

UPPERCHURCH WINDFARM RELATED WORKS
(UWF RELATED WORKS)

VOLUME C3: REVISED EIAR FIGURES

Volume A	Planning Application Documents – Application Form; Site/Newspaper Notice; Letters of Consent; Schedule of Submitted Documents etc.	
Volume B	Planning Drawings	
VOLUME C	UWF RELATED WORKS EIA REPORT (EIAR)	Volume C1: Revised EIAR Non-Technical Summary Volume C2: Revised EIAR Main Report VOLUME C3: REVISED EIAR FIGURES Volume C4: Revised EIAR Appendices
Volume D	Revised Environmental Management Plan for UWF Related Works	
Volume E	Revised Appropriate Assessment Reporting	
Volume F	Reference Documents for Other Elements of the Whole UWF Project	Vol F1 to F3: UWF Grid Connection EIA Report Vol F4: Environmental Management Plan for the UWF Grid Connection Vol F5 to F7: 2018 UWF Replacement Forestry EIA Report Vol F8 to F9: Upperchurch Windfarm

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Project Website: www.upperchurchwindfarm.ie

REFERENCE DOCUMENTS

Upperchurch Windfarm Related Works (UWF Related Works)

UWF Related Works Revised EIA Report (Revised EIAR)

VOLUME C3: REVISED EIAR FIGURES

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January 2019

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REFERENCE DOCUMENTS



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No mapping or figures for Chapter 20		



Title:
Figure CE 1.1
Location of UWF Related Works and
the Other Elements of the Whole
UWF Project on OSI Mapping

Map Number:
Map 1 of 1

Legend:
Subject Development:
■ UWF Related Works
- Haul Route Works
- Realigned Windfarm Road
- Internal Windfarm Cabling
- Telecom Relay Pole

Other Elements of the Whole UWF Project:
■ UWF Grid Connection
■ Mountphilips Substation
■ Upperchurch Windfarm
■ UWF Replacement Forestry
■ UWF Other Activities

REFERENCE DOCUMENTS



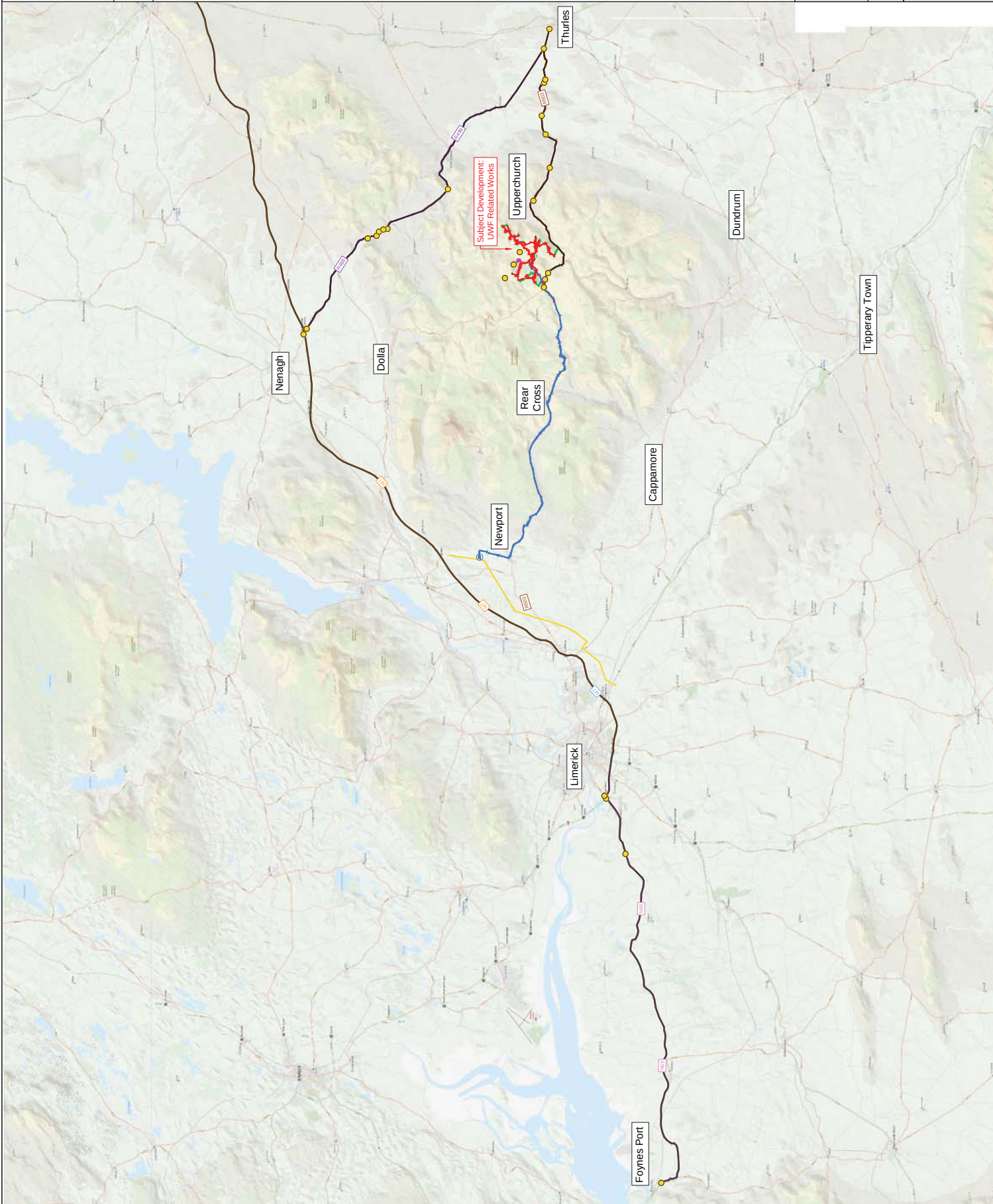
Project:
UWF Related Works (RW)

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Checked by: JB
Date: January 19
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Title:
Figure CE 1.2

UWF Related Works and the Other
Elements of the Whole UWF Project in
the vicinity of Upperchurch Windfarm

Map Number:
Map Overview on OSI Mapping

Legend:

UWF Related Works: (Subject Development)

Haul Route Works

Haul Route Works Numbers

(HW1 - HW13)

Realigned Windfarm Road

Realigned Windfarm Road Numbers

(RWR1 - RWR3)

Internal Windfarm Cabling

Telecom Relay Pole

UWF Grid Connection:

UWF Grid Connection

UWF Replacement Forestry:

UWF Replacement Forestry

Upperchurch Windfarm:

Upperchurch Windfarm

-Consented UWF Turbines

-Consented UWF Substation

-Consented UWF Roads

UWF Other Activities:

Haul Route Activities

Haul Route Activities Number

Upperchurch Hen Harrier Scheme

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

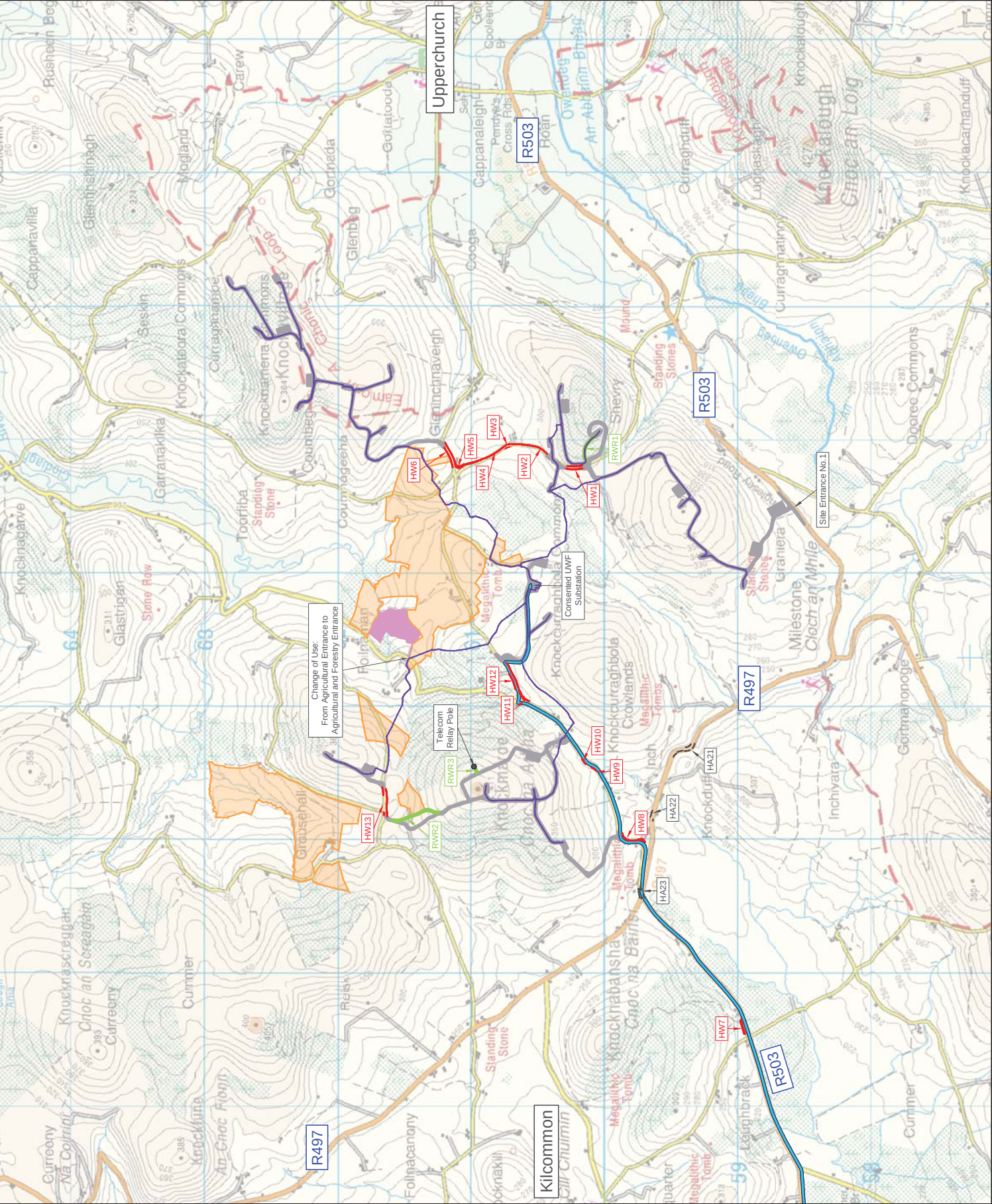
Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number

Regional Road Number



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UWF Related Works (RW)

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Map Number:
Map Overview on OSI Mapping

UWF Related Works: (Subject Development)



- **Realigned Windham Road**
- **Realigned Windfarm Road Numbers**

☐ Internal Windfarm Cabling

☐ Temporary hedge/tree removal & pruning

- Permanent hedge/tree removal & pruning

 Bat Crossing Location

[EW6](#) **Related Works Site Entrance**

UWF GHA Connection:

UWFE Replacement Forestry:

UWF- Replacement Forestry

Upperchurch Windfarm

- Consented UWF Substation
- Consented IWF Roads

UWF-Other Activities:

HA22 Haul Route Activities Number

Watercourse	Regional Road Number
R503	

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UWF-Related Works (RW)	Reviewed by a	Published	Presented Elsew

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Title:
Figure CE 2.1

Other Projects or Activities Scoped
in for Cumulative Evaluation in the
Environmental Factor topic chapters

Map Number:
Map 1 of 1

Subject Development:

UWF Related Works

Other Elements of the Whole UWF Project:

UWF Grid Connection

Mountphilps Substation

Upperchurch Windfarm

UWF Replacement Forestry

UWF Other Activities

Other Projects or Activities Scoped in:

1 Kilonan to Nenagh 110kV OHL

2 Shannonbridge to Kilonan 220kV OHL

3 Bunkinalta Windfarm

4 Castletwaller Windfarm

5 Milestone Windfarm

6 Cappawhite Windfarm

7 Garacummer Windfarm

8 Glencarthy Windfarm

9 Glenough Windfarm

10 Hollyford Windfarm

11 Knockastanna Windfarm

15 Foinhaman Mast

16 Cummermore Communications Pole

33 Forestry

34 Agriculture

35 Turf - Cutting

REFERENCE DOCUMENTS



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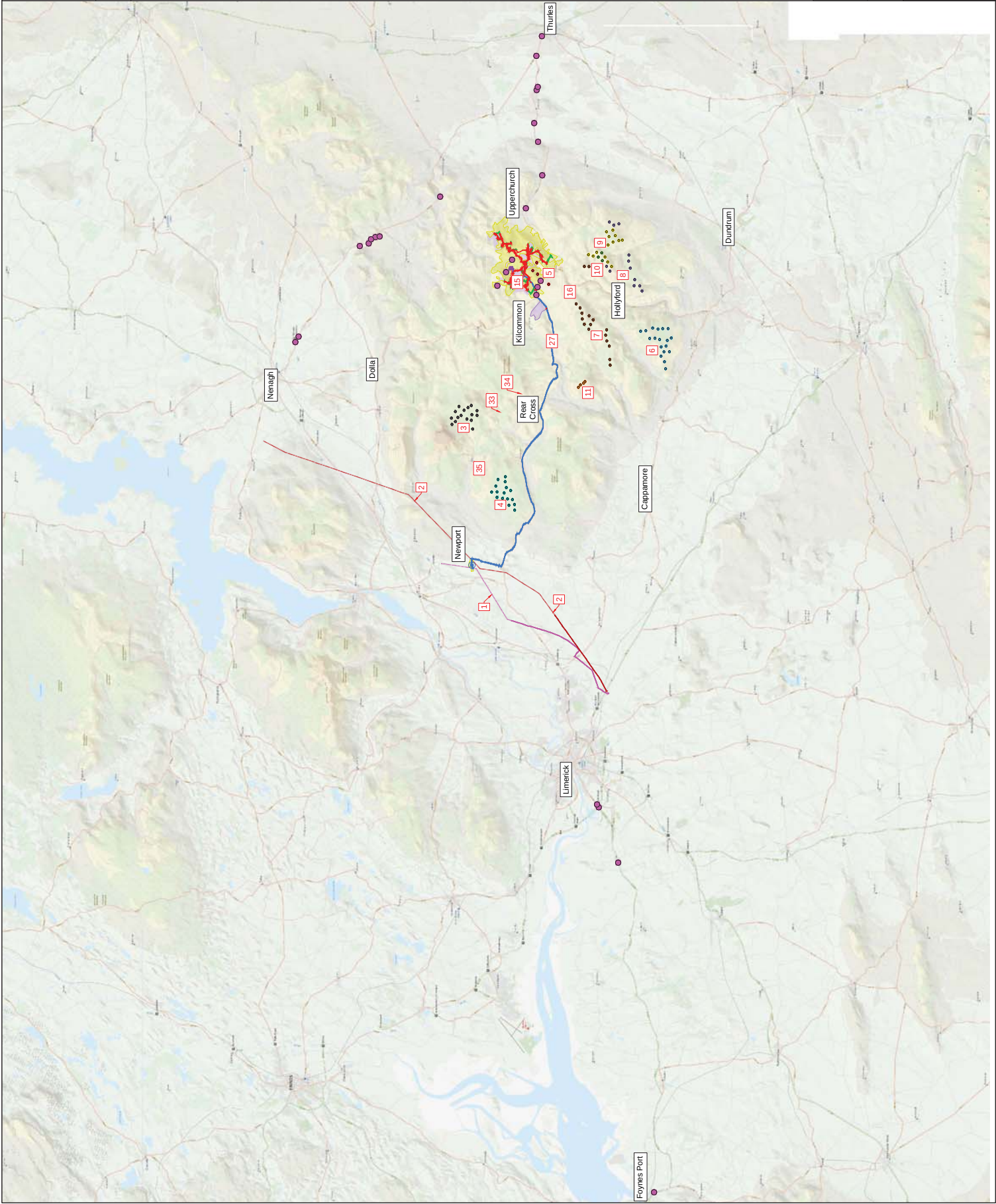
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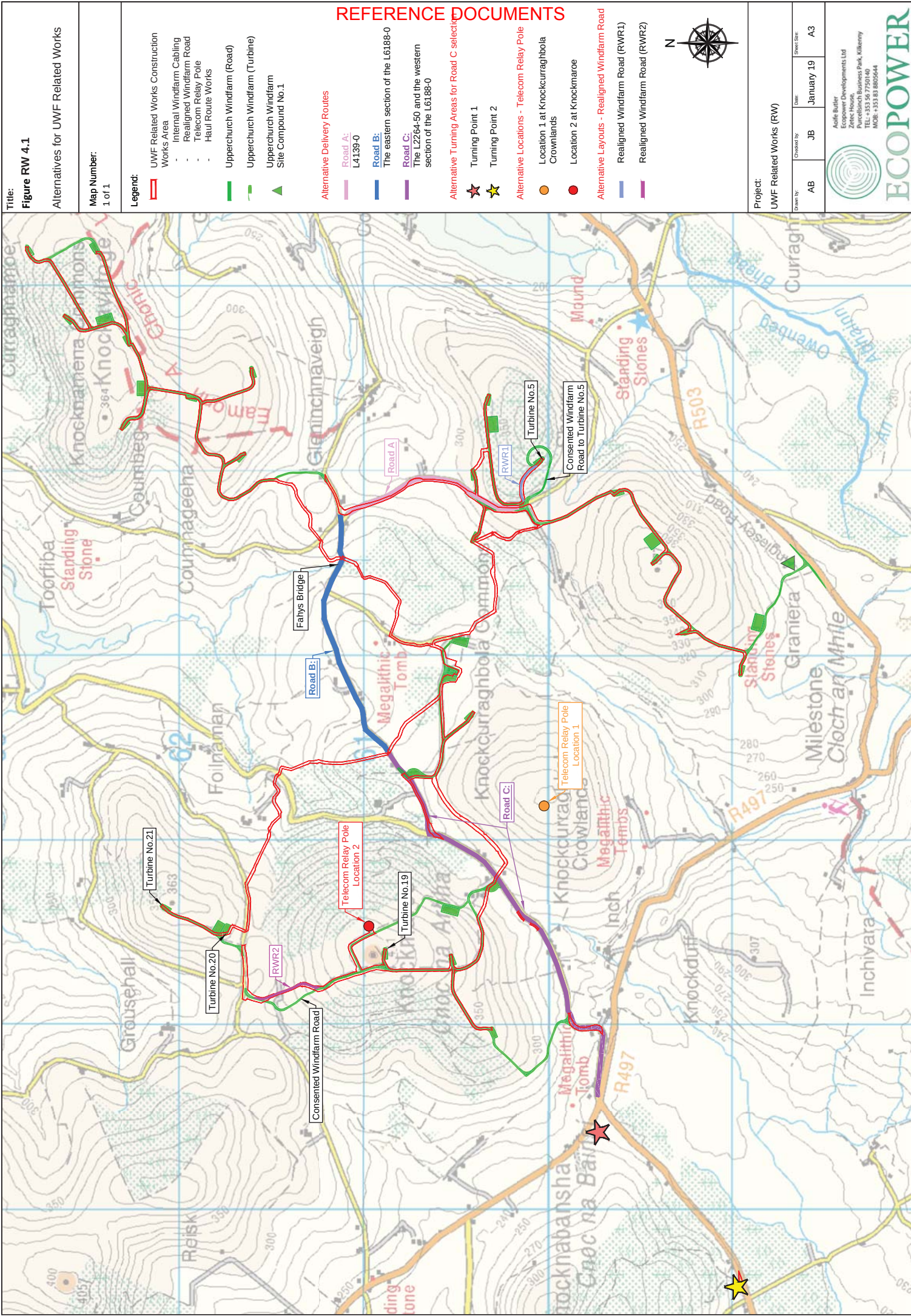
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Figures for Chapter 3: EIA Report Process		Tab 3 (printed version)
No mapping or figures for Chapter 3		





Location of UWF Related Works on OSI Discovery Mapping

Map Number:
Map 1 of 1

Legend:

Haul Route Works

Haul Route Works Numbers
(HW1 - HW13)

Realigned Windfarm Road

Realigned Windfarm Road Numbers (RWR1 - RWR3)

Internal Windfarm Cabling

Telecom Relay Pole

Upperchurch Windfarm (UWF)

Regional Road Number

R503

REFERENCE DOCUMENTS



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JWF Related Works (RW)

