Kilgarvan Wind Farm Repowering,

Co. Kerry

Planning Permission Application Drawings

Schedule of Drawings

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

Planning Application Boundary

N

DRAWING TITLE:

Location Context Map

PROJECT TITLE: Kilgarvan Wind Farm Repowering, Co. Kerry	
DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 01
SCALE: 1:50,000 @ A3	DATE: 13.05.2024
OS SHEET No.: OS1006, OS1008	

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

DRAWING TITLE:
Site Location Map Keyplan

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 02
SCALE: 1:15,000 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

DRAWING TITLE:
Site Location Map Sheet A

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 02A
SCALE: 1:5,000 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

DRAWING TITLE:
Site Location Map Sheet B

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 02B
SCALE: 1:5,000 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

DRAWING TITLE:
Site Location Map Sheet C

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 02C
SCALE: 1:5,000 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

DRAWING TITLE:
Site Location Map Sheet D

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 02D
SCALE: 1:5,000 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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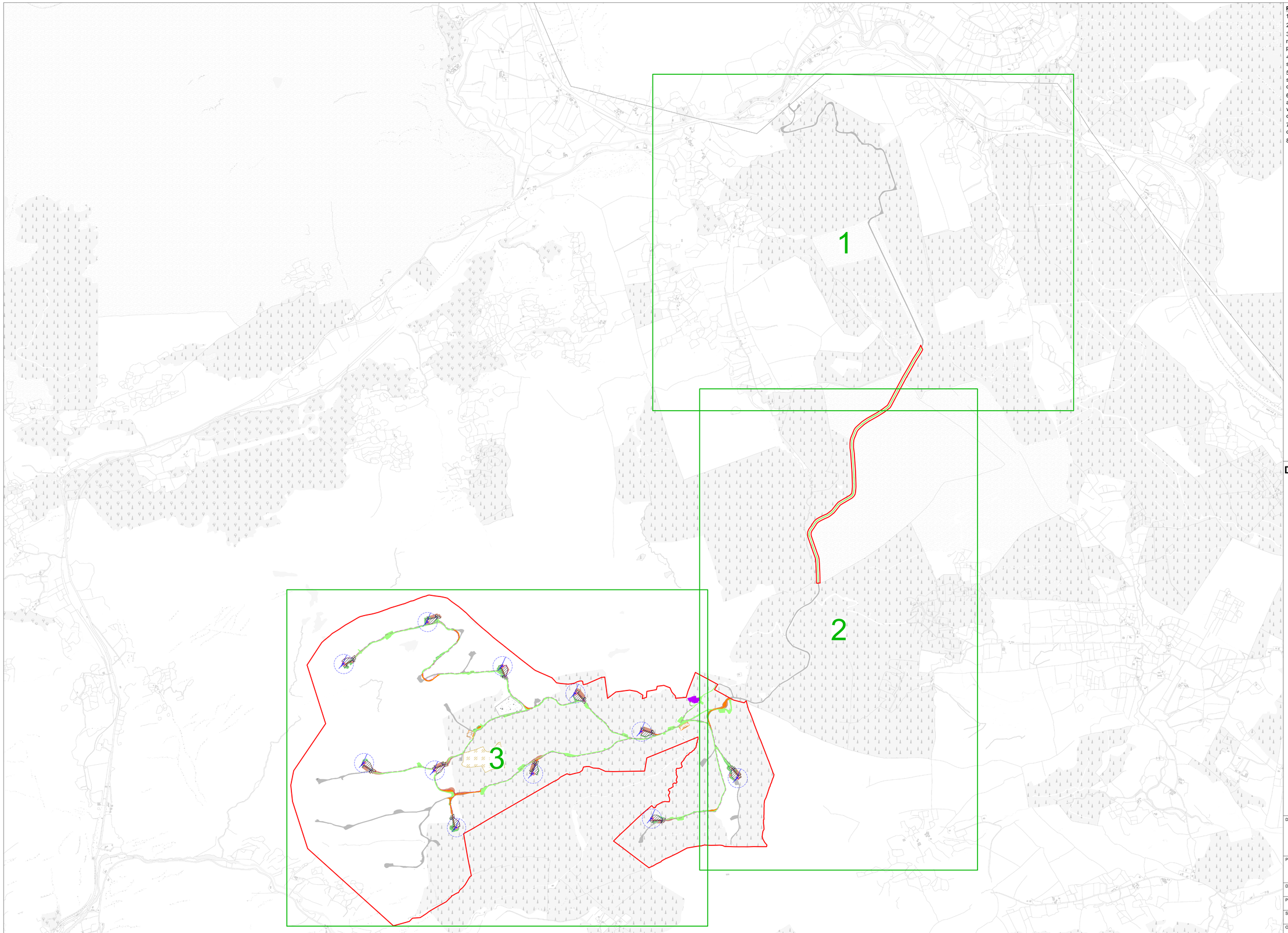

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Existing Substation Compound
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Borrow Pit
- Proposed Peatland Restoration Area
- Cut
- Fill

N

DRAWING TITLE:
Site Layout Key Plan (1:5,000)

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 03
SCALE: 1:15,000 @ A1	DATE: 13.05.2024

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Existing Infrastructure no Upgrade Proposed
- River/Stream

N

DRAWING TITLE:
Site Layout Plan Sheet 1 of 3

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 04
SCALE: 1:5,000 @ A1	DATE: 13.05.2024

OS SHEET No.:
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8. Final levels may vary depending on local ground conditions.

T1
ITM 510195, 576422
Level - 434m O.D.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- River/Stream
- Cut
- Fill

N

DRAWING TITLE:
Site Layout Plan Sheet 2 of 3

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 05
SCALE: 1:5,000 @ A1	DATE: 13.05.2024

OS SHEET No.:
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8. Final levels may vary depending on local ground conditions.

T6
ITM 507578, 577739
Level - 344m O.D.

T7
ITM 506871, 577385
Level - 301m O.D.

T5
ITM 508211, 577367
Level - 413m O.D.

T4
ITM 508826, 577136
Level - 429m O.D.

Borrow Pit
Refer to GDG Detail Drawing

Existing Substation Compound
Refer to H&MV Detail Drawings

T3
ITM 509384, 576814
Level - 424m O.D.

Temporary Compound 2
Refer to DWG 211107 - 32

Temporary Compound 1
Refer to DWG 211107 - 31

ITM 507043, 576549
Level - 365m O.D.
T10

T9
ITM 507639, 576486
Level - 367m O.D.

T8
ITM 508469, 576459
Level - 368m O.D.

Met Mast
ITM 506648, 576414
Level - 342m O.D.
Refer to DWG 211107 - 33

Watercourse Crossing refer to HES Detail Drawings

T11
ITM 507822, 576004
Level - 307m O.D.

T2
ITM 509471, 576180
Level - 382m O.D.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Existing Substation Compound
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Borrow Pit
- Proposed Peatland Restoration Area
- River/Stream
- Lakes
- Cut
- Fill

N

DRAWING TITLE:
Site Layout Plan Sheet 3 of 3

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 06
SCALE: 1:5,000 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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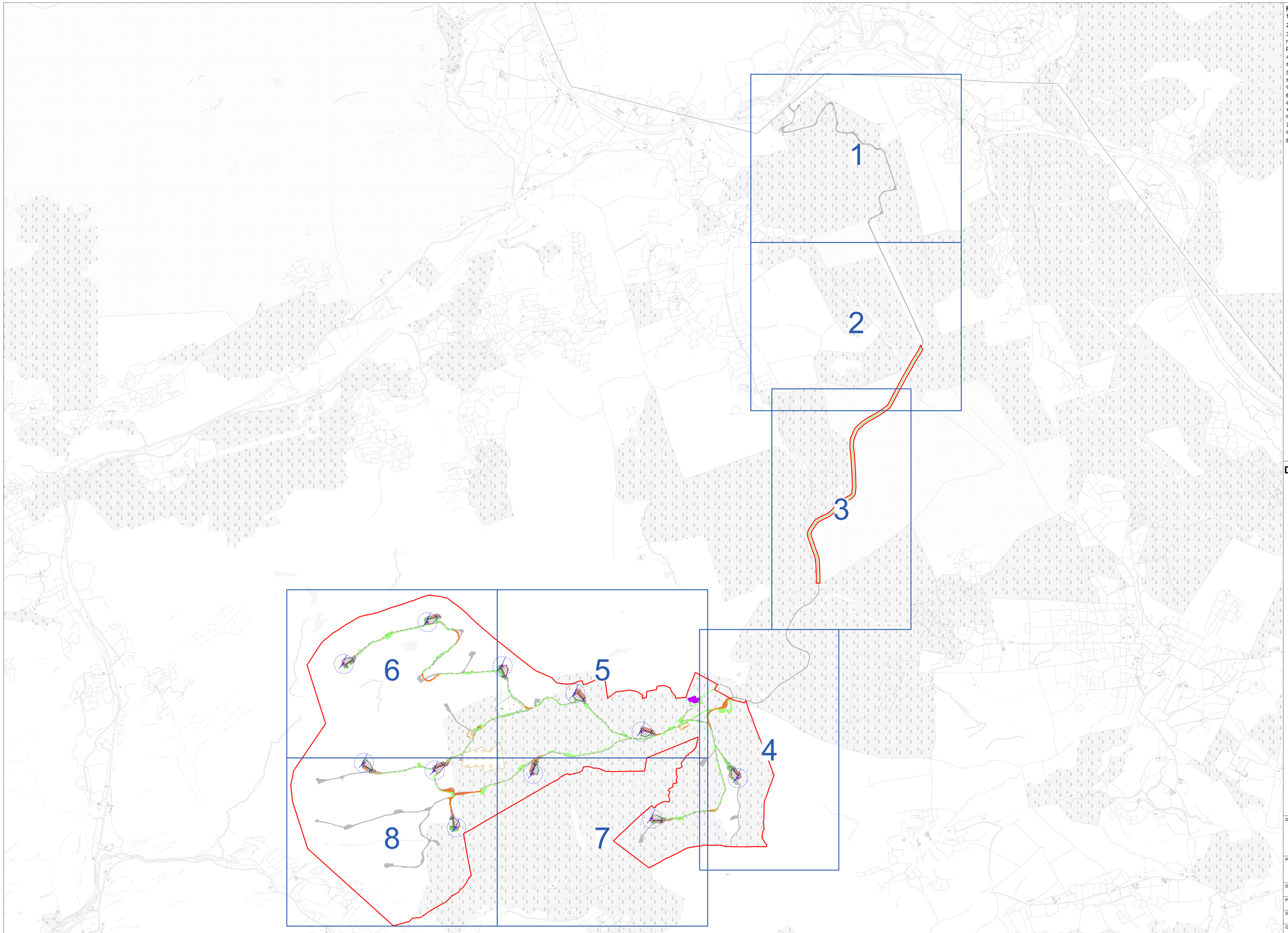

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Existing Substation Compound
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Borrow Pit
- Proposed Peatland Restoration Area
- Cut
- Fill

N

DRAWING TITLE:
Site Layout Key Plan (1:2,500)

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 07
SCALE: 1:15,000 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Infrastructure no Upgrade Proposed
- River/Stream

N

DRAWING TITLE:
Site Layout Plan Sheet 1 of 8

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 08
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Existing Infrastructure no Upgrade Proposed
- River/Stream

N

DRAWING TITLE:
Site Layout Plan Sheet 2 of 8

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 09
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Existing Infrastructure no Upgrade Proposed
- River/Stream

N

DRAWING TITLE:

Site Layout Plan Sheet 3 of 8

PROJECT TITLE:

Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 10
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

T1
ITM 510195, 576422
Level - 434m O.D.

Refer to DWG 211107-16

169800
141900
356100
307300
388500
287500

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Existing Substation Compound
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- River/Stream
- Cut
- Fill

N

DRAWING TITLE:
Site Layout Plan
Sheet 4 of 8

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No: 211107 - 11
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.:
6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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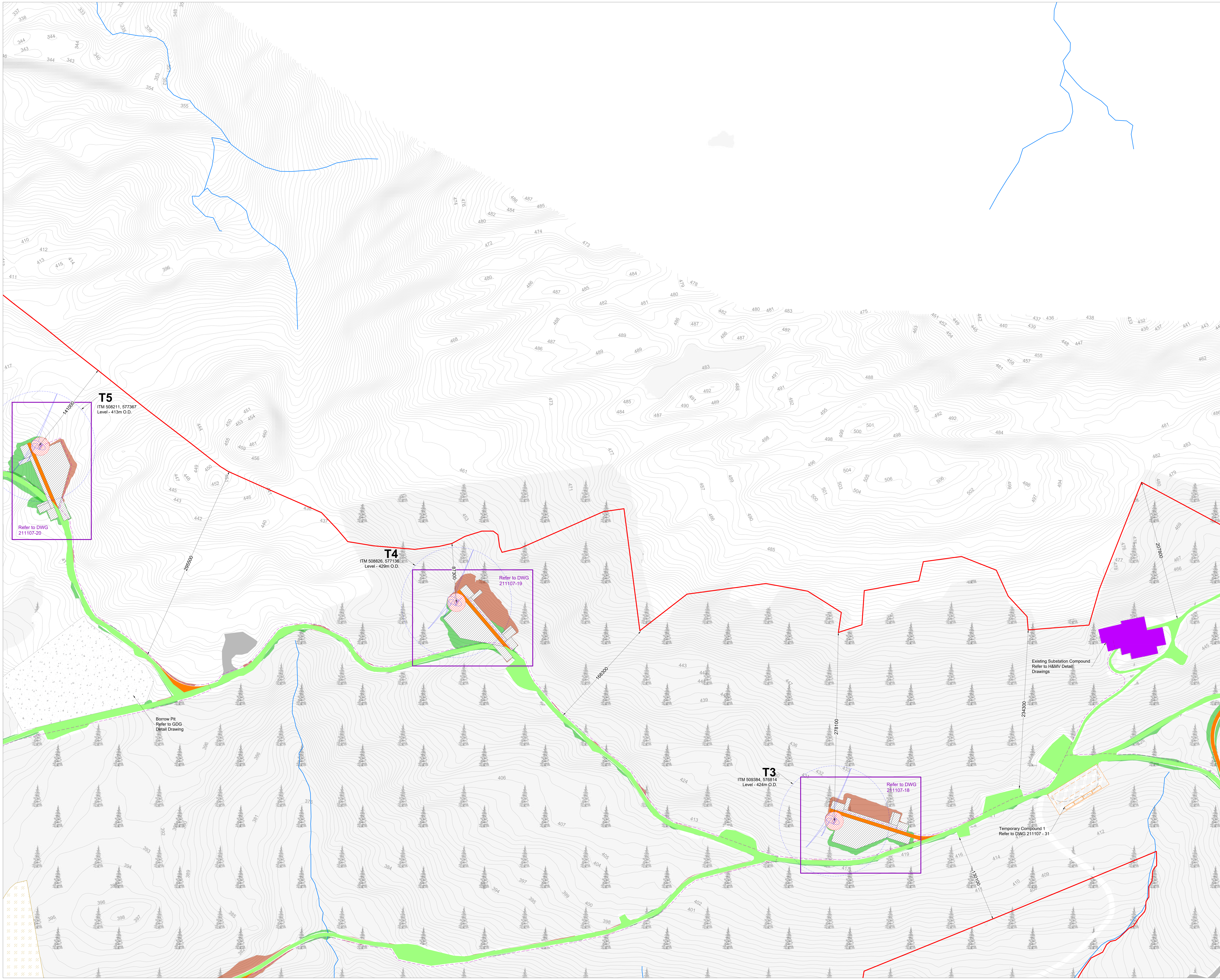

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Existing Substation Compound
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Borrow Pit
- Proposed Peatland Restoration Area
- River/Stream
- Cut
- Fill

DRAWING TITLE:

Site Layout Plan Sheet 5 of 8

PROJECT TITLE:

Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 12
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Borrow Pit
- Proposed Peatland Restoration Area
- River/Stream
- Lakes
- Cut
- Fill

N

T6
ITM 507578, 577739
Level - 344m O.D.

T7
ITM 506871, 577385
Level - 301m O.D.

Refer to DWG 211107-21

Refer to DWG 211107-22

191500

224800

211800

358400

309800

897500

1194400

Temporary Compound 2
Refer to DWG 211107 - 32

DRAWING TITLE:
Site Layout Plan
Sheet 6 of 8

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 13
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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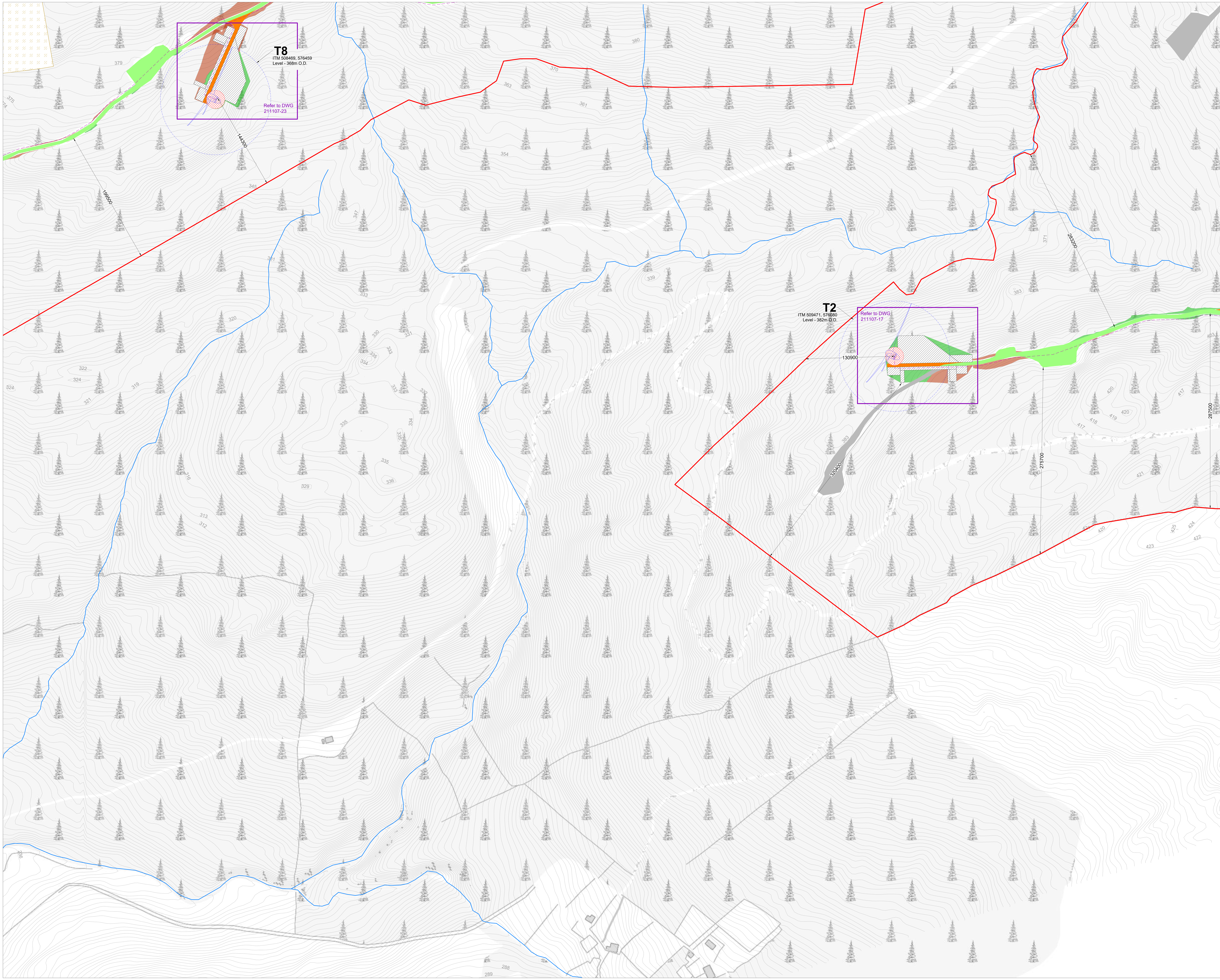

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- River/Stream
- Proposed Peatland Restoration Area
- Cut
- Fill

N

DRAWING TITLE:
Site Layout Plan Sheet 7 of 8

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: **Joseph O Brien**	CHECKED BY: **Orla Murphy**
PROJECT No.: **211107**	DRAWING No.: **211107 - 14**
SCALE: **1:2,500 @ A1**	DATE: **13.05.2024**

OS SHEET No.:
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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Proposed Peatland Restoration Area
- River/Stream
- Cut
- Fill

N

Met Mast
ITM 506848, 576414
Level - 342m O.D.
Refer to DWG 211107 - 33

T10
ITM 507043, 576549
Level - 366m O.D.

T9
ITM 507639, 576486
Level - 367m O.D.

T11
ITM 507822, 576004
Level - 307m O.D.

Refer to DWG 211107-25
Refer to DWG 211107-24
Refer to DWG 211107-26
Watercourse Crossing refer to HES Detail Drawings

597300
1223000
1125900
972200
696800
202900

DRAWING TITLE:
Site Layout Plan Sheet 8 of 8

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 15
SCALE: 1:2,500 @ A1	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 1 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 16
SCALE: 1:500 @ A3	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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366m

371m

379m

386m

380m

+382m

27000

38500

48200

33800

11000

12000

12000

18000

19000

387m

16000

6000

64000

13000

392m

397m

382m

402m

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 2 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 17
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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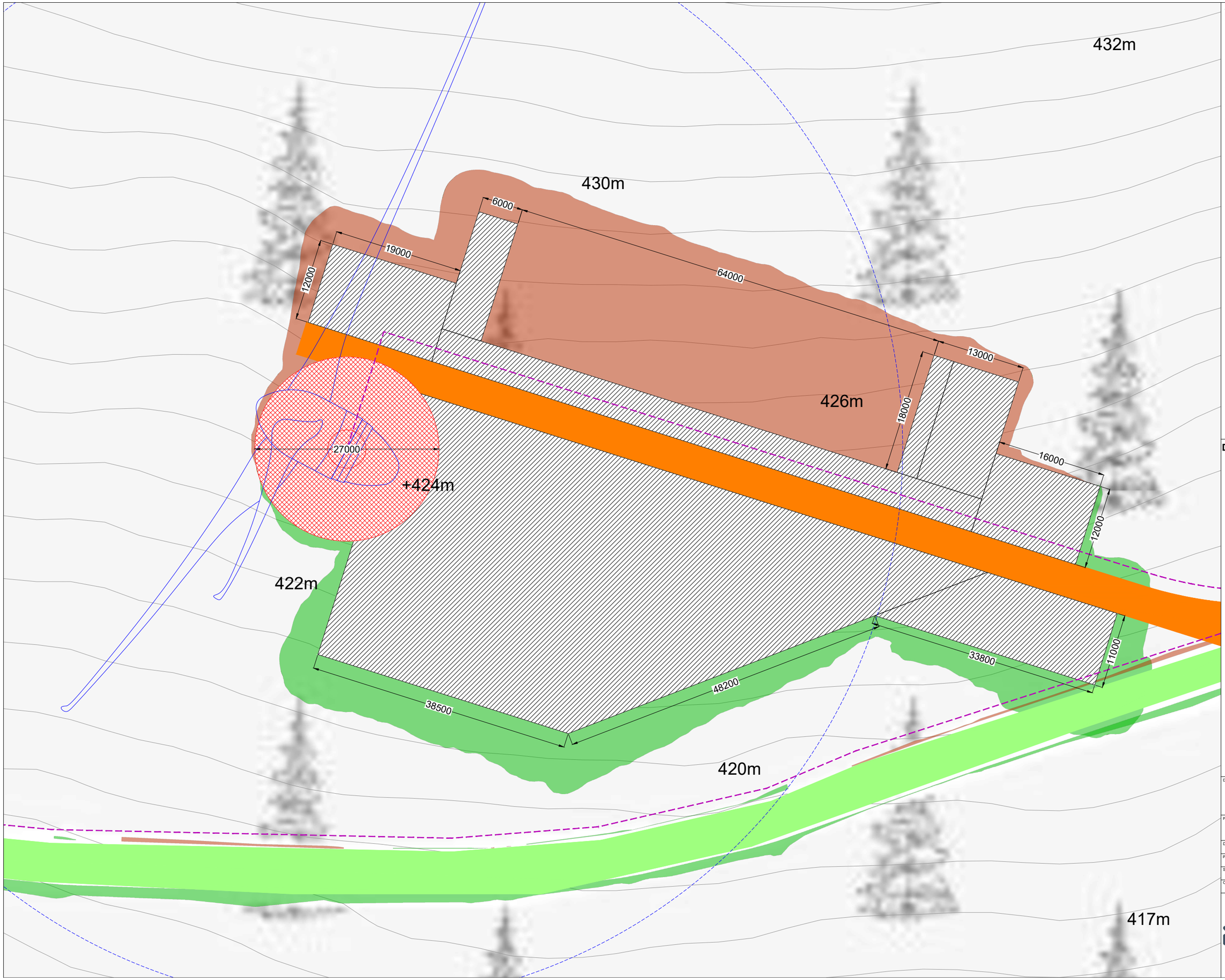

