



EIAR ADDENDUM APPENDIX 4-9

WATERCOURSE CROSSINGS

Appendix 4-9 - Watercourse Crossings

Laurclavagh Renewable
Energy Development





DOCUMENT DETAILS

Client: **Laurclavagh Ltd.**

Project Title: **Laurclavagh Renewable Energy Development**

Project Number: **210627**

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1.

PROPOSED GRID CONNECTION WATERCOURSE CROSSINGS

The design methodology for the grid connection crossings in the EIAR is not consistent with that set out in the NIS. The EIAR outlines the River Clare crossing at the site of the Lough Corrib SAC will be via Horizontal Directional Drilling (HDD), with the NIS outlining the River Clare crossing is via an existing bridge crossing. Clarification is sought on the river crossings proposed, and this should be addressed in environmental assessments, where appropriate, and in relevant drawings, sections.

As detailed in Section 4.7.2.9 of the EIAR, a total of 4 no. existing watercourse crossings and 1 no. Motorway crossing will be traversed along the N83 National Road and the L6141 to cater for the Proposed Grid Connection underground cabling route to the existing Cloon 110kV substation. The locations of the watercourse and motorway crossings are shown on Figure 4-27 of the EIAR. Specific details of each crossing are shown in Table 4-4 of the EIAR and reiterated in Table 1 below. Specific Crossing details for all 4 no. watercourses are shown in Appendix 4-8a of the EIAR Addendum, Grid Connection Infrastructure, and in Figure 2, Figure 4, Figure 6 and Figure 8. The watercourse crossing methodology for each location is set out below. In stream works are not required at any watercourse crossing along the Proposed Grid Connection underground cabling route.

Figure 1, Figure 3, Figure 5 and Figure 7 below show cross section details of all 4 no. watercourse crossing locations.

Table 1 Culvert Survey Summary and Crossing Methodology

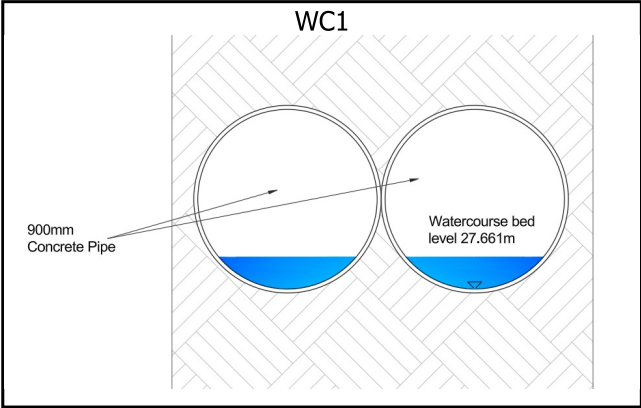
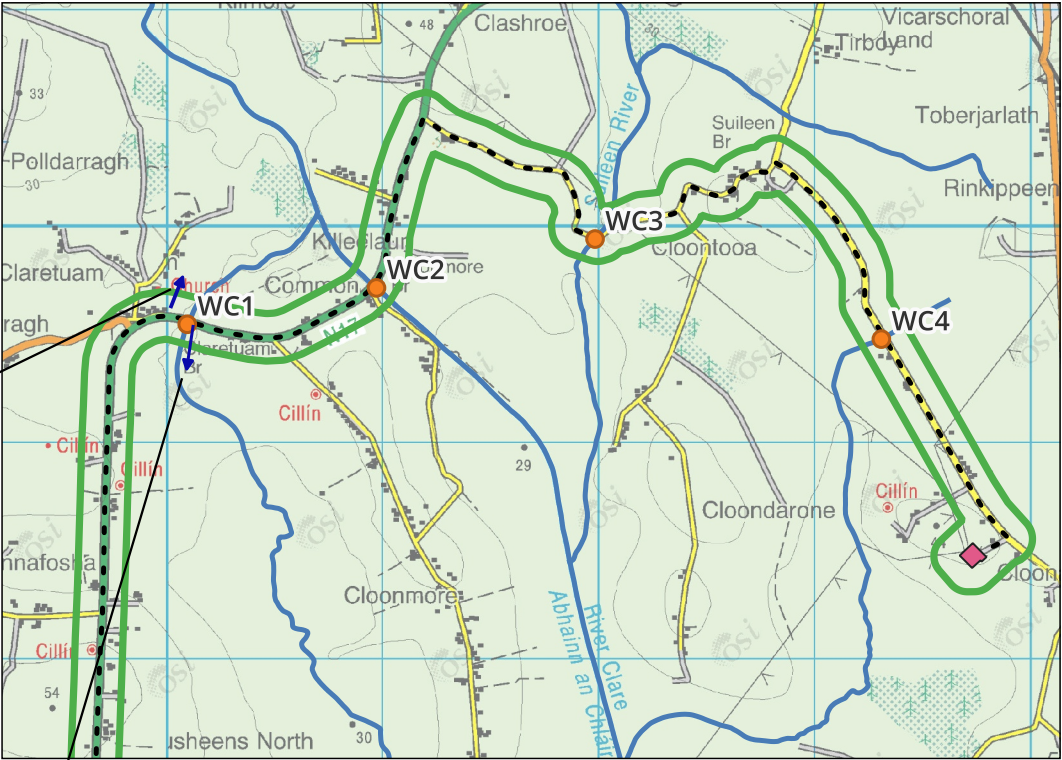
Watercourse Crossing Reference No.	Watercourse Type	Width of Channel (m)	Cover from Road Level to Top of Culvert (m)	Crossing Type Description	Watercourse Crossing Type	Extent of in-channel works
WC1	Double concrete pipe crossing	1.8(2x0.9)	3.27	High water levels flowing through this bridge which had a small channel which appeared to be quite overgrown with vegetation. There is sufficient separation distance to accommodate the standard trefoil cable passing over the watercourse without any amendment to the trench or ducting profile	Option A	None. No in-stream works required.
WC2	Clearspan Bridge	12.5	1.6	The River Clare is a fast flowing channel. This existing crossing is along the N83 National Road, with a footpath along the bridge. The original bridge structure appeared to be a stone-arch bridge which had a newer clearspan structure built on top. The laying of cables under the existing watercourse by directional drilling ensures that no contact will be made with the watercourse during the works.	Option D	None. No in-stream works required
WC3	Stone-Arch Bridge	2.1	0.3	This stone arch bridge passed over a watercourse with stagnant water and a high level of vegetation. Sufficient cover will be achieved from the top of the bridge to the road on this watercourse crossing to lay the cables in a flat formation on top of the existing crossing. This scenario ensures that the cable trench will have no impact on the watercourse	Option C	None. No in-stream works required
WC4	Concrete Pipe	1.05	1.72	Fast-flowing stream, much lower than the existing road level. There is sufficient separation distance to accommodate the standard trefoil cable passing over the watercourse without any amendment to the trench or ducting profile	Option A	None. No in-stream works required