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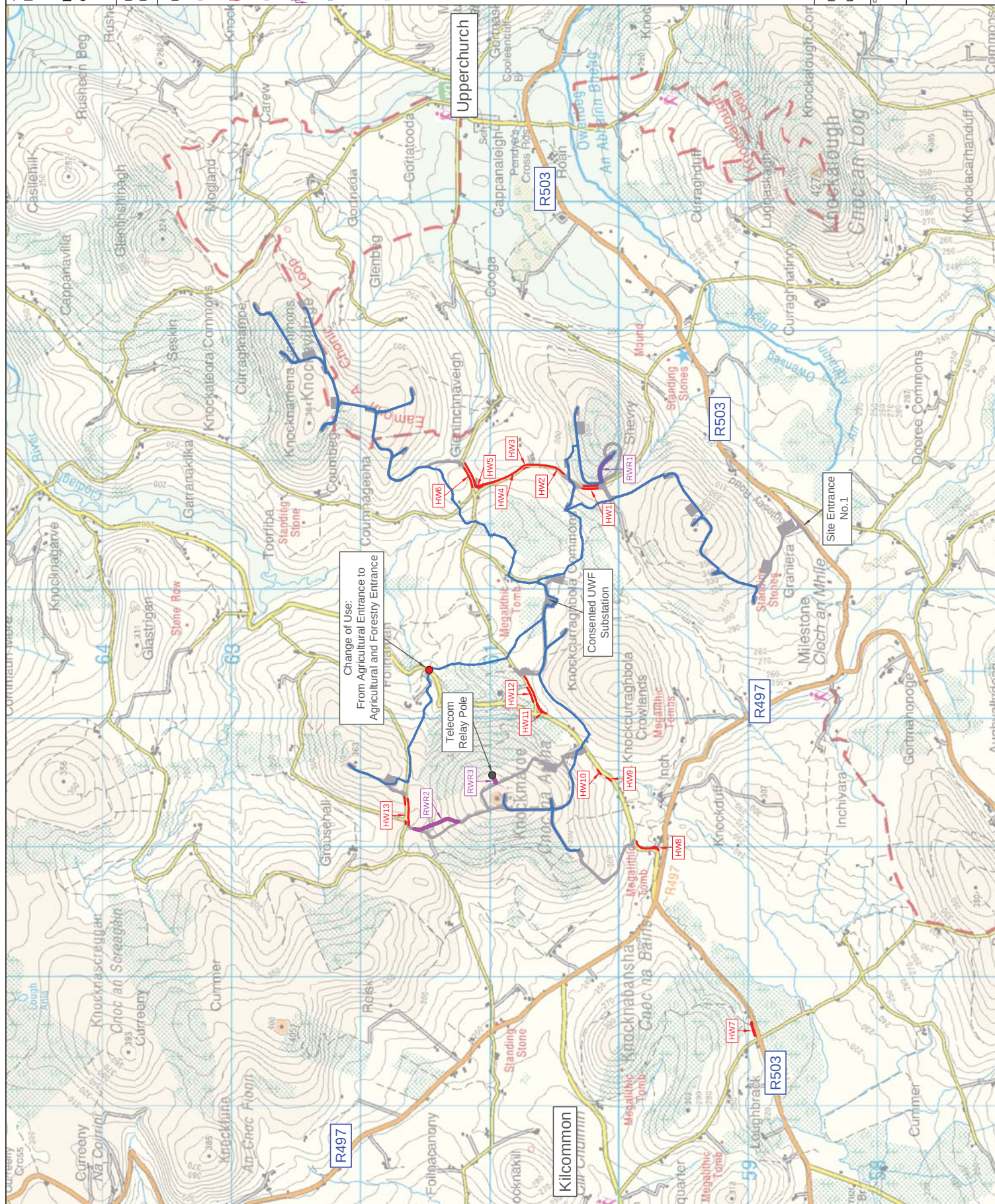
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Title: Figure RW 5.5 Cross Sections of Internal Windfarm Cables Trench	Map Number: N/A
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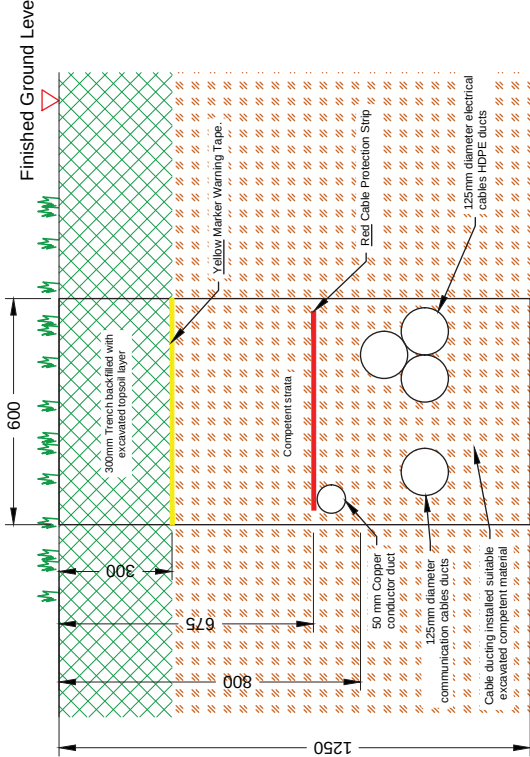
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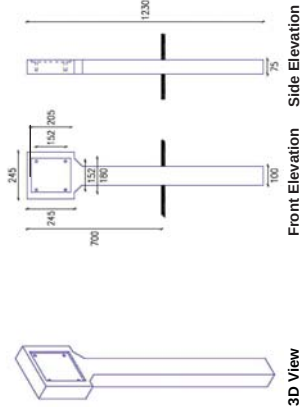
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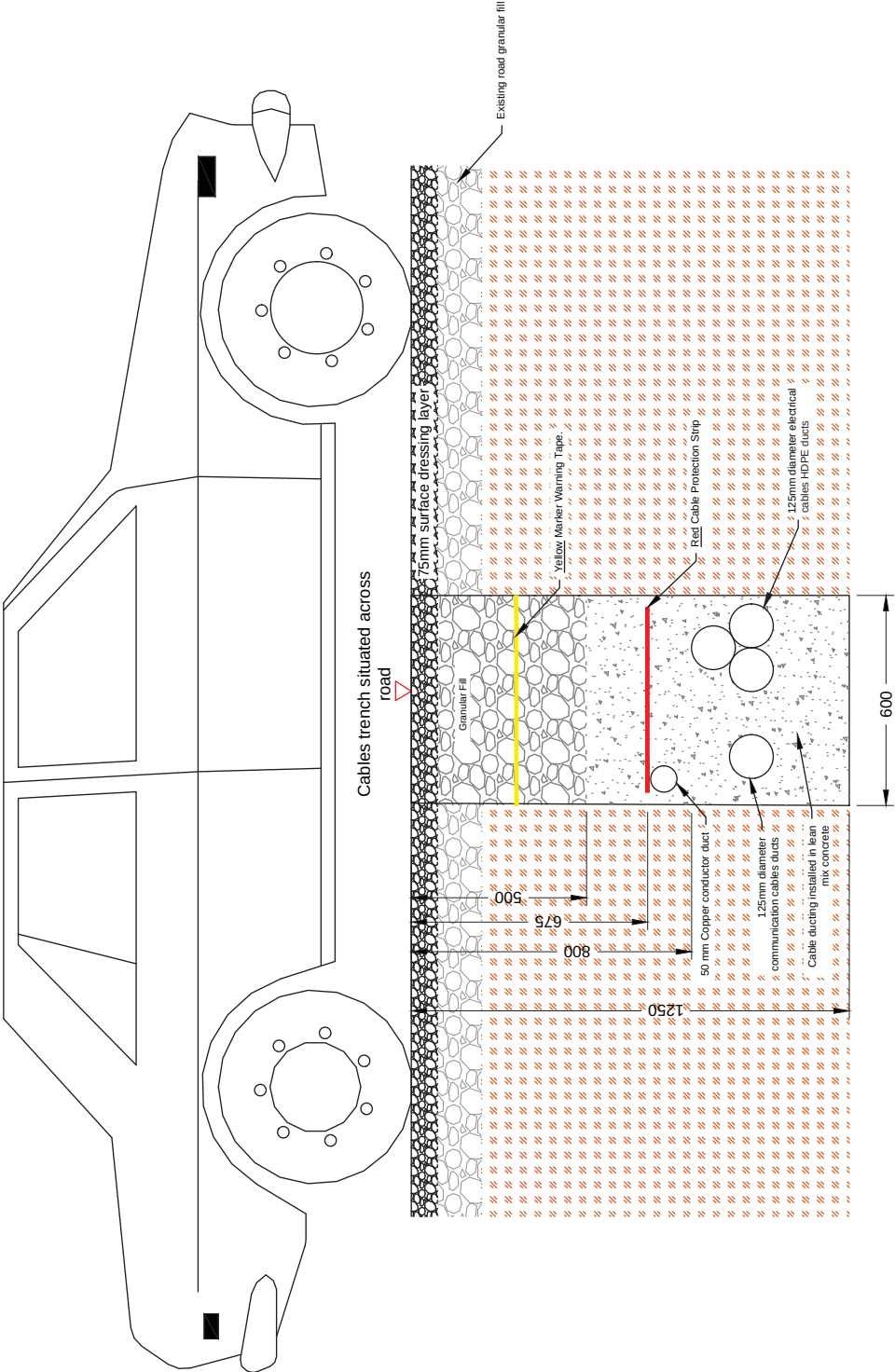
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33kV CABLES TRENCH - TYPICAL SECTION THROUGH AGRICULTURAL LANDS AND FORESTRY LANDS



TYPICAL MARKER POST AND MARKER PLATE DIMENSIONS



33kV TRENCH ACROSS PUBLIC ROADS (RW1 TO RW9)

[illegible]

-

- Watercourse
- Public Road
- Public Road Number
- Townlands
- Upperchurch Windfarm (UWFF)



CLASSIFICATION OF WATER COURSES AT THE CROSSING POINTS

WW24 - DRAIN - NO FISHERIES VALUE

WW25 - DRAIN - NO FISHERIES VALUE



Title:
Figure RW 5.8

Cross Section of Realigned Windfarm Road

Map Number:
N/A

Note :
Drawings not to scale. For illustration purposes only

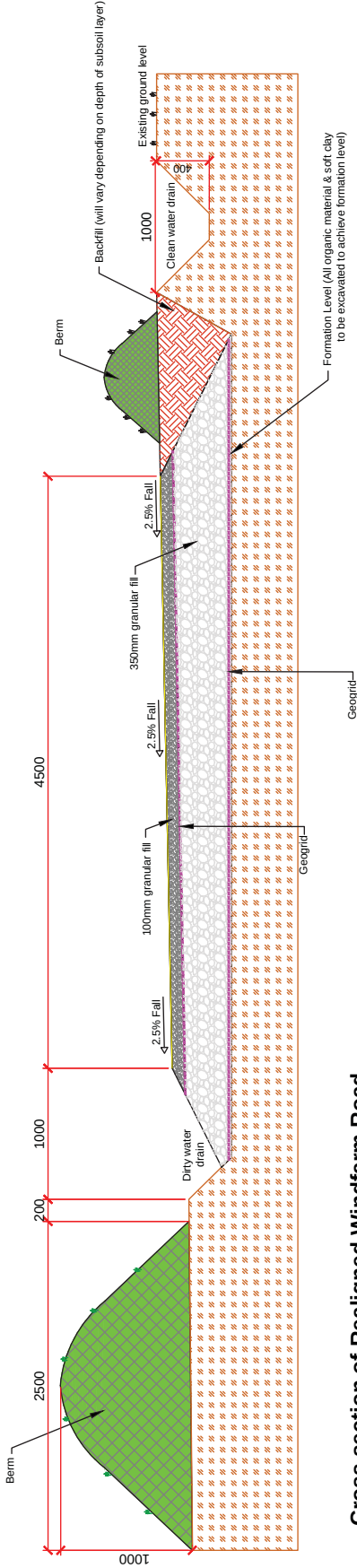
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Cross section of Realigned Windfarm Road

CLASSIFICATION OF WATER COURSES AT THE CROSSING POINTS

WW12 - DRAIN - NO FISHERIES VALUE
WW13 - DRAIN - NO FISHERIES VALUE
WW14 - SUB-OPTIMAL - LOW FISHERIES VALUE
WW22 - EPA BLUE LINE EQUIVALENT - FISHERIES VALUE
WW31 - DRAIN - NO FISHERIES VALUE
WW32 - DRAIN - NO FISHERIES VALUE



Title:
Figure RW 5.9

Layout of Haul Route Works on Aerial Photography Mapping

Map Number:
Map 1 of 1

- Legend:
- Haul Route Works
 - Haul Route Works Numbers (HW1 - HW13)
 - Water Crossings
 - Bat Crossing Locations
 - Site Entrances
 - Temporary hedge/tree removal & pruning
 - Permanent hedge/tree removal
 - Watercourse
 - Public Road
 - Public Road Number
 - Townlands
 - Upperchurch Windfarm (UWF)

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UWF-Related Works (RW)

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Location and Layouts of Haul Route Works (Overview and Maps 1 to 3)

Map Overview

Haul Route Works ID
Haul Route Works
Upperchurch Windfarm
Public Road Numbers

JWF Related Works (RW)

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Title:
Figure RW 5.10
Location and Layouts of Haul Route
Works (Overview and Maps 1 to 3)

Map Number:
Map 1 of 3

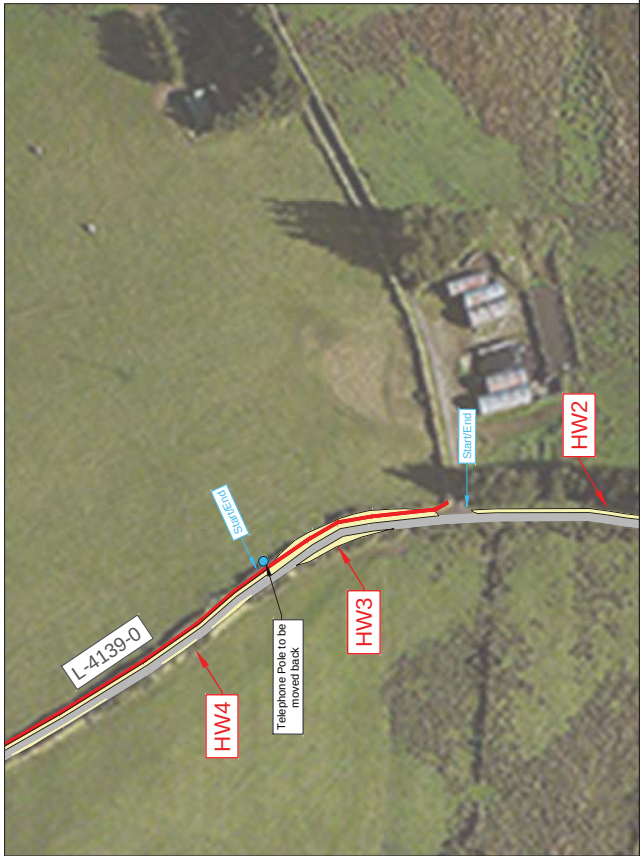
- Legend:
- Move Telephone Pole
 - Road Widening
 - Public Road
 - Temporary Removal of Roadside Boundary
 - Public Road Number
 - Upperchurch Windfarm

REFERENCE DOCUMENTS



Project:
UWF Related Works (RW)

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Title:
Figure RW 5.10
Location and Layouts of Haul Route
Works (Overview and Maps 1 to 3)

Map Number:
Map 2 of 3

- Legend:
- Move Telephone Pole
 - Road Widening
 - Public Road
 - Temporary Removal of Roadside Boundary
 - L-4139-0 Public Road Number
 - Upperchurch Windfarm

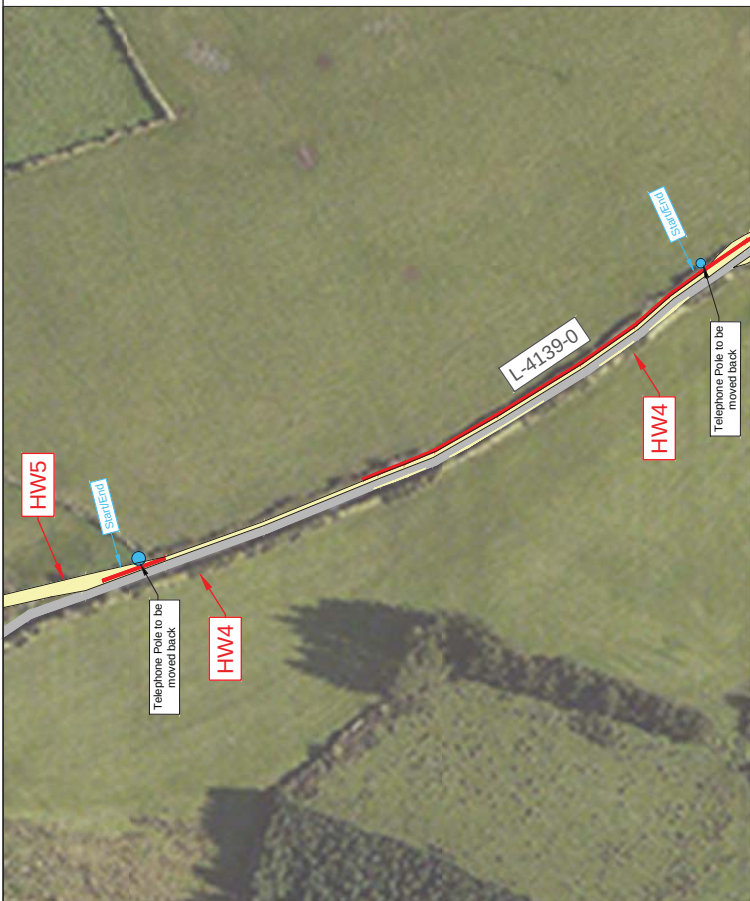
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Project:
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Title:
Figure RW 5.10
Location and Layouts of Haul Route
Works (Overview and Maps 1 to 3)

Map Number:
Map 3 of 3

Legend:

- Move Telephone Pole
- Road Widening
- Public Road
- Temporary Removal of Roadside Boundary
- Public Road Number
- Upperchurch Windfarm

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Title:
Figure RW 5.11

Location of the Telecom Relay Pole on
Aerial Photography Mapping

Map Number:
Map 1 of 1

Legend:

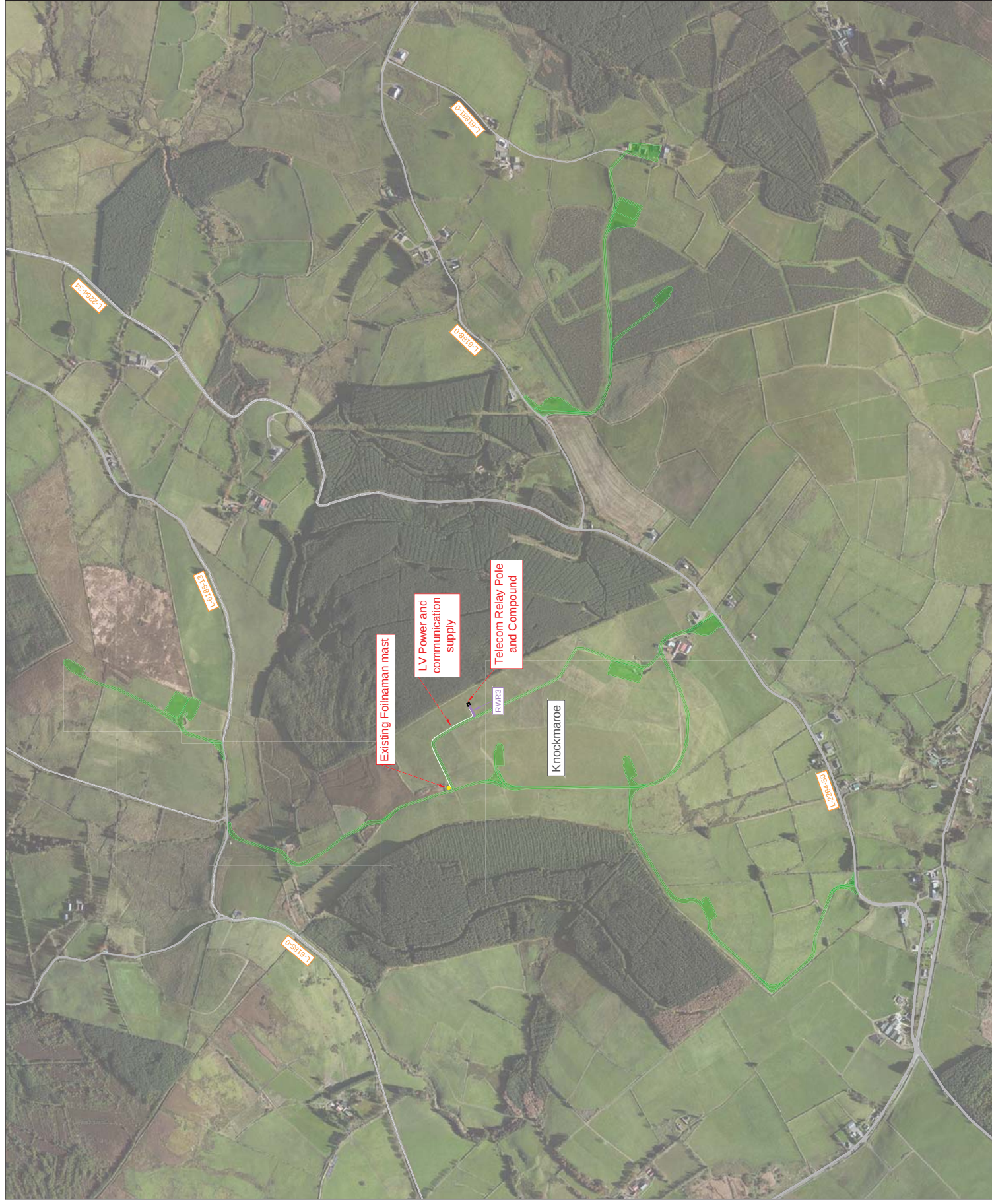
- Telecom Relay Pole and Compound
- Realigned Windfarm Road (RWR3)
- Public Road
- Public Road Number
- Townland
- Upperchurch Windfarm (UWF)

REFERENCE DOCUMENTS



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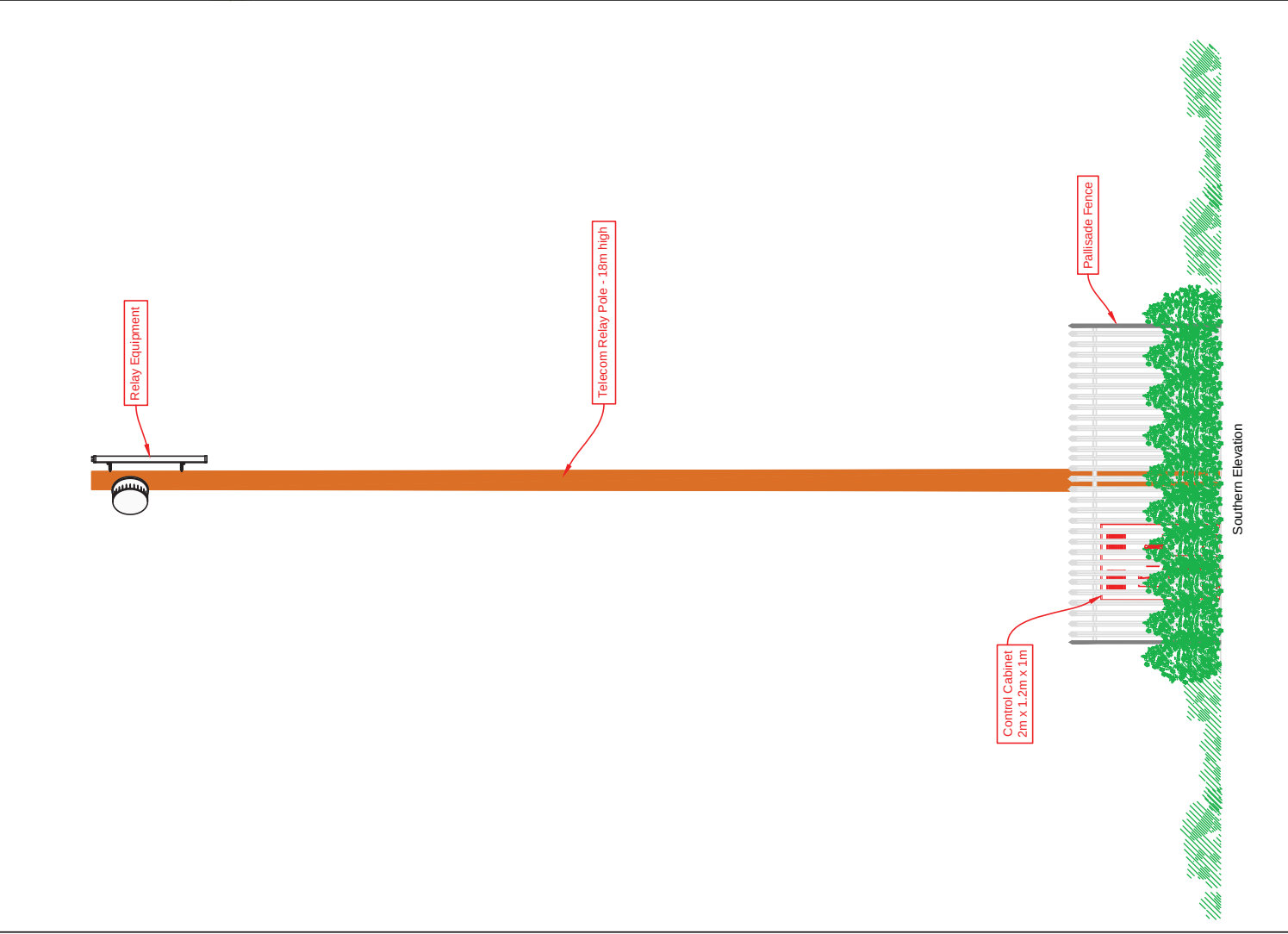
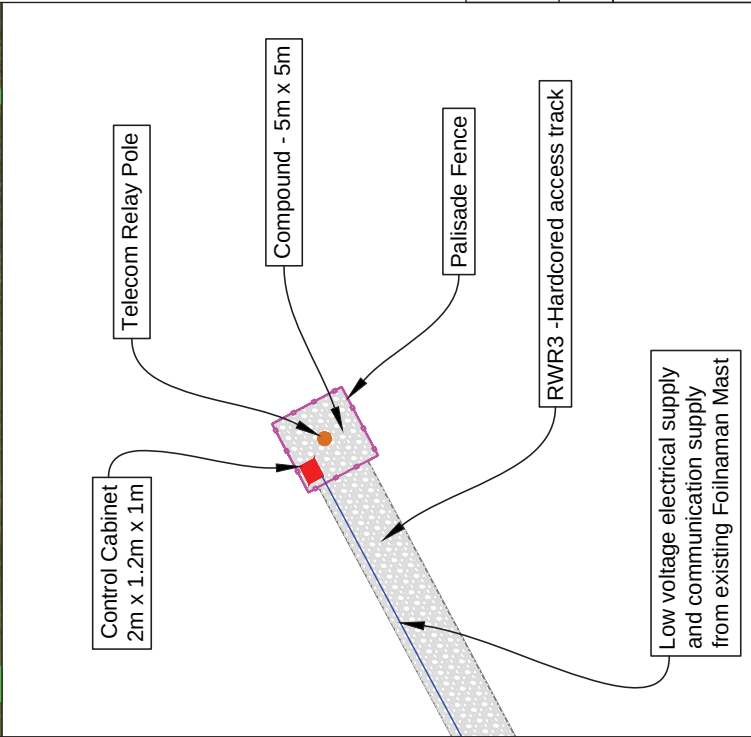
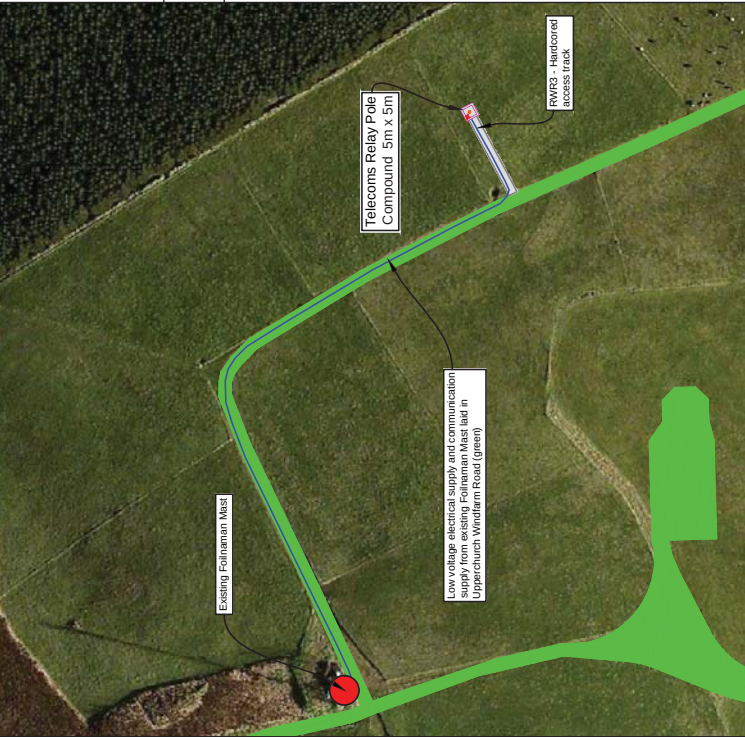