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 3 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 18
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 4 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 19
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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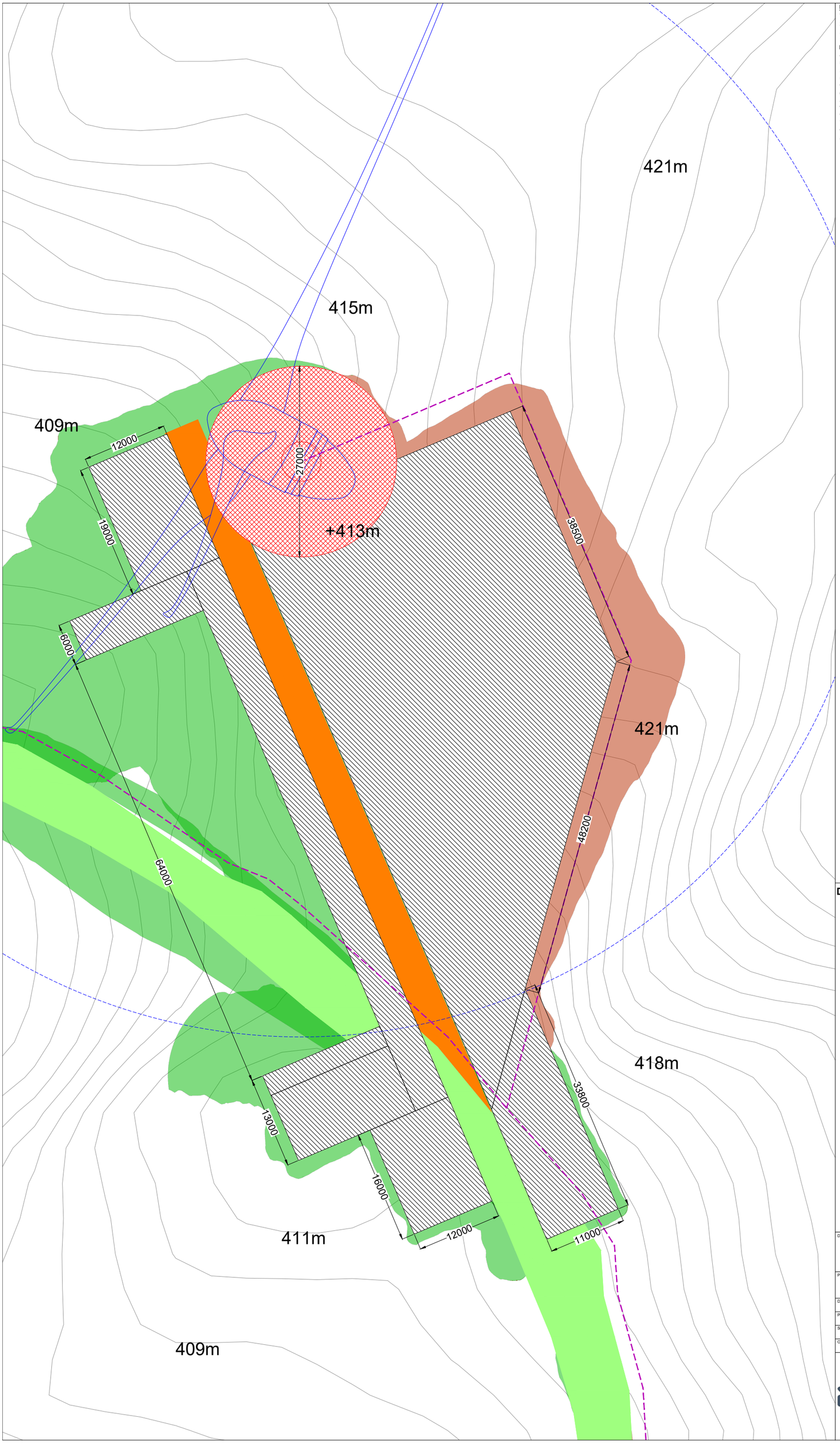

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 5 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 20
SCALE: 1:500 @ A3	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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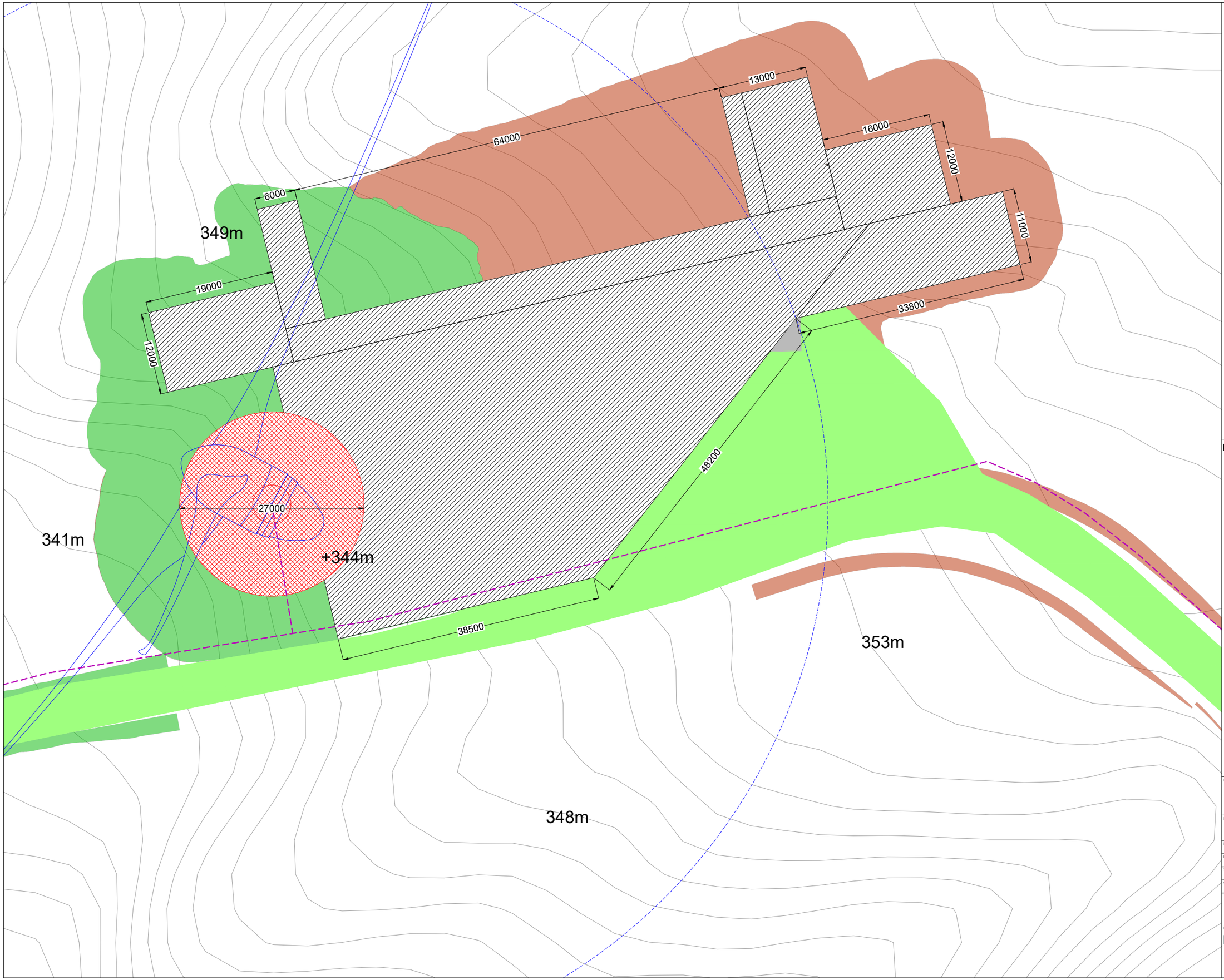

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 6 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 21
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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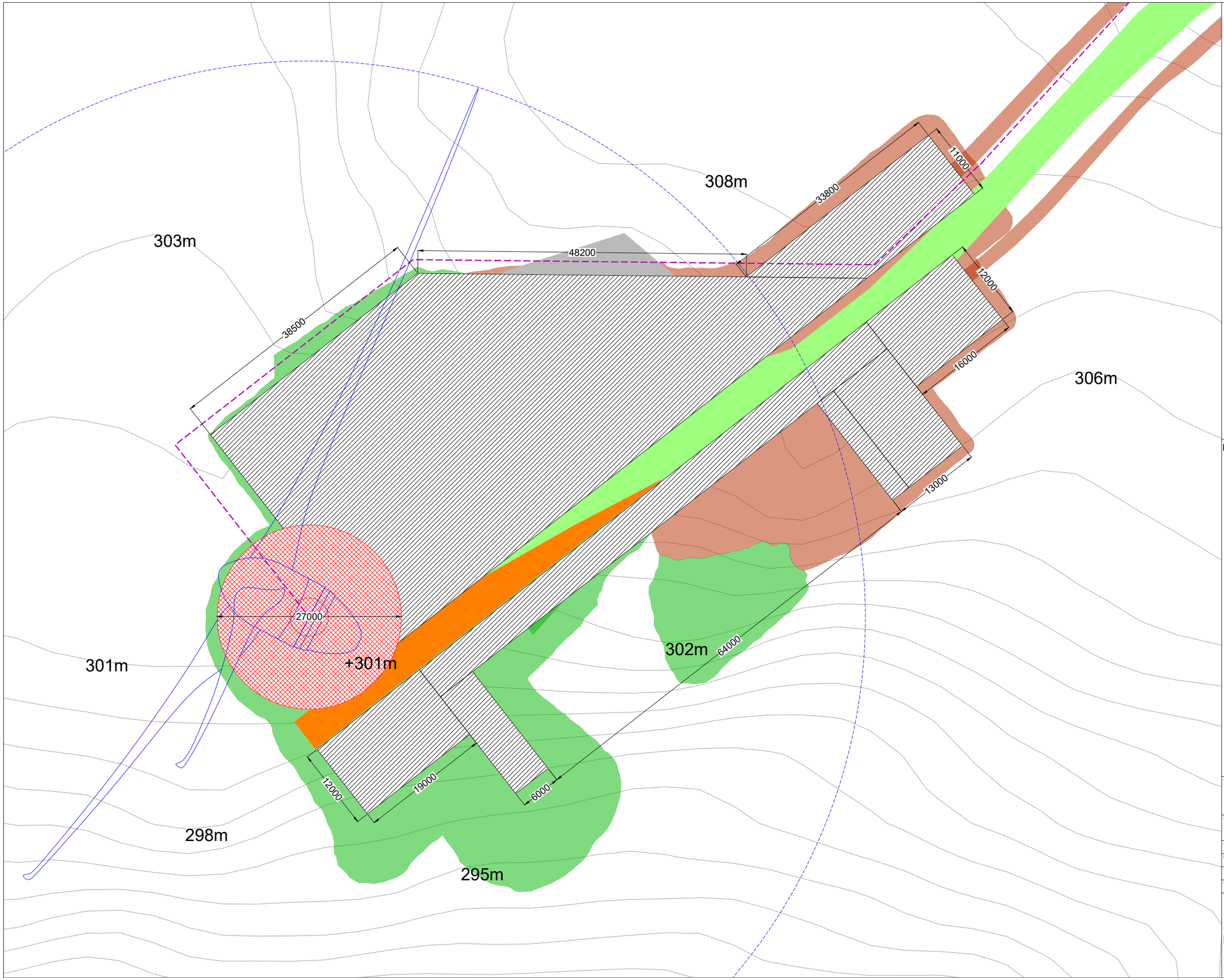

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 7 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 22
SCALE: 1:500 @ A3	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 8 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 23
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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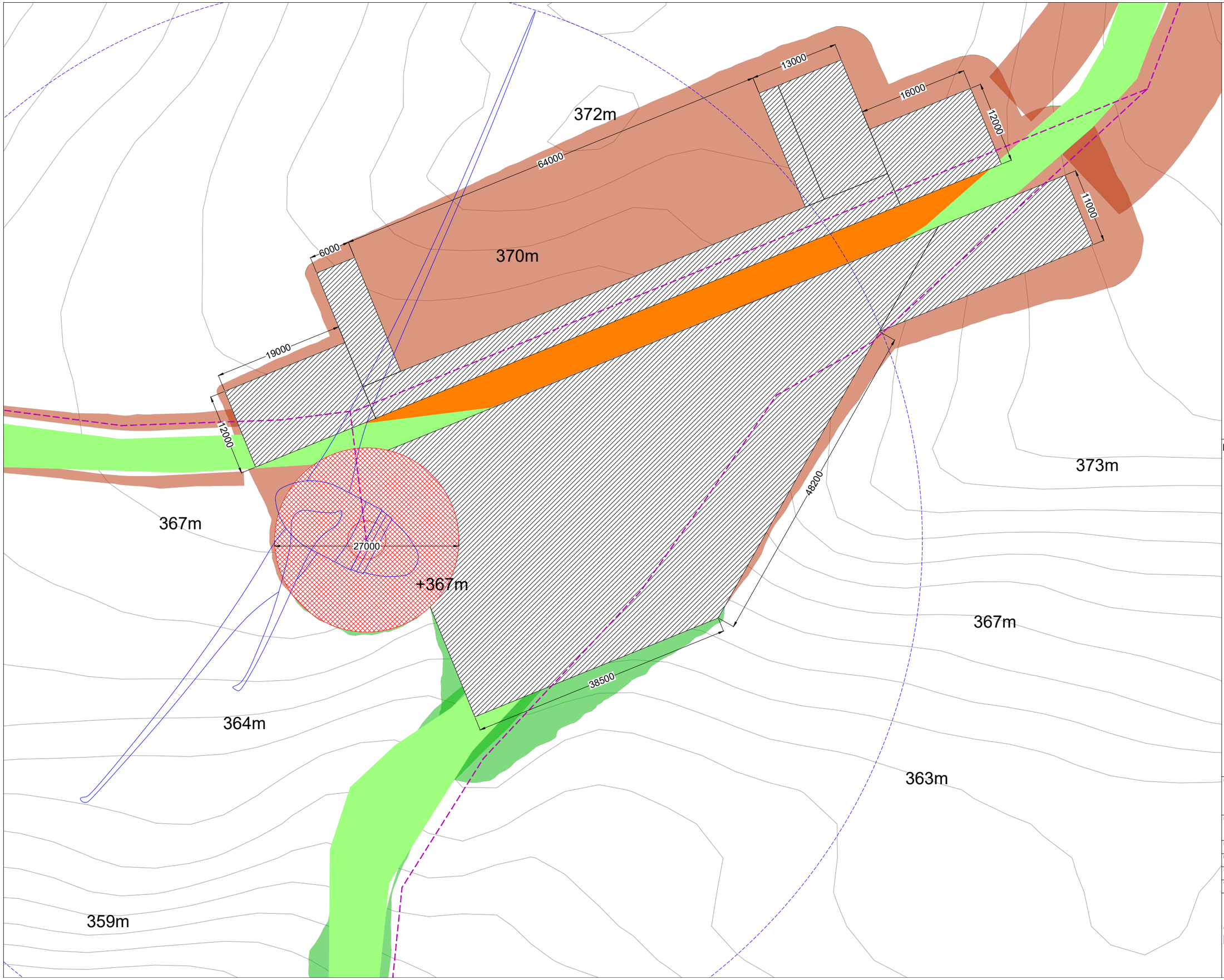

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 9 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 24
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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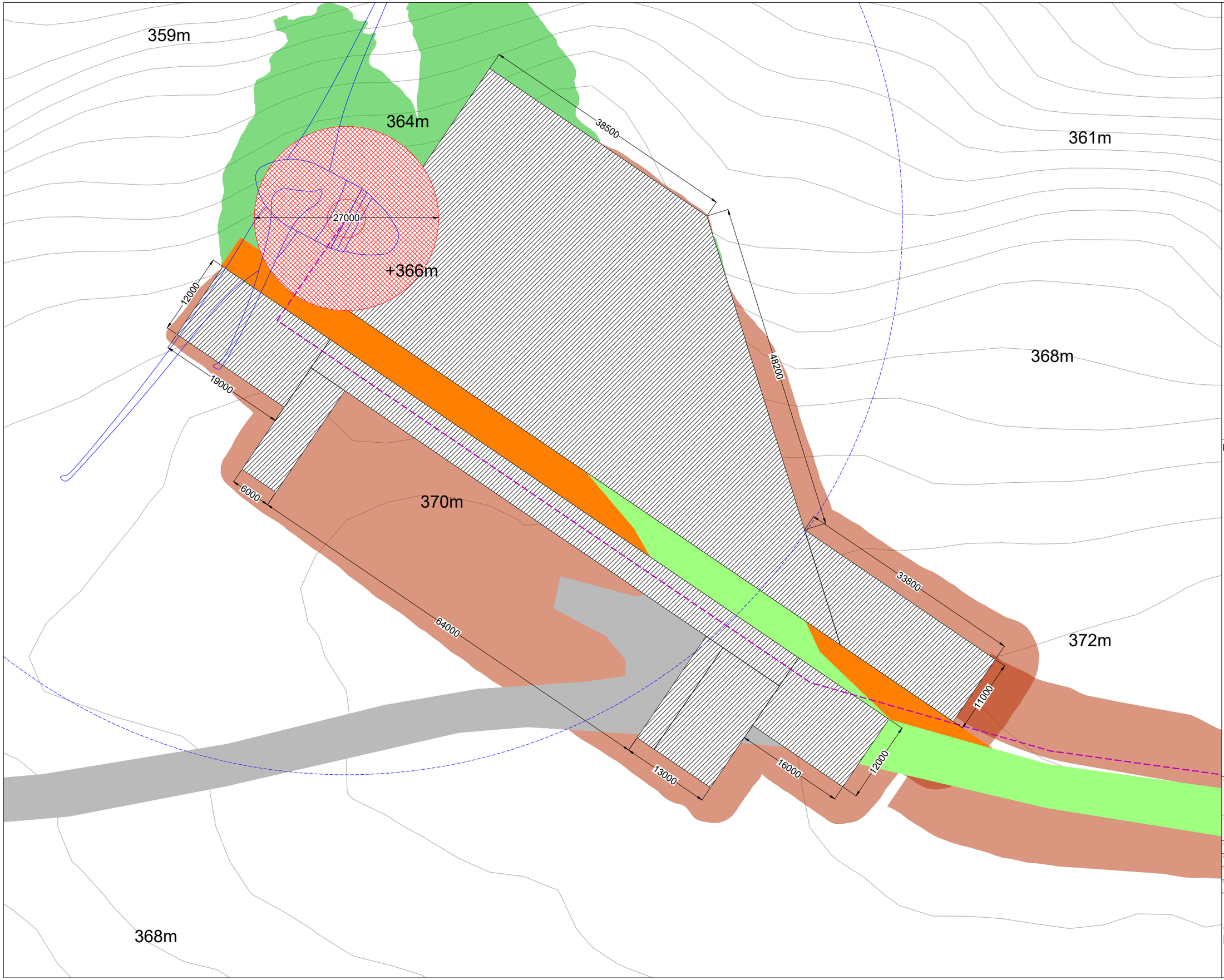

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 10 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 25
SCALE: 1:500 @ A3	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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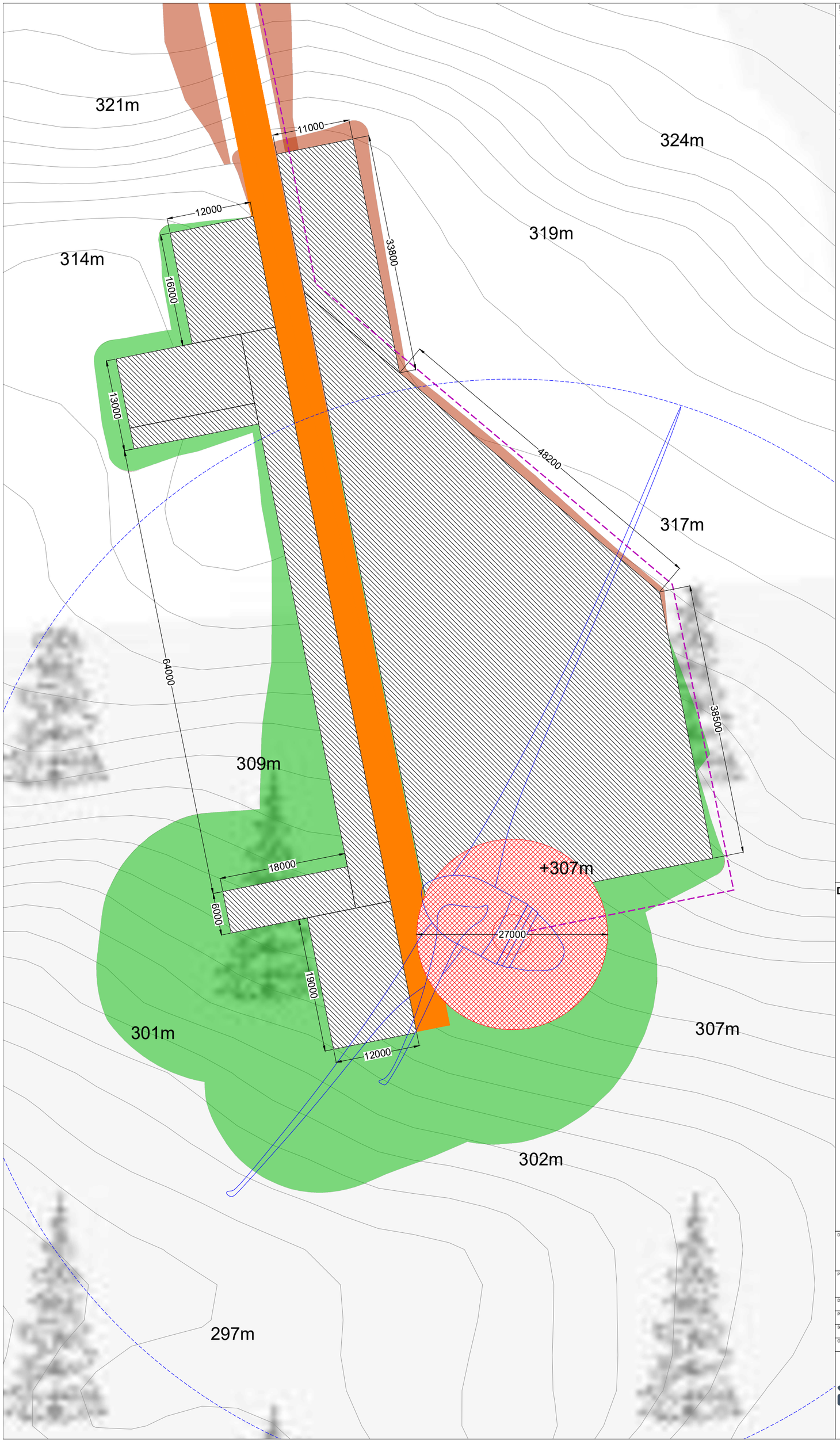

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Proposed Road
- Electrical Cable Trench
- Crane Pad Hardstanding Area
- Turbine Foundation
- Turbine Sweep Area
- Cut
- Fill

N

DRAWING TITLE:

Turbine 11 Layout

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 26
SCALE: 1:500 @ A3	DATE: 13.05.2024
OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324	

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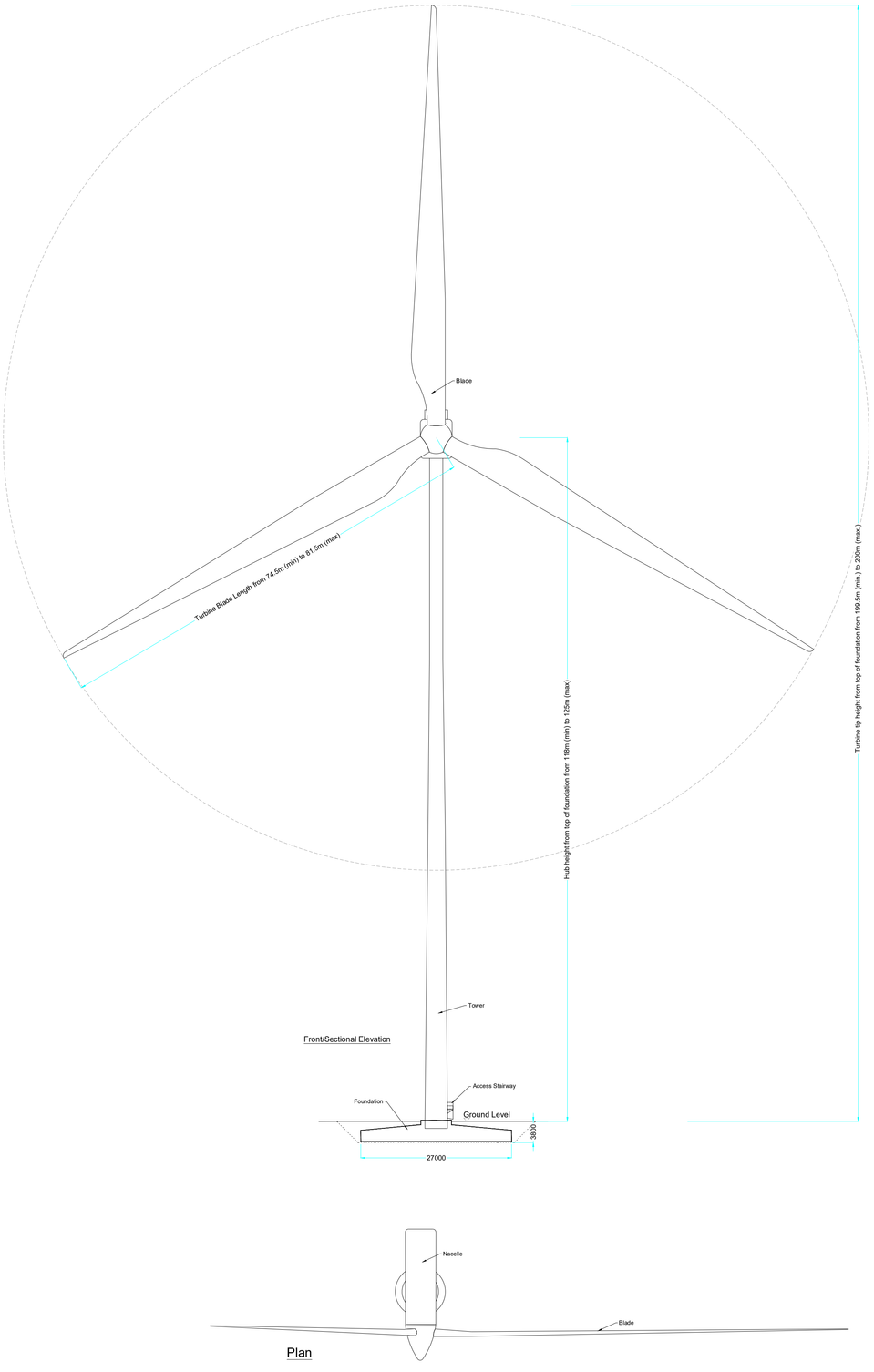

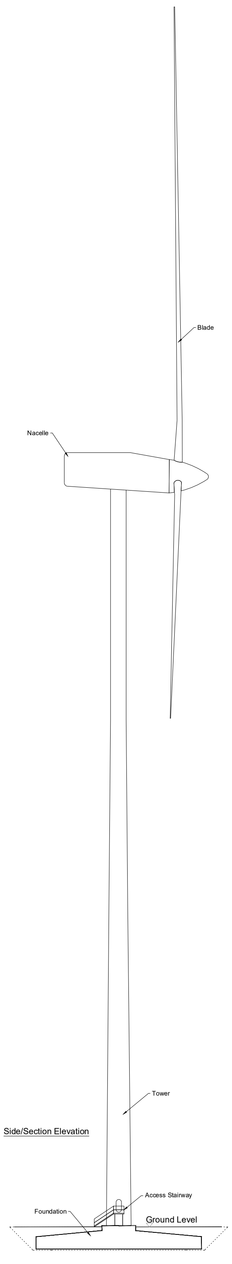

Drawing Notes

1. Proposed wind turbines to have a maximum ground to blade tip height of up to 200m.
2. Exact make and model of the turbine to be dictated by a competitive tender process.
3. Installed wind turbine not to exceed maximum size envelope set out above in any blade length and hub-height configuration.
4. Turbine foundation diameter may vary.
5. Ground level represents the top of turbine foundation.