Looking North,
Facing
Downstream



Looking
South,
Facing
Upstream



X ITM	Y ITM	Watercourse Depth (m)	Culvert Width (m)	Culvert Depth (m)	Crossing Type
540059	749585	2.3	1.8 (2x0.9)	.9	Double Concrete Pipe Crossing

Map Legend

- EIAR Site Boundary
- Watercourses
- Proposed Grid Connection
- Watercourse Crossings
- Cloon 110kV Substation



Drawing Title

Watercourse Crossing 1 (WC1)

Project Title
Laurclavagh Renewable Energy Development

Drawn By: KB
Checked By: SC

Project No.: 210627
Drawing No.: Figure 1

Scale: 1:35,000
Date: 2025-08-08

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Finished surface capped with clause 804 material

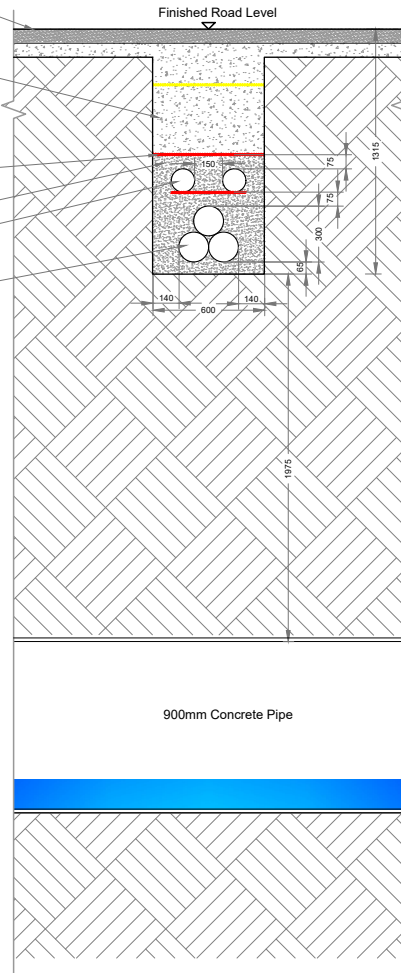
Clause 804 material to be used and compacted in accordance with NRA guidelines in layers not more than 300mm.