Title:
Figure RW 5.12

Plan and Elevation of Telecom Relay Pole and Compound

Map Number:
N/A

Note :
Drawings not to scale. For illustration purposes only



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Created by:
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drawn by:

by

Date	
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Title: **Figure RW 5.13**

Location of "Change of Use at Existing Entrance" (including sightlines)

Map Number:
Map 1 of 1

Legend:

Location of the change of use
from Agricultural Entrance to
Agricultural and Forestry Entrance

Public Road

Existing farm track

Public Road Number

Townland

Upperchurch Windfarm (UWF)

Foilnaman

Change of Use:
From Agricultural Entrance to
Agricultural and Forestry
Entrance EW15

Details of existing sightlines at Existing Entrance

- Existing Agricultural Entrance with minimum 70 meter sightlines at 2.4 meter set back distance from road edge

70 meter sightline

Existing

0.22

2.01

Title:
Figure RW 5.15

Cross Section of Temporary Access Roads

Map Number:

N/A

Note :
Drawings not to scale. For illustration purposes only

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UWF Related Works (RW)

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Checked by:
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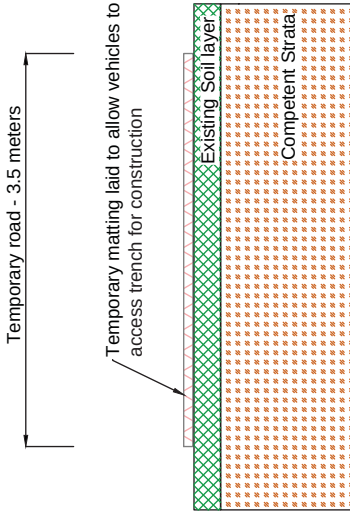
Date:

11-Feb-18

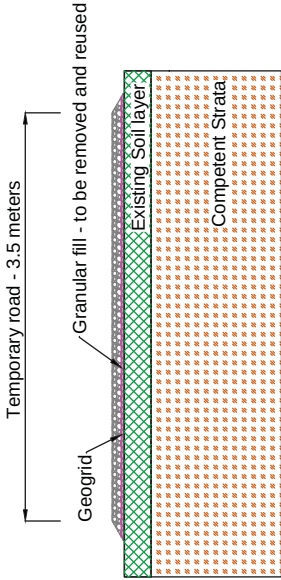
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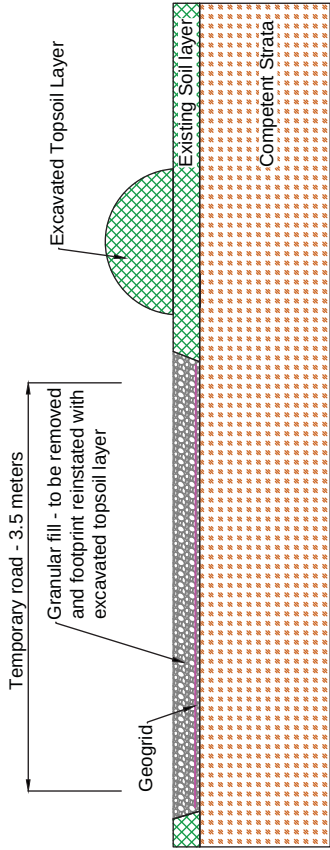
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Eco Power Engineering Limited
Zone House, Perambalur Bypass, Perambalur
Tamil Nadu, 621009
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Cross Section of temporary access road - Matting



Cross Section of temporary access road - Floating road



Cross Section of temporary access road - Excavate and fill

A1

Yellow Warning Tape

Standard Cables Trench in road formation

Red Protection Tape

33 kV Electrical and Communication cable ducts

Watercourse

Existing Culvert

Diagram A2 illustrates a plan view of a road construction project. The diagram shows a road with a central dashed line and two solid lines indicating the road edges. A construction vehicle, represented by a large rectangle with a smaller rectangle inside, is positioned on the left side of the road. A coiled hose or cable is shown extending from the vehicle towards the center of the road. A circular feature, labeled 'Existing Culvert', is located in the center of the road. A 'Watercourse' is shown as a blue-shaded area on the right side of the road. Arrows indicate 'Construction Traffic movement' from left to right. The diagram is labeled 'A2' in the bottom right corner.

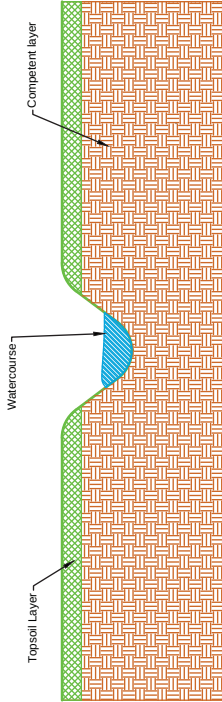
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Zeev House, Peverell Road, BSA Business Park
Dulton Road, Kilmory - BT5 5WB
Londrina - 01696 750140 (Ext. 204)
Mobile - +353 (0)87 611426

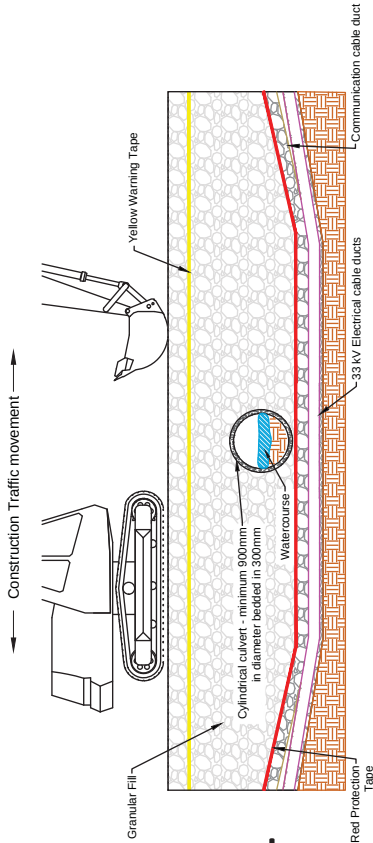
A2

Cross Section of watercourse crossing type A2 - Traffic Movement only over structure (No instream works required)

C1

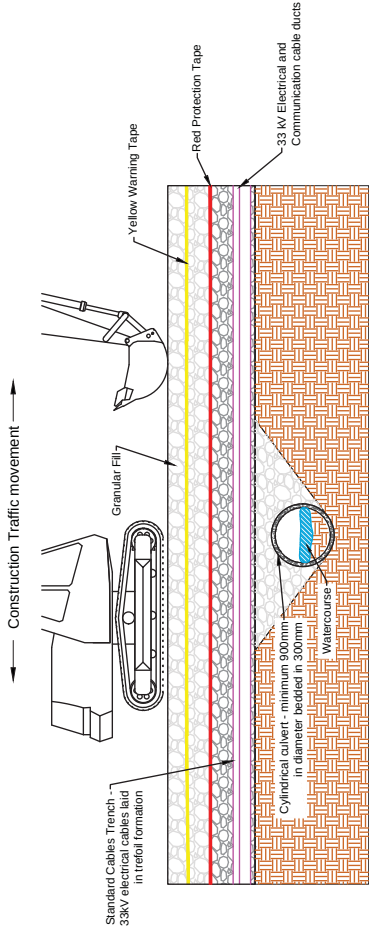


Cross Section View D - D of watercourse crossing C1 - Existing watercourse



Cross Section View of watercourse crossing types C1 - Cables trench under new permanent crossing structure

C1



Cross Section View of watercourse crossing C1 - Cables trench over new permanent crossing structure

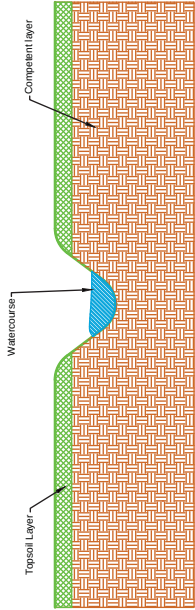
(Watercourse dammed and over-pumped)

C1

Title: Figure RW 5.18		Watercourse Crossing Type C1 - New Permanent Structure	
Note : Drawings not to scale. For illustration purposes only		Watercourse Crossing Type C1 (Total 5) Class 2 - EPA Blue Line Equivalent - Fisheries Value: WW4 Class 4 - Drain - No Fisheries Value: WW1, WW15, WW24, WW25	
Description of Crossing Type C1		- No existing crossing structure - Instream Works - Cable and Traffic crossing - Installation of New Permanent watercourse crossing structure 33kV Cables and Ducting installed over or under new permanent watercourse crossing structure	
Designed in conjunction with			
Project: UWF Related Works (RW)		Drawn by: CB	Created by: JB
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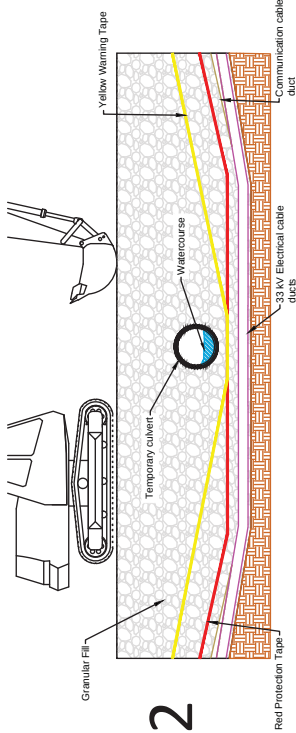
REFERENCE DOCUMENTS

C2

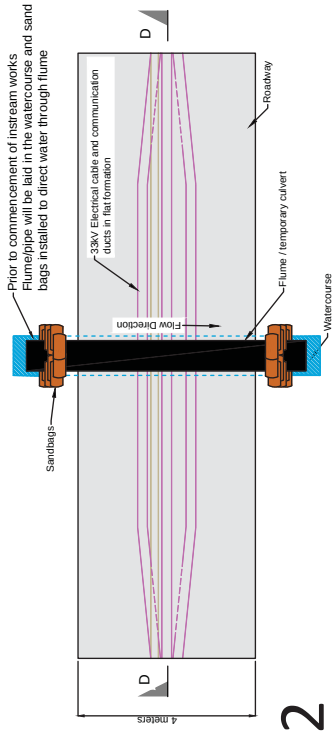


Cross Section View D - D of watercourse crossing C2 - Existing watercourse

Construction Traffic movement



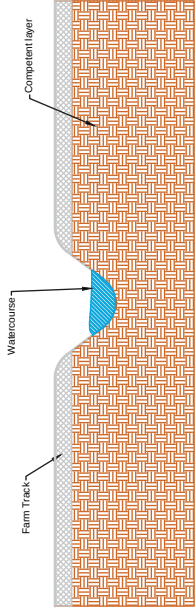
Cross Section View D - D of watercourse crossing types C2 - Cables trench under new temporary crossing structure



Plan View of watercourse crossing C2 - Cables trench under new temporary crossing structure
(Watercourse dammed and flume installed during instream works)

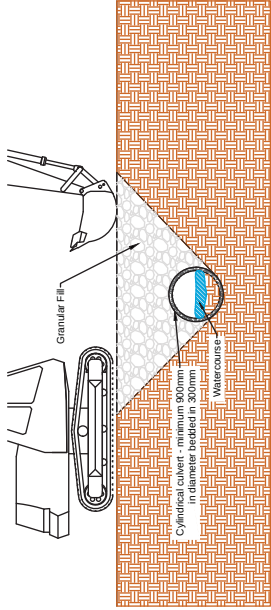
Note:
The flume/pipe watercourse crossing method will typically be used where a temporary watercourse crossing structure is proposed.

C4

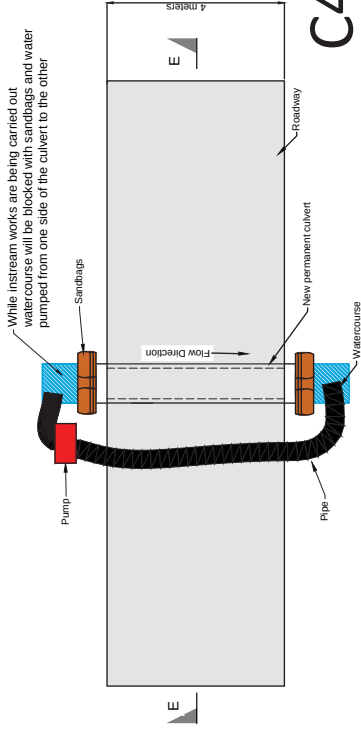


Cross Section View D - D of watercourse crossing W60 - Existing watercourse

Construction Traffic movement



Cross Section View E - E of watercourse crossing types C4 - Traffic over new permanent crossing structure



Plan of watercourse crossing types C4 - Traffic over new permanent crossing structure
(Watercourse dammed and over pumped during instream works)

Note:
The damming and over-pumping method will typically be carried out at watercourses where a permanent crossing structure is being installed or where an existing culvert is being replaced.

All permanent watercourse culverts will be sized to cope with a minimum 100-year flood event. All pipe culverts will be at least 900mm in diameter regardless of the anticipated flood flow. 900mm culverts will be set into the river bed to a depth of 300mm and 1200mm culverts will be set in 500mm

Title: Figure RW 5.19 Watercourse Crossing Type C2 - New Temporary Structure & Watercourse Crossing Type C4 - New Permanent Structure		Note : Drawings not to scale. For illustration purposes only		Watercourse Crossing Type C2 (Total 5) Class 2 - EPA Blue Line Equivalent - Fisheries Value: WW7 Class 4 - Drain - No Fisheries Value: WW5, WW8, WW16, WW27		Description of Crossing Type C2 - No existing crossing structure - Instream Works - Cable and Traffic crossing - Installation of New Temporary watercourse crossing structure 33kV Cables and Ducting installed under new temporary watercourse crossing structure		REFERENCE DOCUMENTS	
Watercourse Crossing Type C4 (Total 2) Class 2 - EPA Blue Line Equivalent - Fisheries Value: WW22 Class 3 - Sub-Optimal - Low Fisheries Value: WW14 Class 4 - Drain - No Fisheries Value: WW13		Description of Crossing Type C4 - No existing crossing structure - Instream Works - Traffic crossing only - Installation of New Permanent watercourse crossing structure - No Cables or Ducting installed		Designed in conjunction with 		Project: UMF Related Works (RW)		Drawn by: CB	
Created by: JB		Date: 11-Feb-18		Sheet Size: A3		Client: Zions House, Penrith NSW 2150 Dillon Road, Kildare - 8101 NSW Landline - +61 2 7594 5411 (x 240) Mobile - +61 2 9957 5411 (x 140)			

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Title:

Figure RW 5.21

Watercourse Crossing Type E - Plan and Cross Section Views of Bailey Bridge

Note :
Drawings not to scale. For illustration
purposes only

Watercourse Crossing Type E

Used at C type water crossings where required

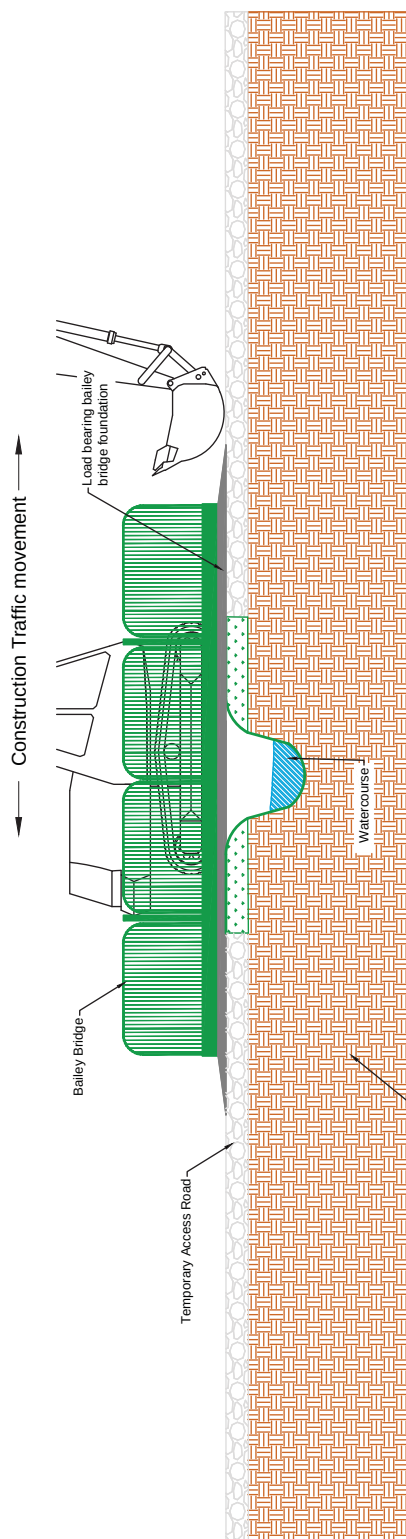
Description of Crossing Type E

- No existing crossing structure
- No instream Works
- Traffic crossing only
- No Cables or Ducting installed

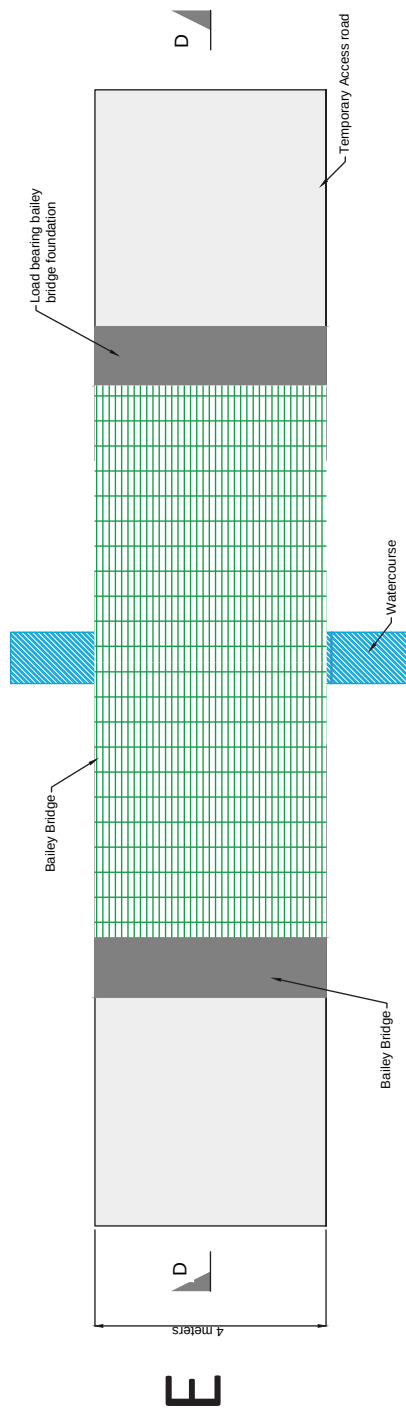
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Cross Section View D - D of watercourse crossing type E
Bailey Bridge - (No Instream Works)



Plan View of watercourse crossing type E
Bailey Bridge - (No Instream Works)

Title:
Figure RW 5.23
Haul Routes for Delivery of Aggregate,
Concrete and Other Materials to UWF Site
Compound No.1

Map Number:
Map 1 of 1

- Legend:
- Haul Route from Local Quarries to the R503
 - Regional Road R503
 - National Road N75
 - Upperchurch Windfarm Site Compound No.1
 - Local Roads used to access the UWF Related Works Areas
 - Consented UWF Roads used to access the UWF Related Works Areas

REFERENCE DOCUMENTS

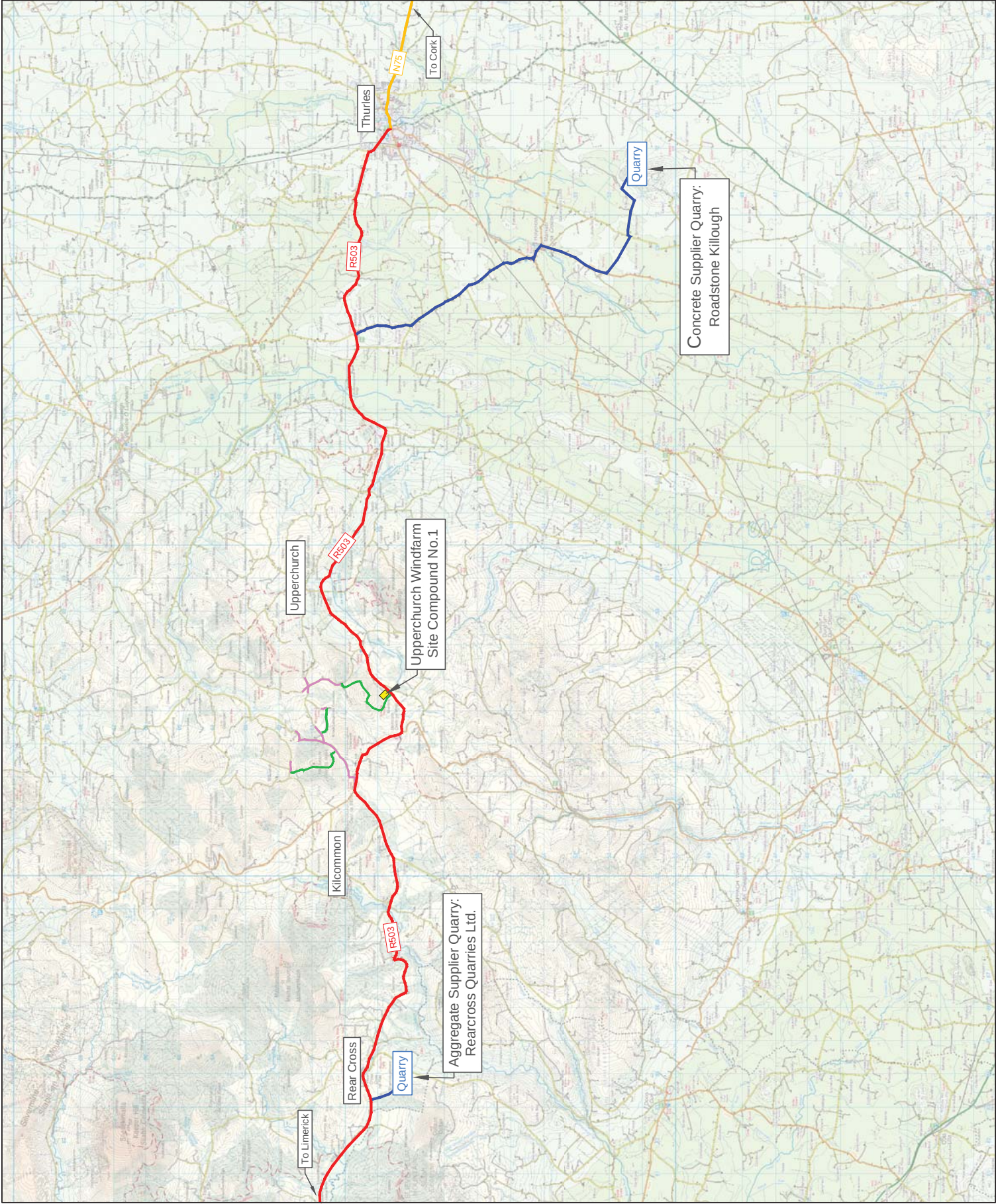


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Title:

Figure RW 5.24

Haul Routes from UWF Site Compound No.1 to Construction Works Areas

Map Number:

Map 1 of 1

Legend:

- | | |
|---|--|
|  | UWFF Related Works
Construction Works Area |
|  | Haul Route along local roads from the
F503 or the Upperchurch Windfarm
Site Compound No.1 to the UWFF
Related Works Areas |
|  | Consented UWFF Roads |
|  | Upperchurch Windfarm
Site Compound No.1 |
|  | Regional Road |
|  | Public Road Number |

Project:

UWF Related Works (RW)

Drawn by:	Checked by:	Date:
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Sheet Size:

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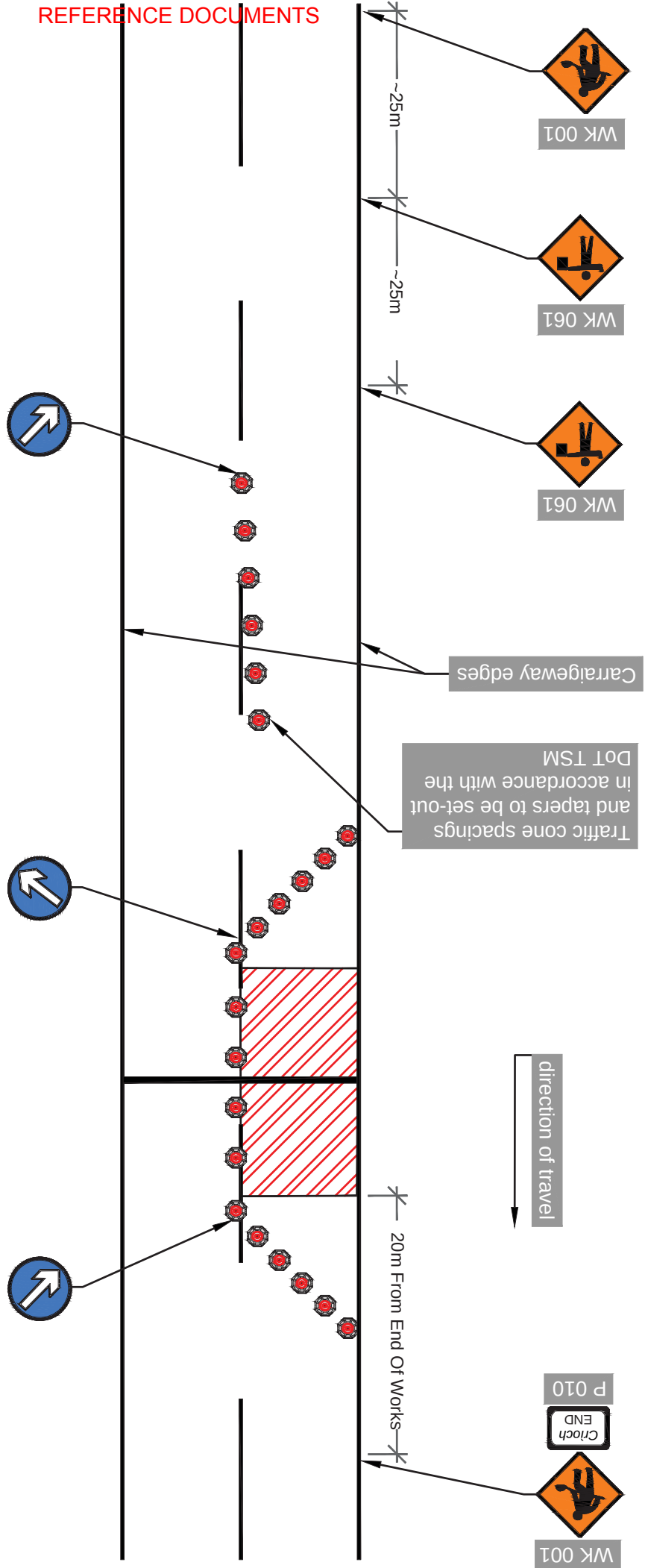
Upperchurch Windmill
Site Compound No.1



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Title:
Figure RW 5.25
Advance Warning Signage for
Half Lane Closures

Designed in conjunction with
NRB consulting engineers

Note: This drawing is not to scale
Department of Transport Traffic Signs Manual
(DOT TSM)

Project:
UWF Related Works (RW)

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Title:
Figure RW 5.26

Operational Stage Land Use Change

Map Number:
Map 1 of 1

Legend:

- Agricultural Lands to New Permanent Road
- Forestry to Permanent Road
- Forestry to Forestry Firebreak

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UWF Related Works (RW)

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Title:
Figure RW 5.27

Cross Section of Hedgerow Removal and Reinstatement

Map Number:
N/A

Note :
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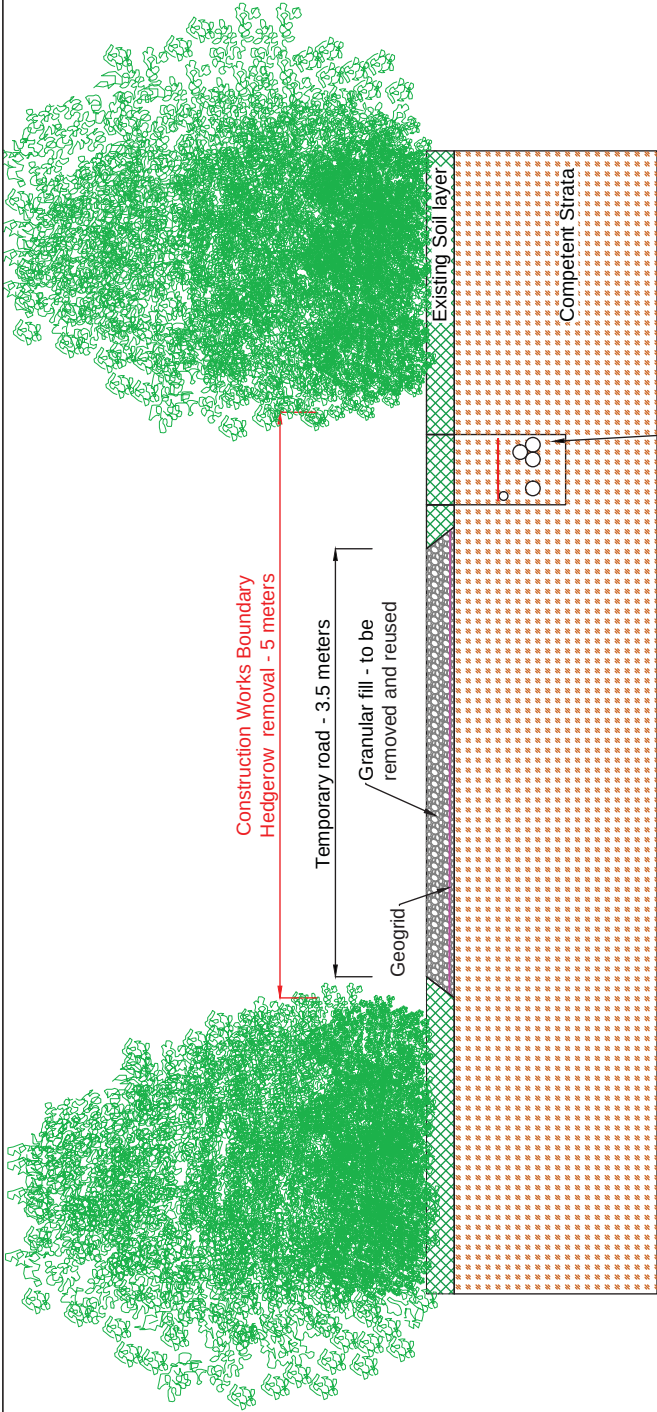
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UWF Related Works (RW)

Drawn by: CB	Created by: JB	Date: 11-Feb-18	Sheet Size: A3
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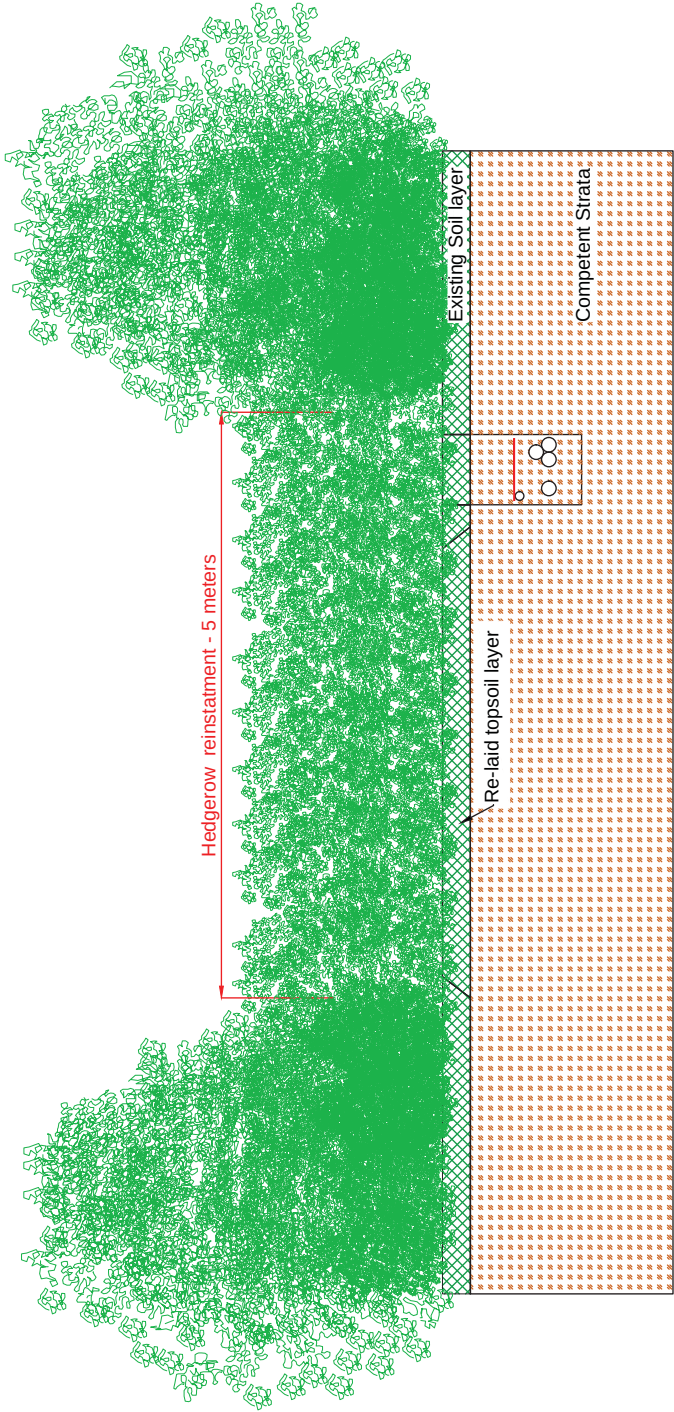


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Cross Section of Hedgerow Removal and temporary access road - Construction Phase



Cross Section of Hedgerow Reinstatement and temporary access road - Post Construction

Title:
Figure RW 6.1

Location of the UWF Related Works

Map Number:
Map 1 of 1

Legend:

— UWF Related Works

- Realigned Windfarm Roads
- Internal Windfarm Cabling
- Telecom Relay Pole
- Haul Route Works

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UWF Related Works (RW)

Drawn by:

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Date:

January 19

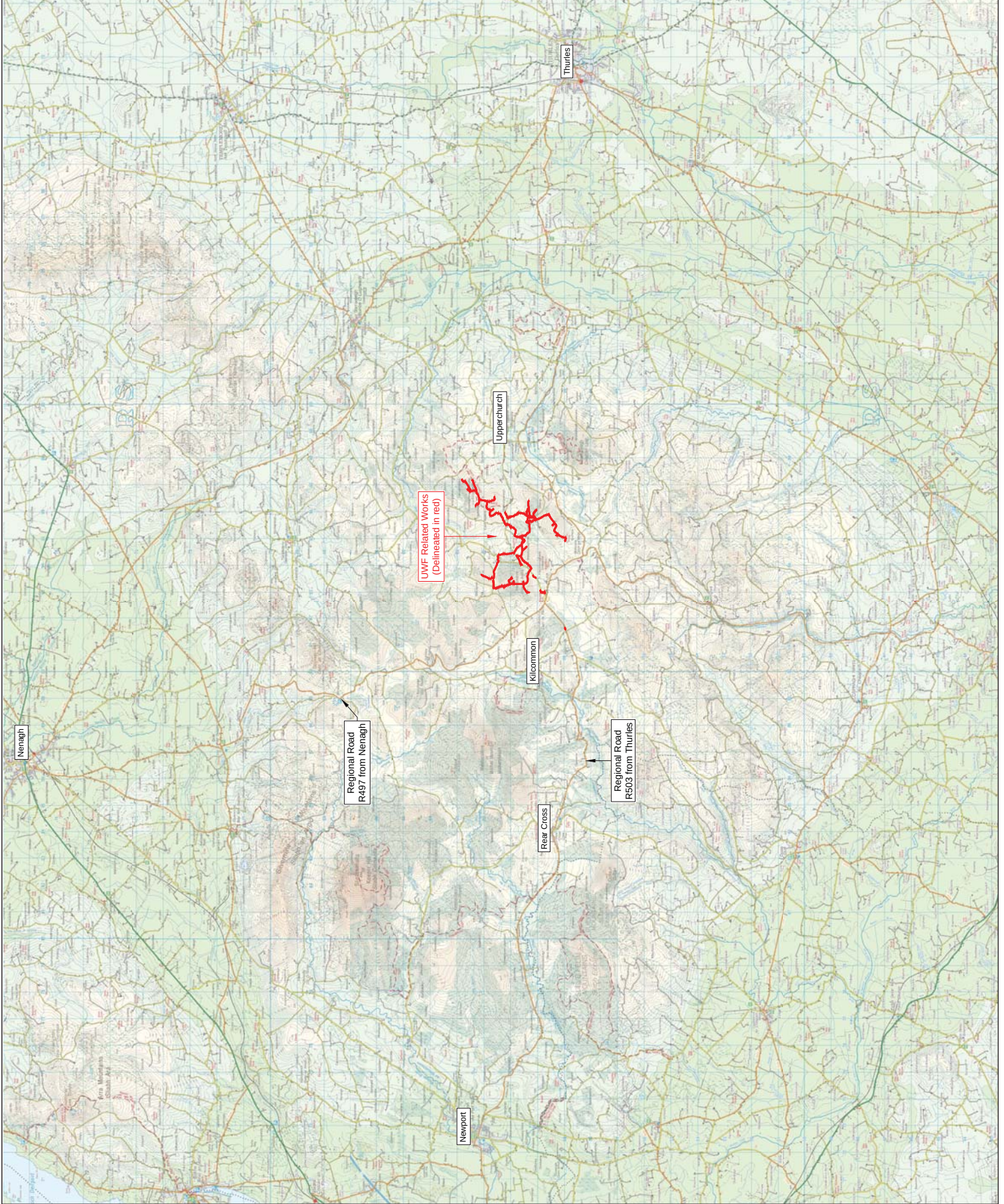
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Title:
Figure RW 6.2
Local Economy within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works
Construction Works Area

Study Area for the Local Economy

Electoral Divisions

Foilhaman Electoral Division Names

Villages

REFERENCE DOCUMENTS

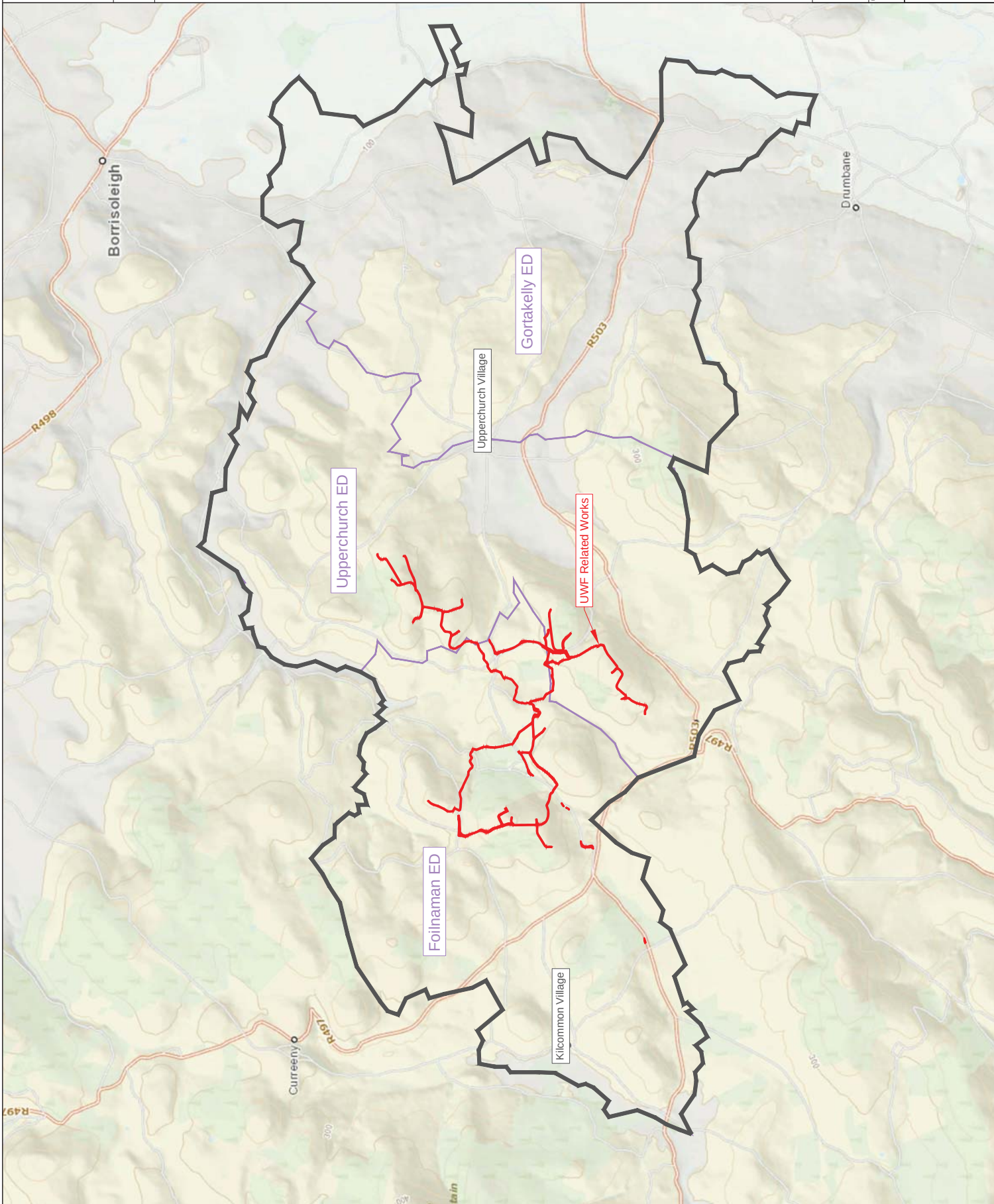


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Title:
Figure
Local
Relat
Evalu

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

UWF Related Works
Construction Works Area

Study Area for the Local Economy

Electoral Divisions

Follneman

Villages

Cumulative Projects:

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

Project:

UWF Related Works (RW)

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Date:	
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Title:
Figure WP 6.2
Local Economy
Cumulative Ev

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

UWF Grid Connection

UWF Related Works

Upperchurch Windfarm

■ Study Area for the Local Economy

Electoral Divisions

Electoral Division Names

 Villages/Towns

Survey Results :

- Bunkimalta Wind Turbines

Project:

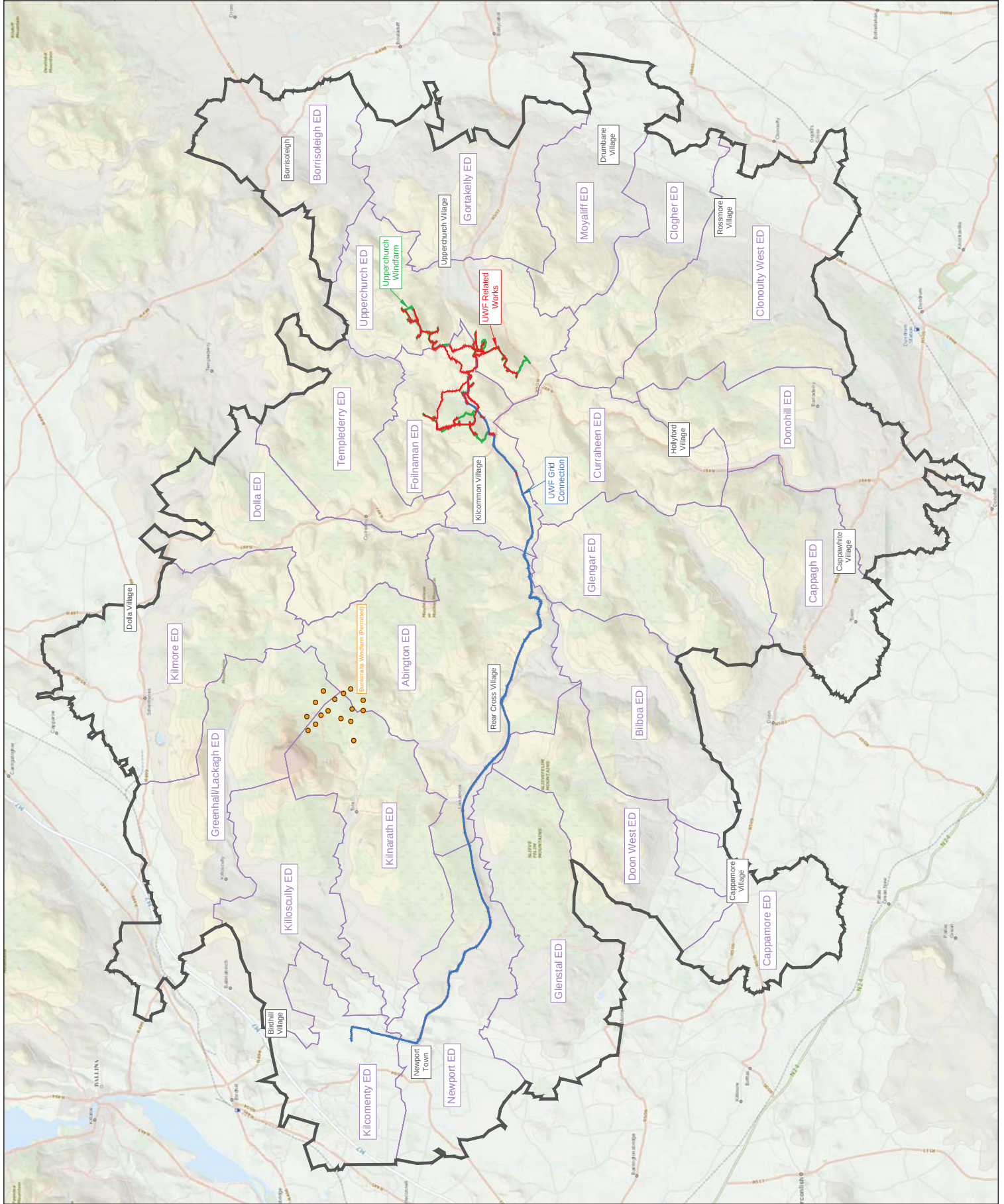
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Title:
Tourism Products within the
Cumulative Evaluation Study Areas