DRAWING TITLE:
Wind Turbine Range Elevations & Plan

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 27
SCALE: 1:500 @A1	DATE: 13.05.2024

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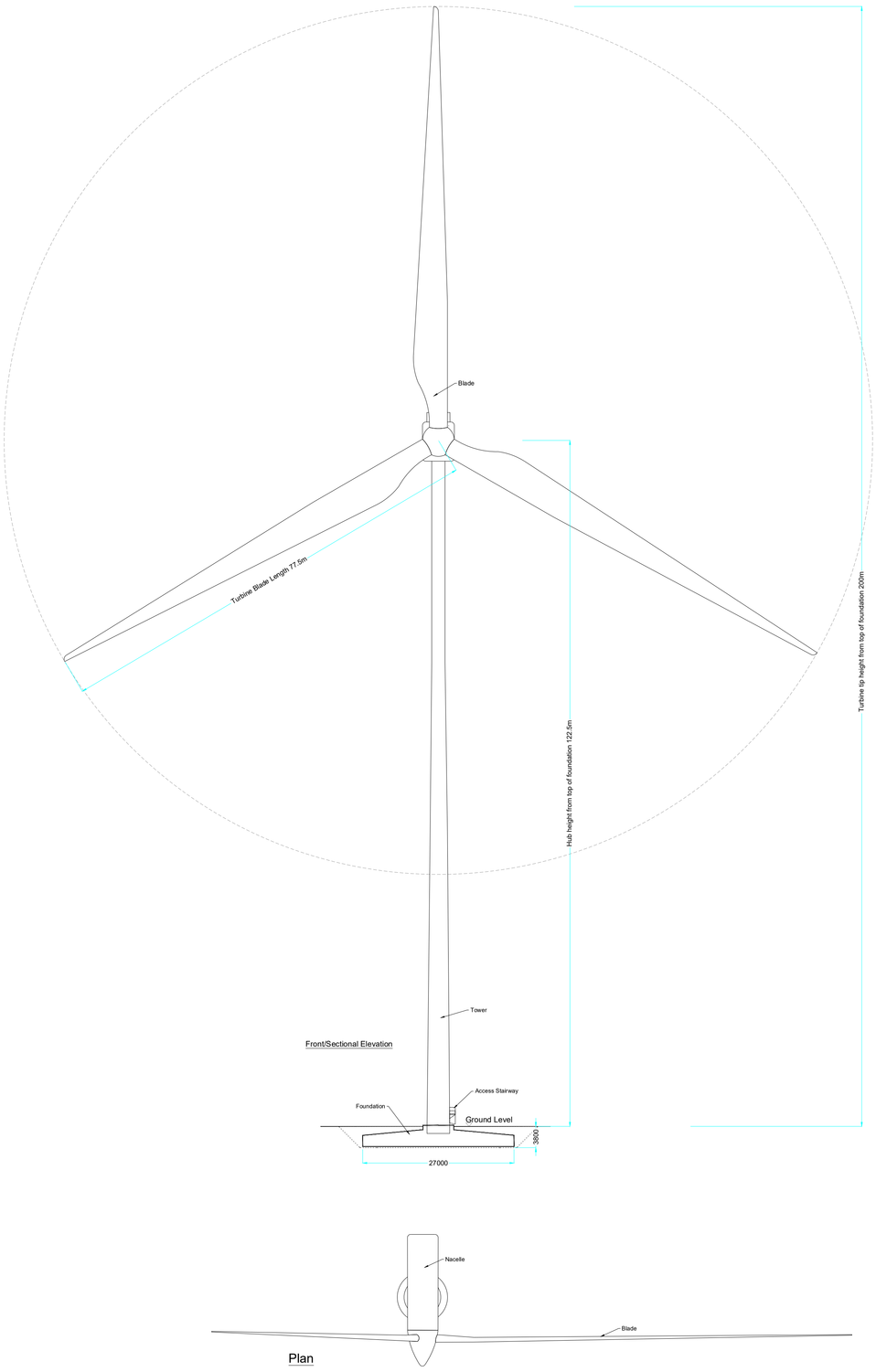

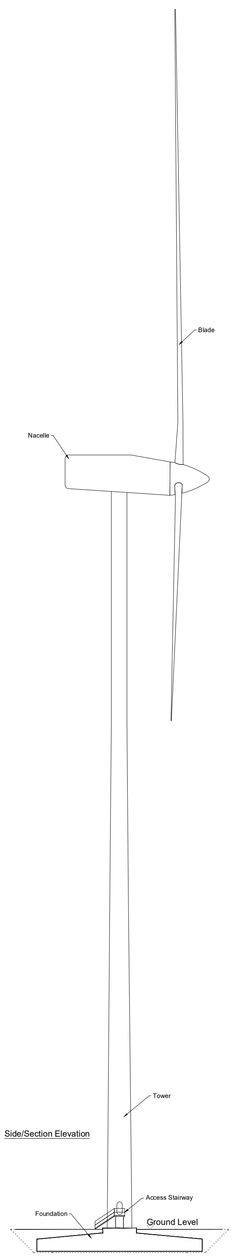

Drawing Notes

1. Proposed wind turbines to have a maximum ground to blade tip height of up to 200m.
2. Exact make and model of the turbine to be dictated by a competitive tender process.
3. Installed wind turbine not to exceed maximum size envelope set out above in any blade length and hub-height configuration.
4. Turbine foundation diameter may vary.
5. Ground level represents the top of turbine foundation.

DRAWING TITLE:
122.5m hub and 77.5m blade Wind Turbine Elevations & Plan

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	**Orla Murphy**
PROJECT No.: **211107**	DRAWING No.: **211107 - 28**
SCALE: **1:500 @A1**	DATE: **13.05.2024**

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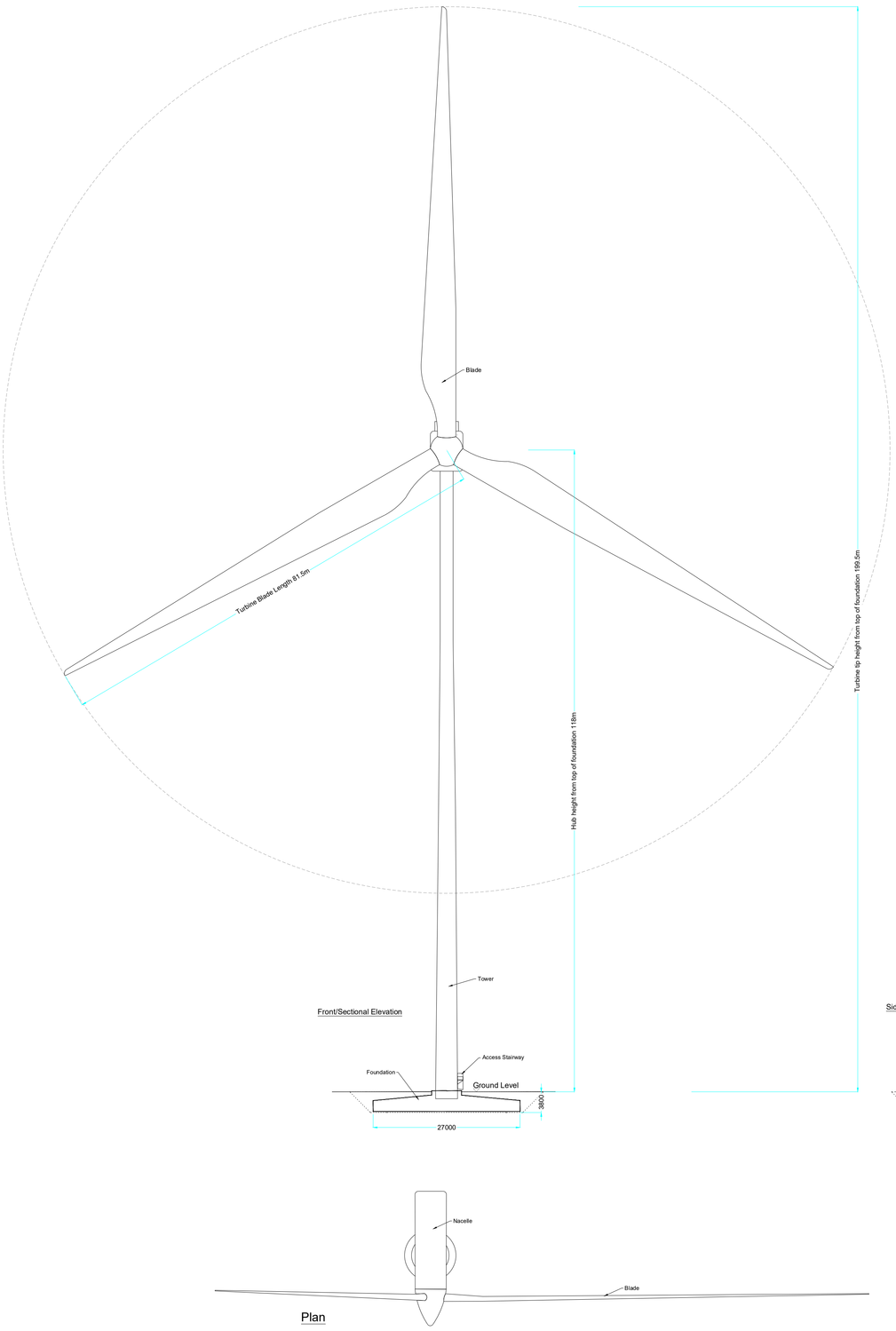

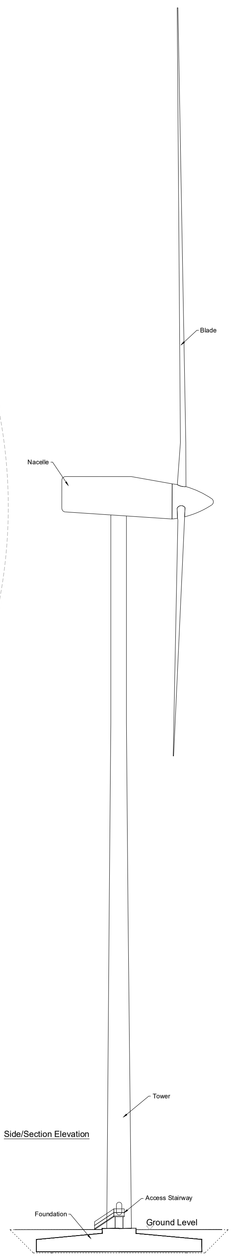

Drawing Notes

1. Proposed wind turbines to have a maximum ground to blade tip height of up to 199.5m.
2. Exact make and model of the turbine to be dictated by a competitive tender process.
3. Installed wind turbine not to exceed maximum size envelope set out above in any blade length and hub-height configuration.
4. Turbine foundation diameter may vary.
5. Ground level represents the top of turbine foundation.

DRAWING TITLE:
118m hub and 81.5m blade Wind Turbine Elevations & Plan

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 29
SCALE: 1:500 @A1	DATE: 13.05.2024

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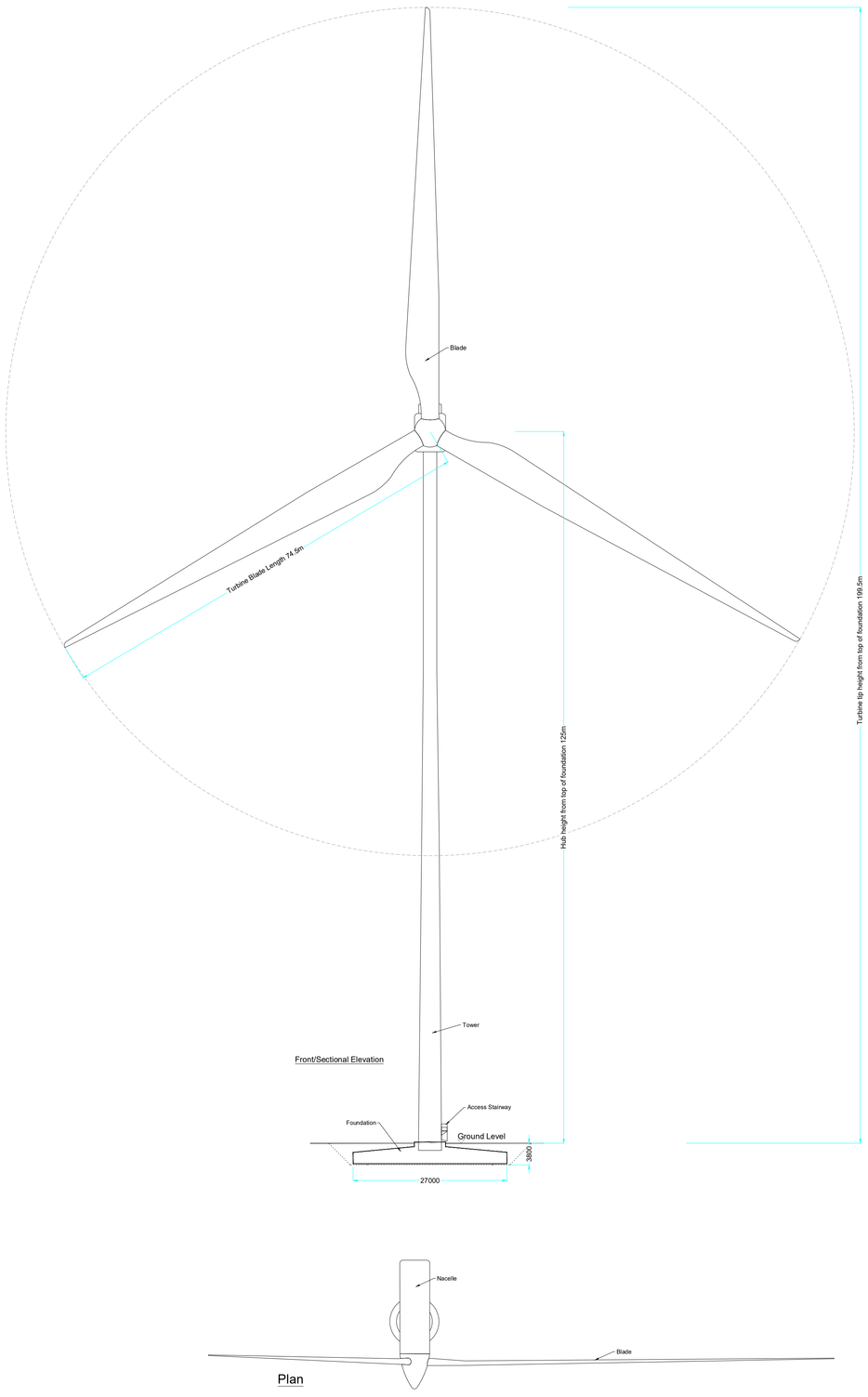

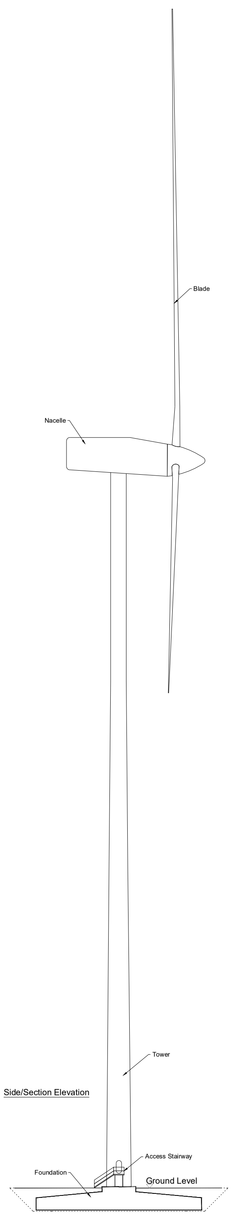

Drawing Notes

1. Proposed wind turbines to have a maximum ground to blade tip height of up to 199.5m.
2. Exact make and model of the turbine to be dictated by a competitive tender process.
3. Installed wind turbine not to exceed maximum size envelope set out above in any blade length and hub-height configuration.
4. Turbine foundation diameter may vary.
5. Ground level represents the top of turbine foundation.

DRAWING TITLE:
125m hub and 74.5m blade Wind Turbine Elevations & Plan

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	**Orla Murphy**
PROJECT No.: **211107**	DRAWING No.: **211107 - 30**
SCALE: **1:500 @A1**	DATE: **13.05.2024**

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Electrical Cable Trench
- Existing Infrastructure Footprint
- Cut
- Fill

N

DRAWING TITLE:
Temporary Construction Compound 1

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 31
SCALE: 1:500 @ A3	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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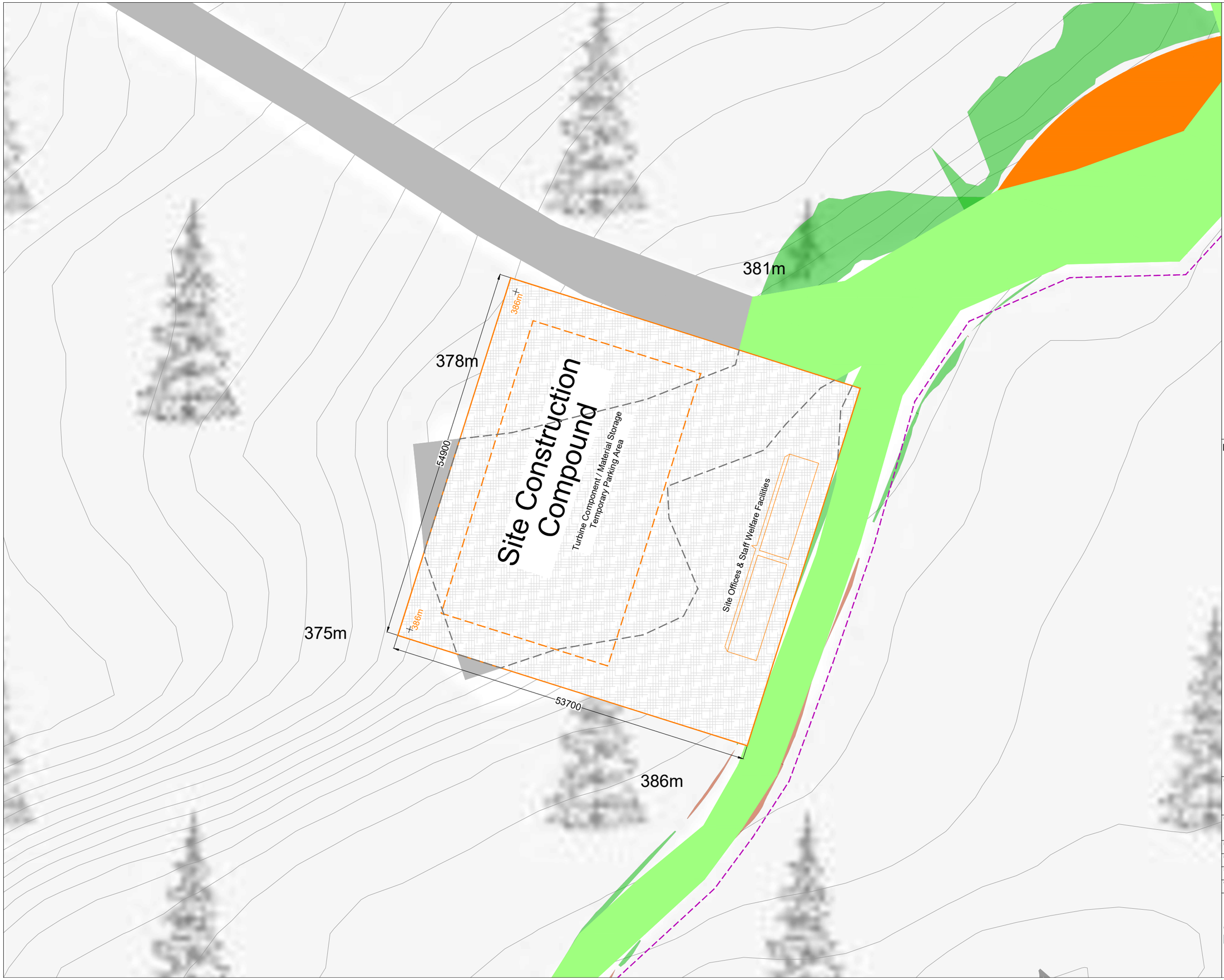

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Existing Road to be Upgraded
- Proposed Road
- Existing Infrastructure no Upgrade Proposed
- Existing Infrastructure Footprint
- Electrical Cable Trench
- Cut
- Fill

N

DRAWING TITLE:
Temporary Construction Compound 2

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 32
SCALE: 1:500 @ A3	DATE: 13.05.2024

OS SHEET No.: 6179, 6180, 6181, 6227, 6228, 6229, 6275, 6276, 6277, 6322, 6323, 6324

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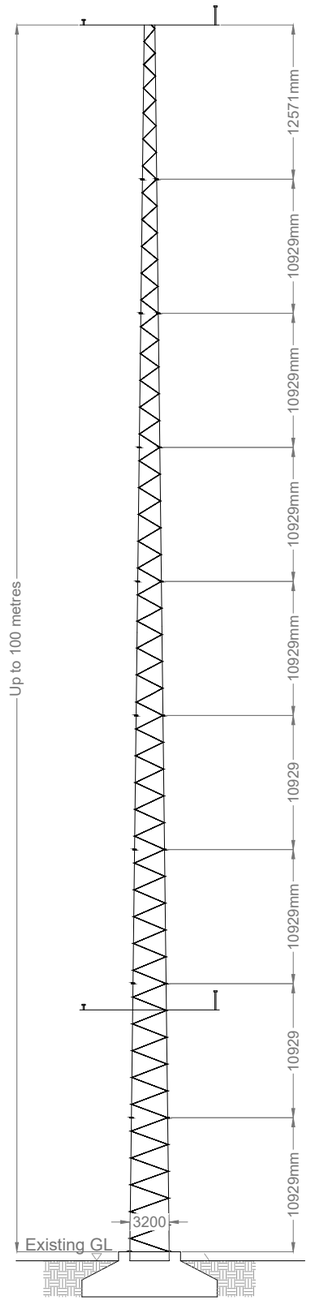
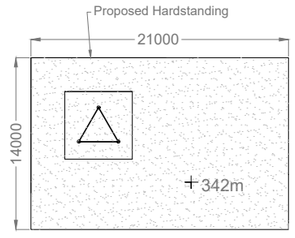
Drawing Notes

1. Met mast on site will either be guyed met mast or free standing met mast depending on site conditions. Both options shown only one will be used.





Met Mast Compound Plan

DRAWING TITLE:
Met Mast - Free Standing Mast

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 33
SCALE: 1:500 @ A3	DATE: 13.05.2024

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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Infrastructure

N

DRAWING TITLE:

Existing Site

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: Joseph O Brien	CHECKED BY: Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 34
SCALE: 1:20,000 @ A3	DATE: 13.05.2024

OS SHEET No.:
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7. Layout plans show typical Turbine rotor diameter as per turbine drawing.
8. Final levels may vary depending on local ground conditions.

Drawing Legend

- Planning Application Boundary
- Existing Infrastructure
- Proposed Infrastructure Upgrades

N

DRAWING TITLE:

Proposed Infrastucture

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 35
SCALE: 1:20,000 @ A3	DATE: 13.05.2024

OS SHEET No.:
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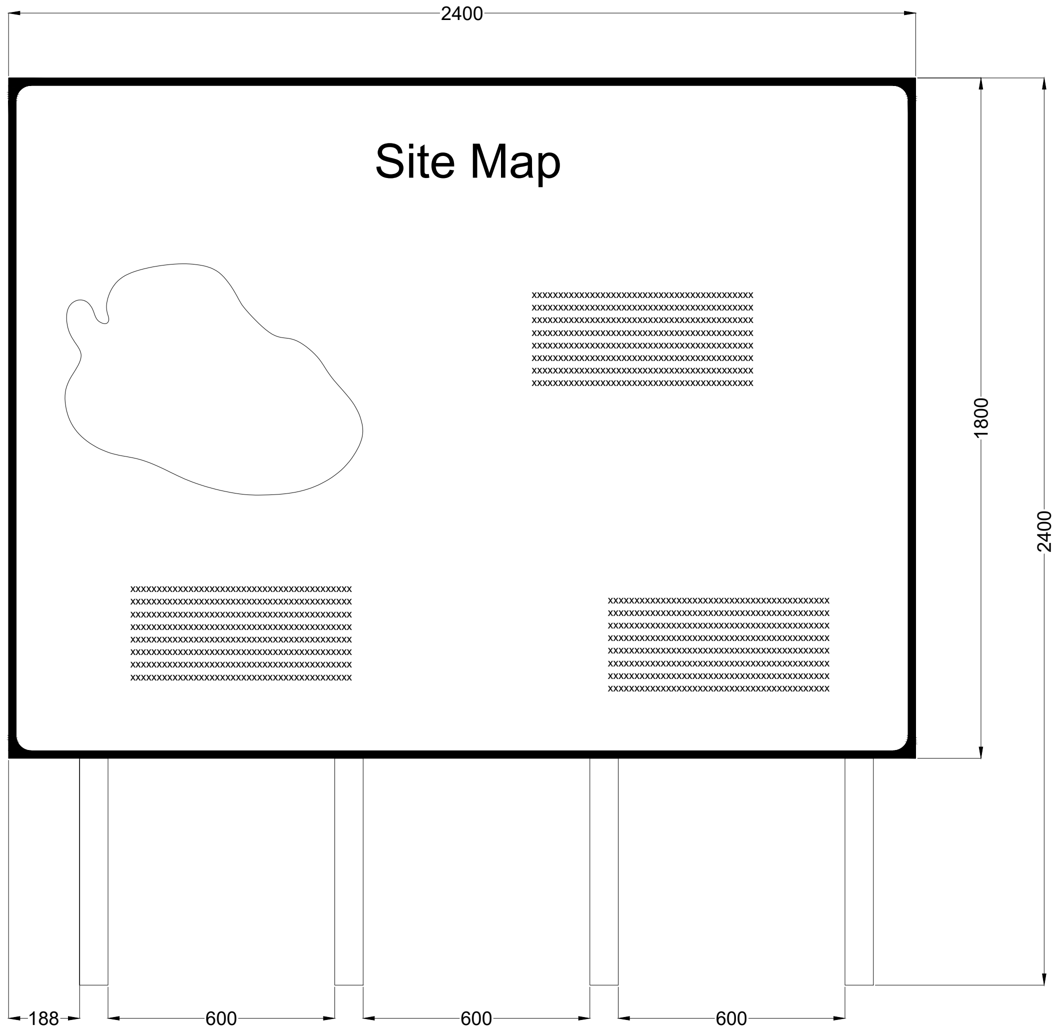
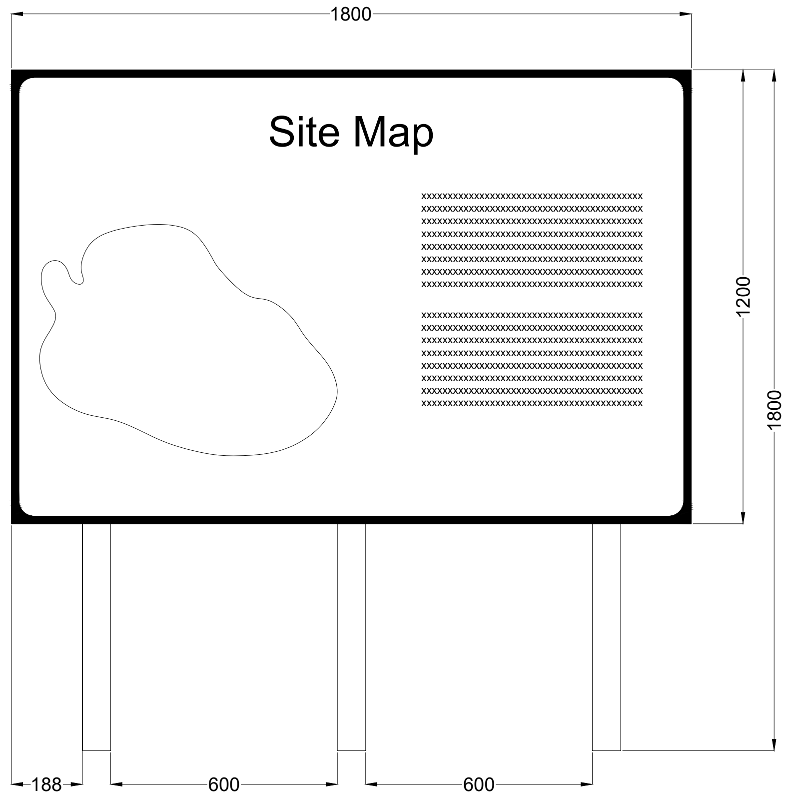
Note