ESBN red cable marker strips

CBGMB Clause 822 material

125mm Comm Ducts

160mm Dia Power Ducts, Complete with 12mm Diameter draw ropes.



Cross Section B-B
SCALE 1:25

Clause 804 material to be used and compacted in accordance with NRA guidelines in layers not more than 300mm.

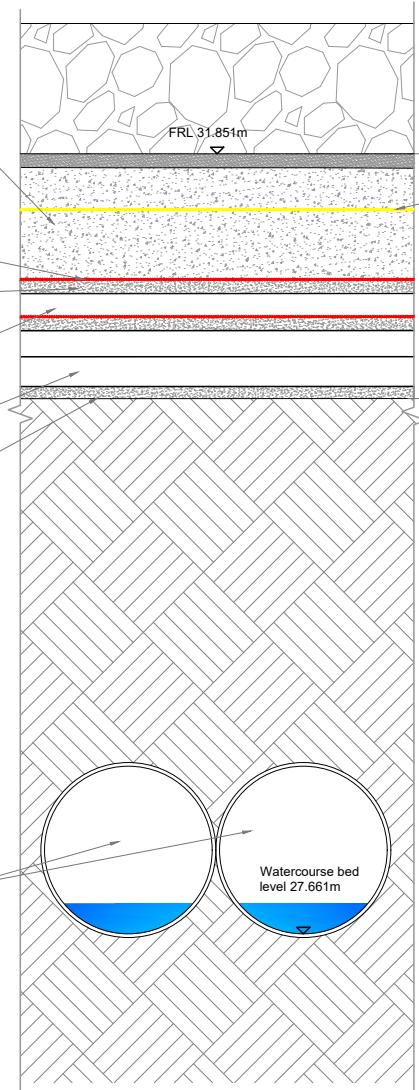
ESBN red cable marker strips

CBGMB Clause 822 material

125mm Comm Ducts

160mm Dia Power Ducts, Complete with 12mm Diameter draw ropes.

Competent Stratum

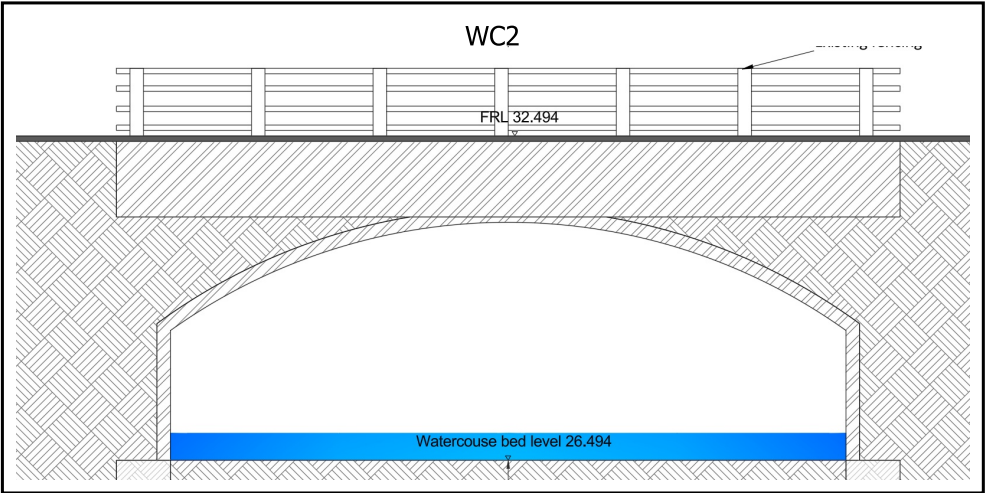
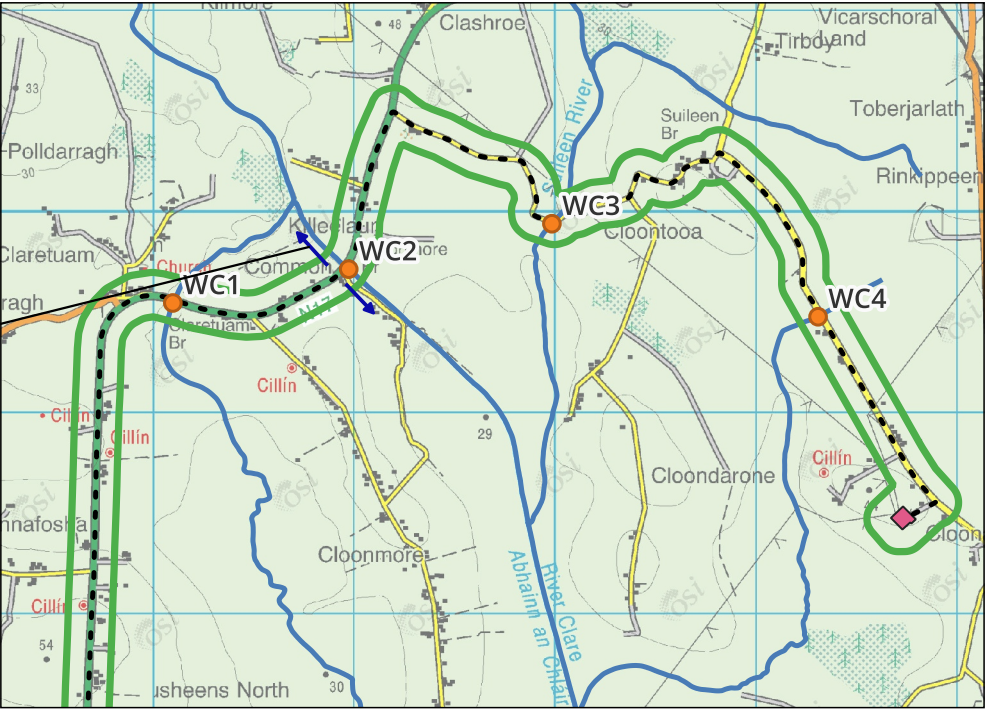