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

- UWF Grid Connection
- Mountphilips Substation
- UWF Related Works
- Upperchurch Windfarm
- Cumulative Study Area for the Local Economy
- Villages

Survey Results :

- Accommodation or Food Services
- Landowner Holiday Cottage
- Activities
- Walking/Cycling Trails and Driving Routes

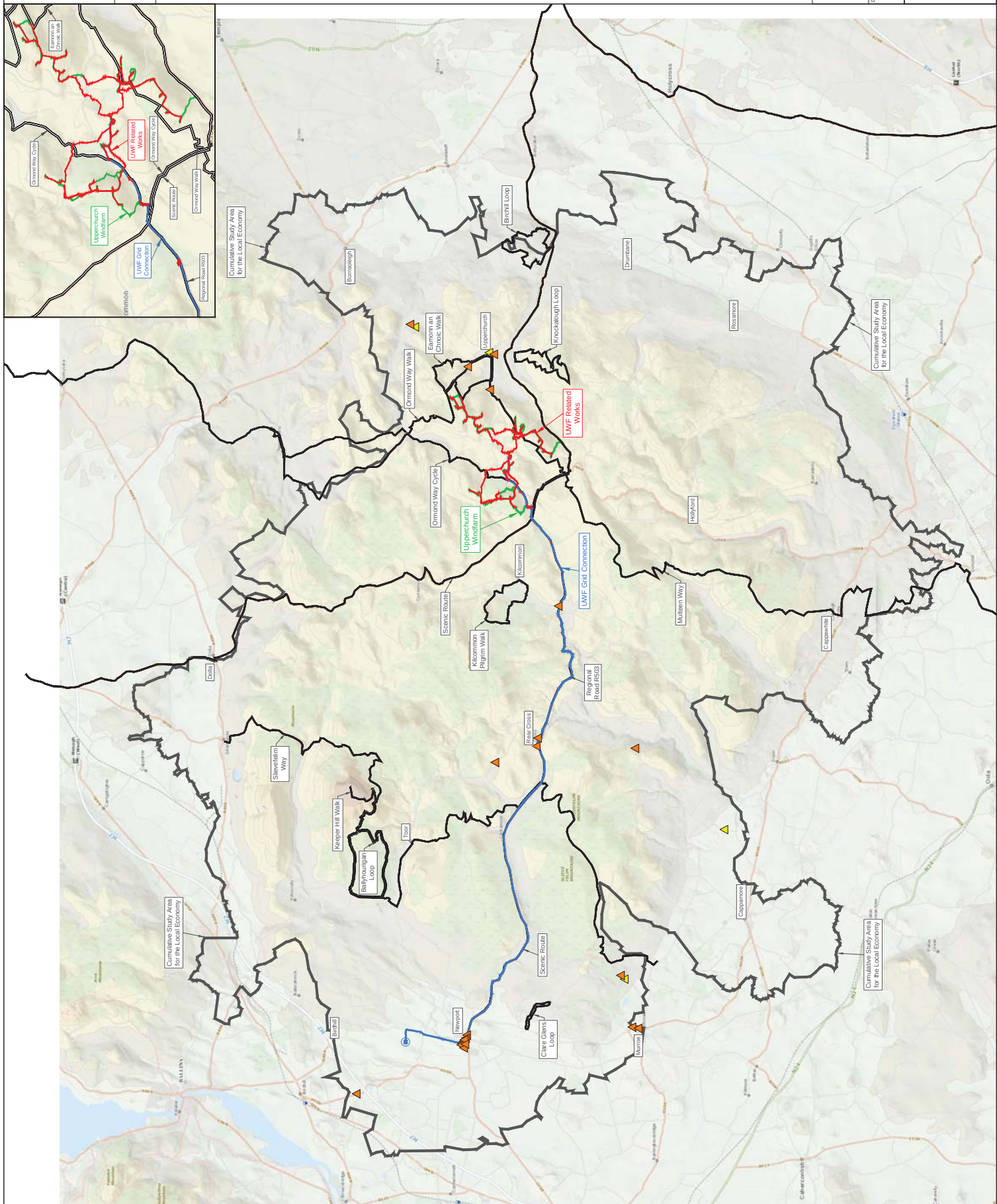
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Title:
Figure RW 7.1
Location of the UWF Related
Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Extents:

- UWF Related Works
 - Realigned Windfarm Roads
 - Internal Windfarm Cabling
 - Telecom Relay Pole
 - Haul Route Works

Survey Results:

- Irish Water Line
- Eir Network Overhead Line
- ESB Networks Overhead Line
- Air Quality:**
 - Houses within 50m of Construction Works Area
- Air Quality:**
 - Houses between 51m and 100m of Construction Works Area
- Air Quality:**
 - Houses between 101m and 350m of Construction Works Area
- Air Quality:**
 - Houses 50m from Local Haul Roads
- Road Number

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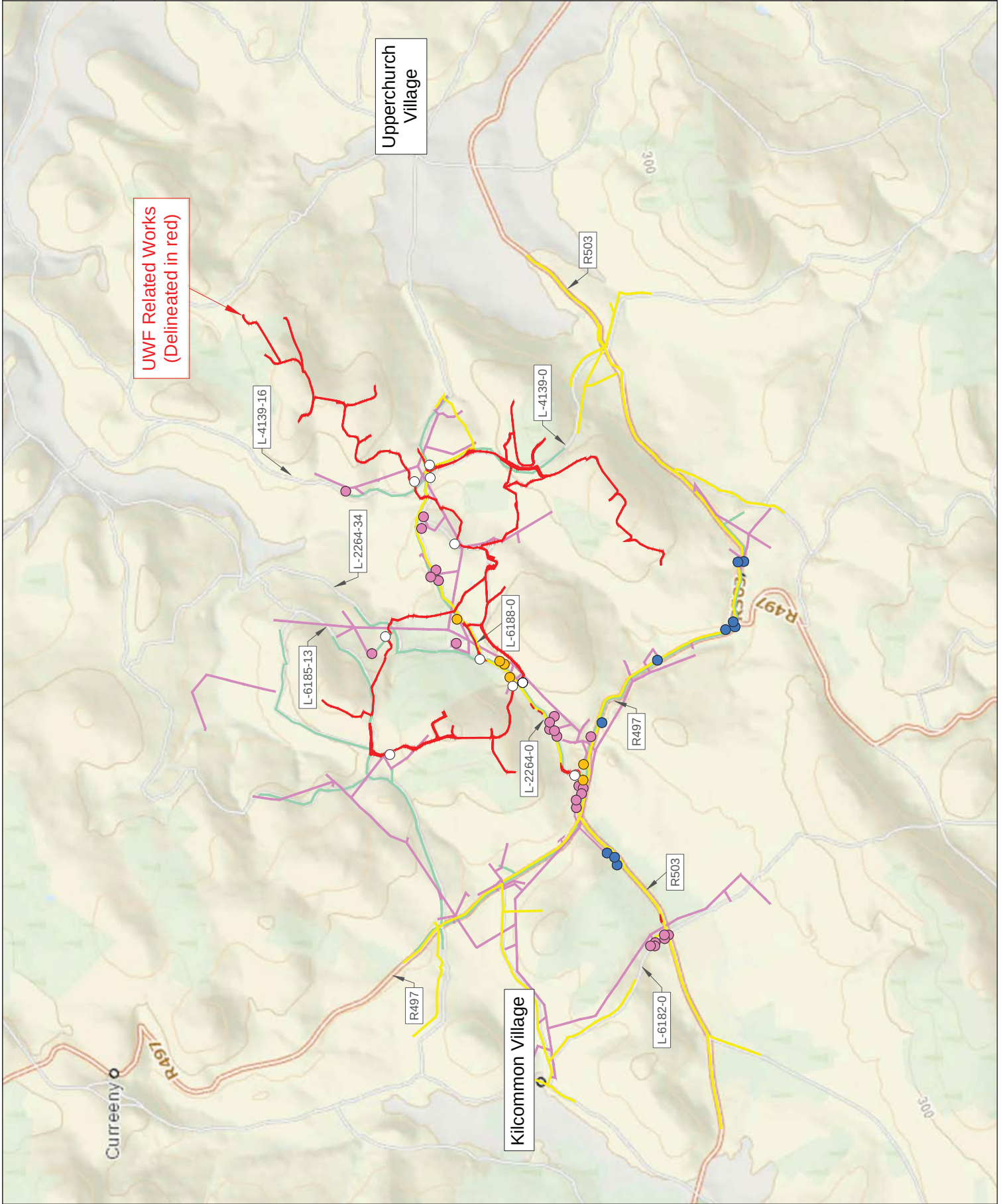


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Title:
Figure RW 8.1
UWF Related W

Map Number:
Map 1 of 1

Legend:

Study Area Extents :UWF Related Works
Construction Works Area

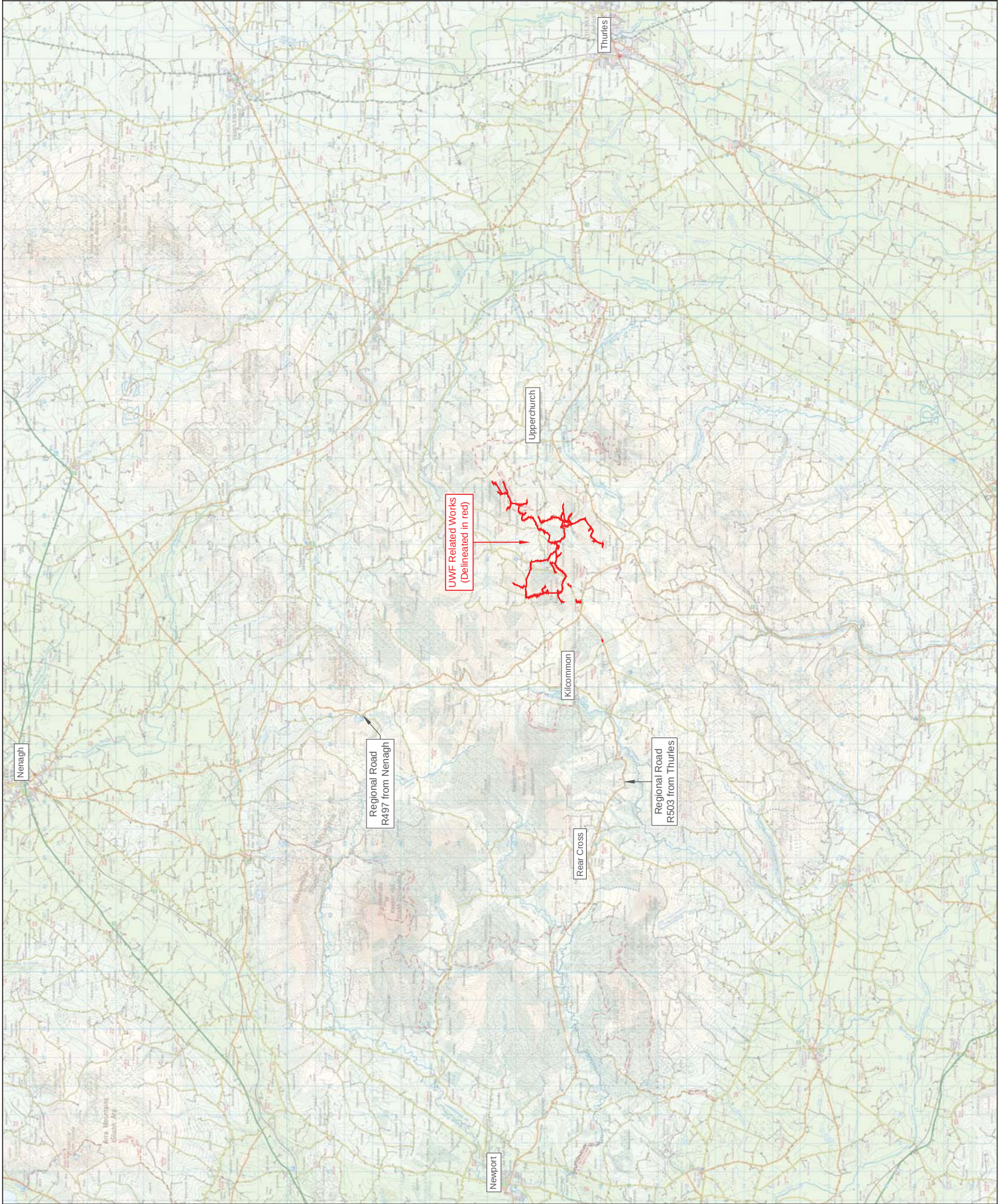
Project: UWF Related Works (RW)

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Title:
Figure RW 8.2
European Sites within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

UWF Related Works
Construction Works Area

15km Study Area:
UWF Related Works
Construction Works Area

Survey Results :

Special Areas of Conservation
Special Protection Areas

REFERENCE DOCUMENTS

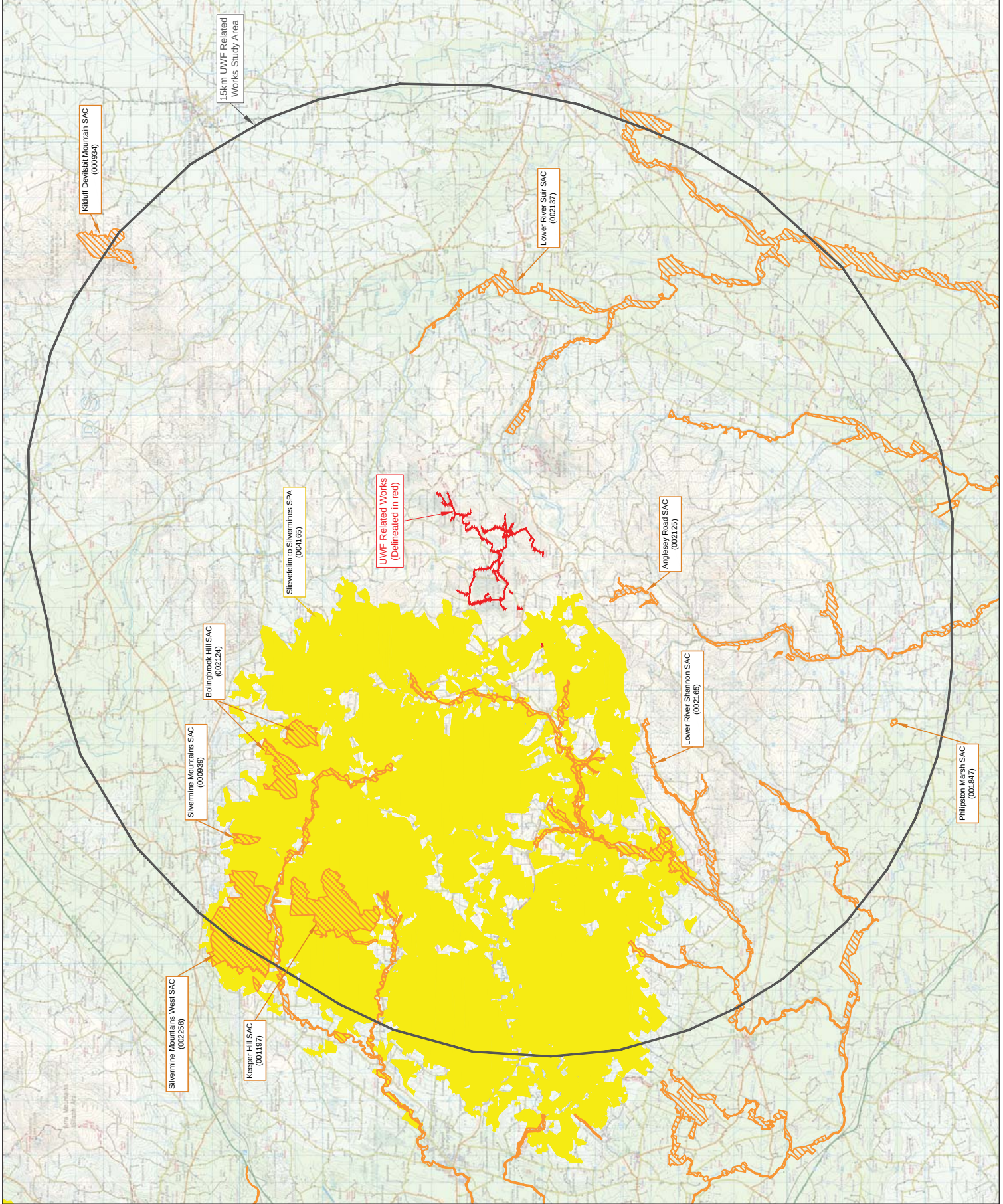


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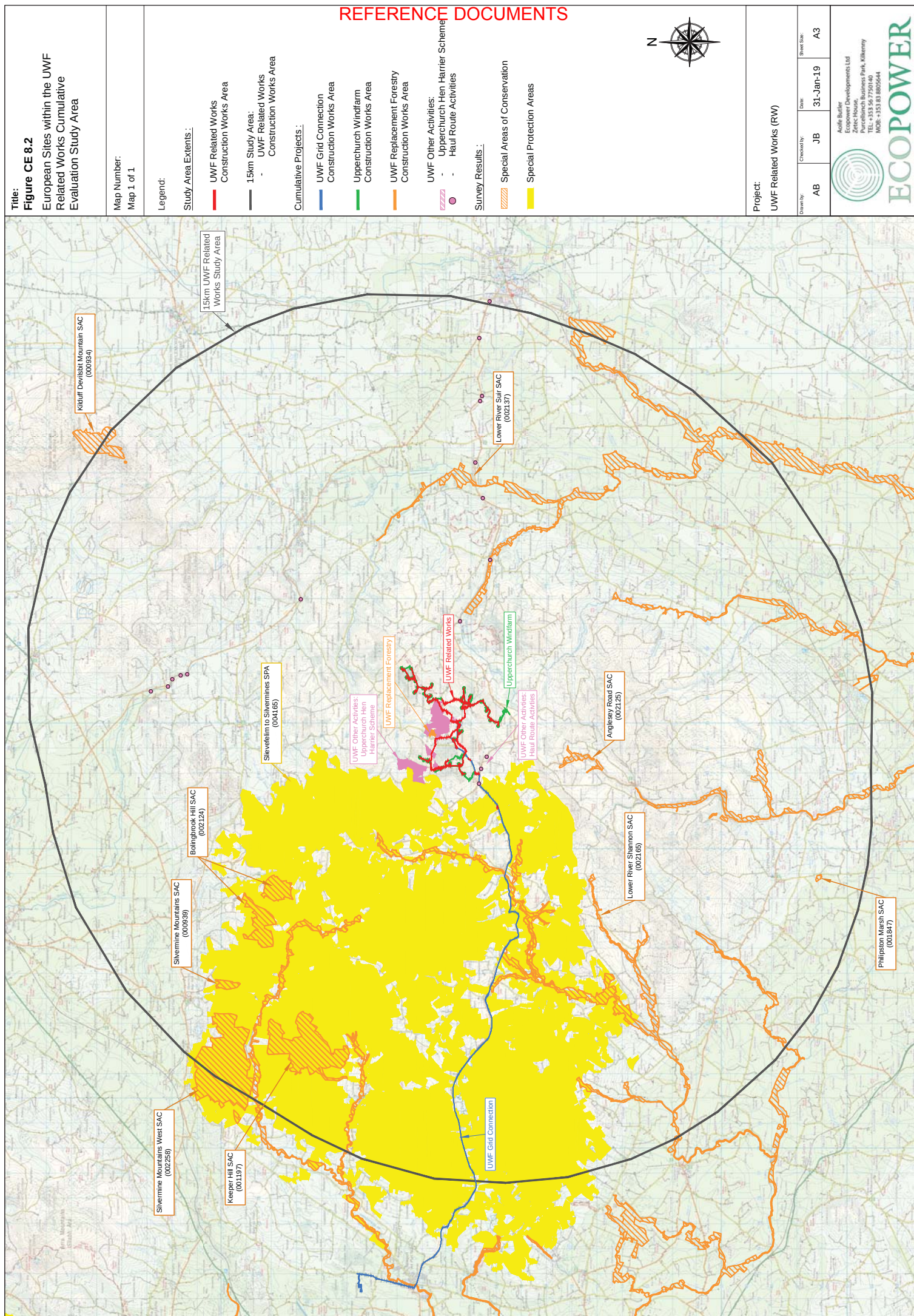
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Title:
Figure RW 8.3
National Sites within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

UWF Related Works
Construction Works Area

15km Study Area:
UWF Related Works
Construction Works Area

Survey Results :

National Heritage Areas
Proposed Natural Heritage Areas

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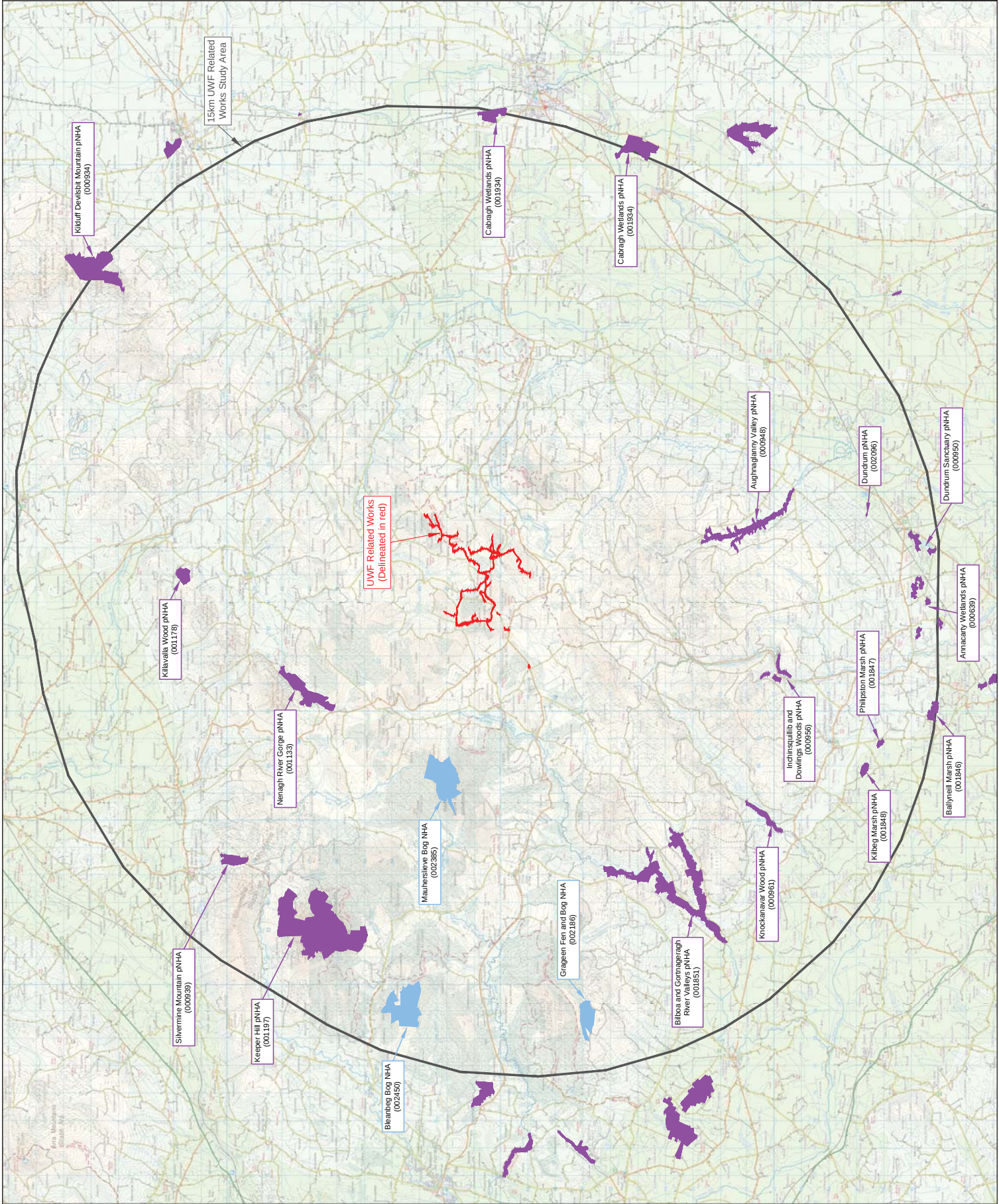
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UWF Related Works (RW)