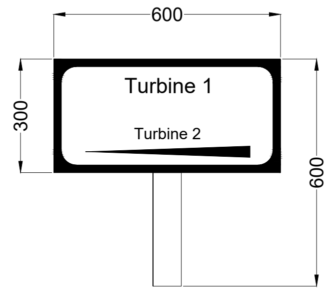
For illustrative purposes only
exact details to be confirmed



Signage Type A - Waypoint Map Signage



Signage Type B -Entry Point Signage



Signage Type C - Way Point Direction Signage

DRAWING TITLE:

Signage Detail

PROJECT TITLE: **Kilgarvan Wind Farm Repowering, Co. Kerry**

DRAWING BY: **Joseph O Brien**	CHECKED BY: **Orla Murphy**
PROJECT No.: **211107**	DRAWING No.: **211107 - 36**
SCALE: **1:20 @ A3**	DATE: **13.05.2024**

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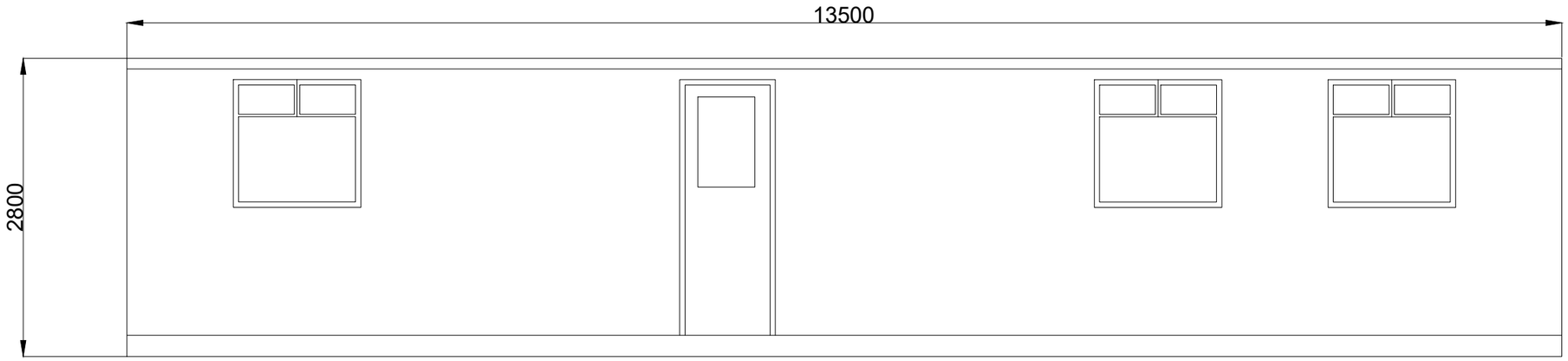
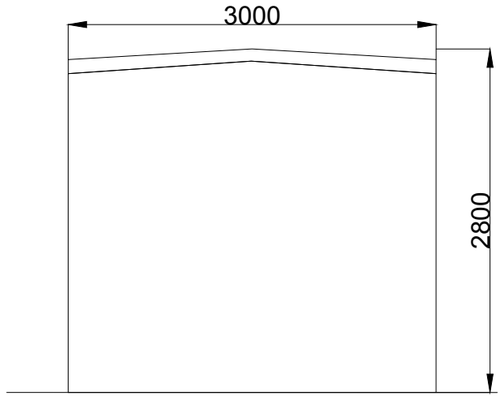
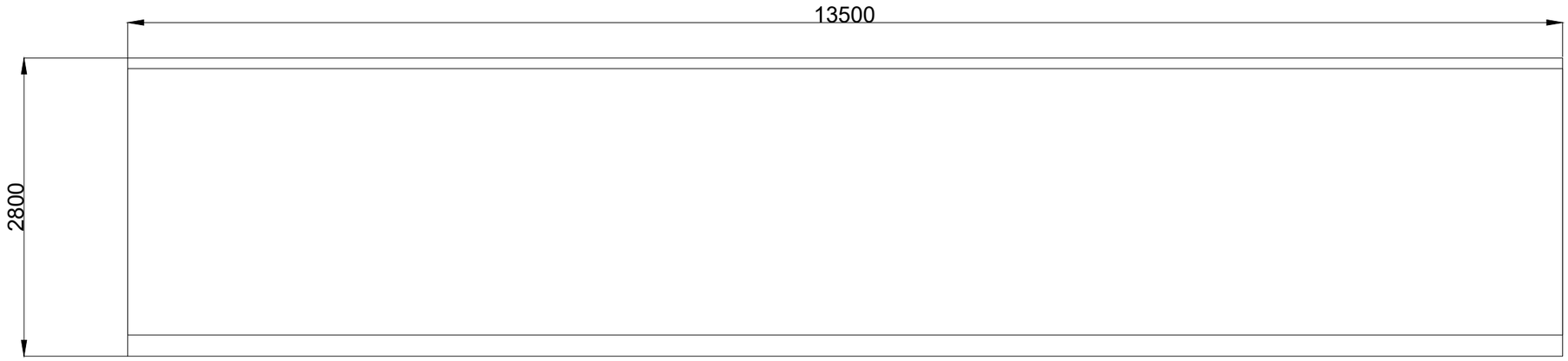


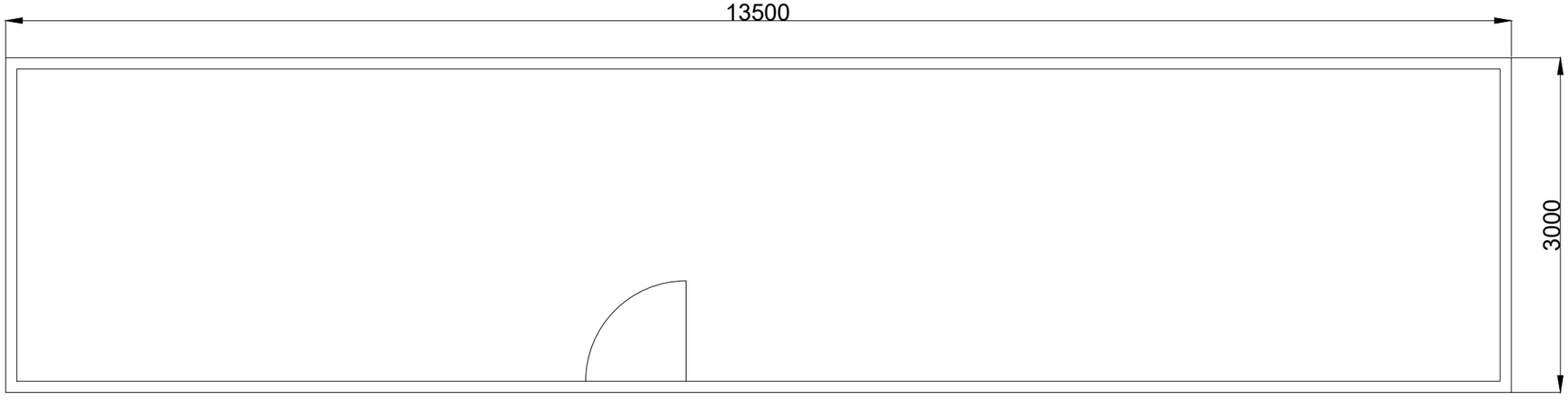
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



PLAN VIEW

DRAWING TITLE:
Site Office & Staff Facilities Detail

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY: **Joseph O Brien**	CHECKED BY: **Orla Murphy**
PROJECT No.: **211107**	DRAWING No.: **211107 - 37**
SCALE: **1:50 @ A3**	DATE: **13.05.2024**

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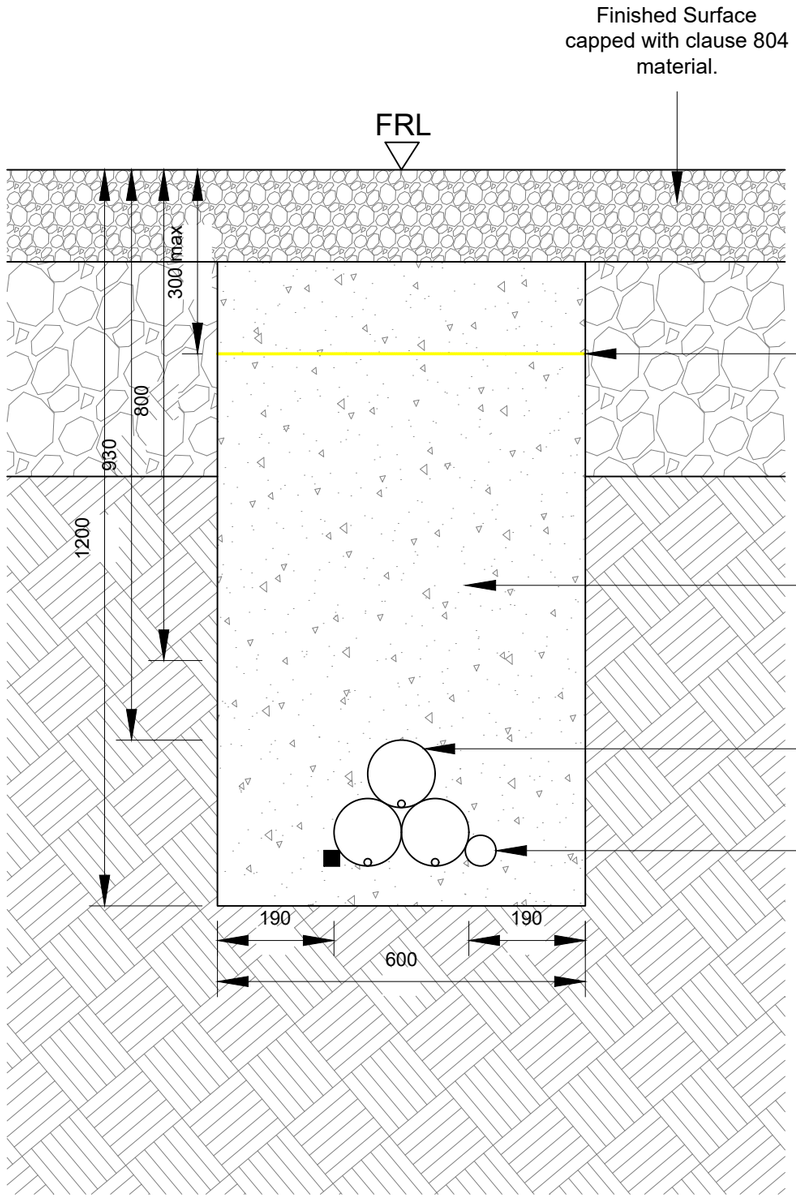


33kV Cable - On Road Trench Detail - Cross Section

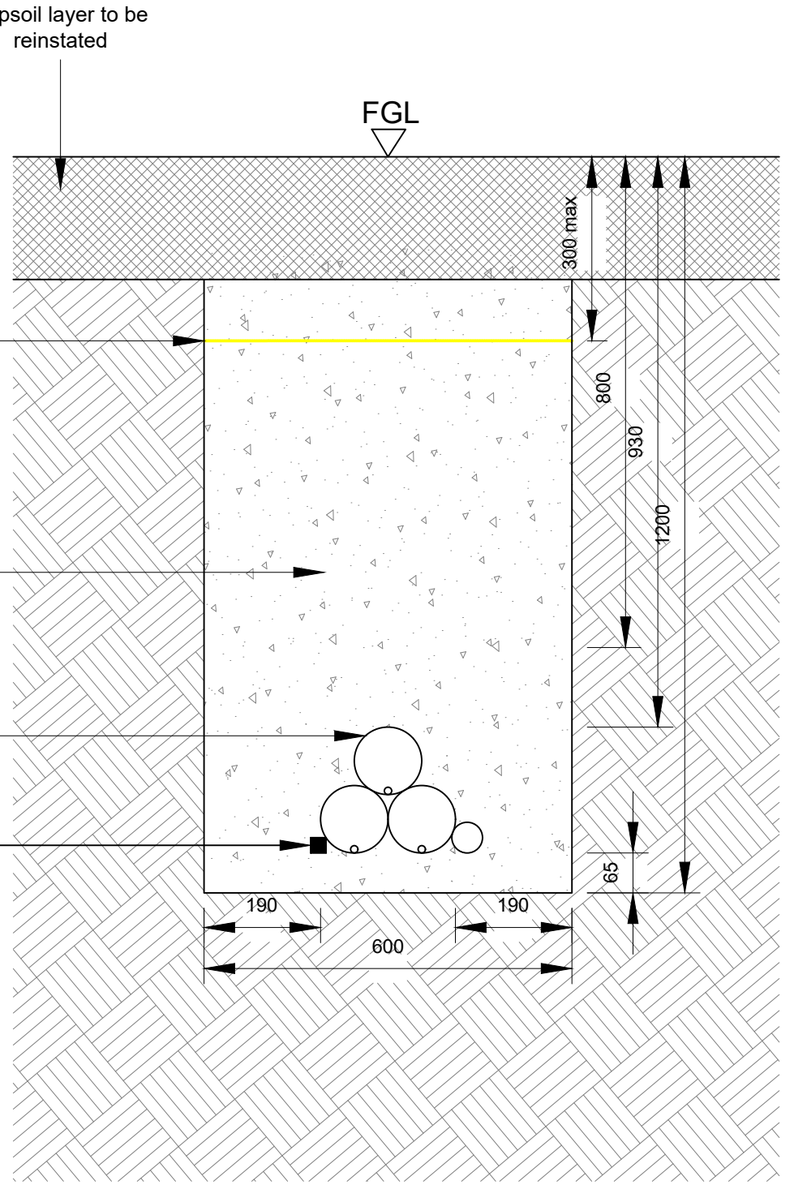
Yellow Marker Warning Tape.
across full width of trench

Trench backfilled with clause 804
material and compacted in accordance
with NRA guidlines.

110mm Diameter Ducts, complete with
12mm Diameter draw ropes.

50mm Diameter solid wall
fibre optic cable ducting.

25mm Square earth
conductor.



33kV Cable - Off Road Trench Detail - Cross Section

DRAWING TITLE:
33kV Cable Trench Sections

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 38
SCALE: 1:10 @ A3	DATE: 13.05.2024

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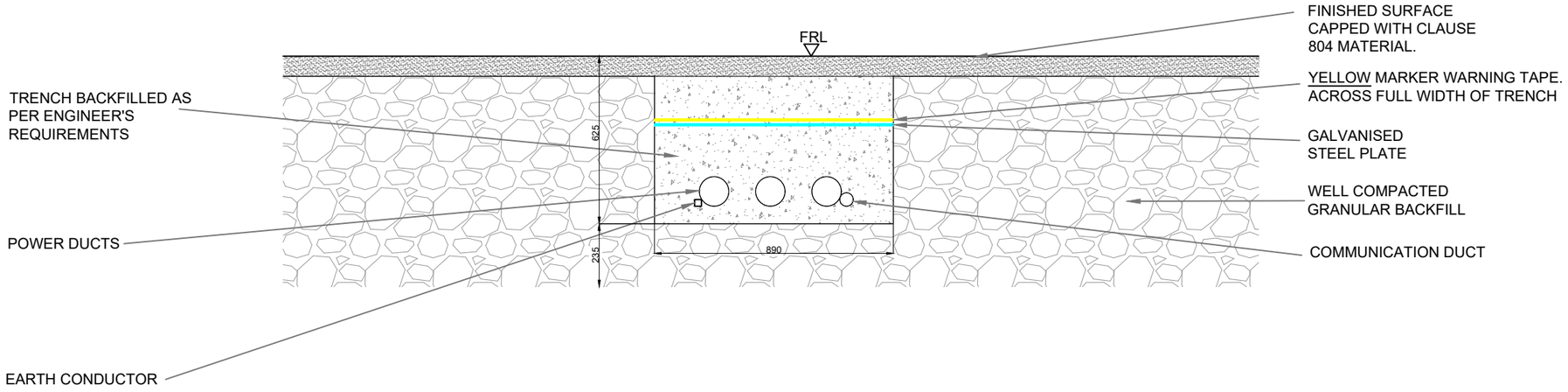
email: info@www.mkoireland.ie
Website: www.mkoireland.ie



33kV Cable Trench - Cross Section

SCALE 1:20

DRAWING TITLE:
33kV Cable Trench Section

PROJECT TITLE:
Kilgarvan Wind Farm Repowering, Co. Kerry

DRAWING BY:	CHECKED BY:
Joseph O Brien	Orla Murphy
PROJECT No.: 211107	DRAWING No.: 211107 - 39
SCALE: 1:20 @ A3	DATE: 13.05.2024

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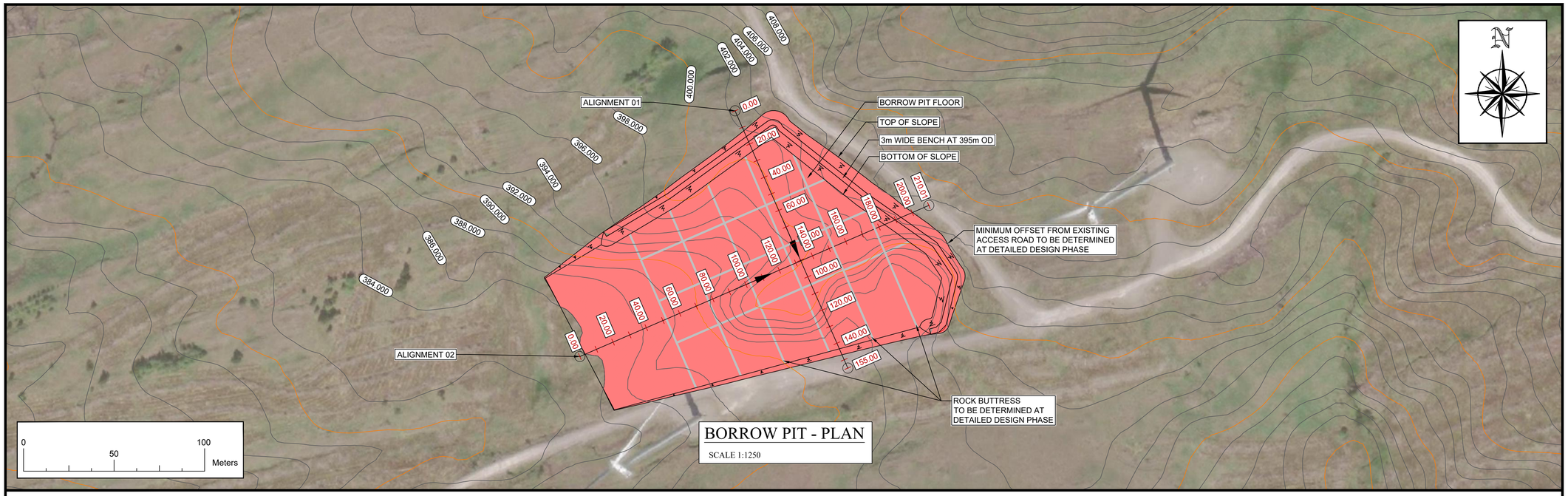
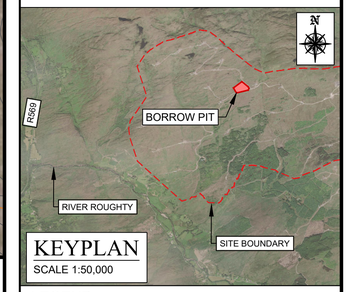


BORROW PIT - PLAN

SCALE 1:1250

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED
2. USE DIMENSIONS ON DRAWINGS (DO NOT SCALE FROM DRAWINGS).
3. EXISTING GROUND LEVEL ARE BASED ON DTM 5m BLUESKY 2018 CONTOURS 2m.
4. PLAN SHOWS BORROW PIT EXCAVATION ONLY.
5. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS DRAWINGS AND SPECIFICATIONS.
6. THE OUTLINE AND CROSS SECTIONS ARE INDICATIVE AND ARE SUBJECT TO DETAILED DESIGN AND SLOPE STABILITY ASSESSMENT.
7. ENGINEERED ROCK BUTTRESS MAY BE LEFT IN-SITU TO RESTRAIN CELLS OF PLACED PEAT AND OVERBURDEN.
8. EXCAVATION SHOULD BE OPTIMISED TO AVOID AREAS OF DEEPER PEAT.
9. IN-SITU ROCK SLOPE SHALL BE FORMED AT STABLE INCLINATIONS TO SUIT LOCAL ROCK CONDITIONS AND SUBJECT TO DETAILED DESIGN.
10. GEOGRID TO BE PLACED TO STRENGTHEN SURFACE OF PLACED PEAT & SPOIL, AS REQUIRED.
11. THE LOCATION OF THE ROCK BUTTRESSES SHOWN FOR THE BORROW AREAS ARE INDICATIVE ONLY AND SUBJECT TO DETILED DESIGN.
12. THE EXCAVATABILITY OF THE ROCK AND DEPTH TO TOP OF ROCK WITHIN THE BORROW PIT WILL NEED TO BE DETERMINED FROM FURTHER CONFIRMATORY GROUND INVESTIGATION.
13. REINSTATEMENT OF PEAT TO BE CARRIED OUT IN LINE WITH 22022-R-02-PMP-00 PEAT MANAGEMENT PLAN .
14. EXCAVATION TECHNIQUES TO BE CONFIRMED FOLLOWING GROUND INVESTIGATION.
15. GEOGRID REINFORCEMENT TO BE LAID NEAR SURFACE TO MAXIMISE STABILITY FOR SURFACE LAYER.
16. BORROW PIT ACCESS AND DRAINAGE PROVISIONS (UP SLOPE CUT OFF DRAINS ETC.) TO BE DETERMINED THROUGH DETAILED DESIGN.



KEYPLAN

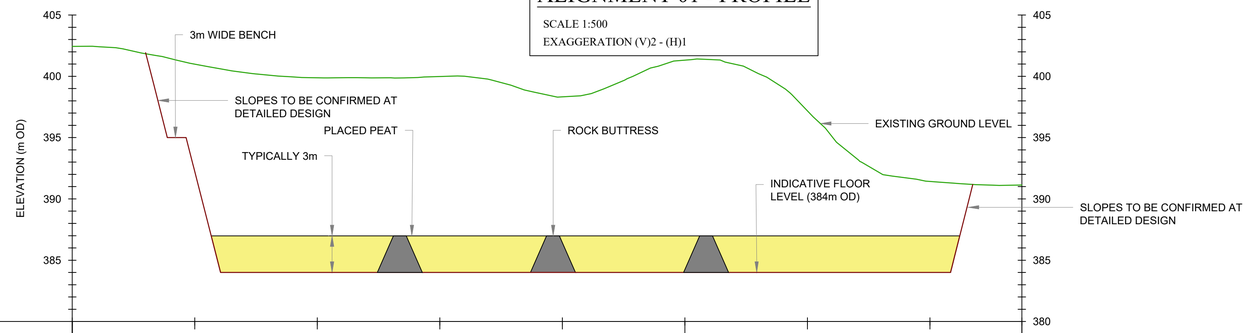
SCALE 1:50,000

LEGEND:

BORROW PIT CUT AREA
(ESTIMATED VOLUME = 207,379 m³)

ALIGNMENT 01 - PROFILE

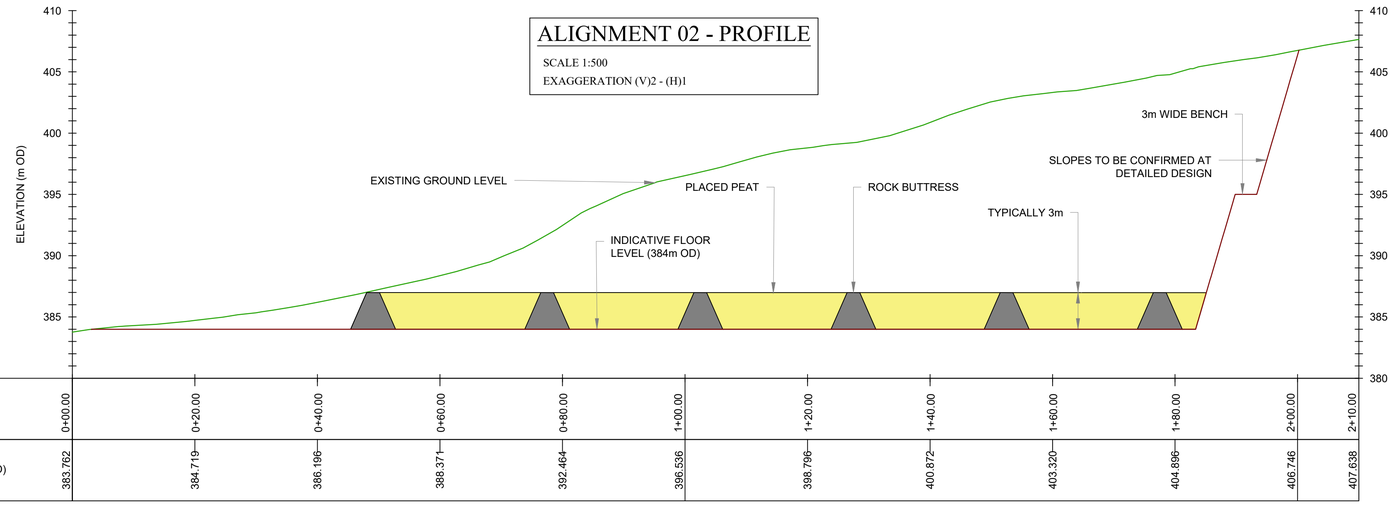
SCALE 1:500
EXAGGERATION (V)2 - (H)1



CHAINAGE (m)	0+00.00	0+20.00	0+40.00	0+60.00	0+80.00	1+00.00	1+20.00	1+40.00	1+55.00
EXISTING LEVELS (m OD)	402.437	400.986	399.881	399.985	398.322	401.318	397.182	391.424	391.134

ALIGNMENT 02 - PROFILE

SCALE 1:500
EXAGGERATION (V)2 - (H)1



CHAINAGE (m)	0+00.00	0+20.00	0+40.00	0+60.00	0+80.00	1+00.00	1+20.00	1+40.00	1+60.00	1+80.00	2+00.00	2+10.00
EXISTING LEVELS (m OD)	383.762	384.719	386.196	388.371	392.464	396.536	398.796	400.872	403.320	404.896	406.746	407.638

DRAFT

INDICATIVE DESIGN ONLY, ELEMENTS OF DESIGN MAY NEED TO BE REVISED OR FURTHER DEVELOPED. PLEASE CHECK WITH DESIGN ENGINEER INITIALED IN TITLEBLOCK PRIOR TO REFERRING TO INFORMATION WITHIN THIS DRAWING.