Longitudinal Section A-A
SCALE 1:25

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DRAWING TITLE: Water Crossing 1 Option A			
PROJECT No.: 210627	DRAWING No.: 210627 - 17	SCALE: 1:25 @ A3	
DRAWN BY: JOB	CHECKED BY: OM	DATE: 08.03.2024	REVISION: P01
			
Email: info@www.mkoireland.ie / Website: www.mkoireland.ie			



Looking
Northwest,
Facing
Upstream



X ITM	Y ITM	Watercourse Depth (m)	Culvert Width (m)	Culvert Depth (m)	Crossing Type
540918	749749	4.8	12.5	1.5	Clearspan Bridge

Map Legend

- Eiar Site Boundary
- Watercourses
- Proposed Grid Connection Watercourse Crossings
- Cloon 110kV Substation



Drawing Title
Watercourse Crossing 2 (WC2)

Project Title
Laurclavagh Renewable Energy Development

Drawn By
KB

Checked By
SC

Project No.
210627

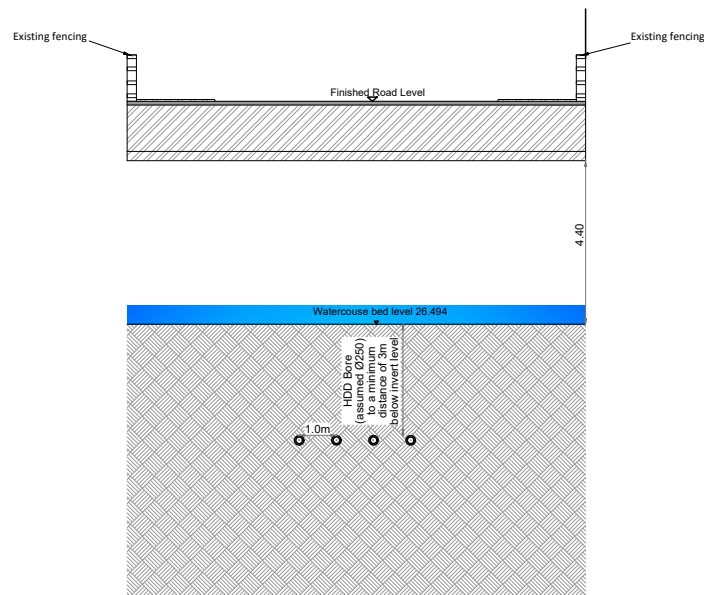
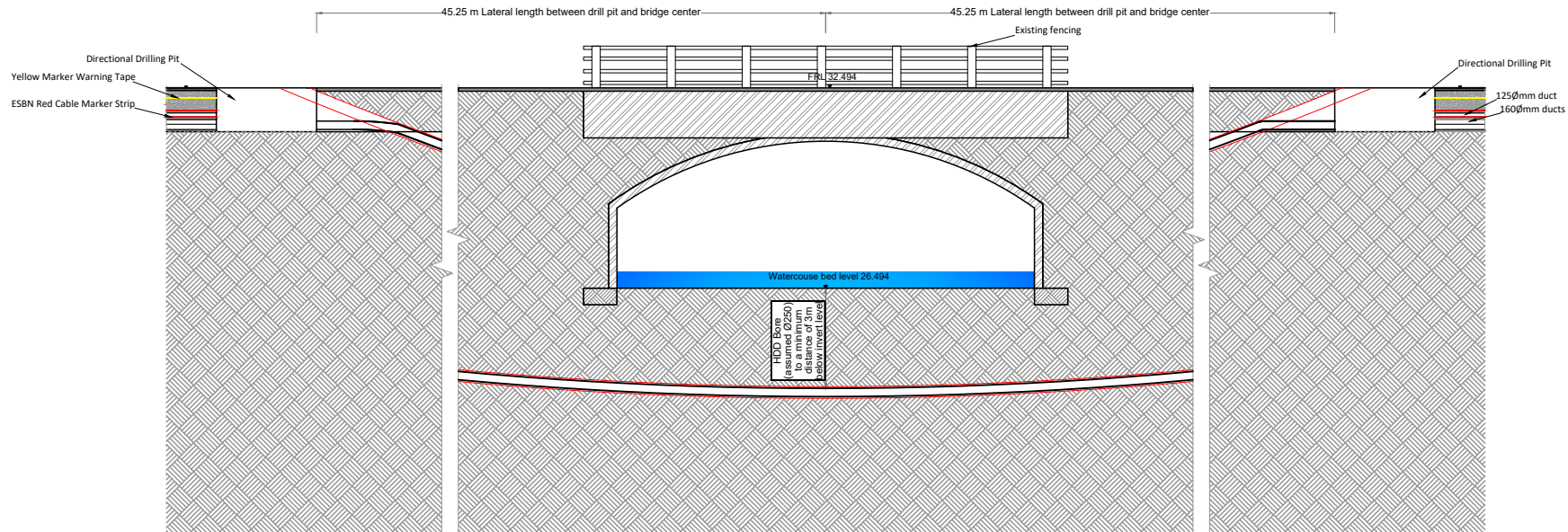
Drawing No.
Figure 3

