T: 0141 773 6262 E: info@neo-environmental.co.uk
Warrington Office: T:01925 661 716 E: info@neo-environmental.co.uk
Ballymena Office: T:0282 565 0413 E: info@neo-environmental.co.uk

Figure: 1.9
Viewpoint 4 - View looking West from the Ballyteige Little Road, East of the Proposed 110kV Substation.

OS reference:	E239651 N227571	Horizontal field of view:	90° (planar projection)	Camera:	Canon 6D
Eye Level:	81.5m AOD	Principal Distance:	812.5mm	Lens:	50mm
Direction of view:	225°	Paper Size	841 x 297mm (half A1)	Camera Height:	1.5m
Distance to Site:	0.010km	Corrected printed image size	820 x 260mm	Date and Time:	05/11/2024 17:13pm

Figure: 1.10
Viewpoint 5 - View looking S from the Grand Canal Greenway (L-60051) at St Francis of Assisi and St Brigid RC Church, Ballyteige Little, north of the Proposed 110kV Substation.

OS reference:	E239464 N227697	Horizontal field of view:	90° (planar projection)	Camera:	Canon 6D
Eye Level:	79.5m AOD	Principal Distance:	812.5mm	Lens:	50mm
Direction of view:	195°	Paper Size	841 x 297mm (half A1)	Camera Height:	1.5m
Distance to Site:	0.290km	Corrected printed image size	820 x 260mm	Date and Time:	05/11/2024 17:19pm