REV:	FI -01	DATE:	30/11/23	DRAWN BY:	E.F.C.	CHECKED BY:	C.E.
DESCRIPTION:	UPDATED BORROW PIT LEVELS AND SLOPES						
REV:	FI -00	DATE:	24/10/22	DRAWN BY:	J.F.G	CHECKED BY:	S.C.
DESCRIPTION:	ISSUED FOR INFORMATION						

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ISSUED AS: FOR INFORMATION

CLIENT: MKO

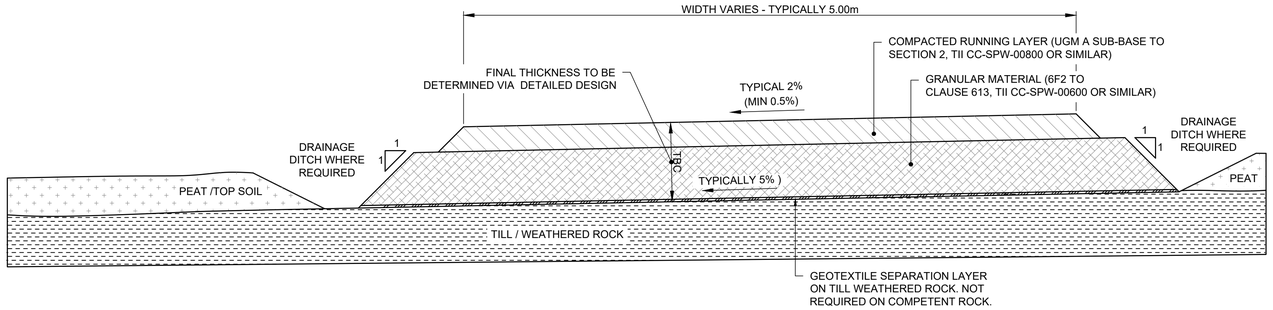
PROJECT TITLE: KILGARVAN WIND FARM REPOWERING

DRAWING No: 22022-GDG-ZZ-XX-DR-C-0001

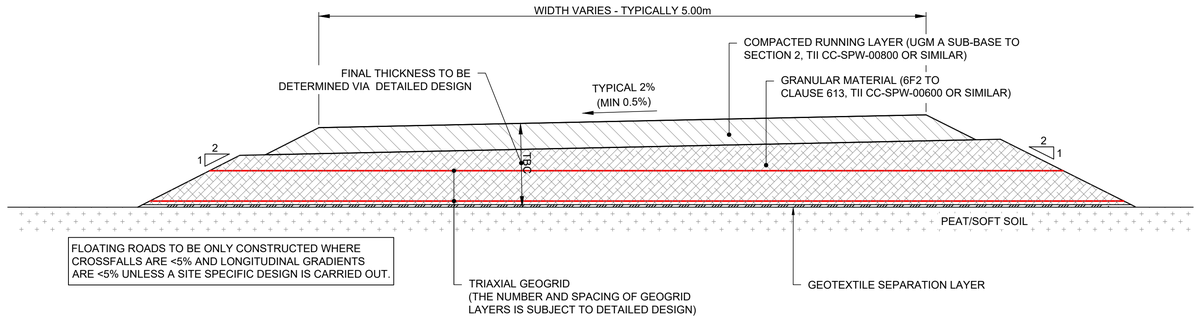
Revision: -FI -01

DRAWING TITLE: BORROW PIT PLAN AND SECTIONS

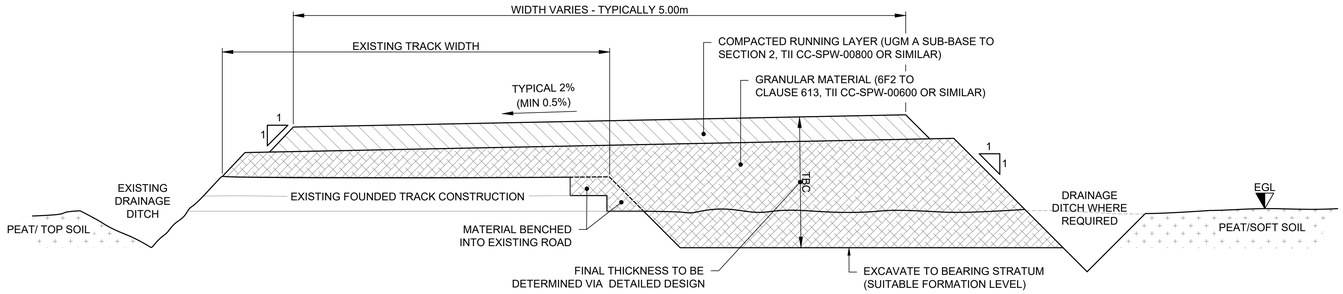
SCALE:	SHOWN	SHEET SIZE:	A1	DATE:	24/10/2022
DRAWN BY:	J.F.G	CHECKED BY:	S.C.	APPROVED BY:	J.O'D



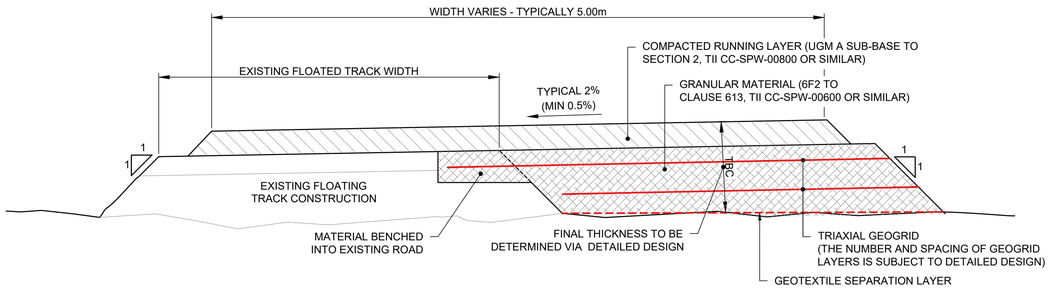
TYPICAL DETAIL A - SECTION THROUGH NEW FOUNDED ACCESS TRACK



TYPICAL DETAIL B - SECTION THROUGH NEW FLOATED ACCESS TRACK



TYPICAL DETAIL C - WIDENING OF EXISTING FOUNDED TRACK



TYPICAL DETAIL D - WIDENING OF EXISTING FLOATING TRACK

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. DO NOT SCALE FROM THIS DRAWING.
3. THE STRENGTH OF THE SUBFORMATION SOILS TO BE ASSESSED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION / PLACEMENT OF FILL.
4. DRAINAGE TO BE PROVIDED IN-LINE WITH DRAINAGE STRATEGY.
5. DRAWING REPRESENTS INDICATIVE DESIGN FOR PLANNING ONLY, **NOT FOR CONSTRUCTION**.

REV: FI -00	DATE: 12/01/22	DRAWN BY: R.R.	CHECKED BY: S.C
DESCRIPTION:	ISSUED FOR INFORMATION		

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www.gdgeo.com

ISSUED AS: FOR INFORMATION

CLIENT: MKO

PROJECT TITLE: KILGARVAN

DRAWING No: 22022-GDG-ZZ-XX-DR-C-0010

Revision: -FI -00

DRAWING TITLE: CROSS SECTION THROUGH GENERAL ACCESS TRACK DETAILS

SCALE: 1:25	SHEET SIZE: A1	DATE: 12/01/2023
DRAWN BY: R.R.	CHECKED BY: S.C	APPROVED BY: P.Q.

POLLUTION PREVENTION NOTES:

1. Site management proposals are intended to ensure protection against surface water and groundwater pollution, siltation and erosion.
2. Suitable drainage control measures should be in place at all times to prevent conveyance of significant volumes of silt to off site receiving watercourses.
3. Silty water can arise from dewatering excavations, erosion of exposed/disturbed ground, temporary stockpiles, plant and wheel wash, site roads/tracks, and disturbance of existing field drains and ditches.

Discharges

4. Water containing silt will not be pumped directly to any natural watercourse. All discharges to be made over open ground or into existing field drain with silt trap at a minimum of 20m from nearest watercourse unless otherwise stated.
5. No excavated material is to be stored within any surface water buffer zone.
6. Pumped water will be directed into track side ditches and treated in settlement ponds and vegetation swales prior to overland discharge.
7. Pumping of clean water from excavations / or over-pumping in drains/ditches/streams will be completed in a manner that does not cause scour or erosion at the point of release/discharge. This will be done by reducing the flow velocities or by use of splash plates, and other similar discharge controls.
8. Vegetation will not be stripped from existing drains/ditches unless absolutely necessary.

Excavations

9. Where deep excavations are proposed cut-off drains will be use to reduce the amount of surface water entering the excavation. This will be the case around turbine base excavations.

Exposed Ground & Stockpiles

10. The amount of exposed ground and temporary stockpiles open at any one time will be minimised, as far as practicable.

Site tracks

11. Use of track side swales with check dams, and/or filtration check dams will reduce silt in runoff water as required.
12. Check dams to be inspected and cleaned regularly.

Refueling

13. Refuelling of mobile plant will be completed in designated refueling areas only, preferably on an impermeable surface and away from field drains / ditches and watercourses / waterbodies.
14. Spill kits and drip trays will be available on site for use as required.

Concrete

15. Care will be taken when completing concrete works on site to ensure no discharges occur.
16. Concrete wash water, and waste concrete will be managed appropriately on site.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:

STOP - work in the immediate area should be stopped and the source of the pollution identified.

CONTAIN - the source of the pollution should be bunded using a suitable method. Natural watercourses should be temporarily diverted around the source of pollution.

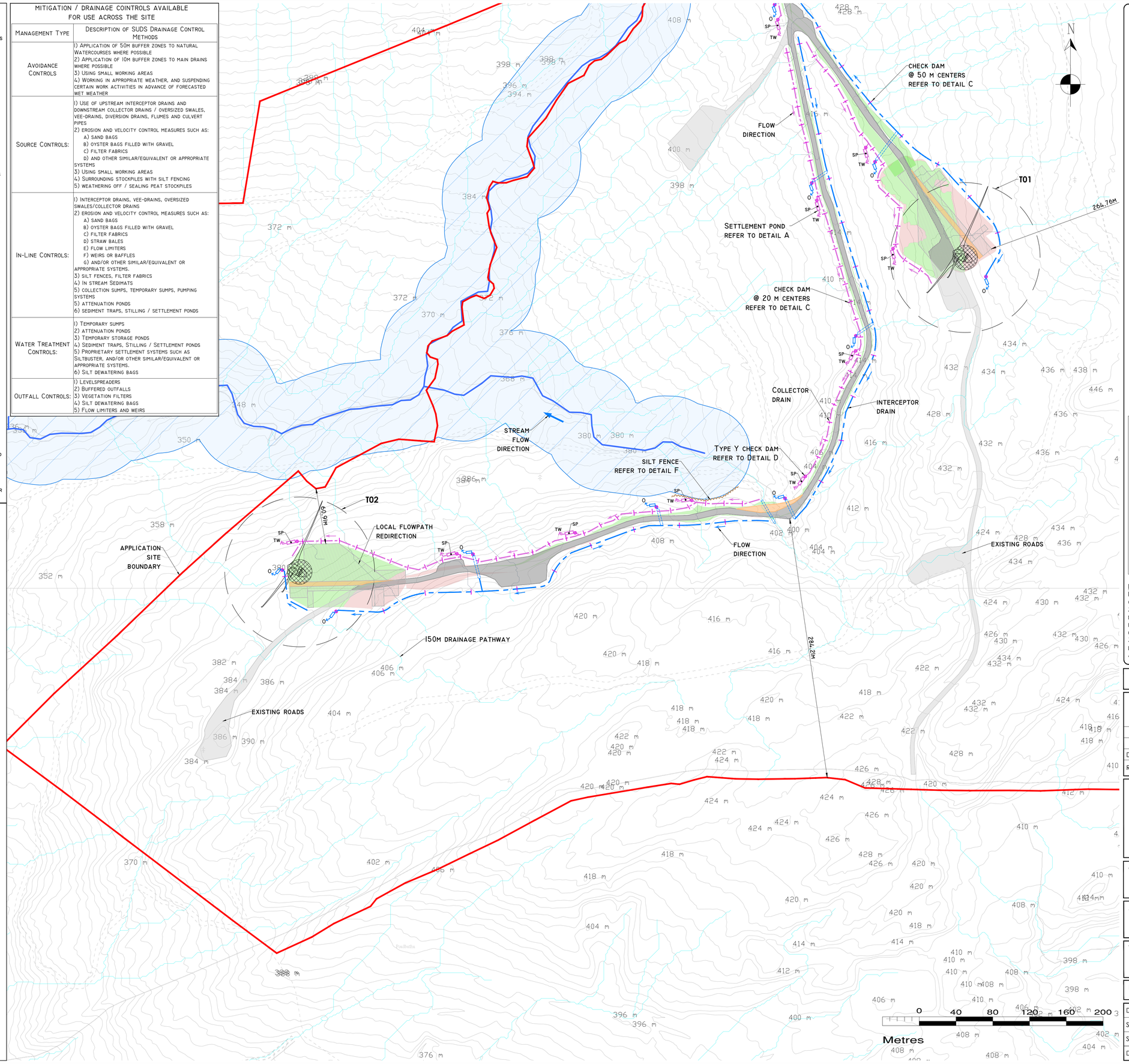
NOTIFY - The relevant authorities (Site Manager / Fisheries / NPWS / Local Authority etc.) should be notified immediately to ensure that measures can be implemented downstream to protect fisheries and other sensitive areas.

Drainage Notes:

1. Site Tracks and Roadway surfacing design and construction to Engineer's Specification (i.e. by others).
2. Spare straw bales/silt fencing/ or similar, to be stored on site. The level of silt in runoff during construction is to be monitored visually and excessive silt levels in any area to be temporarily managed by placing silt fences, straw bales / or similar or additional check dams at the problem areas. Mobile siltbuster system to be available on-site for use as required also.
3. SUDS system to be constructed prior to, or at the same time as the access tracks. Interim measures such as the placement of straw bales/silt fencing/or similar approved method or additional check dams and silt fences to be employed in all instances where work carried out to construct the access tracks is likely to cause adverse environmental effects through increased silt loadings being generated during the construction phase.
4. Suitable prevention measures should be in place at all times to prevent the conveyance of significant volumes of silt to receiving watercourses. See notes on pollution prevention.
5. Interceptor swales / ditches to be used to collect upstream surface water flows. Regular cross drains / discharge to field ditches/drains will be required to transfer / discharge surface water in interceptor drains to suitable field drain outfall points.
6. Drainage swales / ditches to be excavated adjacent to the access tracks. Regular cross drains to be located along access tracks to prevent excessive volumes of water collecting in the swales / ditches. Locations of cross drains to be agreed with the Engineer on site. Surface water will not be allowed to discharge directly into existing watercourses.
7. Where possible, a buffer zone of >20m to any existing watercourse will be required where over land discharges are proposed from access track swales / ditches.
8. Batters of all proposed swales / ditches to have a slope of between 1 : 1.5 to 1 : 2 depending upon depth of swale/ditch and will be left as cut to re-vegetate with local species.
9. Track side swales / ditches to be shallow with moderate gradients to prevent scouring. In steep areas check dams should be installed to reduce flow velocities and provide source control of silt containment. Where necessary these have been designated in conjunction with settlement ponds and silt traps, prior to discharge.
10. Settlement ponds to be constructed for silt removal at turbine bases and hard stand areas. Pond sizes depends on the catchment area being served. Sample pond sizes for various catchment areas shown on Drawing D501.
11. Straw bales / or similar and silt fences to be used also around spoil heaps to mitigate silt runoff. Silt fences may be removed when suitable vegetation cover is established.
12. silt fences to be provide along edge of existing watercourse where works comes within <15m of edge of any ditch / drain / ephemeral channels.
13. Slopes of the swales / ditches to be vegetated or protected from erosion until vegetation has been established. Stripped vegetative layer (peat 'sod' or 'scraw') from excavations to be stored locally and used to line slopes and base of swales / ditches or longitudinal mounds of vegetation swales at field drain discharge points.
14. Areas stripped of vegetation should be kept to a minimum.
15. Clean stone flow control check dams to be made of locally won / geologically similar well graded stone. Aggregate size for stone check dams to be typically 20- 40mm clean stone. On sloping sections of the access tracks, 40mm check dams to be protected from washing away through the placement of 100m stone on the downhill face of the check dam and by wrapping in geotextile.
16. Build up of silt levels at check dams to be removed and disposed of appropriately. Silt levels at check dams to be visually inspected as part of an ongoing drainage maintenance programme during the construction phase. Where check dams become clogged with silt or vegetation, stone check dam to be removed and replaced subsequent to the removal of silt.
17. Spacing and frequency of check dams will be dependent upon longitudinal gradient of swale.
18. Location of filtration check dams (if required) to be agreed on site with Engineer. Settlement ponds to be constructed in a manner where they may be easily infilled at a later date (post completion of the turbine base and hardstand construction). Only suitable materials excavated from the pond to be used to form part of the embankment around the pond.
19. Oil fuel should be stored within bunded containment structures.
20. Silt bags will be used on site at field drain discharge locations, as necessary.

MITIGATION / DRAINAGE COINTROLS AVAILABLE FOR USE ACROSS THE SITE

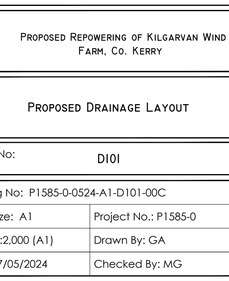
Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) Application of 50m buffer zones to natural watercourses where possible 2) Application of 10m buffer zones to main drains where possible 3) Using small working areas 4) Working in appropriate weather, and suspending certain work activities in advance of forecasted wet weather
Source Controls:	1) Use of upstream interceptor drains and downstream collector drains / oversized swales, vee-drains, diversion drains, flumes and culvert pipes 2) erosion and velocity control measures such as: a) sand bags b) oyster bags filled with gravel c) filter fabrics d) and other similar/equivalent or appropriate systems 3) Using small working areas 4) Surrounding stockpiles with silt fencing 5) weathering off / sealing peat stockpiles
In-Line Controls:	1) Interceptor drains, vee-drains, oversized swales/collector drains 2) erosion and velocity control measures such as: a) sand bags b) oyster bags filled with gravel c) filter fabrics d) straw bales e) flow limiters f) weirs or baffles g) and/or other similar/equivalent or appropriate systems. 3) silt fences, filter fabrics 4) In stream Sedimats 5) collection sumps, temporary sumps, pumping systems 5) attenuation ponds 6) sediment traps, stilling / settlement ponds
Water Treatment Controls:	1) Temporary sumps 2) attenuation ponds 3) Temporary storage ponds 4) Sediment traps, Stilling / Settlement ponds 5) Proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems. 6) Silt dewatering bags
Outfall Controls:	1) Levelspreaders 2) Buffered outfalls 3) Vegetation filters 4) Silt dewatering bags 5) Flow limiters and weirs



Drawing Legend :

- Existing Drainage
  - Rivers/Streams (WC - watercourse)
  - Rivers/Streams 50m buffer
  - Lakes
  - Lakes 50m buffer
  - Stream flow direction
  - Drainage flow pathways >150m length
- Proposed Drainage
  - Local flowpath redirection
  - Upstream interceptor Drain
  - Swales/Downstream Collector Drain
  - Direction of flow
  - Silt Fences
  - Double/Triple Silt Fences
  - settlement pond - level spreader
  - Check Dam 'type A'
  - Check Dam 'type B'
  - proposed WC crossing
  - existing WC crossing
  - Interceptor Ditch Culvert
  - Collector Ditch Culvert
  - O — Overland Flow Discharge
  - TW — Treated Water Discharge
  - SP — Settlement Pond
  - VS — Semi-Natural Vegetation Swale / Filter Bed /Secondary SP
  - Temporary Pumping Sump (used at turbine bases during construction phase)
- Application site boundary
- Existing lease bouchette boundary
- Existing row coillte boundary
- Existing ground surface minor contour (2 m interval)
- Turbine and swept area
- Proposed hardcored areas
- Existing roads proposed to be upgraded
- Existing roads
- Hardstand
- Substation
- Construction compound
- Borrow pit
- Cut area
- Fill area

KEY PLAN



Drawing Notes

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3. Do not scale off this drawing. Figured metric dimensions only should be taken off this drawing.
4. All dimensions are in metres.

Date	Description	Chkd	Signed

Revisions

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email: info@hydroenvironmental.ie
web: www.hydroenvironmental.ie

Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: D101

Drawing No: P1585-0-0524-A1-D101-00C	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management proposals are intended to ensure protection against surface water and groundwater pollution, siltation and erosion.
2. Suitable drainage control measures should be in place at all times to prevent conveyance of significant volumes of silt to off site receiving watercourses.
3. Silty water can arise from dewatering excavations, erosion of exposed/disturbed ground, temporary stockpiles, plant and wheel wash, site roads/tracks, and disturbance of existing field drains and ditches.

Discharges

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5. No excavated material is to be stored within any surface water buffer zone.
6. Pumped water will be directed into track side ditches and treated in settlement ponds and vegetation swales prior to overland discharge.
7. Pumping of clean water from excavations / or over-pumping in drains/ditches/streams will be completed in a manner that does not cause scour or erosion at the point of release/discharge. This will be done by reducing the flow velocities or by use of splash plates, and other similar discharge controls.
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Excavations

9. Where deep excavations are proposed cut-off drains will be use to reduce the amount of surface water entering the excavation. This will be the case around turbine base excavations.

Exposed Ground & Stockpiles

10. The amount of exposed ground and temporary stockpiles open at any one time will be minimised, as far as practicable.

Site tracks

11. Use of track side swales with check dams, and/or filtration check dams will reduce silt in runoff water as required.
12. Check dams to be inspected and cleaned regularly.

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7. Where possible, a buffer zone of >20m to any existing watercourse will be required where over land discharges are proposed from access track swales / ditches.
8. Batters of all proposed swales / ditches to have a slope of between 1 : 1.5 to 1 : 2 depending upon depth of swale/ditch and will be left as cut to re-vegetate with local species.
9. Track side swales / ditches to be shallow with moderate gradients to prevent scouring. In steep areas check dams should be installed to reduce flow velocities and provide source control of silt containment. Where necessary these have been designated in conjunction with settlement ponds and silt traps, prior to discharge.
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11. Straw bales / or similar and silt fences to be used also around spoil heaps to mitigate silt runoff. Silt fences may be removed when suitable vegetation cover is established.
12. Silt fences to be provide along edge of existing watercourse where works comes within <15m of edge of any ditch / drain / ephemeral channels.
13. Slopes of the swales / ditches to be vegetated or protected from erosion until vegetation has been established. Stripped vegetative layer (peat 'sod' or 'scraw') from excavations to be stored locally and used to line slopes and base of swales / ditches or longitudinal mounds of vegetation swales at field drain discharge points.
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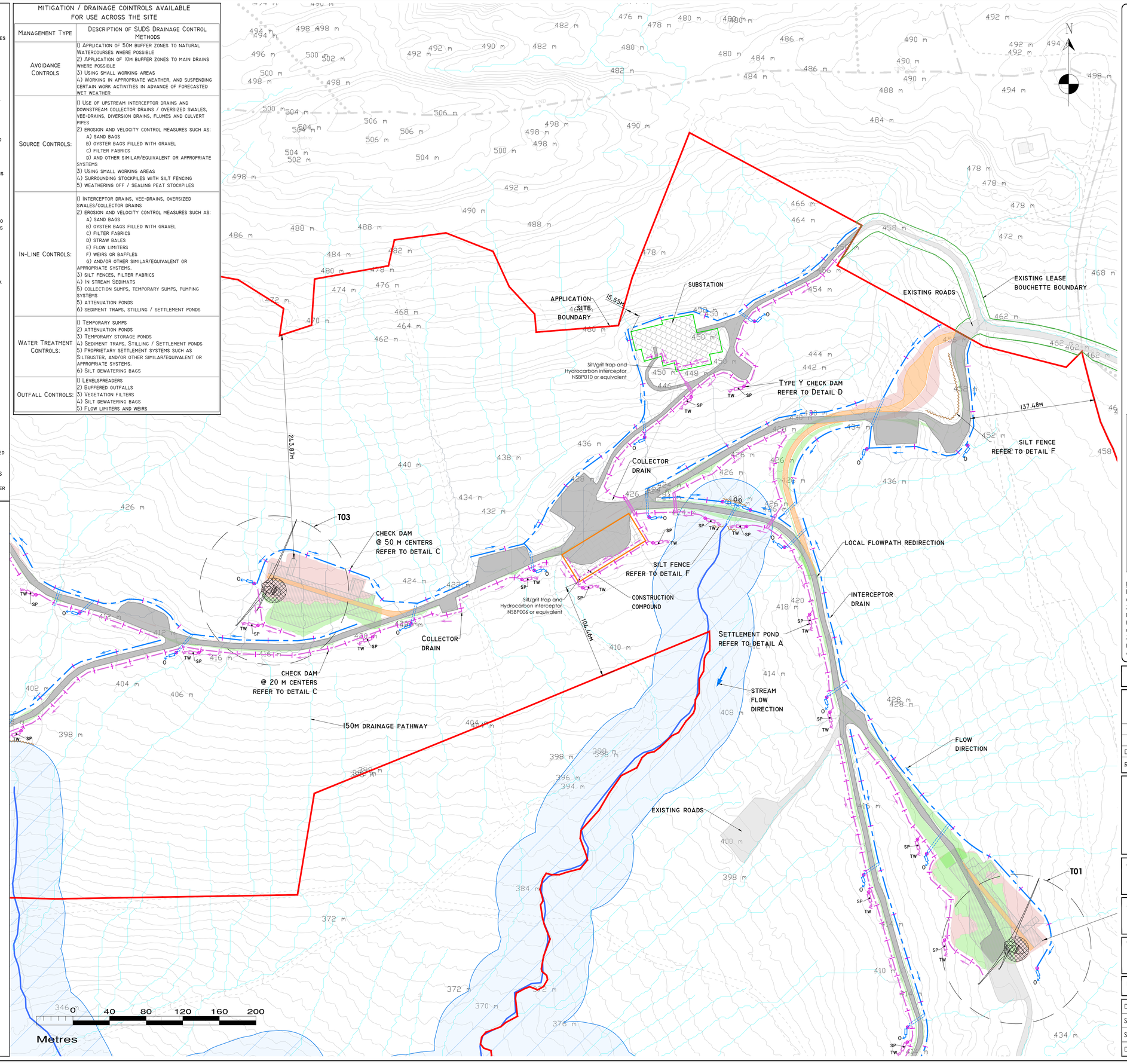
17. Spacing and frequency of check dams will be dependent upon longitudinal gradient of swale.
18. Location of filtration check dams (if required) to be agreed on site with Engineer. Settlement ponds to be constructed in a manner where they may be easily infilled at a later date (post completion of the turbine base and hardstand construction). Only suitable materials excavated from the pond to be used to form part of the embankment around the pond.
19. Oil fuel should be stored within bunded containment structures.
20. Silt bags will be used on site at field drain discharge locations, as necessary.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) Application of 50m buffer zones to natural watercourses where possible 2) Application of 10m buffer zones to main drains where possible 3) Using small working areas 4) Working in appropriate weather, and suspending certain work activities in advance of forecasted wet weather
Source Controls:	1) Use of upstream interceptor drains and downstream collector drains / oversized swales, vee-drains, diversion drains, flumes and culvert pipes 2) Erosion and velocity control measures such as: a) Sand bags b) Oyster bags filled with gravel c) Filter fabrics d) And other similar/equivalent or appropriate systems 3) Using small working areas 4) Surrounding stockpiles with silt fencing 5) Weathering off / sealing peat stockpiles
In-Line Controls:	1) Interceptor drains, vee-drains, oversized swales/collector drains 2) Erosion and velocity control measures such as: a) Sand bags b) Oyster bags filled with gravel c) Filter fabrics d) Straw bales e) Flow limiters f) Weirs or baffles g) And/or other similar/equivalent or appropriate systems. 3) Silt fences, filter fabrics 4) In stream Sedimats 5) collection sumps, temporary sumps, pumping systems 5) Attenuation ponds 6) sediment traps, stilling / settlement ponds
Water Treatment Controls:	1) Temporary sumps 2) Attenuation ponds 3) Temporary storage ponds 4) Sediment traps, Stilling / Settlement ponds 5) Proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems. 6) Silt dewatering bags
Outfall Controls:	1) Levelspreaders 2) Buffered outfalls 3) Vegetation filters 4) Silt dewatering bags 5) Flow limiters and weirs



Drawing Legend :

- Existing Drainage
  - Rivers/Streams (WC - watercourse)
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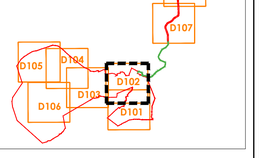
KEY PLAN



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Revisions			

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Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: DI02

Drawing No: P1585-0-0524-A1-D102-00C	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management proposals are intended to ensure protection against surface water and groundwater pollution, siltation and erosion.
2. Suitable drainage control measures should be in place at all times to prevent conveyance of significant volumes of silt to off site receiving watercourses.
3. Silty water can arise from dewatering excavations, erosion of exposed/disturbed ground, temporary stockpiles, plant and wheel wash, site roads/tracks, and disturbance of existing field drains and ditches.