Scale
1:37,662.46743

Date
2025-08-11

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Cross Section A-A
SCALE 1:125

Longitudinal Section B-B
SCALE 1:125

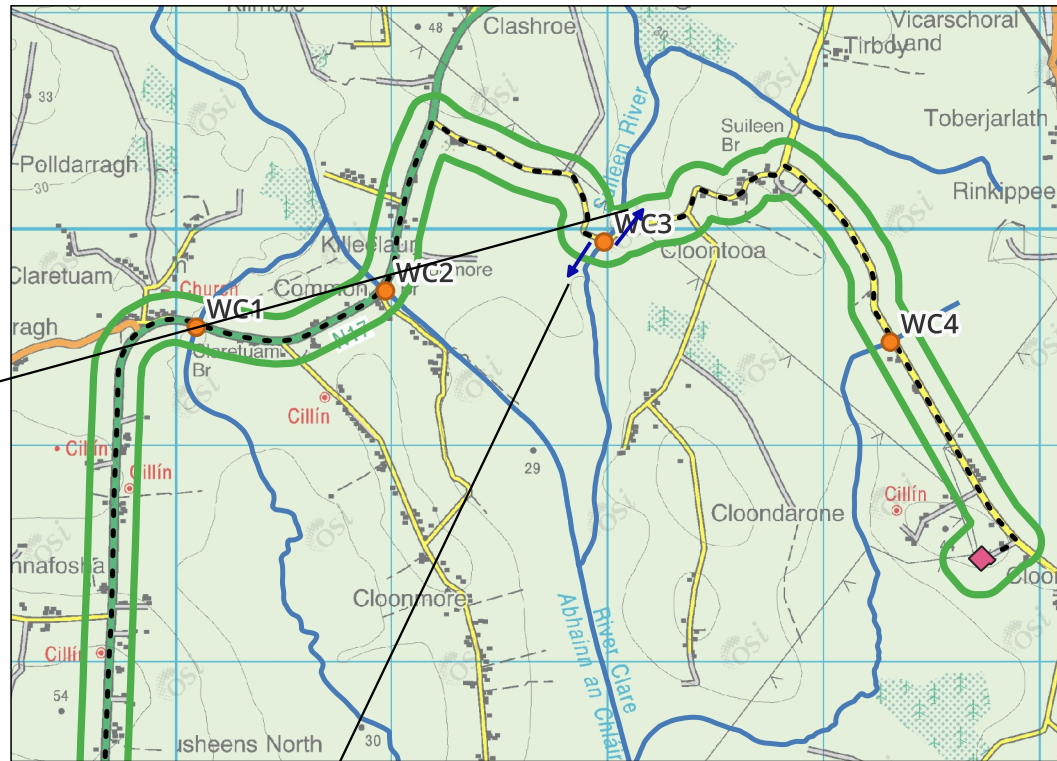
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DRAWING TITLE: Water Crossing Option D			
PROJECT No.: 210627	DRAWING No.: 210627 - 20	SCALE: 1:125 @ A3	
DRAWN BY: JOB	CHECKED BY: OM	DATE: 08.03.2024	REVISION: P01