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Title: **Figure WP 8.3**
National Sites within the Whole Project
Cumulative Evaluation Study Area

Legend:

UWF Related Works
Construction Works Area

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWF Replacement Forest
Construction Works Area

- Upperchurch Hen Harrier Scheme
- Haul Route Activities
- Killonan Line

15km Study Area from all Construction Works Areas

■ National Heritage Areas
■ Proposed Natural Heritage Areas

UWF Related Works (RW)

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Title:
Figure RW 8.4

Aquatic Habitats & Species within the UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

- | | |
|---|--|
|  | UWF Related Works |
|  | Construction Works Area |
| | Watercourses |
|  | Watercourse Crossing Location: Class 1 |
|  | Watercourse Crossing Location: Class 2 |
|  | Watercourse Crossing Location: Class 3 |
|  | Watercourse Crossing Location: Class 4 |
|  | Bilboa River |
|  | Owenbeg River |
|  | Newport (Mulkean) River |
|  | Turraheen River |

REFERENCE DOCUMENTS



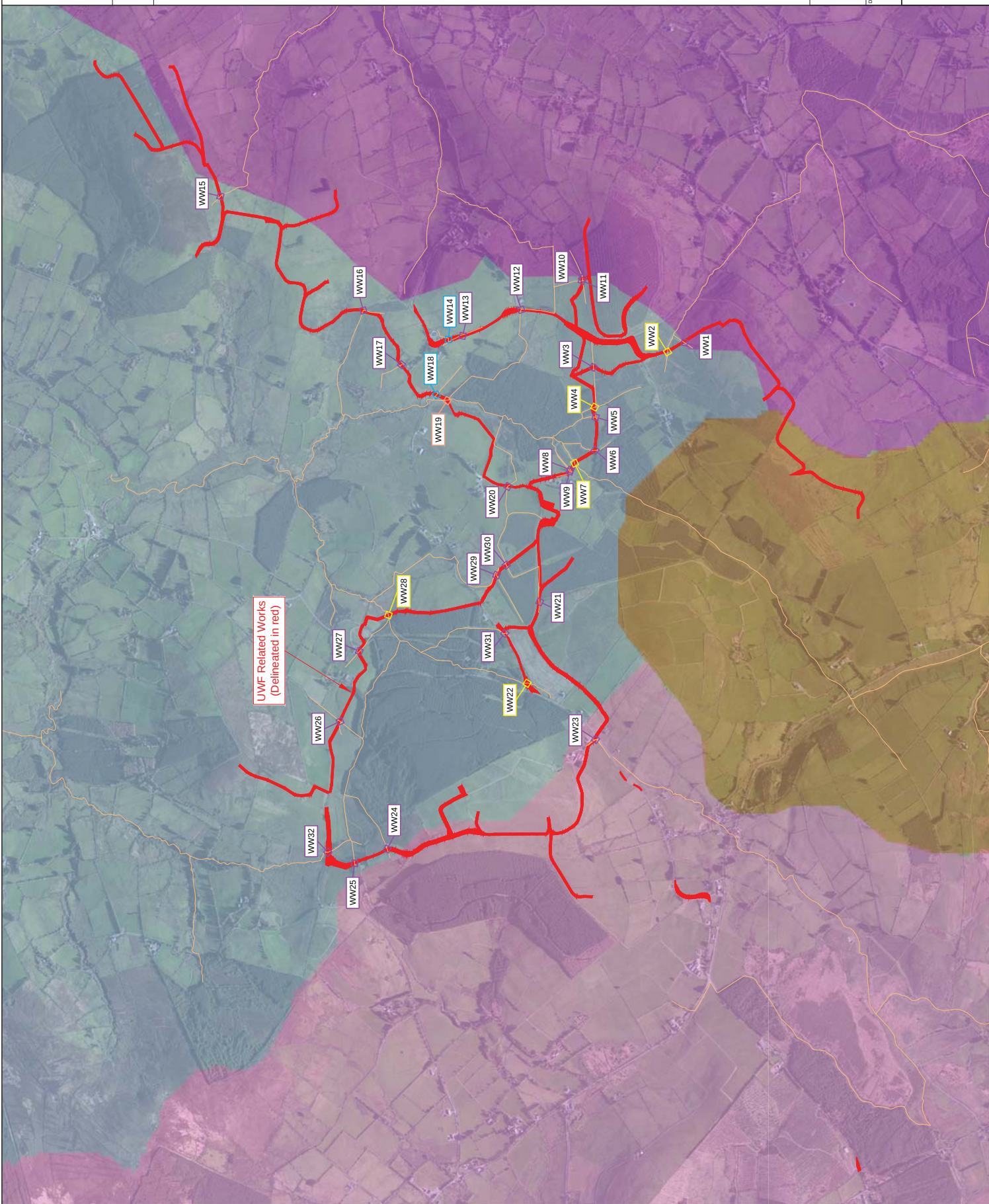
Project: UWF Related Works (RW)

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Title:
Figure WP 8.4
Aquatic Habitats within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Overview Map

Legend:

Study Area Extents :

- UWF Related Works Construction Works Area
- UWF Grid Connection Construction Works Area
- Upperchurch Windfarm Construction Works Area
- Bilboa River
- Clodaigh River Local
- Owenbeg River
- Newport (Mulkear) River
- Turraheen River
- Clare (Annagh) River
- Small River
- River Network

Survey Results :

- Bunkmalta Windfarm

REFERENCE DOCUMENTS

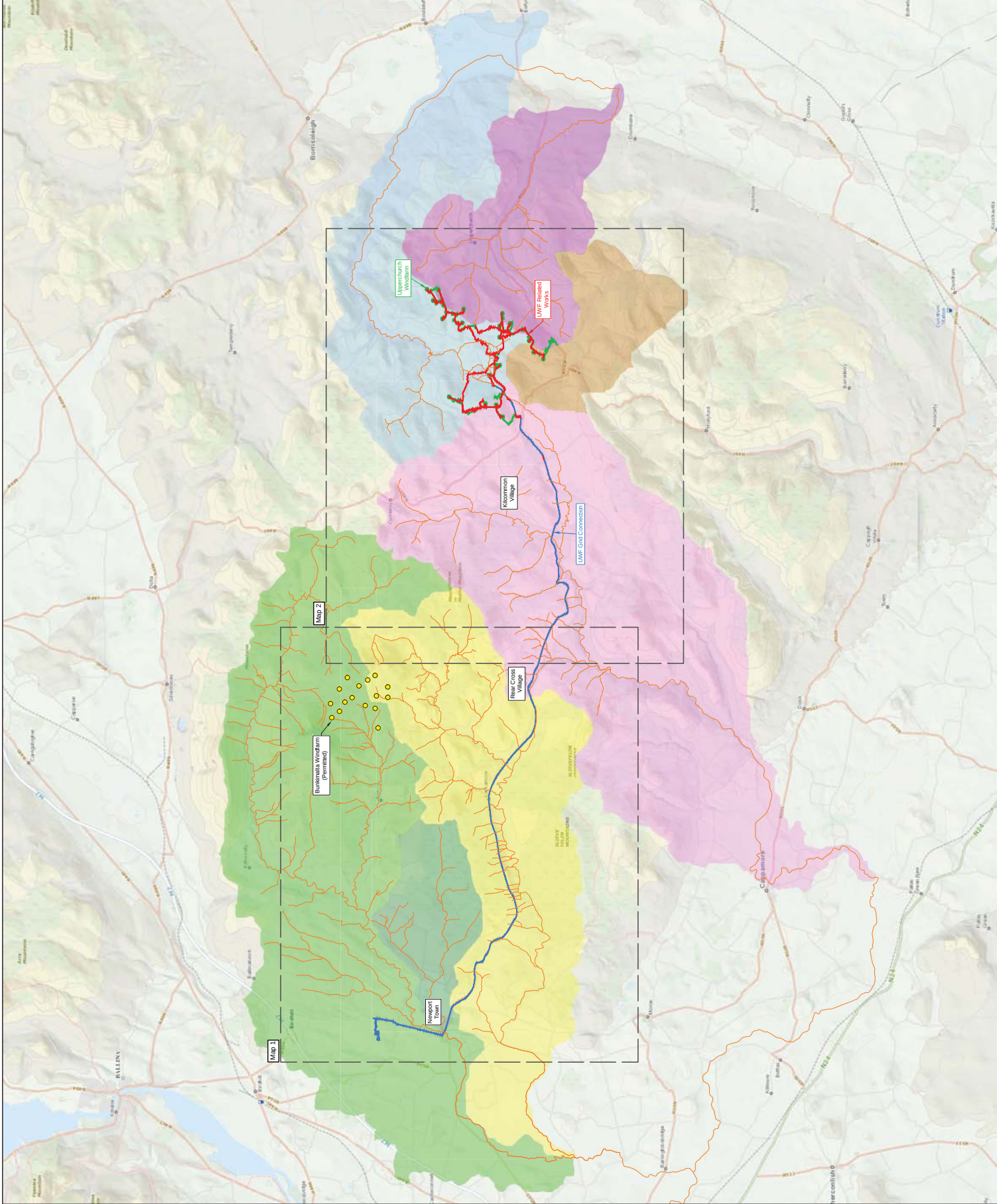


Project:
UWF Related Works (RW)

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Title:
Figure WP 8.4
Aquatic Habitats within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 2

Legend:

Study Area Extents :

UWF Grid Connection
Construction Works Area

Bilboa River

Newport (Mulkear) River

Clare (Annagh) River

Small River

Watercourse Crossing Location
(UWF Grid Connection): Class 1

Watercourse Crossing Location
(UWF Grid Connection): Class 2

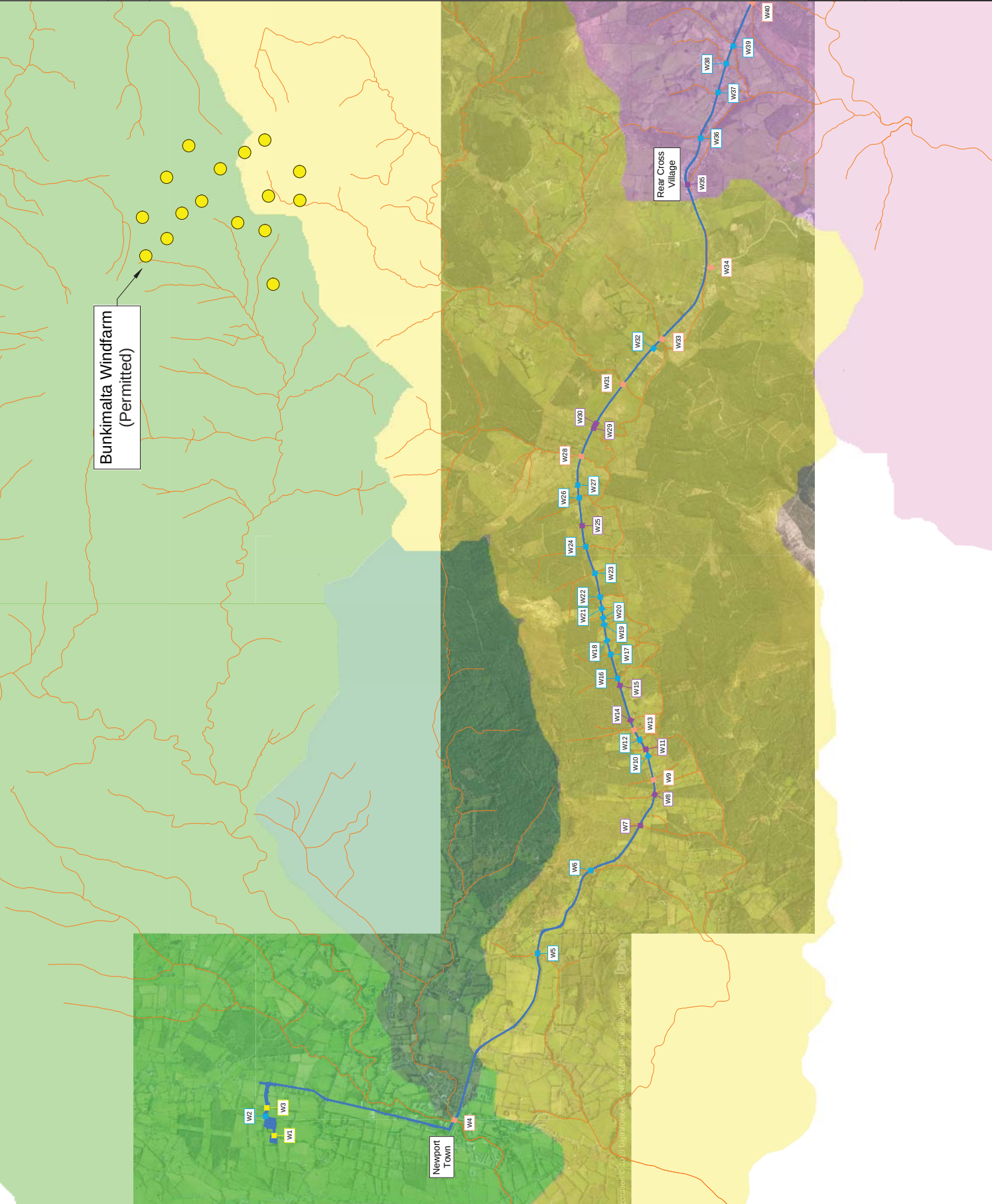
Watercourse Crossing Location
(UWF Grid Connection): Class 3

Watercourse Crossing Location
(UWF Grid Connection): Class 4

River Network

Survey Results :

Bunkimalta Windfarm



Project:
UWF Related Works (RW)

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Client: Ecopower Developments Ltd.

Project: UWF Related Works (RW)

Title:
Figure RW 8.5: Terrestrial Habitats within
the UWF Related Works Study Area.

Legend:

BL3

ED2

ED3

GA1

GA1/GS4

GA1/WS1

GA2

GS2

GS3

GS3/HH3

GS4

GS4/WS1

HH1/GS4

HH3

PB2

PB2/GS4

PB4

WD1

WD4

WL1

WL2

WS1

WS2

WS2/GS4

BL2

BL3

FW1

FW2

FW4

GS2

WL1

WL1/WL2

WL2

Temporary hedge/tree removal and
pruning

Permanent hedge/tree removal

Japanese Knotweed

Study Area Boundary

Section Number

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Drawn: POC

Checked: CC

Authorised: HW

Date: 06/02/2019

Map Reference: EDL - A3 - 07 - 07

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This figure is an aerial map of a rural landscape, overlaid with a complex network of colored lines and polygons representing different terrestrial habitats. The map is oriented with North at the top. A scale bar in the bottom right corner indicates distances of 0, 0.5, 1, and 2 Kilometers. A north arrow is located in the bottom left corner. The map is divided into several sections, each labeled with a 'Section Number' in a green box: SW40, SW50, SW70, SW60, SW20, SW10, SW4, SW61, and SW1. Various geographical features and locations are labeled with black text boxes: Knocknamena Commons, Coumbeag, Coummeageha, Gleninchaveigh, Knockcurraghbola Commons (multiple locations), Shevry, Knockmaroe, Knockcurraghbola Crownlands, and Folhaman. The map uses a color-coded system to represent different habitat types, as defined in the legend. The colors include shades of green, yellow, orange, brown, and blue. The map also shows a network of roads and fields, typical of a rural landscape.

Client: Ecopower Developments Ltd.

Project: UWF Related Works (RW)

Title:
Figure CE 8.5: Terrestrial Habitats within
the UWF Related Works Cumulative
Evaluation Study Area

Legend:

Haul Route Activities

UWF Related Works Construction Works Area

Upperchurch Windfarm Construction Works Area

UWF Replacement Forestry Construction Works Area

UWF Other Activities Hen Harrier Scheme

UWF Grid Connection Construction Works Area

Himalayan Knotweed

Japanese Knotweed

Study Area Boundary Related Works (50m)

BL3

ED2

ED3

GA1

GA1/GS4

GA1/WS1

GA2

GS2

GS3

GS3/HH3

GS4

GS4/WS1

GS2

BL2

BL3

FW1

FW2

FW4

SW1

SW40

SW50

SW70

SW81

SW10

SW20

SW60

REFERENCE DOCUMENTS

HH1/GS4

HH3

PB2

PB3

PB4

WD1

WD4

WL1

WL2

WS1

WS2

WS2/GS4

GS2

WL1

WL1/WL2

WL2

Section Number

S1

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Project: UWF Related Works (RW)

Figure WP 8.5: Terrestrial Habitats within the Whole Project Cumulative Evaluation Study Area Overview Map

- UWV Related Works Construction Works Area
- UWV Grid Connection Construction Works Area
- Upperchurch Windfarm Construction Works Area
- UWV Other Activities Hen Harrier Scheme
- Haul Route
- Killean Line
- 50m Study Area from all Construction Works Areas

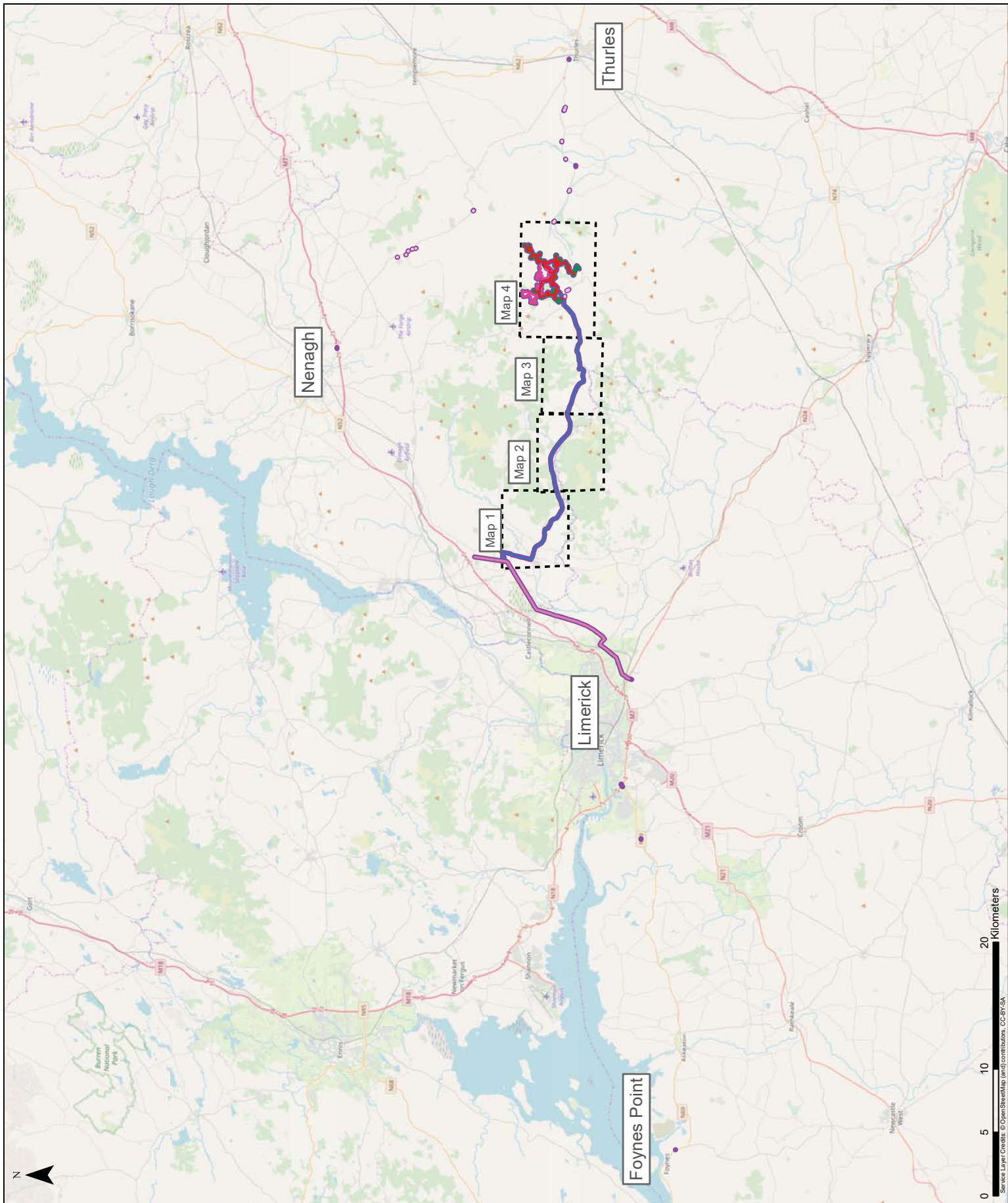
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Title:

Figure WP 8.5: Terrestrial Habitats within the Whole Project Cumulative Evaluation Study Area Map 2 of 4

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Legend:

- | Color | Label |
|---|------------------------------|
|  | BL2 |
|  | BL3 |
|  | BL3/GA2 |
|  | ED1 |
|  | ED2 |
|  | ED3 |
|  | FS1 |
|  | FS1/GS4 |
|  | FS1/WS1 |
|  | GA1 |
|  | GA2 |
|  | Japanese Knotweed |
|  | Rhododendron |
|  | Japanese Knotweed |
|  | Rhododendron |
|  | Rhododendron & Box Honey/syr |
|  | Rhododendron |
|  | BL2 |
|  | FW4 |
|  | WL1 |
|  | WL2 |
|  | Grid Connection 50m Buffer |

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Client: Ecopower Developments Ltd.

Project: UWF Related Works (RW)

Title:
Figure WP 8.5: Terrestrial Habitats within
the Whole Project Cumulative Evaluation
Study Area Map 3 of 4

Legend:

BL3

BL3/GA1

BL3/GA2

ED2

ED3

GA1

GA1/GS4

GA1/WS1

GA2

GS4

GS4/HH3

GS4/WS1

WD1

WD2

WD4

WD4/WS1

WS1

WS1/WD2

Japanese Knotweed

Rhododendron

BL1

BL2

FW4

WL1

WL2

Grid Connection 50m Buffer

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This figure is an aerial photograph of a rural landscape, likely in Ireland, showing a proposed route for a project. The route is highlighted with a thick, multi-colored line that follows a winding path through the terrain. The colors used in the line correspond to the legend, indicating different types of habitats or features. The landscape is characterized by a patchwork of green fields, brown areas (possibly bare soil or different vegetation), and some small buildings or structures. A north arrow is located in the top left corner, and a scale bar in the bottom right corner indicates distances of 0, 0.5, 1, and 2 kilometers. The map is titled 'Figure WP 8.5: Terrestrial Habitats within the Whole Project Cumulative Evaluation Study Area Map 3 of 4'.