Discharges

4. Water containing silt will not be pumped directly to any natural watercourse. All discharges to be made over open ground or into existing field drain with silt trap at a minimum of 20m from nearest watercourse unless otherwise stated.
5. No excavated material is to be stored within any surface water buffer zone.
6. Pumped water will be directed into track side ditches and treated in settlement ponds and vegetation swales prior to overland discharge.
7. Pumping of clean water from excavations / or over-pumping in drains/ditches/streams will be completed in a manner that does not cause scour or erosion at the point of release/discharge. This will be done by reducing the flow velocities or by use of splash plates, and other similar discharge controls.
8. Vegetation will not be stripped from existing drains/ditches unless absolutely necessary.

Excavations

9. Where deep excavations are proposed cut-off drains will be use to reduce the amount of surface water entering the excavation. This will be the case around turbine base excavations.

Exposed Ground & Stockpiles

10. The amount of exposed ground and temporary stockpiles open at any one time will be minimised, as far as practicable.

Site tracks

11. Use of track side swales with check dams, and/or filtration check dams will reduce silt in runoff water as required.
12. Check dams to be inspected and cleaned regularly.

Refueling

13. Refuelling of mobile plant will be completed in designated refueling areas only, preferably on an impermeable surface and away from field drains / ditches and watercourses / waterbodies.
14. Spill kits and drip trays will be available on site for use as required.

Concrete

15. Care will be taken when completing concrete works on site to ensure no discharges occur.
16. Concrete wash water, and waste concrete will be managed appropriately on site.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:

STOP - work in the immediate area should be stopped and the source of the pollution identified.

CONTAIN - the source of the pollution should be bunded using a suitable method. Natural watercourses should be temporarily diverted around the source of pollution.

NOTIFY - The relevant authorities (Site Manager / Fisheries / NPWS / Local Authority etc.) should be notified immediately to ensure that measures can be implemented downstream to protect fisheries and other sensitive areas.

DRAINAGE NOTES:

1. Site Tracks and Roadway surfacing design and construction to Engineer's Specification (i.e. by others).
2. Spare straw bales/silt fencing/ or similar, to be stored on site. The level of silt in runoff during construction is to be monitored visually and excessive silt levels in any area to be temporarily managed by placing silt fences, straw bales / or similar or additional check dams at the problem areas. Mobile siltbuster system to be available on-site for use as required also.
3. SUDS system to be constructed prior to, or at the same time as the access tracks. Interim measures such as the placement of straw bales/silt fencing/or similar approved method or additional check dams and silt fences to be employed in all instances where work carried out to construct the access tracks is likely to cause adverse environmental effects through increased silt loadings being generated during the construction phase.
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5. Interceptor swales / ditches to be used to collect upstream surface water flows. Regular cross drains / discharge to field ditches/drains will be required to transfer / discharge surface water in interceptor drains to suitable field drain outfall points.
6. Drainage swales / ditches to be excavated adjacent to the access tracks. Regular cross drains to be located along access tracks to prevent excessive volumes of water collecting in the swales / ditches. Locations of cross drains to be agreed with the Engineer on site. Surface water will not be allowed to discharge directly into existing watercourses.
7. Where possible, a buffer zone of >20m to any existing watercourse will be required where over land discharges are proposed from access track swales / ditches.
8. Batters of all proposed swales / ditches to have a slope of between 1 : 1.5 to 1 : 2 depending upon depth of swale/ditch and will be left as cut to re-vegetate with local species.
9. Track side swales / ditches to be shallow with moderate gradients to prevent scouring. In steep areas check dams should be installed to reduce flow velocities and provide source control of silt containment. Where necessary these have been designated in conjunction with settlement ponds and silt traps, prior to discharge.
10. Settlement ponds to be constructed for silt removal at turbine bases and hard stand areas. Pond sizes depends on the catchment area being served. Sample pond sizes for various catchment areas shown on Drawing D501.
11. Straw bales / or similar and silt fences to be used also around spoil heaps to mitigate silt runoff. Silt fences may be removed when suitable vegetation cover is established.
12. Silt fences to be provide along edge of existing watercourse where works comes within <15m of edge of any ditch / drain / ephemeral channels.
13. Slopes of the swales / ditches to be vegetated or protected from erosion until vegetation has been established. Stripped vegetative layer ('peat 'sod' or 'scraw') from excavations to be stored locally and used to line slopes and base of swales / ditches or longitudinal mounds of vegetation swales at field drain discharge points.
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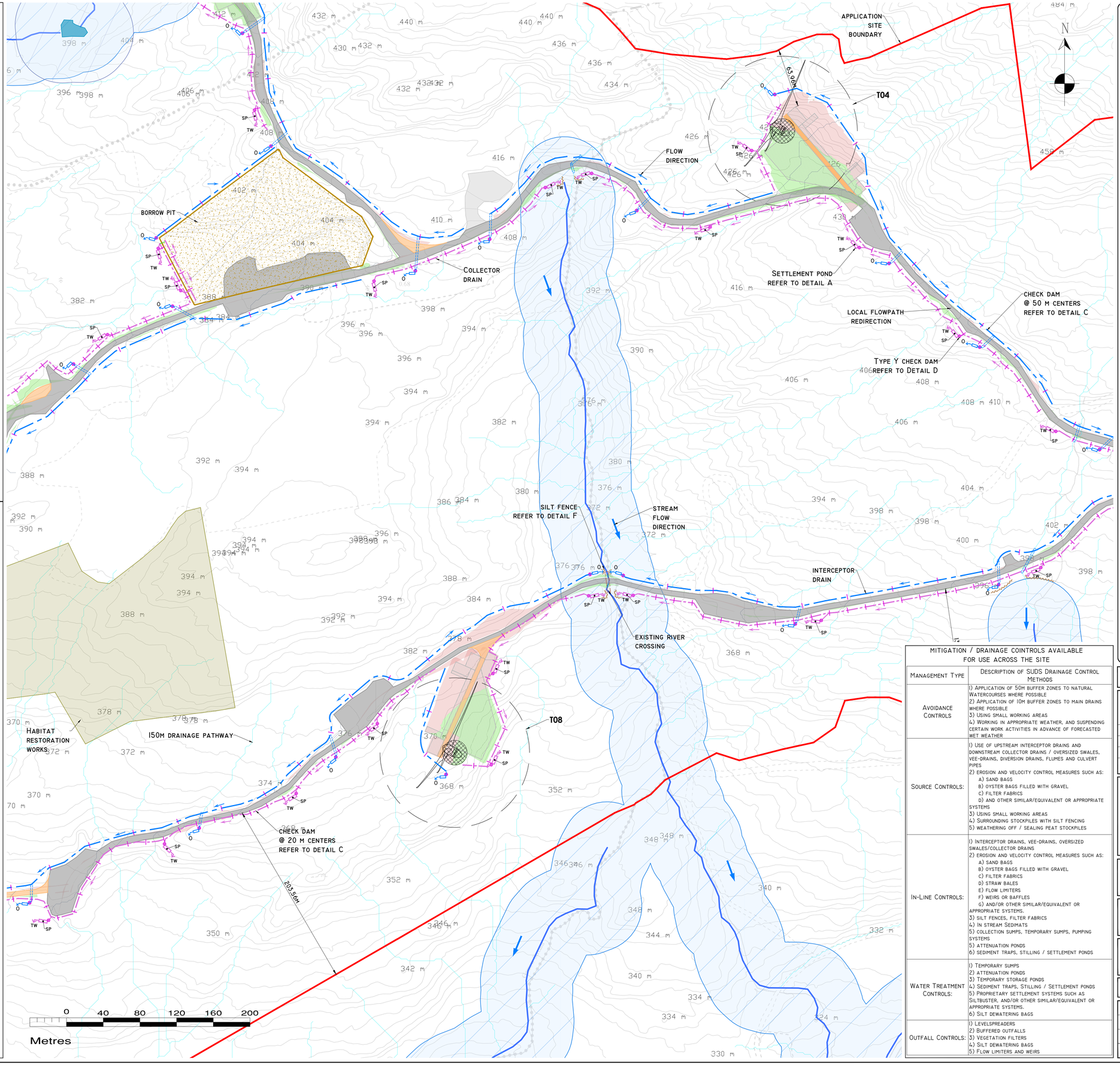

MITIGATION / DRAINAGE COINTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) Application of 50m buffer zones to natural Watercourses where possible 2) Application of 10m buffer zones to main drains where possible 3) Using small working areas 4) Working in appropriate weather, and suspending certain work activities in advance of forecasted wet weather
Source Controls:	1) Use of upstream interceptor drains and downstream collector drains / oversized swales, vee-drains, diversion drains, flumes and culvert pipes 2) Erosion and velocity control measures such as: A) Sand bags B) Oyster bags filled with gravel C) Filter fabrics D) And other similar/equivalent or appropriate systems 3) Using small working areas 4) Surrounding stockpiles with silt fencing 5) Weathering off / sealing peat stockpiles
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Drawing Legend :

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  - Silt Fences
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  - Check Dam 'Type A'
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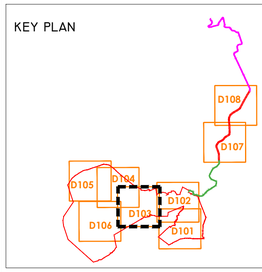
- Existing Roads
- Hardstand
- Substation
- Construction Compound
- Borrow Pit
- Cut Area
- Fill Area
- Habitat Restoration Works

KEY PLAN



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Revisions			

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Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: DI03

Drawing No: P1585-0-0524-A1-D103-00D	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

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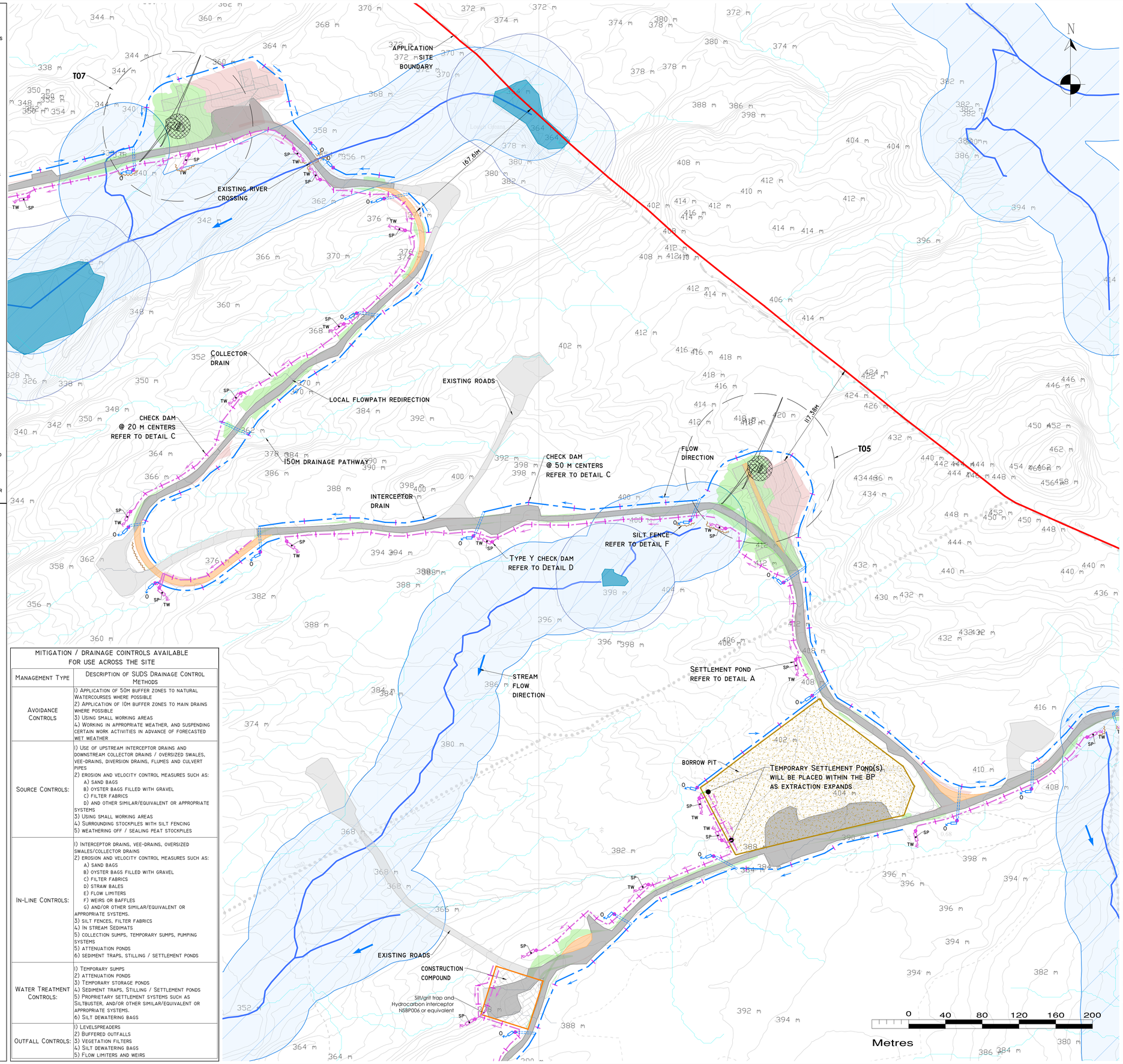

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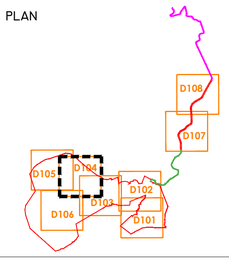
KEY PLAN



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Revisions

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Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: DI04

Drawing No: P1585-0-0524-A1-D104-00C	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

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3. Silty water can arise from dewatering excavations, erosion of exposed/disturbed ground, temporary stockpiles, plant and wheel wash, site roads/tracks, and disturbance of existing field drains and ditches.

Discharges

4. Water containing silt will not be pumped directly to any natural watercourse. All discharges to be made over open ground or into existing field drain with silt trap at a minimum of 20m from nearest watercourse unless otherwise stated.
5. No excavated material is to be stored within any surface water buffer zone.
6. Pumped water will be directed into track side ditches and treated in settlement ponds and vegetation swales prior to overland discharge.
7. Pumping of clean water from excavations / or over-pumping in drains/ditches/streams will be completed in a manner that does not cause scour or erosion at the point of release/discharge. This will be done by reducing the flow velocities or by use of splash plates, and other similar discharge controls.
8. Vegetation will not be stripped from existing drains/ditches unless absolutely necessary.

Excavations

9. Where deep excavations are proposed cut-off drains will be use to reduce the amount of surface water entering the excavation. This will be the case around turbine base excavations.

Exposed Ground & Stockpiles

10. The amount of exposed ground and temporary stockpiles open at any one time will be minimised, as far as practicable.

Site tracks

11. Use of track side swales with check dams, and/or filtration check dams will reduce silt in runoff water as required.
12. Check dams to be inspected and cleaned regularly.

Refueling

13. Refuelling of mobile plant will be completed in designated refueling areas only, preferably on an impermeable surface and away from field drains / ditches and watercourses / waterbodies.
14. Spill kits and drip trays will be available on site for use as required.

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15. Care will be taken when completing concrete works on site to ensure no discharges occur.
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2. Spare straw bales/silt fencing/ or similar, to be stored on site. The level of silt in runoff during construction is to be monitored visually and excessive silt levels in any area to be temporarily managed by placing silt fences, straw bales / or similar or additional check dams at the problem areas. Mobile siltbuster system to be available on-site for use as required also.
3. SUDS system to be constructed prior to, or at the same time as the access tracks. Interim measures such as the placement of straw bales/silt fencing/or similar approved method or additional check dams and silt fences to be employed in all instances where work carried out to construct the access tracks is likely to cause adverse environmental effects through increased silt loadings being generated during the construction phase.
4. Suitable prevention measures should be in place at all times to prevent the conveyance of significant volumes of silt to receiving watercourses. See notes on pollution prevention.
5. Interceptor swales / ditches to be used to collect upstream surface water flows. Regular cross drains / discharge to field ditches/drains will be required to transfer / discharge surface water in interceptor drains to suitable field drain outfall points.
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7. Where possible, a buffer zone of >20m to any existing watercourse will be required where over land discharges are proposed from access track swales / ditches.
8. Batters of all proposed swales / ditches to have a slope of between 1 : 1.5 to 1 : 2 depending upon depth of swale/ditch and will be left as cut to re-vegetate with local species.
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11. Straw bales / or similar and silt fences to be used also around spoil heaps to mitigate silt runoff. Silt fences may be removed when suitable vegetation cover is established.
12. Silt fences to be provide along edge of existing watercourse where works comes within <15m of edge of any ditch / drain / ephemeral channels.
13. Slopes of the swales / ditches to be vegetated or protected from erosion until vegetation has been established. Stripped vegetative layer (peat 'sod' or 'scraw') from excavations to be stored locally and used to line slopes and base of swales / ditches or longitudinal mounds of vegetation swales at field drain discharge points.
14. Areas stripped of vegetation should be kept to a minimum.
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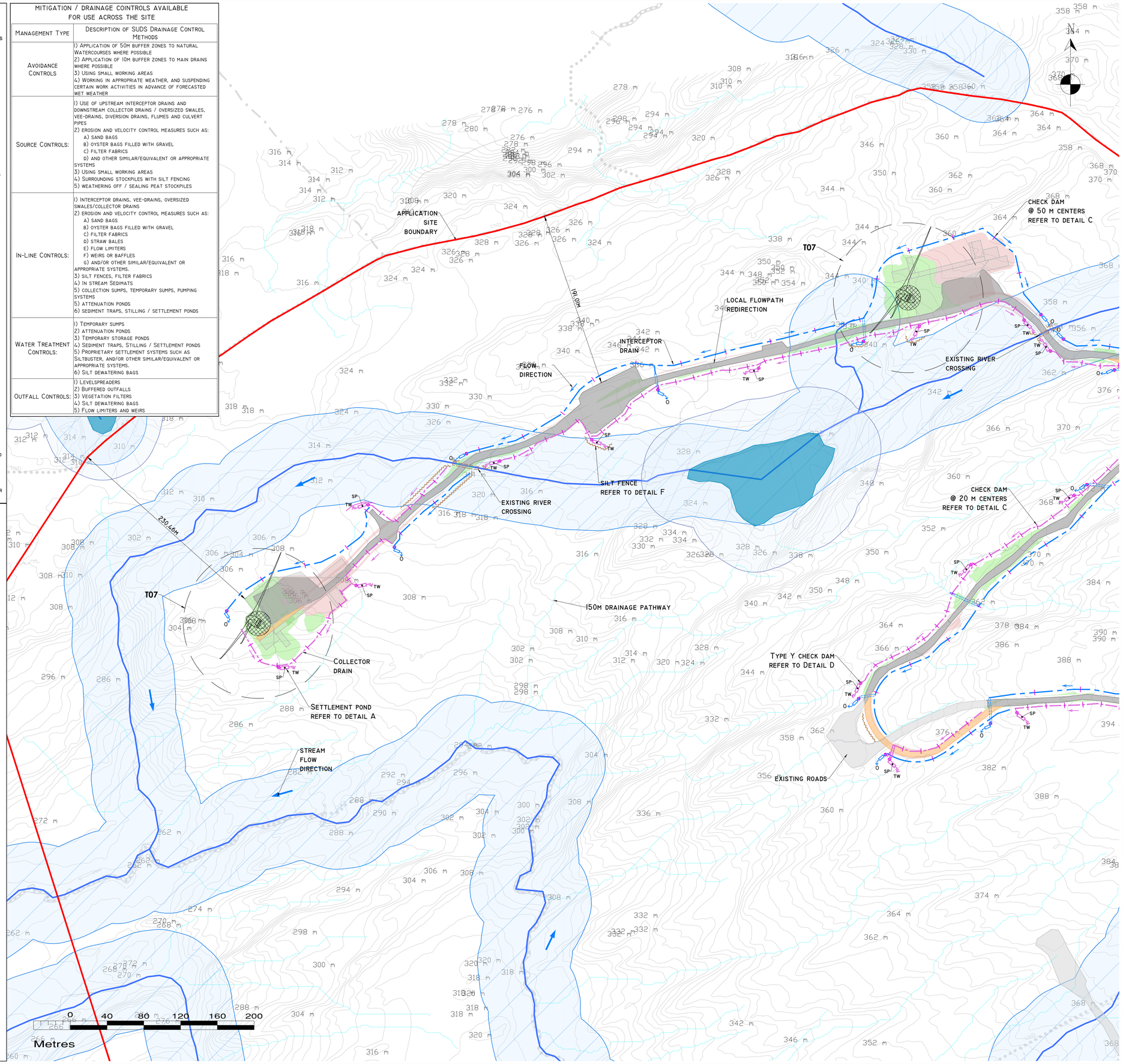
16. Build up of silt levels at check dams to be removed and disposed of appropriately. Silt levels at check dams to be visually inspected as part of an ongoing drainage maintenance programme during the construction phase. Where check dams become clogged with silt or vegetation, stone check dam to be removed and replaced subsequent to the removal of silt.
17. Spacing and frequency of check dams will be dependent upon longitudinal gradient of swale.
18. Location of filtration check dams (if required) to be agreed on site with Engineer. Settlement ponds to be constructed in a manner where they may be easily infilled at a later date (post completion of the turbine base and hardstand construction). Only suitable materials excavated from the pond to be used to form part of the embankment around the pond.
19. Oil fuel should be stored within bunded containment structures.
20. Silt bags will be used on site at field drain discharge locations, as necessary.

MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) Application of 50m buffer zones to natural watercourses where possible 2) Application of 10m buffer zones to main drains where possible 3) Using small working areas 4) Working in appropriate weather, and suspending certain work activities in advance of forecasted wet weather
Source Controls:	1) Use of upstream interceptor drains and downstream collector drains / oversized swales, vee-drains, diversion drains, flumes and culvert pipes 2) Erosion and velocity control measures such as: a) Sand bags b) Oyster bags filled with gravel c) Filter fabrics d) And other similar/equivalent or appropriate systems 3) Using small working areas 4) Surrounding stockpiles with silt fencing 5) Weathering off / sealing peat stockpiles
In-Line Controls:	1) Interceptor drains, vee-drains, oversized swales/collector drains 2) Erosion and velocity control measures such as: a) Sand bags b) Oyster bags filled with gravel c) Filter fabrics d) Straw bales e) Flow limiters f) Weirs or baffles g) And/or other similar/equivalent or appropriate systems. 3) Silt fences, filter fabrics 4) In stream Sedimats 5) collection sumps, temporary sumps, pumping systems 5) Attenuation ponds 6) Sediment traps, stilling / settlement ponds
Water Treatment Controls:	1) Temporary sumps 2) Attenuation ponds 3) Temporary storage ponds 4) Sediment traps, Stilling / Settlement ponds 5) Proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems. 6) Silt dewatering bags
Outfall Controls:	1) Levelspreaders 2) Buffered outfalls 3) Vegetation filters 4) Silt dewatering bags 5) Flow limiters and weirs



DRAWING LEGEND :

- Existing Drainage
  - Rivers/Streams (WC - Watercourse)
  - Rivers/Streams 50m buffer
  - Lakes
  - Lakes 50m buffer
  - Stream flow direction
  - Drainage flow pathways >150m length
- Proposed Drainage
  - Local flowpath redirection
  - Upstream interceptor drain
  - Swales/downstream collector drain
  - Direction of flow
  - Silt Fences
  - Double/triple Silt Fences
  - Settlement pond - level spreader
  - Check Dam 'type A'
  - Check Dam 'type B'
  - Proposed wc crossing
  - Existing wc crossing
  - Interceptor Ditch Culvert
  - Collector Ditch Culvert
  - O — Overland Flow Discharge
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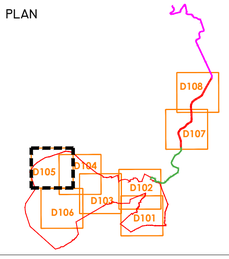
  - SP — Settlement Pond
  - VS — Semi-Natural Vegetation Swale / Filter Bed /Secondary SP
  - Temporary Pumping Sump (used at turbine bases during construction phase)
- Application site boundary
- Existing lease bouchette boundary
- Existing row coillte boundary
- Existing ground surface minor contour (2 m interval)
- Turbine and swept area
- Proposed hardcored areas
- Existing roads proposed to be upgraded
- Existing roads
- Hardstand
- Substation
- Construction compound
- Borrow pit
- Cut area
- Fill area

KEY PLAN



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Date	Description	Chkd	Signed

Revisions

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Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: DI05

Drawing No: P1585-0-0524-A1-D105-00C	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

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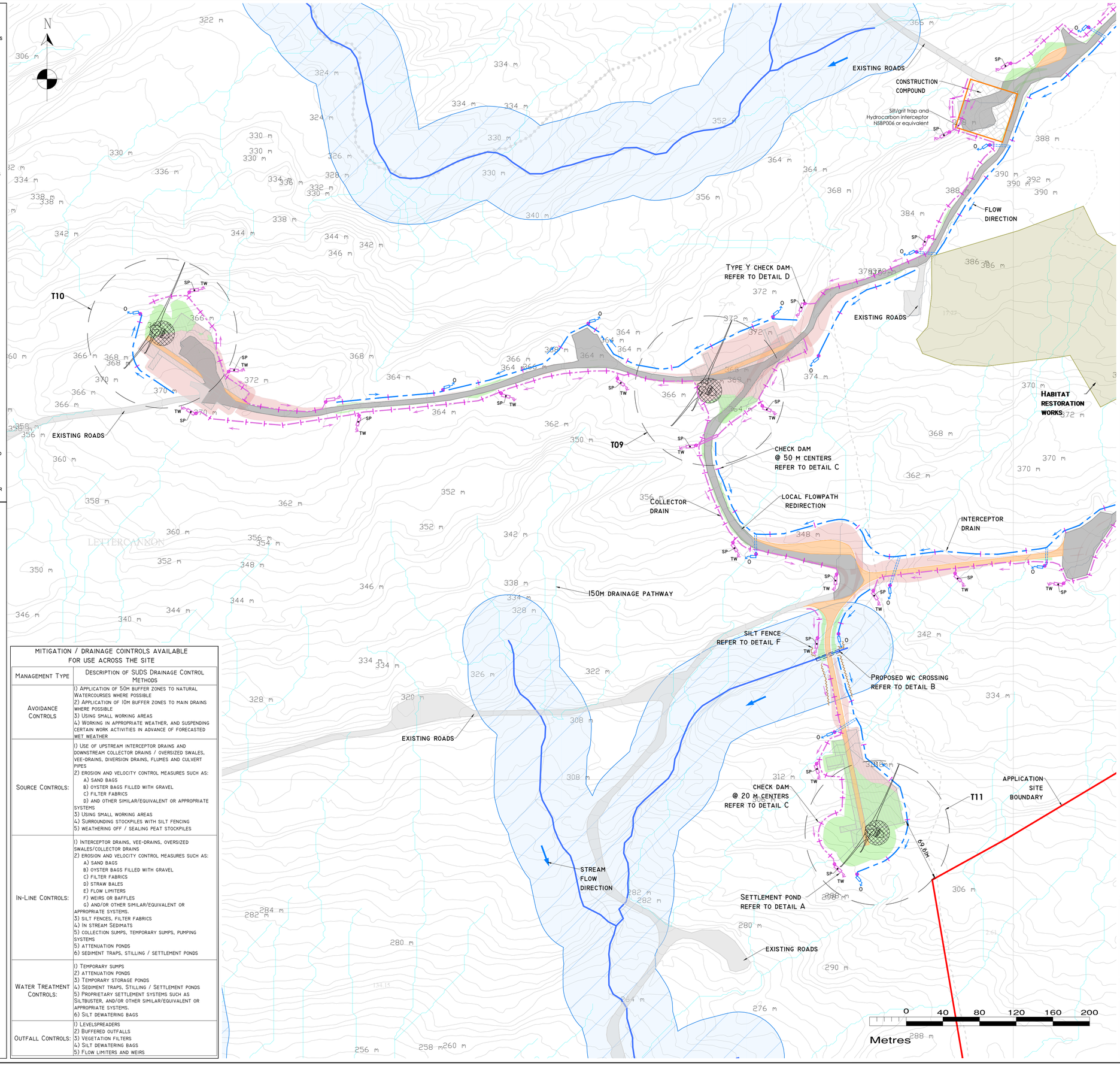

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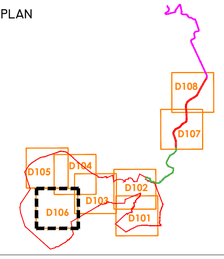
- Substation
- Construction Compound
- Borrow Pit
- Cut Area
- Fill Area
- Habitat Restoration Works

KEY PLAN



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Revisions			

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Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: D106

Drawing No: P1585-0-0524-A1-D106-00D	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
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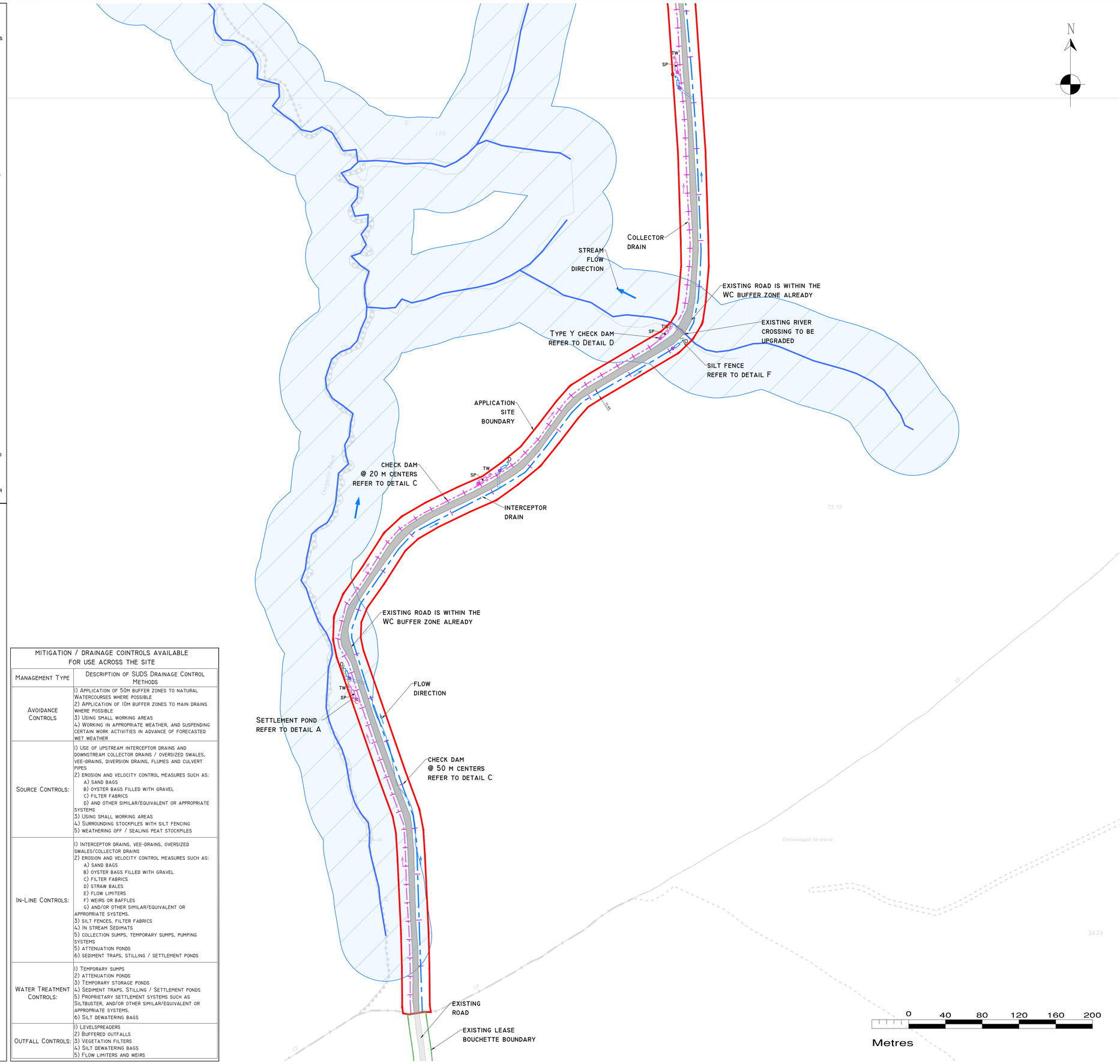
Source Controls:	1) Use of upstream interceptor drains and downstream collector drains / oversized swales, vee-drains, diversion drains, flumes and culvert pipes 2) erosion and velocity control measures such as: A) sand bags B) oyster bags filled with gravel C) filter fabrics D) and other similar/equivalent or appropriate systems 3) Using small working areas 4) Surrounding stockpiles with silt fencing 5) weathering off / sealing peat stockpiles
In-Line Controls:	1) interceptor drains, vee-drains, oversized swales/collector drains 2) erosion and velocity control measures such as: A) sand bags B) oyster bags filled with gravel C) filter fabrics D) straw bales E) flow limiters F) weirs or baffles G) and/or other similar/equivalent or appropriate systems. 3) silt fences, filter fabrics 4) In stream Sediments 5) collection sumps, temporary sumps, pumping systems 5) attenuation ponds 6) sediment traps, stilling / settlement ponds
Water Treatment Controls:	1) Temporary sumps 2) attenuation ponds 3) Temporary storage ponds 4) Sediment traps, Stilling / Settlement ponds 5) Proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems. 6) Silt dewatering bags
Outfall Controls:	1) Levelspreaders 2) Buffered outfalls 3) Vegetation filters 4) Silt dewatering bags 5) Flow limiters and weirs



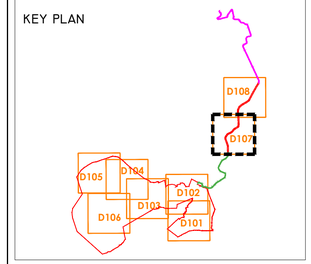
DRAWING LEGEND :

Existing Drainage
- RIVERS/STREAMS (WC - WATERCOURSE)
- RIVERS/STREAMS 50M BUFFER
- STREAM FLOW DIRECTION

Proposed Drainage
- Upstream Interceptor Drain
- Swales/Downstream Collector Drain
- Direction of flow
- Silt Fences
- SETTLEMENT POND - LEVEL SPREADER
- CHECK DAM 'TYPE A'
- CHECK DAM 'TYPE B'
- EXISTING WC CROSSING
- Interceptor Ditch Culvert
- Collector Ditch Culvert
- O — Overland Flow Discharge
- TW — Treated Water Discharge
- SP — Settlement Pond
- VS — Semi-Natural Vegetation Swale / Filter Bed /secondary SP
- Pumping Sump

- APPLICATION SITE BOUNDARY
- EXISTING LEASE BOUCHETTE BOUNDARY
- EXISTING ROW COILLTE BOUNDARY
- EXISTING ROADS
- EXISTING ROADS PROPOSED TO BE UPGRADED

KEY PLAN



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Date	Description	Chkd	Signed

Revisions

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Client: ØRSTED

Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: DI07

Drawing No: P1585-0-0524-A1-D107-00C	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

POLLUTION PREVENTION NOTES:

1. Site management proposals are intended to ensure protection against surface water and groundwater pollution, siltation and erosion.
2. Suitable drainage control measures should be in place at all times to prevent conveyance of significant volumes of silt to off site receiving watercourses.
3. Silty water can arise from dewatering excavations, erosion of exposed/disturbed ground, temporary stockpiles, plant and wheel wash, site roads/tracks, and disturbance of existing field drains and ditches.

Discharges

4. Water containing silt will not be pumped directly to any natural watercourse. All discharges to be made over open ground or into existing field drain with silt trap at a minimum of 20m from nearest watercourse unless otherwise stated.
5. No excavated material is to be stored within any surface water buffer zone.
6. Pumped water will be directed into track side ditches and treated in settlement ponds and vegetation swales prior to overland discharge.
7. Pumping of clean water from excavations / or over-pumping in drains/ditches/streams will be completed in a manner that does not cause scour or erosion at the point of release/discharge. This will be done by reducing the flow velocities or by use of splash plates, and other similar discharge controls.
8. Vegetation will NOT be stripped from existing drains/ditches unless absolutely necessary.

Excavations

9. Where deep excavations are proposed cut-off drains will be use to reduce the amount of surface water entering the excavation. This will be the case around turbine base excavations.

Exposed Ground & Stockpiles

10. The amount of exposed ground and temporary stockpiles open at any one time will be minimised, as far as practicable.

Site tracks

11. Use of track side swales with check dams, and/or filtration check dams will reduce silt in runoff water as required.
12. Check dams to be inspected and cleaned regularly.

Refueling

13. Refuelling of mobile plant will be completed in designated refueling areas only, preferably on an impermeable surface and away from field drains / ditches and watercourses / waterbodies.
14. Spill kits and drip trays will be available on site for use as required.

Concrete

15. Care will be taken when completing concrete works on site to ensure no discharges occur.
16. Concrete wash water, and waste concrete will be managed appropriately on site.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:

STOP - work in the immediate area should be stopped and the source of the pollution identified.

CONTAIN - the source of the pollution should be bunded using a suitable method. Natural watercourses should be temporarily diverted around the source of pollution.

NOTIFY - The relevant authorities (Site Manager / Fisheries / NPWS / Local Authority etc.) should be notified immediately to ensure that measures can be implemented downstream to protect fisheries and other sensitive areas.

DRAINAGE NOTES:

1. Site Tracks and Roadway surfacing design and construction to Engineer's Specification (i.e. by others).
2. Spare straw bales/silt fencing/ or similar, to be stored on site. The level of silt in runoff during construction is to be monitored visually and excessive silt levels in any area to be temporarily managed by placing silt fences, straw bales / or similar or additional check dams at the problem areas. Mobile siltbuster system to be available on-site for use as required also.
3. SUDS system to be constructed prior to, or at the same time as the access tracks. Interim measures such as the placement of straw bales/silt fencing/or similar approved method or additional check dams and silt fences to be employed in all instances where work carried out to construct the access tracks is likely to cause adverse environmental effects through increased silt loadings being generated during the construction phase.
4. Suitable prevention measures should be in place at all times to prevent the conveyance of significant volumes of silt to receiving watercourses. See notes on pollution prevention.
5. Interceptor Swales / ditches to be used to collect upstream surface water flows. Regular cross drains / discharge to field ditches/drains will be required to transfer / discharge surface water in interceptor drains to suitable field drain outfall points.
6. Drainage swales / ditches to be excavated adjacent to the access tracks. Regular cross drains to be located along access tracks to prevent excessive volumes of water collecting in the swales / ditches. Locations of cross drains to be agreed with the Engineer on site. Surface water will not be allowed to discharge directly into existing watercourses.
7. Where possible, a buffer zone of >20m to any existing watercourse will be required where over land discharges are proposed from access track swales / ditches.
8. Batters of all proposed swales / ditches to have a slope of between 1 : 1.5 to 1 : 2 depending upon depth of swale/ditch and will be left as cut to re-vegetate with local species.
9. Track side swales / ditches to be shallow with moderate gradients to prevent scouring. In steep areas check dams should be installed to reduce flow velocities and provide source control of silt containment. Where necessary these have been designated in conjunction with settlement ponds and silt traps, prior to discharge.
10. Settlement ponds to be constructed for silt removal at turbine bases and hard stand areas. Pond sizes depends on the catchment area being served. Sample pond sizes for various catchment areas shown on Drawing D501.
11. Straw bales / or similar and silt fences to be used also around spoil heaps to mitigate silt runoff. Silt fences may be removed when suitable vegetation cover is established.
12. Silt fences to be provide along edge of existing watercourse where works comes within <15m of edge of any ditch / drain / ephemeral channels.
13. Slopes of the swales / ditches to be vegetated or protected from erosion until vegetation has been established. Stripped vegetative layer (peat 'sod' or 'scraw') from excavations to be stored locally and used to line slopes and base of swales / ditches or longitudinal mounds of vegetation swales at field drain discharge points.
14. Areas stripped of vegetation should be kept to a minimum.
15. Clean stone flow control check dams to be made of locally won / geologically similar well graded stone. Aggregate size for stone check dams to be typically 20- 40mm clean stone. On sloping sections of the access tracks, 40mm check dams to be protected from washing away through the placement of 100m stone on the downhill face of the check dam and by wrapping in geotextile.
16. Build up of silt levels at check dams to be removed and disposed of appropriately. Silt levels at check dams to be visually inspected as part of an ongoing drainage maintenance programme during the construction phase. Where check dams become clogged with silt or vegetation, stone check dam to be removed and replaced subsequent to the removal of silt.
17. Spacing and frequency of check dams will be dependent upon longitudinal gradient of swale.
18. Location of filtration check dams (if required) to be agreed on site with Engineer. Settlement ponds to be constructed in a manner where they may be easily infilled at a later date (post completion of the turbine base and hardstand construction). Only suitable materials excavated from the pond to be used to form part of the embankment around the pond.
19. Oil fuel should be stored within bunded containment structures.
20. silt bags will be used on site at field drain discharge locations, as necessary.

MITIGATION / DRAINAGE COINTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) Application of 50m buffer zones to natural Watercourses where possible 2) Application of 10m buffer zones to main drains where possible 3) Using small working areas 4) Working in appropriate weather, and suspending certain work activities in advance of forecasted wet weather
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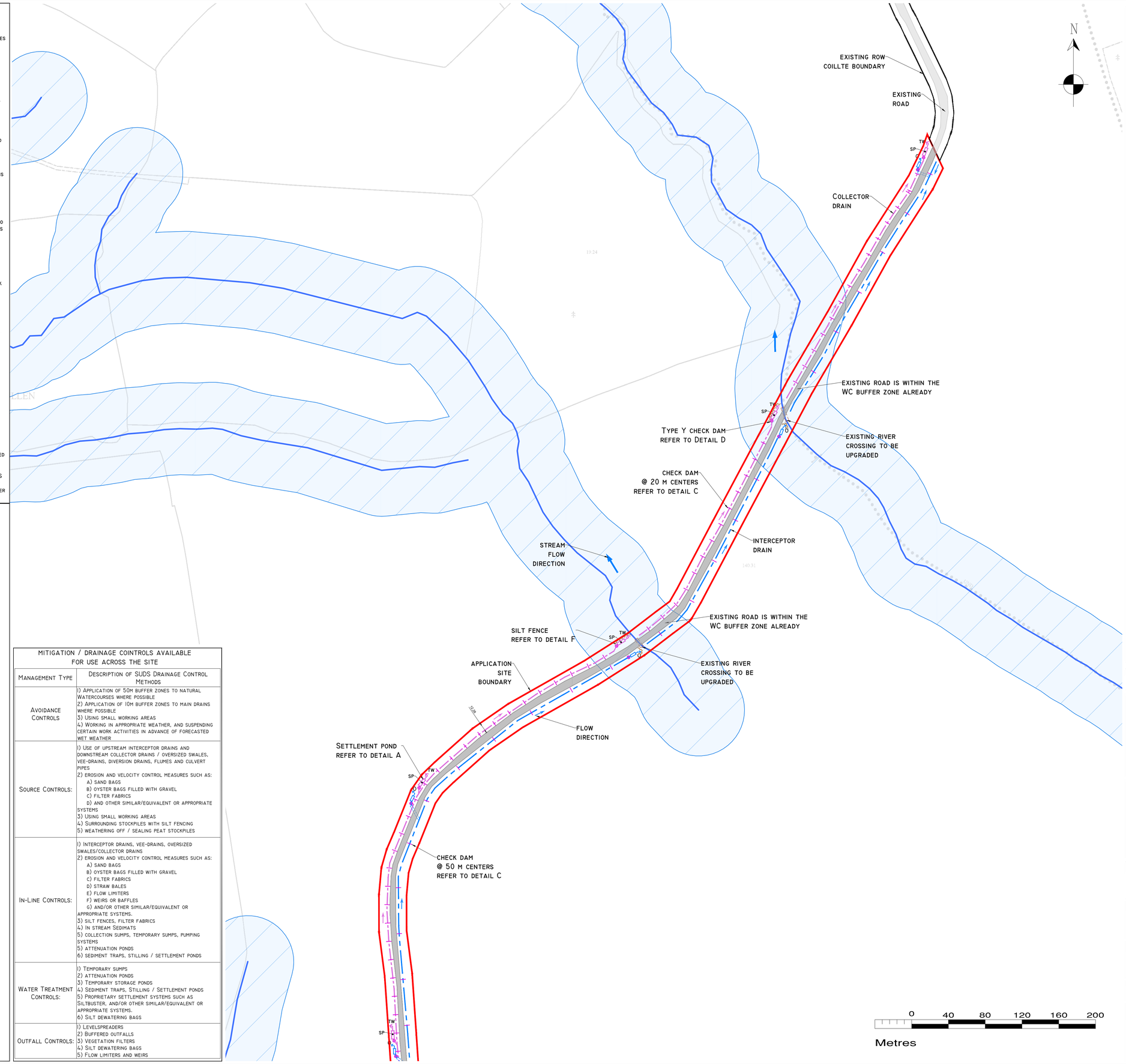
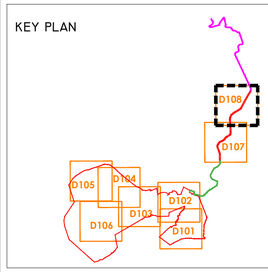


Drawing Legend :

- Existing Drainage
  - Rivers/Streams (WC - watercourse)
  - Rivers/Streams 50m buffer
  - Stream flow direction
- Proposed Drainage
  - Upstream Interceptor Drain
  - Swales/Downstream Collector Drain
  - Direction of flow
  - Silt Fences
  - Settlement pond - level spreader
  - Check Dam 'type A'
  - Check Dam 'type B'
  - Existing wc crossing
  - Interceptor Ditch Culvert
  - Collector Ditch Culvert
  - O — Overland Flow Discharge
  - TW — Treated Water Discharge
  - SP — Settlement Pond
  - VS — Semi-Natural Vegetation Swale / Filter Bed /secondary sp
  - Pumping Sump
- Application site boundary
- Existing lease bouchette boundary
- Existing row coillte boundary
- Existing roads
- Existing roads proposed to be upgraded

KEY PLAN



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Date	Description	Chkd	Signed

Revisions

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Client: ØRSTED

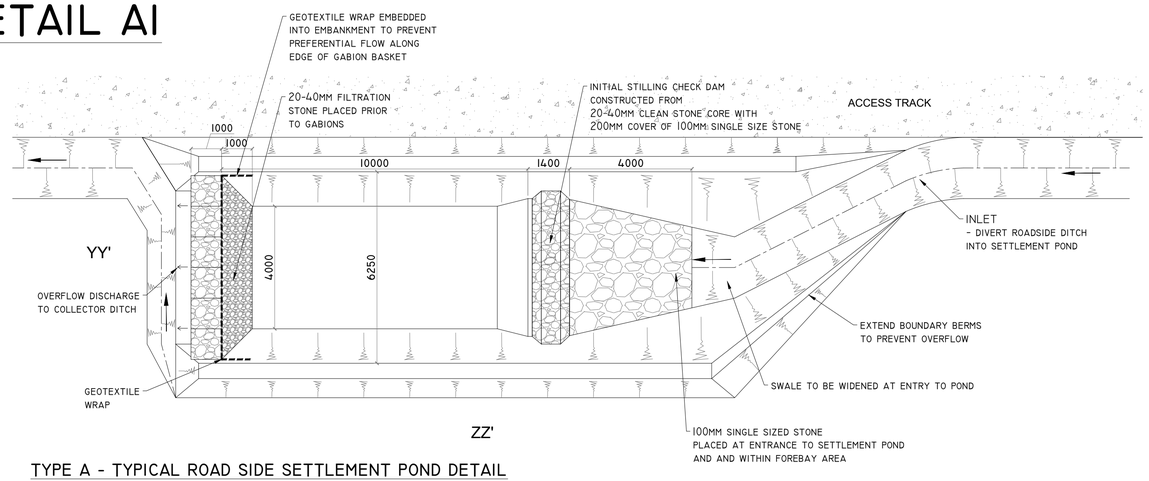
Job: Proposed Repowering of Kilgarvan Wind Farm, Co. Kerry

Title: Proposed Drainage Layout

Figure No: DI08

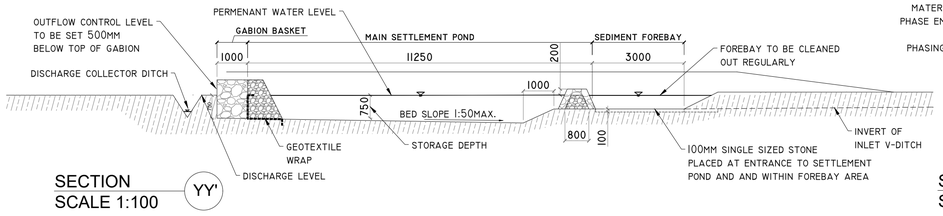
Drawing No: P1585-0-0524-A1-D108-00C	
Sheet Size: A1	Project No.: P1585-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 07/05/2024	Checked By: MG

DETAIL AI

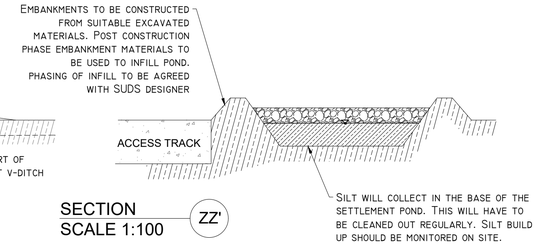


TYPE A - TYPICAL ROAD SIDE SETTLEMENT POND DETAIL

SCALE 1:200 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)