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Looking
Northeast,
Facing
Upstream

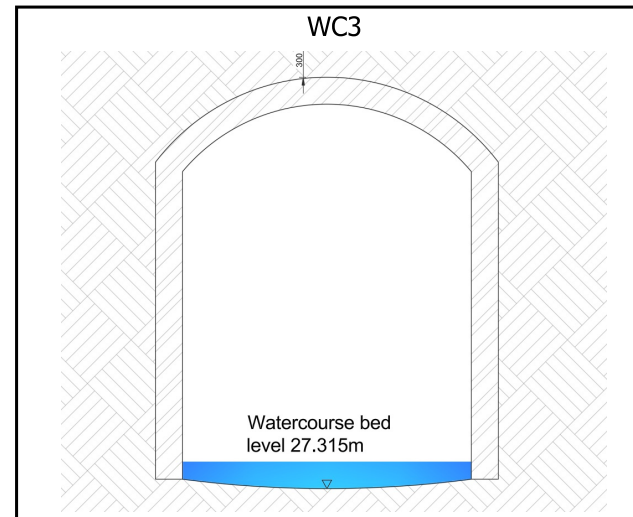


Map Legend

- EIAR Site Boundary
- Watercourses
- Proposed Grid Connection Watercourse Crossings
- Cloon 110kV Substation



Looking
Southwest,
Facing
Downstream



X ITM	Y ITM	Watercourse Depth (m)	Culvert Width (m)	Culvert Depth (m)	Crossing Type
541951	749970	3.5	2.1	2.5	Stone Arch Bridge



Drawing Title

Watercourse Crossing 3 (WC3)

Project Title

Laurclavagh Renewable Energy Development

Drawn By

KB

Checked By

SC

Project No.

210627

Drawing No.

Figure 5

Scale

1:35,000

Date

2025-08-11



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Clause 804 material to be used and compacted in accordance with NRA guidelines in layers not more than 300mm.

Yellow Marker Warning Tape across full width of trench

Existing Road Level

ESBN red cable marker strips

125mm Comm Ducts

160mm Dia Power Ducts, Complete with 12mm Diameter draw ropes.

Road to be raised 0.608m over watercourse along 60m stretch

Gradual incline/decline 30m either side of watercourse crossing

CBGMB Clause 822 material

A393 Steel mesh for width of trench

Finished Road Level 31.274m

Watercourse bed level 27.315m

Longitudinal Section A-A
SCALE 1:75

Clause 804 material to be used and compacted in accordance with NRA guidelines in layers not more than 300mm.

Galvanised steel plate arrangement

125mm Comm Ducts

160mm Dia Power Ducts, Complete with 12mm Diameter draw ropes.