Title: **Figure RW 8.6**
Hen Harrier within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

- UWF Related Works
Construction Works Area

- 2km Study Area
- UWF Relat
Construction

Location HW7 of Haul Route Works

Survey Results :

No known or historical nests or roosts within 2 km of the UWF Related Works

Slievefelim to Silvermines SPA

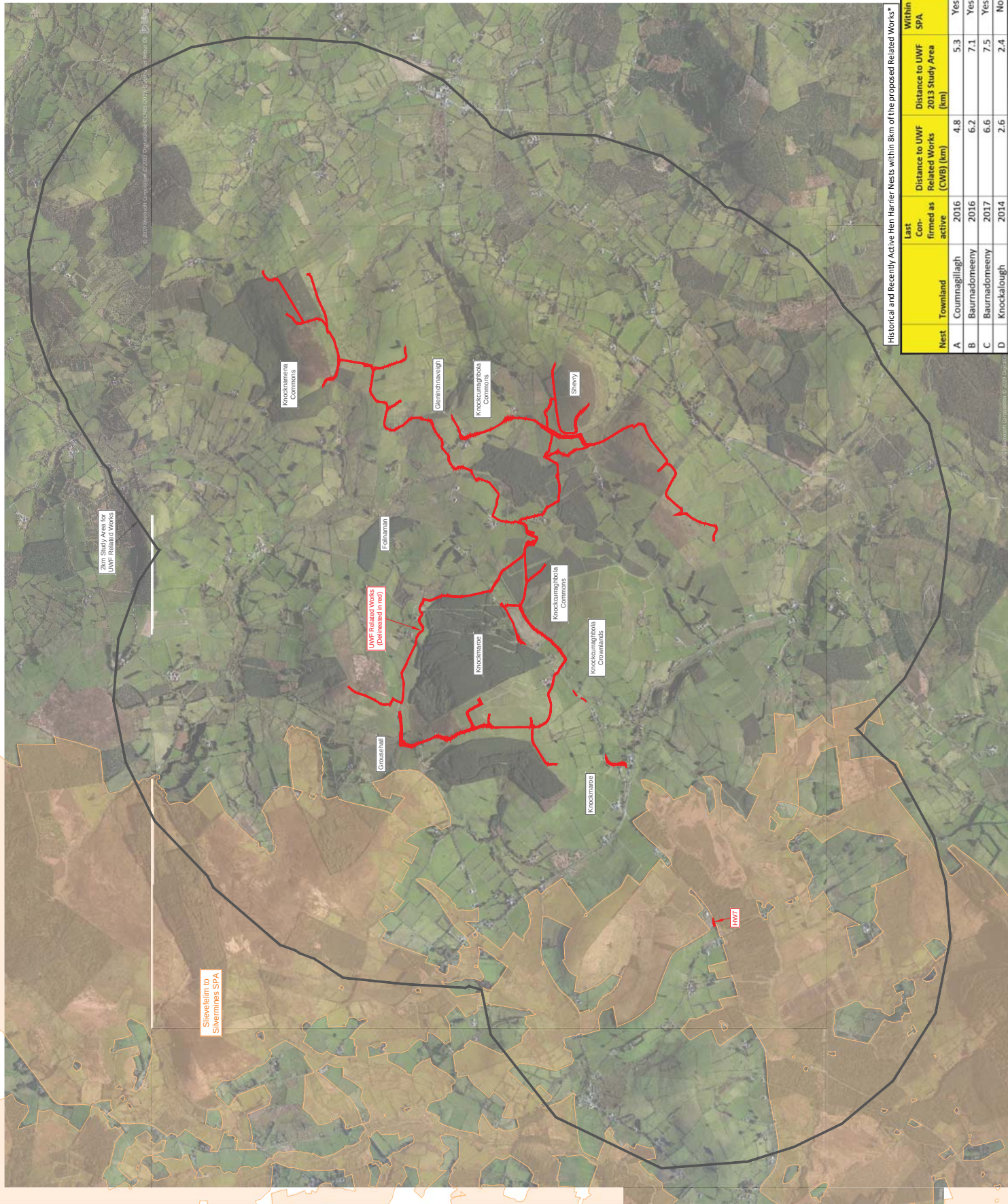


Project: UWF Related Works (RW)

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Title:
Figure CE 8.6
Hen Harrier within the UWF
Related Works Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works
Construction Works Area

2km Study Area
UWF Related Works
Construction Works Area

Location HW7 of Haul Route Works

Cumulative Projects:

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWF Replacement Forestry
Construction Works Area

UWF Other Activities:
Upperchurch Hen Harrier Scheme
Haul Route Activities

UWF Replacement Forestry
Construction Works Area

Milestone Windfarm Footprint

Survey Results:

No known or historical nest or roosts
within 2km of the UWF Related Works

Silvevefelm to Silvermines SPA



Project:

UWF Related Works (RW)

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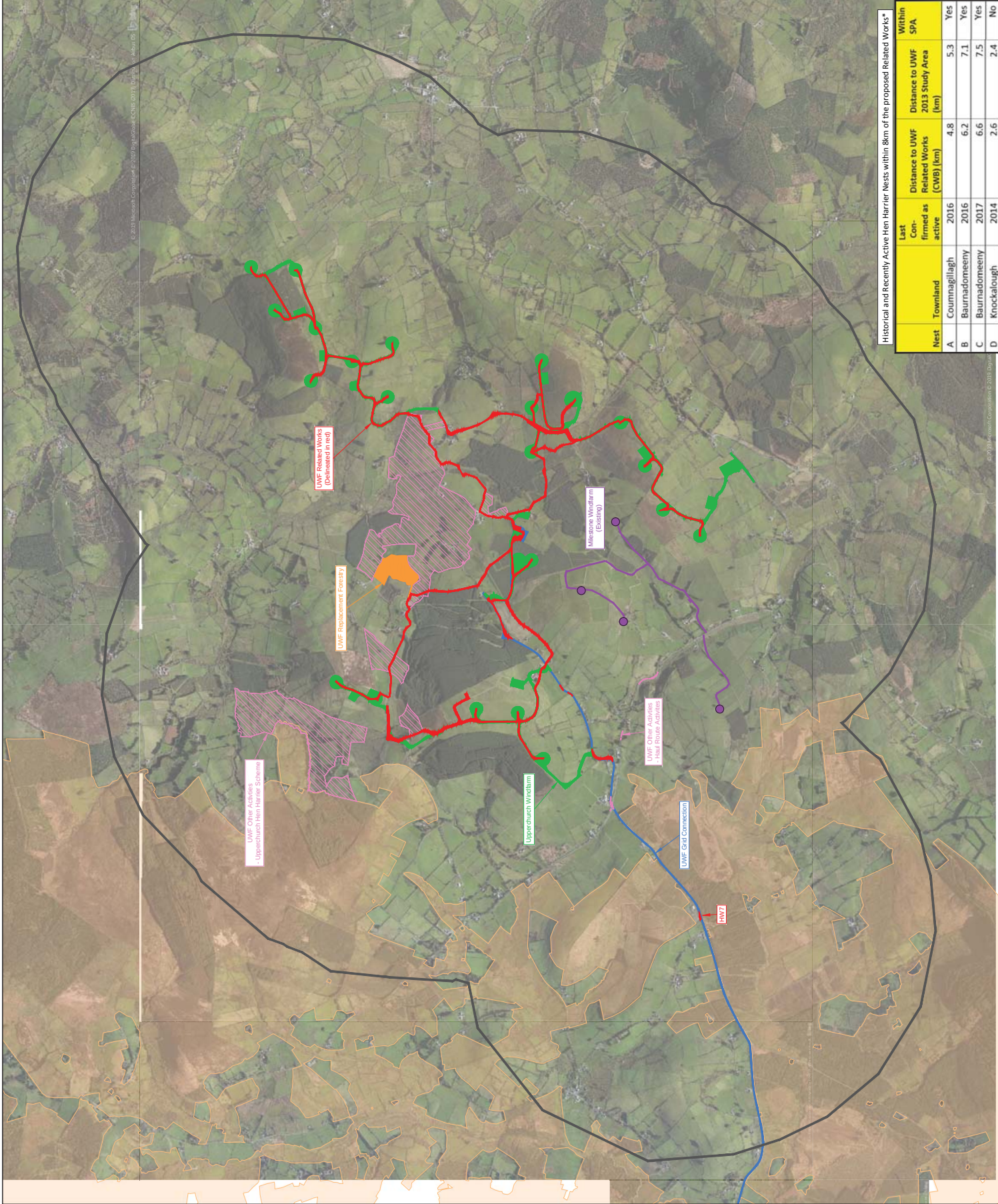
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Historical and Recently Active Hen Harrier Nests within 8km of the proposed Related Works*

Nest	Townland	Last Confirmed as active	Distance to UWF Related Works (CWB) (km)	Distance to UWF 2013 Study Area (km)	Within SPA
A	Counnagillagh	2016	4.8	5.3	Yes
B	Bairnadomeeny	2016	6.2	7.1	Yes
C	Bairnadomeeny	2017	6.6	7.5	Yes
D	Knockalough	2014	2.6	2.4	No

Title:
Figure CE 8.7

General Bird Species within the UWF Related Works Cumulative Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works
Construction Works Area

— 1km Study Area

- UWF Related Works
- Construction Works Area

 T1: Transect Line

Cumulative Projects:

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWF Replacement Forestry
Construction Works Area

- Upperchurch Hen Harrier Scheme
- Haul Route Activities

Survey Results :

Survey Results listed

Slievefelim to Silvermines SPA



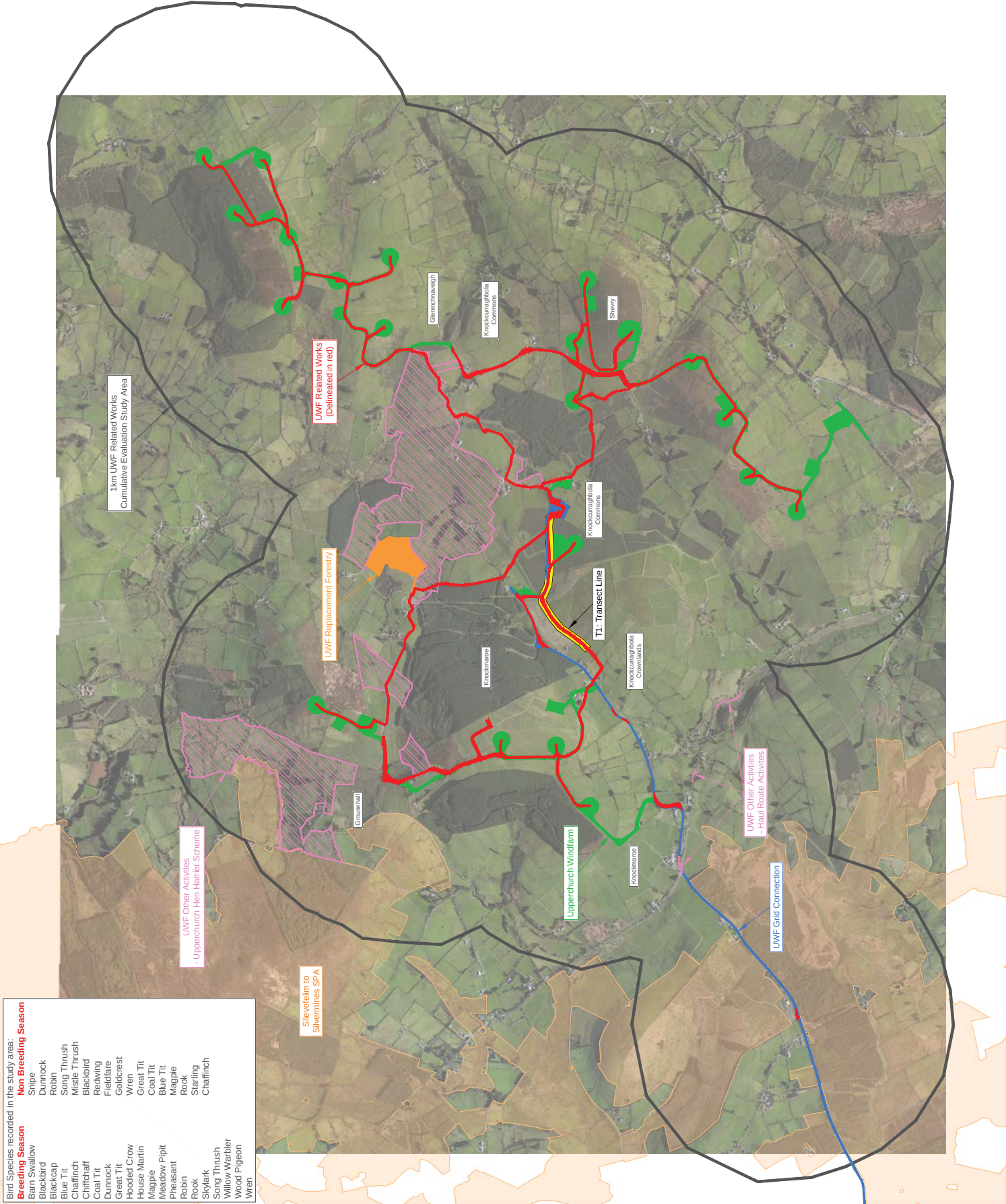
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Title:
Figure WP 8.7
General Bird Species within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Overview Map

Legend:

Study Area Extents :

UWRF Related Works
Construction Works Area

UWRF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWRF Replacement Forestry
Construction Works Area

UWRF Other Activities:
- Upperchurch Hen Harrier Scheme
- Haul Route Activities
- Killonan Line

1km Study Area from all of the
Construction Works Area

50m Study Area from all of the
Construction Works Area

REFERENCE DOCUMENTS



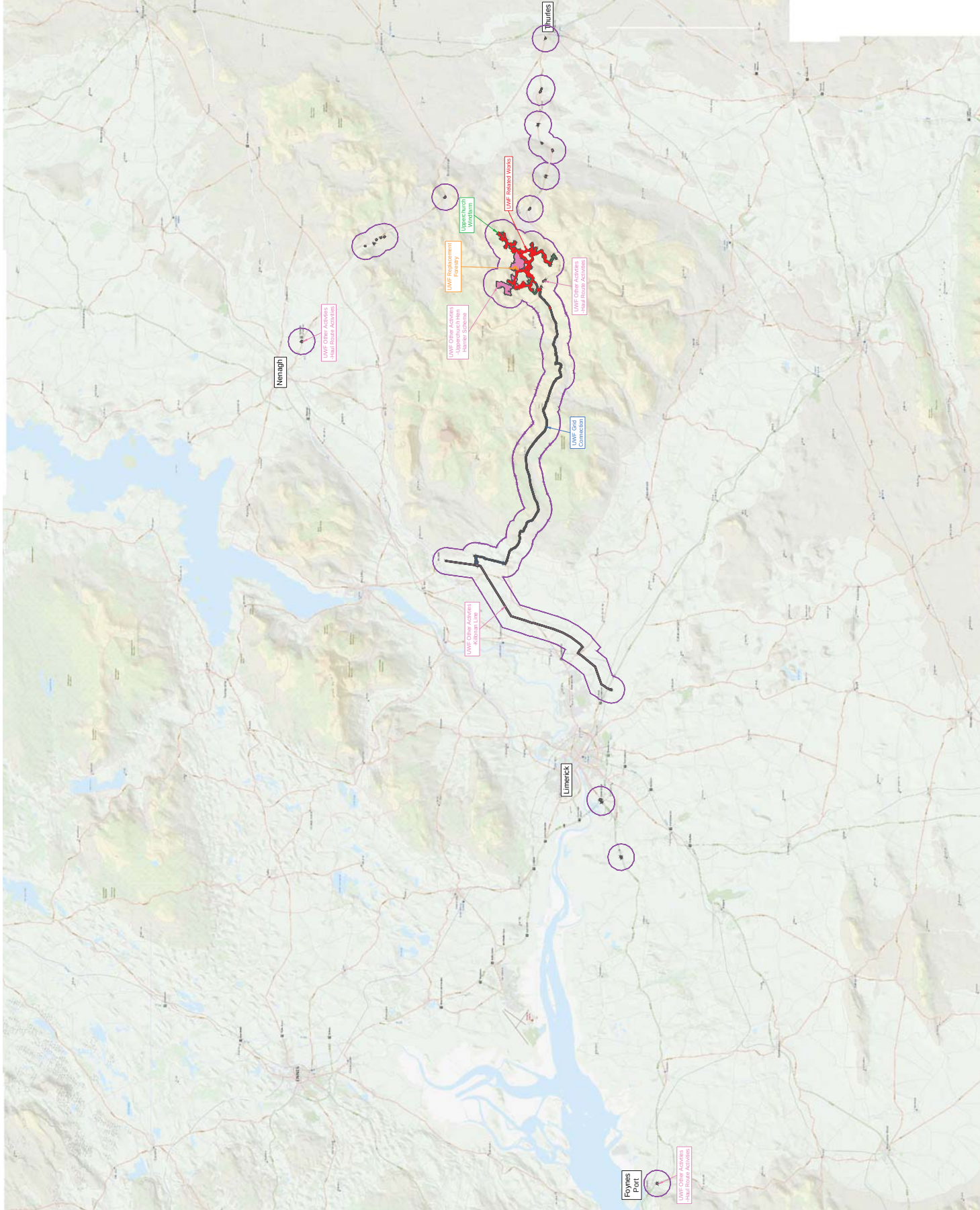
Project:
UWRF Related Works (RW)

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Title:
Figure WP 8.7
General Bird Species within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

- UWf Related Works
Construction Works Area
- UWf Grid Connection
Construction Works Area
- Upperchurch Windfarm
Construction Works Area
- UWf Replacement Forestry
Construction Works Area

- UWf Other Activities:
 - Upperchurch Hen Harrier Scheme
 - Haul Route Activities
 - Killonan Line

- 1km Study Area from all of the
Construction Works Area
- 50m Study Area from all of the
Construction Works Area

Survey Results :

- Dipper
- Grey Wagtail
- Swallow

REFERENCE DOCUMENTS



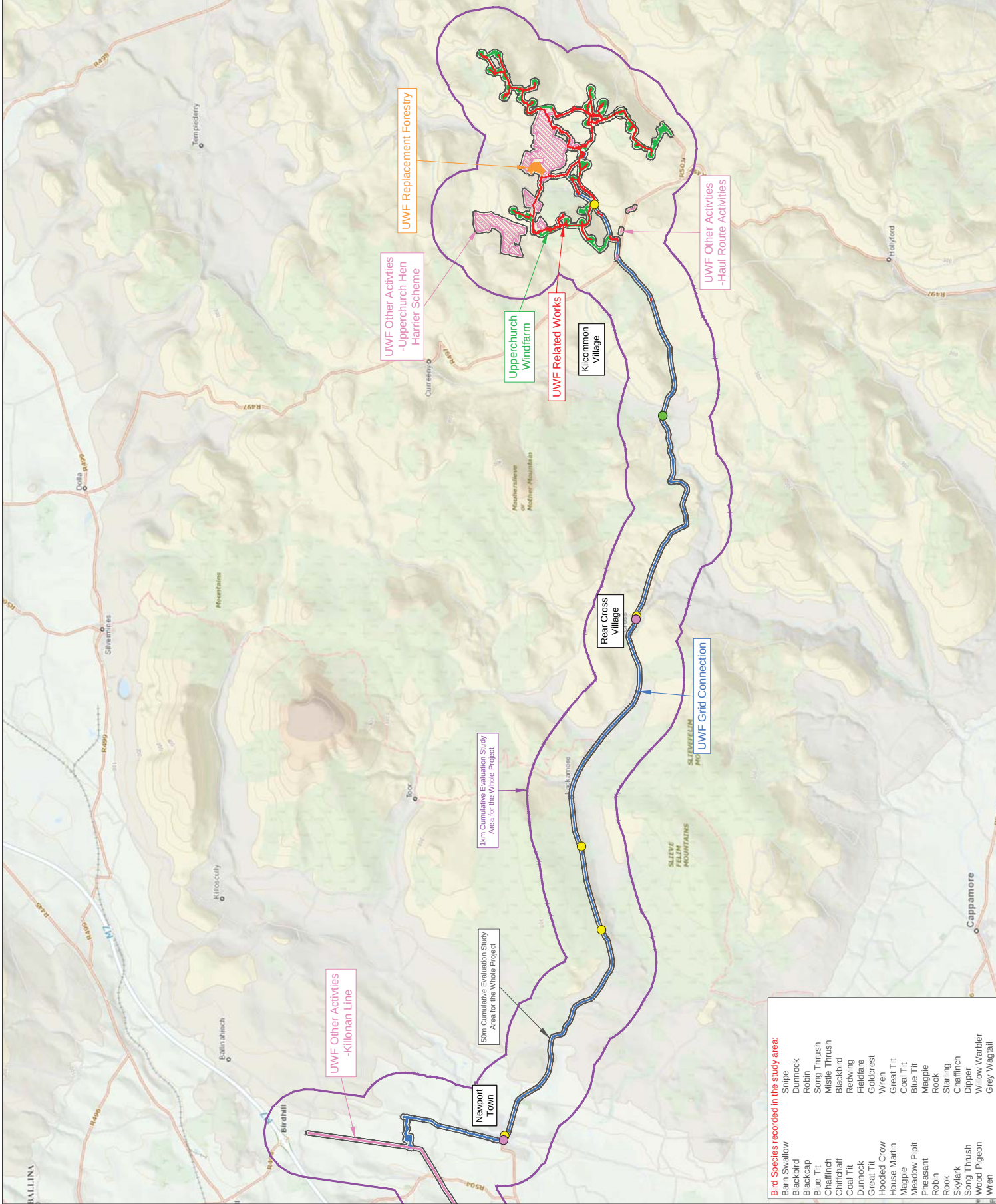
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UWf Related Works (RW)

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Title:
Figure RW 8.8
Bats within the
Works Study Area

Legend:

Study Area Extents:

— UWF Related Works
Construction Works Area

■ 50m Study Area
 - UWF Related Works
 Construction Works Area

■ 150m Study Area
 - UWF Related Works
 Construction Works Area

Survey Results :

 Bat Crossing Location

Bat Roost Suitability :



X Culvert: Negligible



 Buildings: High



Buildings: Moderate



 Buildings: Low



Buildings: Negligible

 Temporary tag removal

Project:

I IWE Related Works (RW)

Drawn by:

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Title:
Figure CE 8.8

**Bats within the UWF Related Works
Cumulative Evaluation Study Area**

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

- UWF Related Works
- Construction Works Area
- 300m Study Area
- UWF Related Works
- Construction Works Area

Cumulative Projects:

- UWF Grid Connection
- Construction Works Area
- Upperchurch Windfarm
- Construction Works Area
- UWF Replacement Forestry
- Construction Works Area

- UWF Other Activities:
 - Upperchurch Hen Harrier Scheme
 - Haul Route Activities

Survey Results:

- Bat Crossing Location

Bat Roost Suitability:

- Culvert: Negligible
- Buildings: High
- Buildings: Moderate
- Buildings: Low
- Buildings: Negligible

- Temporary hedge/tree removal and pruning
- Permanent hedge/tree removal



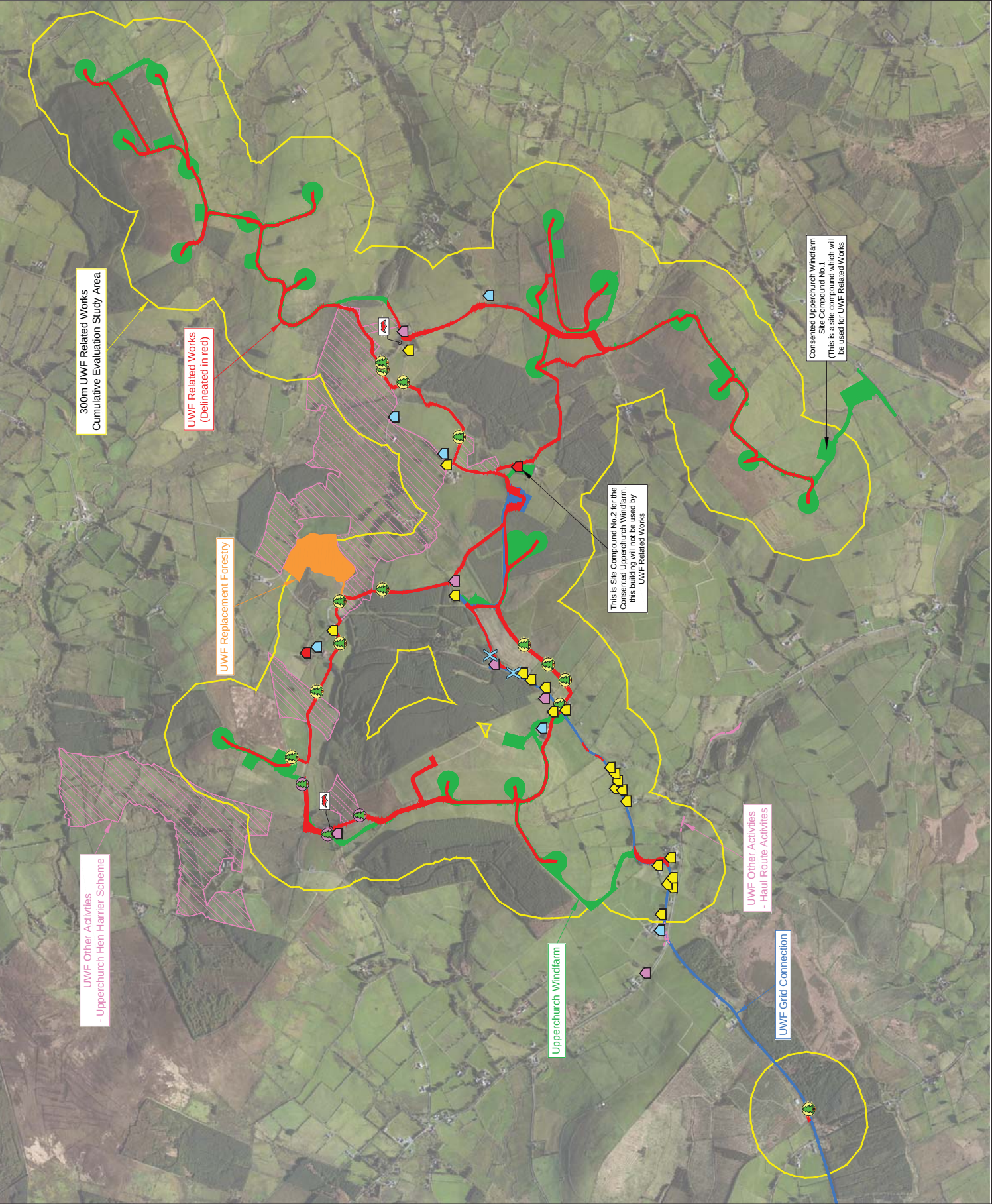
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UWF Related Works (RW)