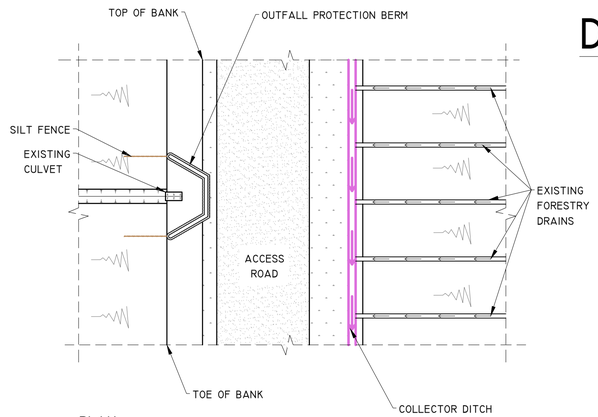


SECTION YY' SCALE 1:100



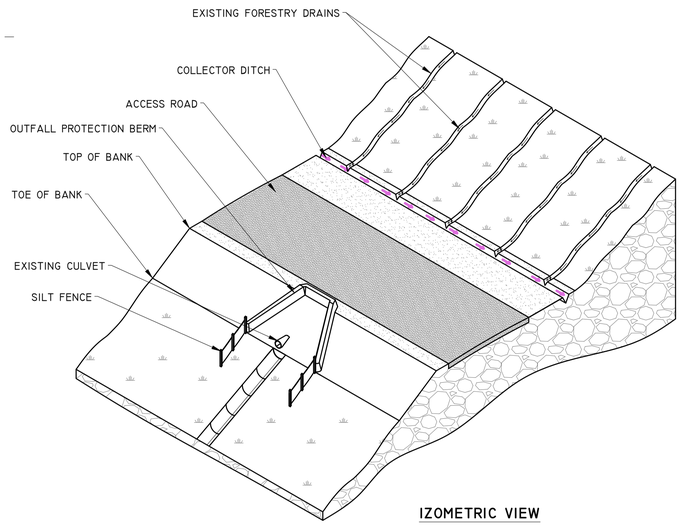
SECTION ZZ' SCALE 1:100

DETAIL BI



PLAN

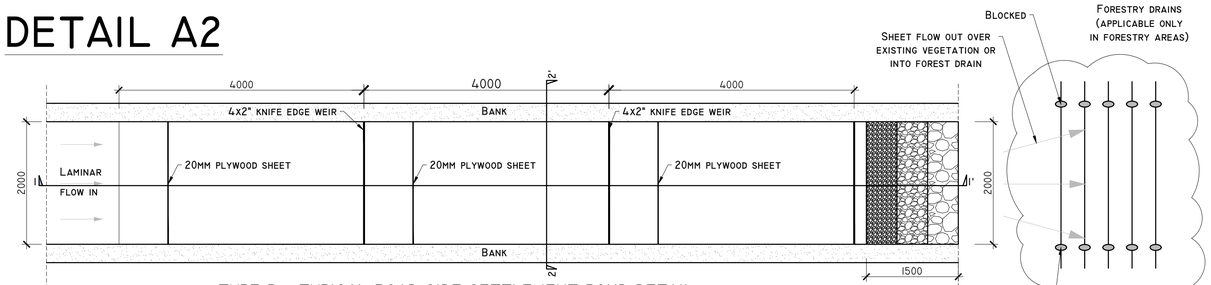
CULVET - OUTFALL PROTECTION DETAIL



IZOMETRIC VIEW

SCHEMATIC - NOT TO SCALE

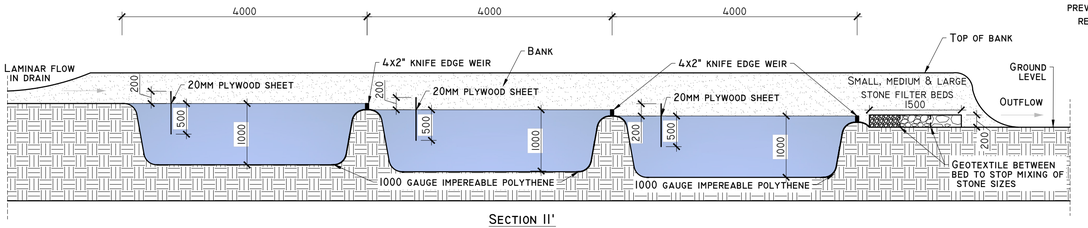
DETAIL A2



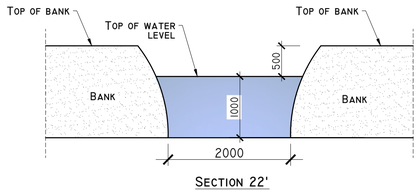
TYPE B - TYPICAL ROAD SIDE SETTLEMENT POND DETAIL

SCALE 1:200 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)

BLOCK 5 FORESTRY DRAINS DOWN SLOPE OF A OUTLET TO PREVENT POLLUTION TO REVEIVING WATERS

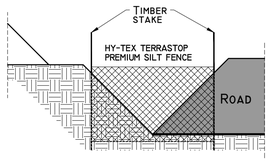


SECTION 11'



SECTION 22'

SEDIMENT FENCE/CHECK DAM DETAIL

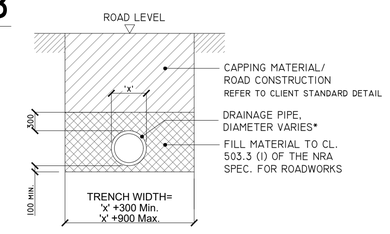


POND SIZE W [M] x L [M] x D [M]			TRACK/HARDSTAND CATCHMENT SIZE (M^2)			BORROW PIT (M^2)*
RETURN PERIOD	*10 YRS*	STORM DURATION	500	1000	2000	22609
6HR RETENTION FOR COARSE SILT		6 HRS	3.8 x 12.0 x 1 M	5.5 x 16.5 x 1 M	7.5 x 24.5 x 1 M	N/A
11HR RETENTION FOR MEDIUM SILT		12 HRS	4.5 x 14.0 x 1 M	6.5 x 19.2 x 1 M	8.5 x 29.5 x 1 M	N/A
24HR RETENTION FOR FINE SILT		24 HRS	5.2 x 16.5 x 1 M	7.5 x 23 x 1 M	10 x 34.5 x 1 M	50 x 175 x 1 M**

*INCLUDES GW INFLOW

**COMBINATIONS OF 2 OR 3 SMALLER PONDS MAY BE USED

DETAIL B



'TYPE B' CULVERT - DRAINAGE CROSSING BENEATH EXCAVATED ROAD

SCALE 1:50

*WHERE SECTION 50 APPLIES, MINIMUM PIPE DIA WILL BE 900MM, WITH MIN 300MM PIPE EMBEDMENT

07/02/24	Planning	MG	MG
Date	Description	Chkd	Signed

Revisions

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Client: ØRSTED

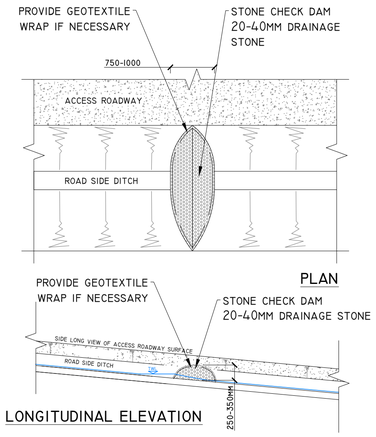
Job: PROPOSED REPOWERING OF KILGARVAN WIND FARM, CO. KERRY

Title: DRAINAGE DETAILS 1

Figure No: D501

Drawing No: P1585-0-0224-A1-D501-00A	
Sheet Size: A1	Project No.: P1585-0
Scale: as shown (A1)	Drawn By: MG/GA
Date: 07/02/2024	Checked By: MG

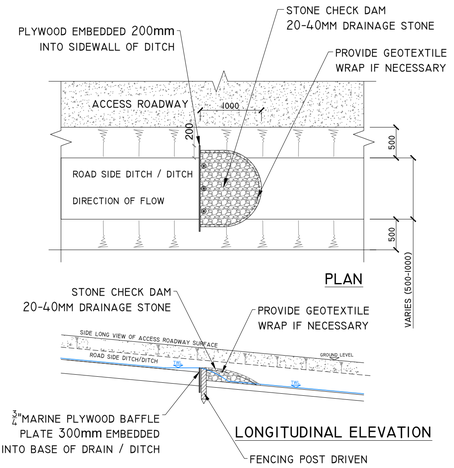
DETAIL C



TYPE X - CHECK DAM DETAIL

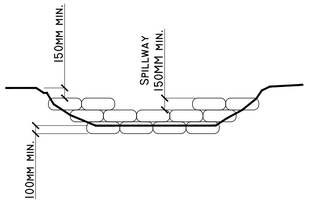
SCALE 1:50

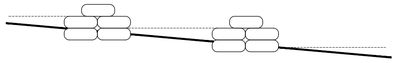
DETAIL D



TYPE Y - CHECK DAM DETAIL

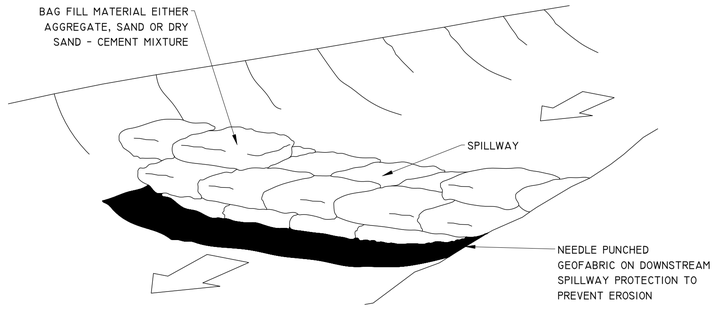
SCALE 1:100





NOTE: SPACING OF CHECK DAMS ALONG CENTRELINE AND SCOUR PROTECTION BELOW EACH CHECK DAM

DETAIL CI



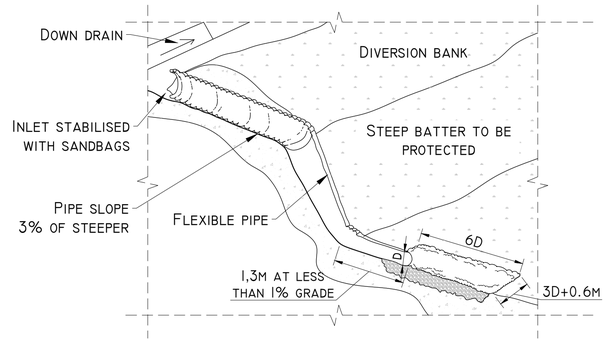
TEMPORARY CHECK DAM / SETTLEMENT POND OVERFLOW
SAND FILLED BAG CONSTRUCTION

SCHEMATIC - NOT TO SCALE

DETAIL G

TYPICAL PIPE SPILLWAY DETAIL

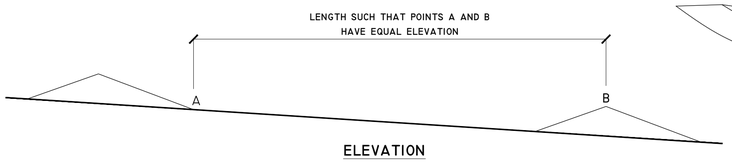
SCHEMATIC - NOT TO SCALE

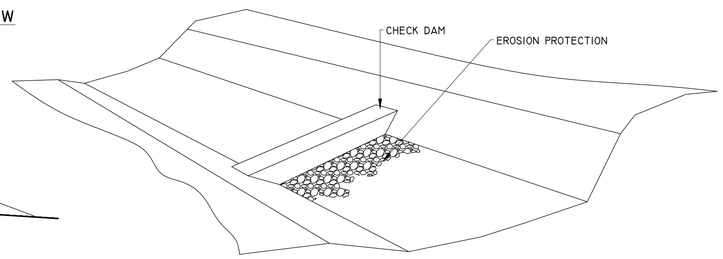


DETAIL C2

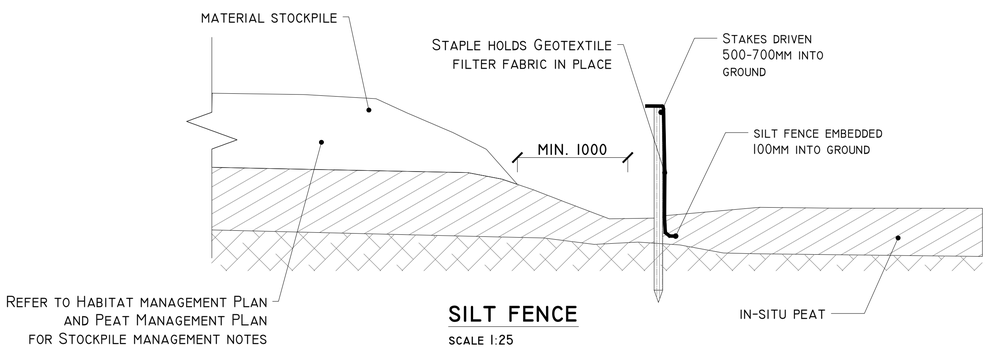
TEMPORARY CHECK DAM / SETTLEMENT POND OVERFLOW

SCHEMATIC - NOT TO SCALE





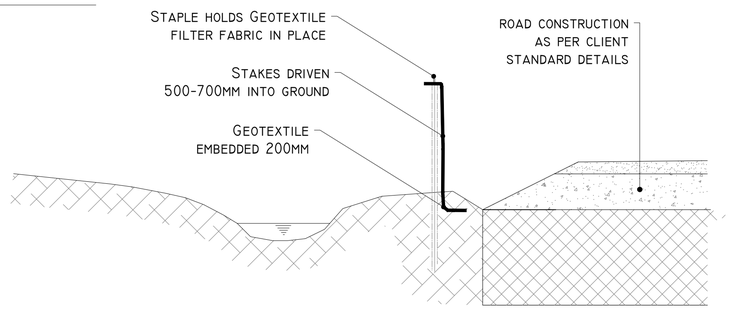
DETAIL F-I



SILT FENCE

SCALE 1:25

DETAIL F-II



SILT FENCE FOR WATERCOURSE PROTECTION

SCALE 1:25

Date	Description	Chkd	Signed
07/02/24	Planning	MG	MG

Revisions

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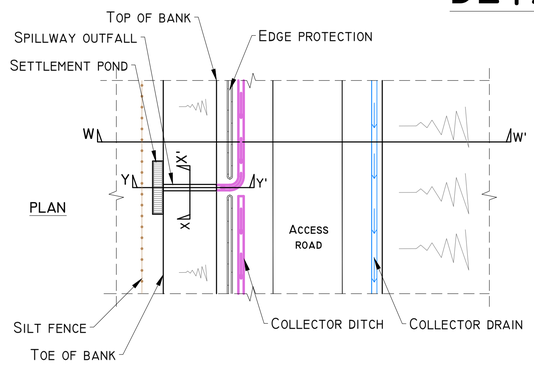
Job: PROPOSED REPOWERING OF KILGARVAN WIND FARM, CO. KERRY

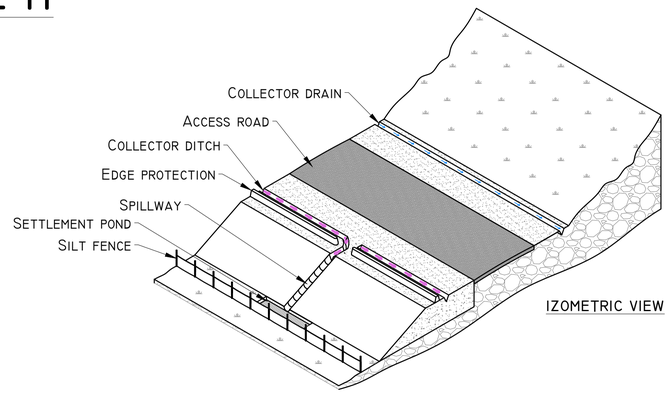
Title: DRAINAGE DETAILS 2

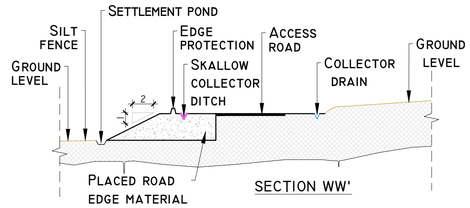
Figure No: D502

Drawing No: P15850-0224-A1-D502-00A	
Sheet Size: A1	Project No.: P1585-0
Scale: as shown (A1)	Drawn By: MG/GA
Date: 07/02/2024	Checked By: MG

DETAIL H





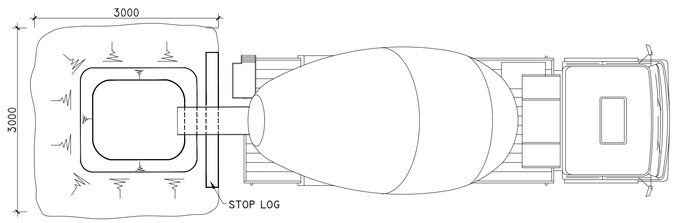


SPILLWAY OUTFALL PLAN
SCHEMATIC - NOT TO SCALE

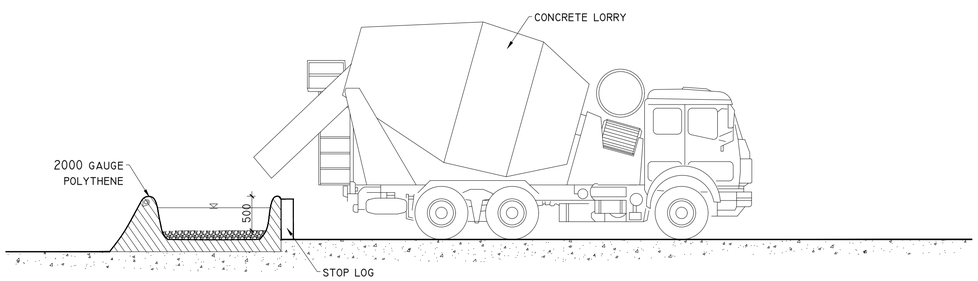
DETAIL J-I

TEMPORARY CONCRETE WASH OUT PIT
SCALE 1:50

PLAN



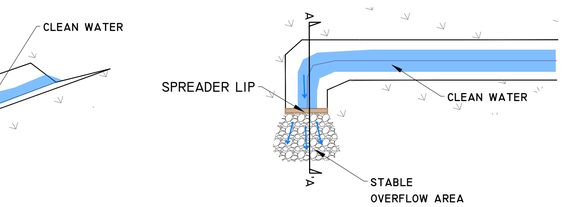
ELEVATION



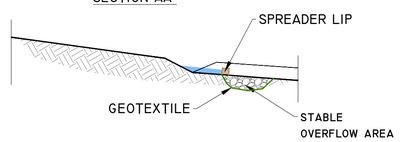
DETAIL I

LEVEL SPREADER DETAIL
SCHEMATIC - NOT TO SCALE

PLAN

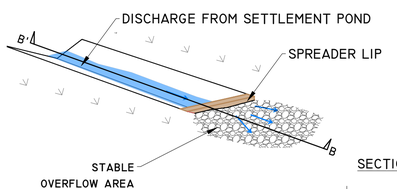


SECTION AA'

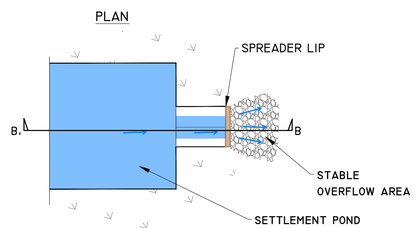


DETAIL J-2

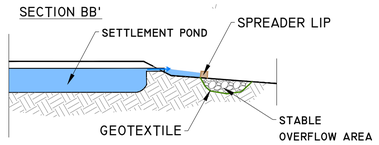
LEVEL SPREADER DETAIL
SCHEMATIC - NOT TO SCALE



PLAN



SECTION BB'



Date	Description	Chkd	Signed
07/02/24	Planning	MG	MG

Revisions

HYDRO ENVIRONMENTAL SERVICES
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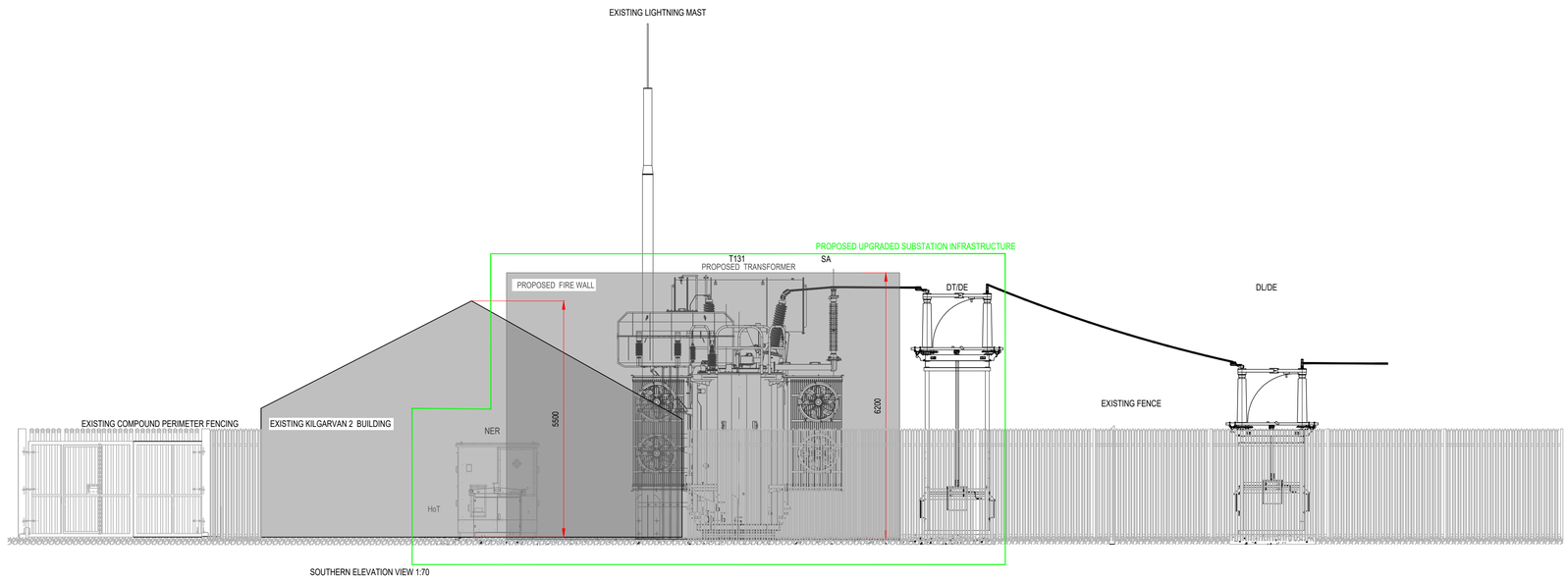
Client: ØRSTED

Job: PROPOSED REPOWERING OF KILGARVAN WIND FARM, CO. KERRY

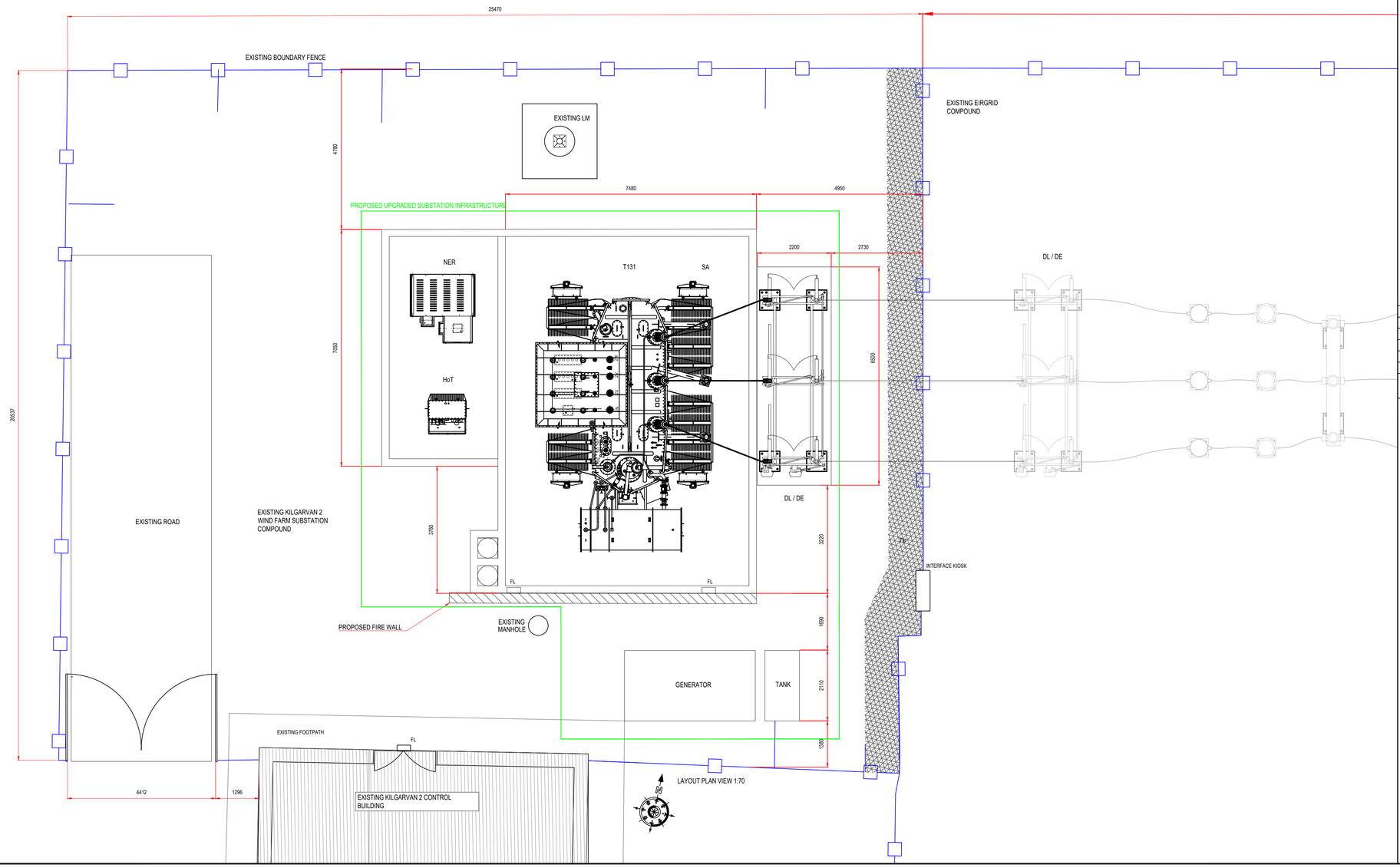
Title: DRAINAGE DETAILS 3

Figure No: D503

Drawing No: P1585-0-0124-A1-D503-00A	
Sheet Size: A1	Project No.: P1585-0
Scale: as shown (A1)	Drawn By: MG/GA
Date: 07/02/2024	Checked By: MG



SOUTHERN ELEVATION VIEW 1:70



LAYOUT PLAN VIEW 1:70

NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.

LEGEND:

LM	LIGHTNING MAST
HOT	HOUSE TRANSFORMER
T131	POWER TRANSFORMER
NER	NEUTRAL EARTHING RESISTOR
SA	SURGE ARRESTER
DL / DE	DISCONNECT SWITCH
	PALISADE FENCING

Rev	Date	Description	CHK	APP
0	01/12/22	FOR REVIEW	GP	ES

Revisions

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Project: KILGARVAN REPOWER

Title: PROPOSED SUBSTATION COMPOUND - ELEVATION VIEW OPTION 2

Date:	Drawn:	Designed By:	Checked By:	Approved By:
01/12/22	ROS	ROS	GP	ES

Scale:	Project No:	Project Status:
1:70@A1		

Project Code | Originator | Zone/ Volume | Level | Type | Disc | Doc. No

KILGARVAN - HMV - XX - XX - DR - E - 0007

Status Code:	Suitability Description:	Revision:
		0