FRL 31.274m

Finished Surface

Yellow Marker Warning Tape across full width of trench

ESBN red cable marker strips

A393 Steel mesh for width of trench

CBGMB Clause 822 material

Existing Road Level

Cross Section B-B
SCALE 1:50

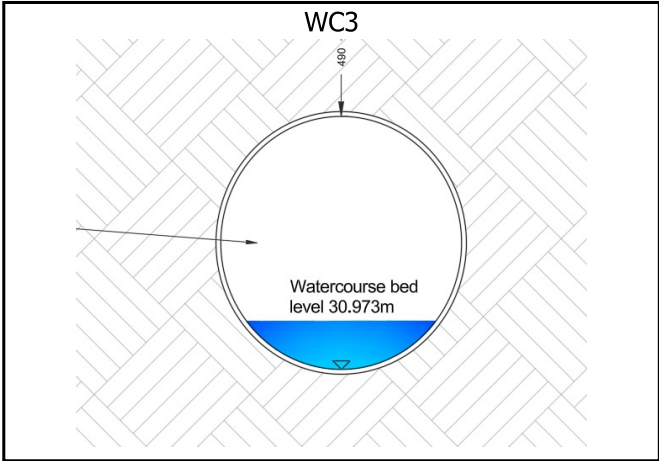
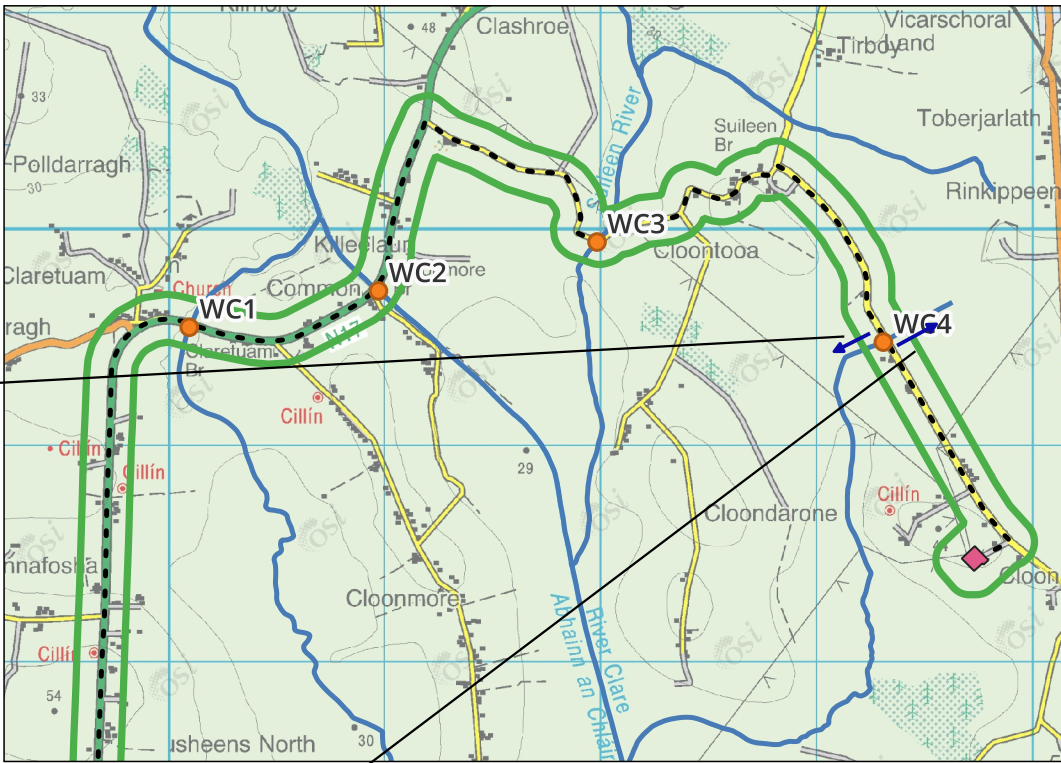
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DRAWING TITLE: Water Crossing 3 Option C			
PROJECT No.: 210627	DRAWING No.: 210627 - 19	SCALE: As shown @ A3	
DRAWN BY: JOB	CHECKED BY: OM	DATE: 08.03.2024	REVISION: P01
			
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Looking West,
Facing
Downstream



Looking East,
Facing
Upstream



X ITM	Y ITM	Watercourse Depth (m)	Culvert Width (m)	Culvert Depth (m)	Crossing Type
540059	749585	2.3	1.05	1.05	Pipe Crossing

Map Legend

- EIAR Site Boundary
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- Proposed Grid Connection
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- Cloon 110kV Substation



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Drawing Title
Watercourse Crossing 4 (WC4)

Project Title
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Drawn By
KB

Checked By
SC

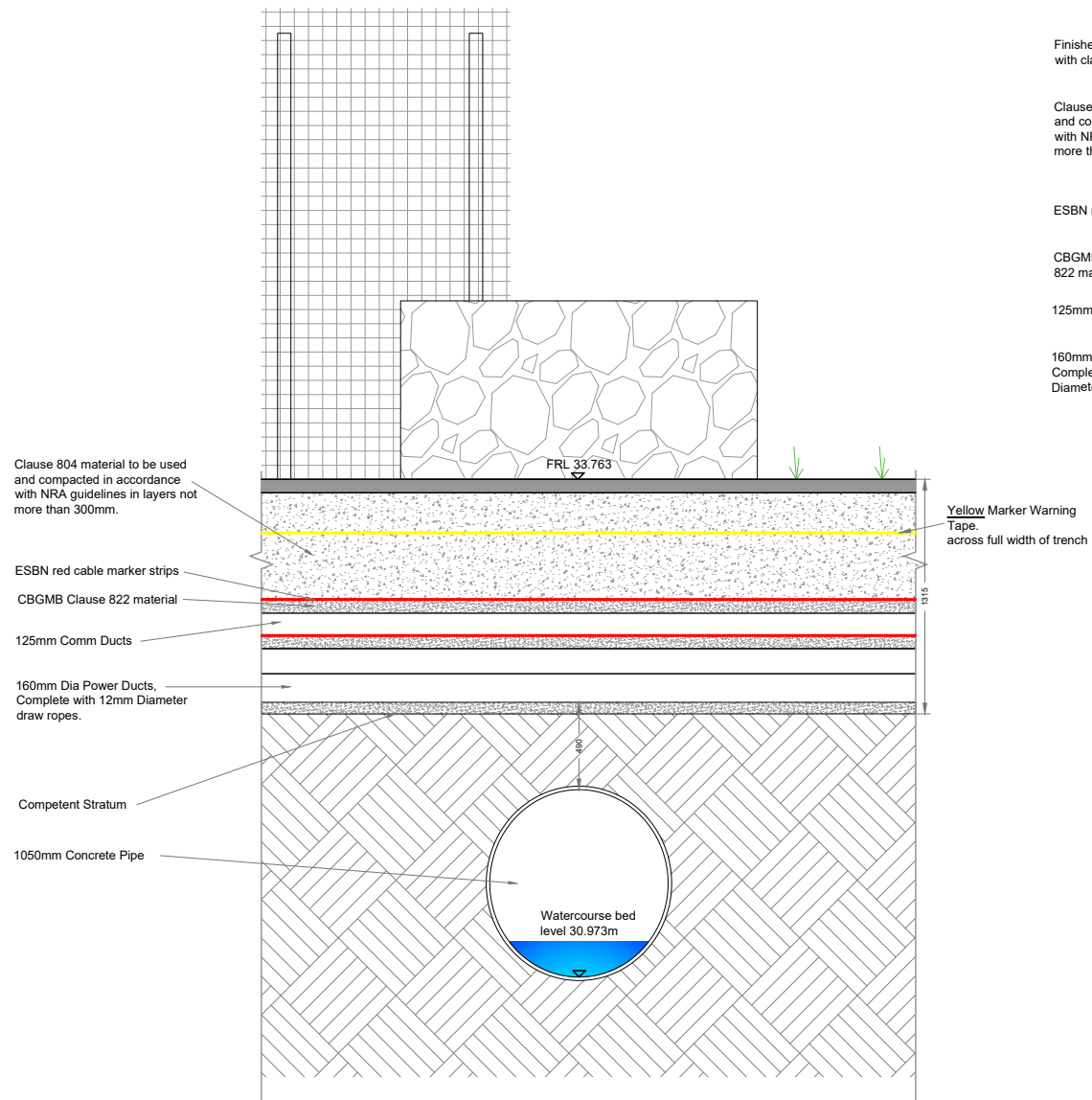
Project No.
210627

Drawing No.
Figure 7

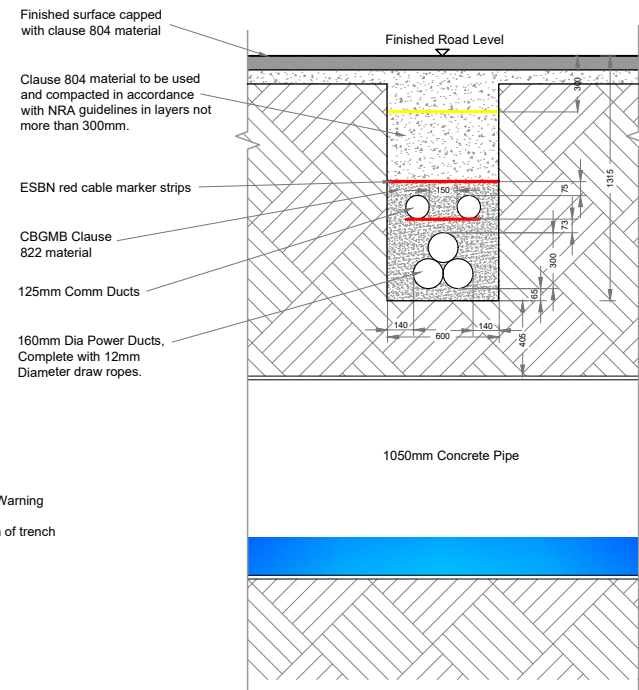
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Longitudinal Section A-A
SCALE 1:25



Cross Section B-B
SCALE 1:25

PROJECT TITLE: Laurclavagh Renewable Energy Development, Co. Galway			
DRAWING TITLE: Water Crossing 4 Option A			
PROJECT No.: 210627	DRAWING No.: 210627 - 18	SCALE: 1: 25 @ A3	
DRAWN BY: JOB	CHECKED BY: OM	DATE: 08.03.2024	REVISION: P01
			
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