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Title:
Figure WP 8.8
Non Volant Mammals within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Overview Map

Legend:

Study Area Extents:

- UWf Related Works
Construction Works Area
- UWf Grid Connection
Construction Works Area
- Upperchurch Windfarm
Construction Works Area
- UWf Replacement Forestry
Construction Works Area
- UWf Other Activities:
 - Upperchurch Hen Harrier Scheme
 - Haul Route Activities
 - Killonan Line
- 50m Study Area from all
Construction Works Area
- 150m Study Area from all
Construction Works Area

Survey Results :

Survey Results shown in zoomed in map

REFERENCE DOCUMENTS



Project:

UWf Related Works (RW)

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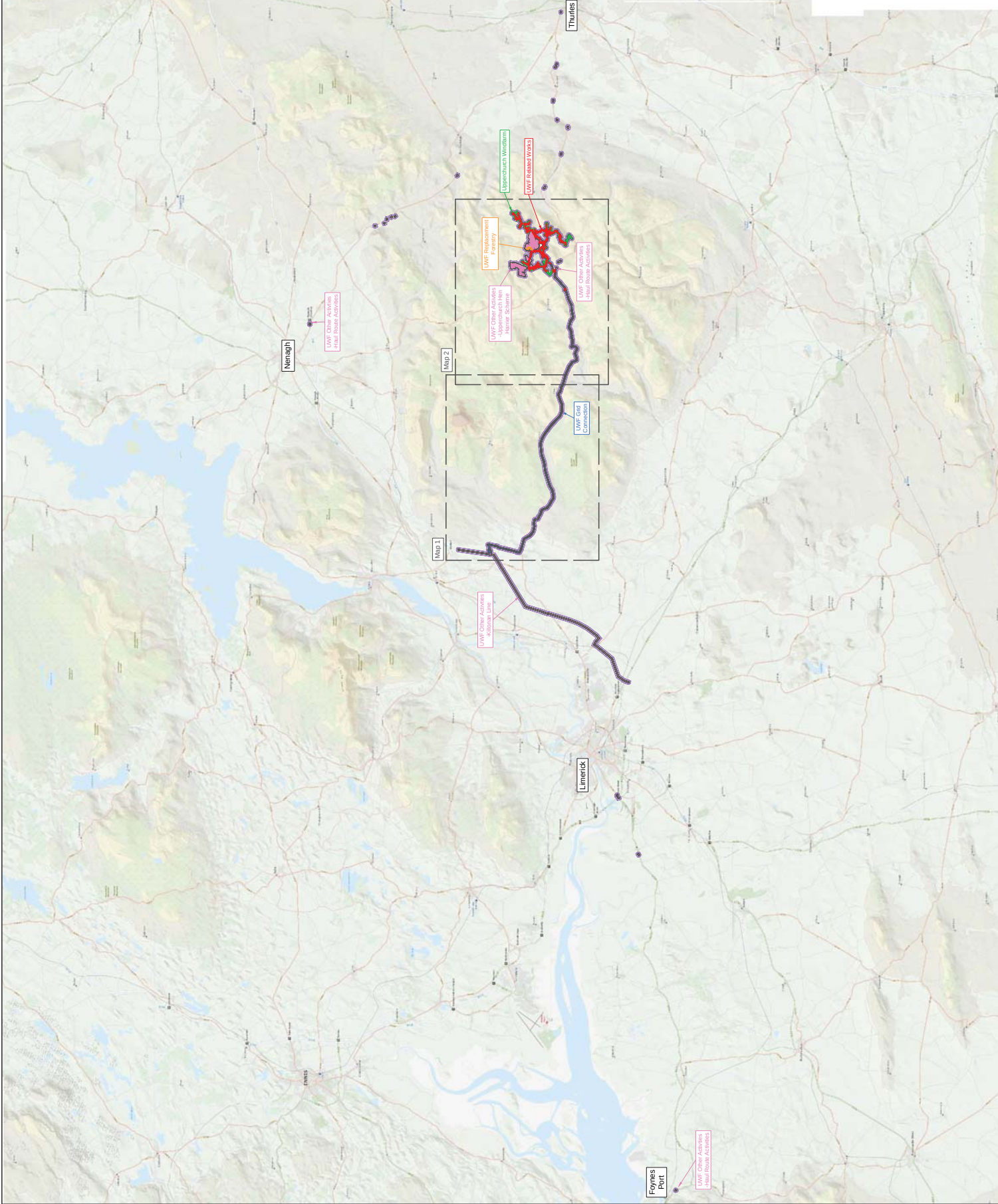
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Title:
Figure WP 8.8
Bats within the Whole Project
Cumulative Evaluation Study Area

Map Number:
Map 1 of 2

Legend:

Study Area Extents :

- UWF Grid Connection
Construction Works Area
- UWF Other Activities:
- Killonan Line
- 150m Study Area from all of the
Construction Works Area
- 50m Study Area from all of the
Construction Works Area

Survey Results :

Bat Roost Suitability :

- Bridge/Culvert: Low
- Bridge/Culvert: Moderate
- Bridge/Culvert: Negligible
- Buildings: High
- Buildings: Moderate
- Buildings: Low
- Buildings: Negligible
- Tree: Low
- Tree: Moderate

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

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Title:
Figure WP 8.8

Bats within the Whole Project
Cumulative Evaluation Study Area

Map Number:
Map 2 of 2

Legend:

Study Area Extents :

- UWf Related Works
- Construction Works Area
- UWf Grid Connection
- Construction Works Area
- Upperchurch Windfarm
- Construction Works Area
- UWf Replacement Forestry
- Construction Works Area

UWf Other Activities:
- Upperchurch Hen Harrier Scheme
- Haul Route Activities

- 150m Study Area from all of the
Construction Works Area
- 50m Study Area from all of the
Construction Works Area

Survey Results :

Bat Roost Suitability :

- Bat Crossing Location
- Bridge/Culvert: Moderate
- Bridge/Culvert: Negligible
- Buildings: High
- Buildings: Moderate
- Buildings: Low
- Buildings: Negligible



Project:
UWf Related Works (RW)

Drawn by:
AB

Checked by:
JB

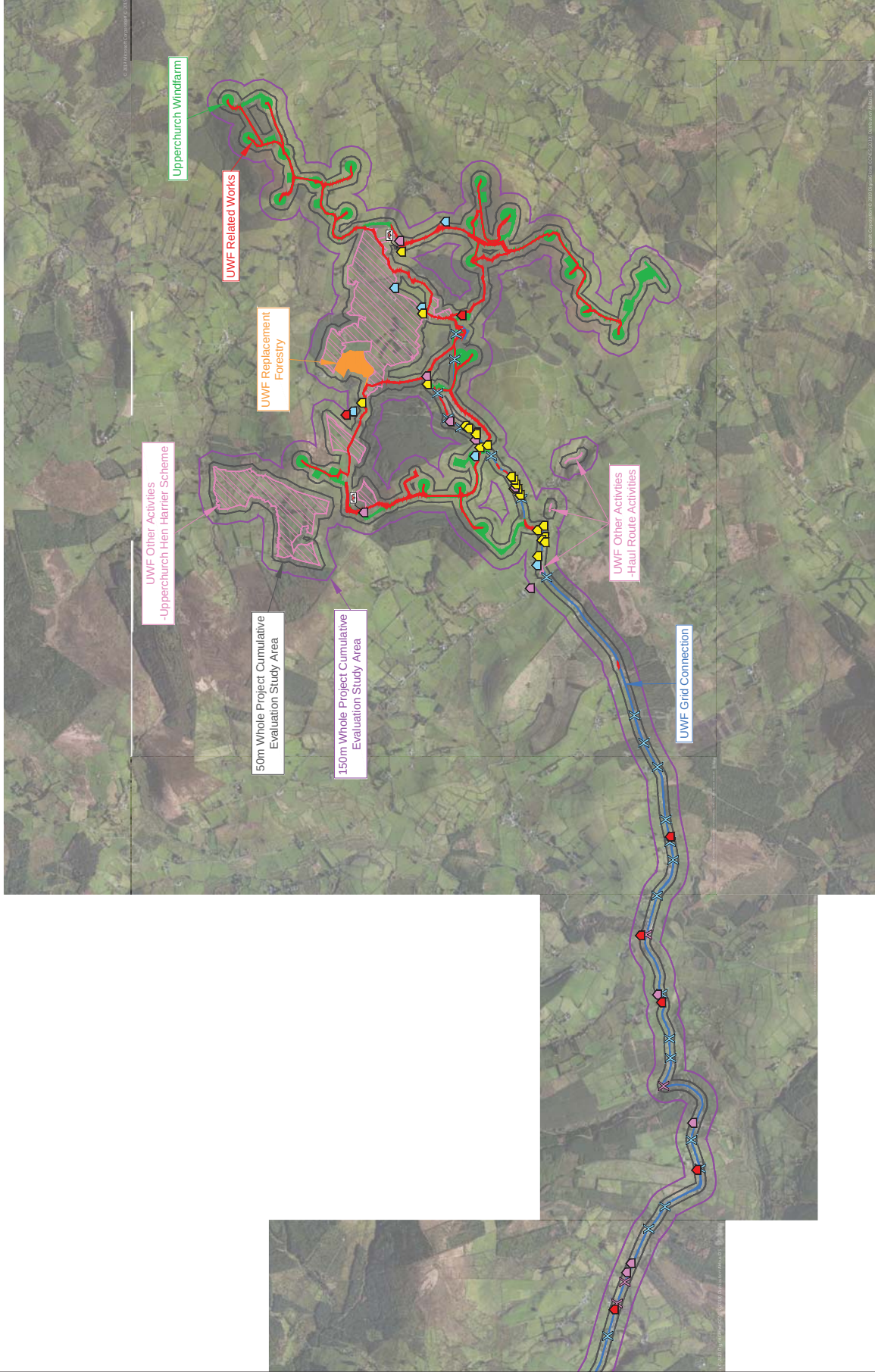
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Title:
Figure RW 8.9

Non-Volant Mammals within the UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

— UWF Related Works
Construction Works Area

— 50m Study Area

- UWF Related Works
- Construction Works Area

300m Study Area
- 300m from Watercourse crossing locations

Watercourse Crossing Locations

Survey Results :

▲ Fox

Δ Deer

No badger recorded during July 2017 surveys



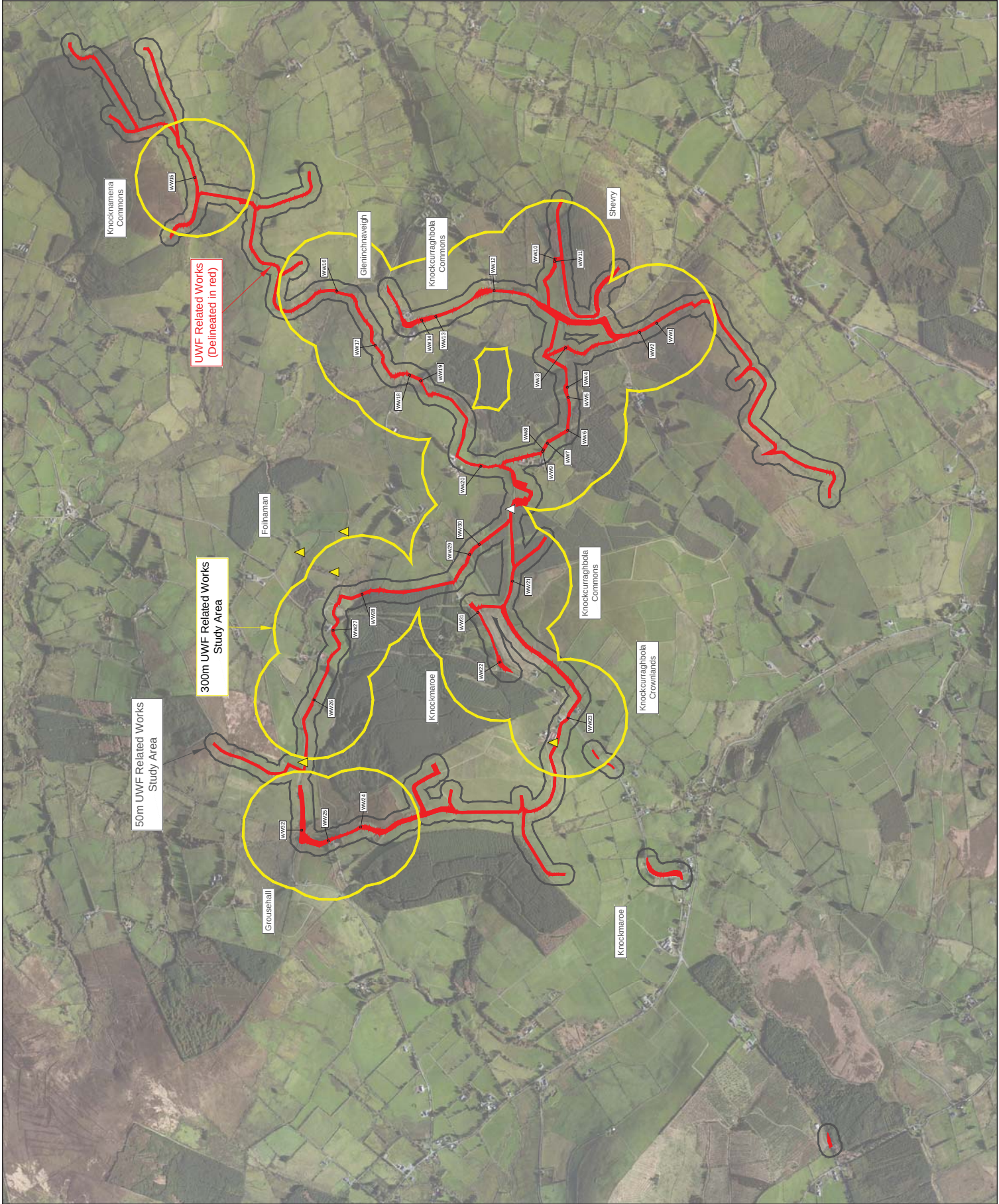
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Title:
Figure CE 8.9

**Non-Volant Mammals within the
UWF Related Works Cumulative
Evaluation Study Area**

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works
Construction Works Area

100m Study Area
UWF Related Works
Construction Works Area

600m Study Area
600m from Watercourse
crossing locations

Watercourse Crossing Locations

Cumulative Projects:

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWF Replacement Forestry
Construction Works Area

UWF Other Activities:
- Upperchurch Hen Harrier Scheme
- Haul Route Activities

Survey Results:

▲ Fox

▲ Deer

▲ Badger - Results from Upperchurch
Windfarm RFI EIS 2013



Project:
UWF Related Works (RW)

Drawn by:
AB

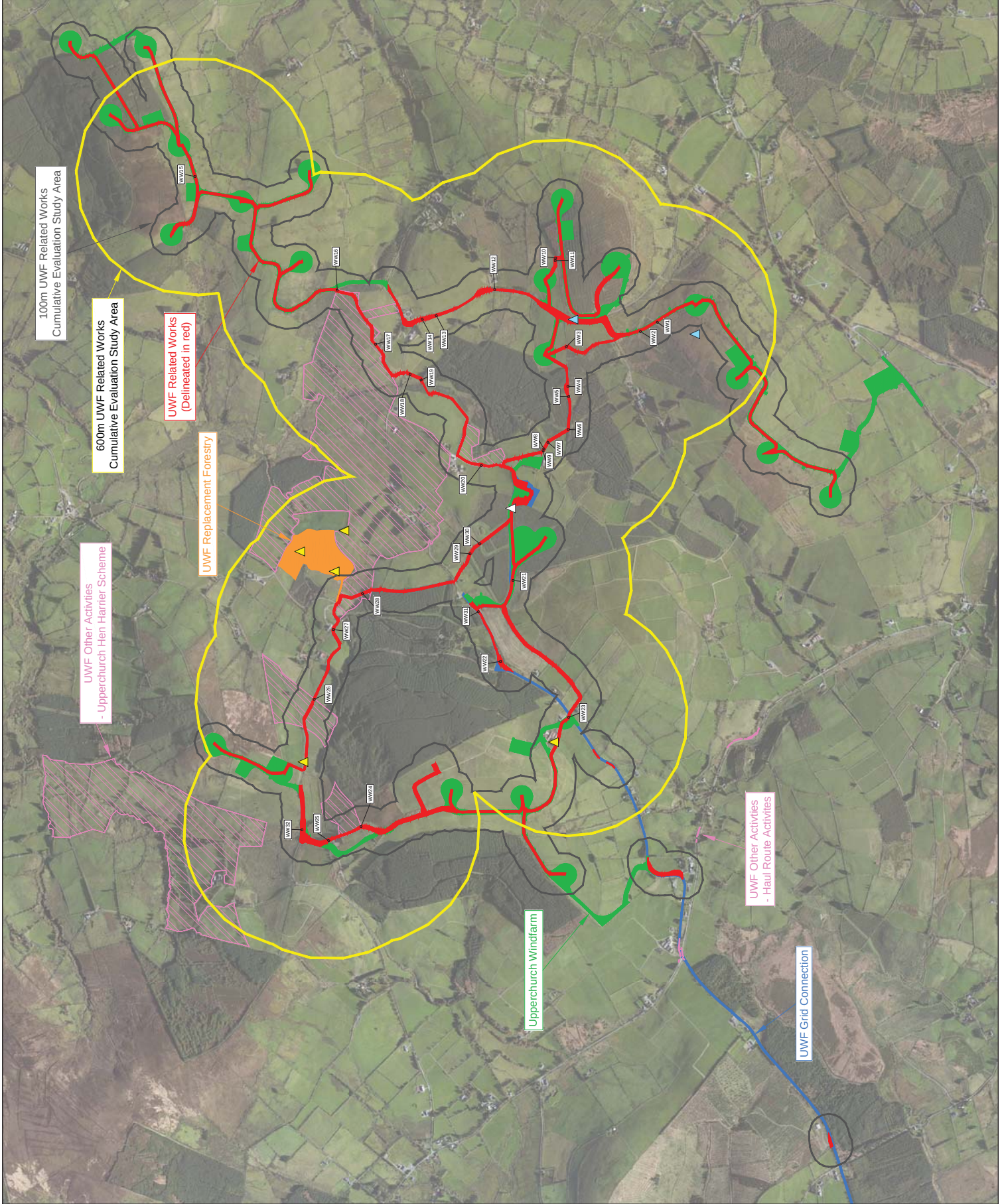
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Date:
January 19

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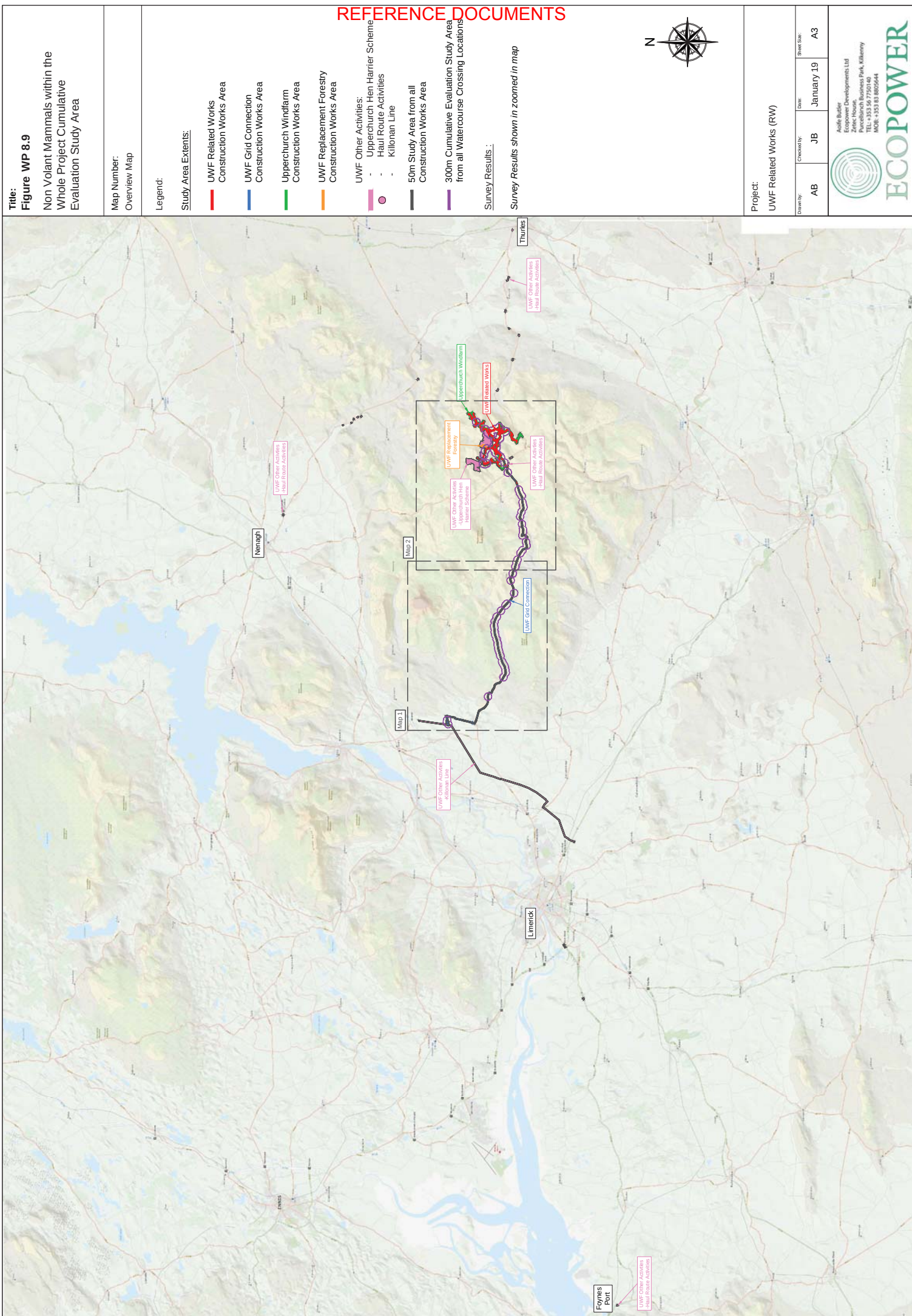


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Title:
Figure WP 8.9
Non Volant Mammals within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 2

Legend:

Study Area Extends:

- | | |
|---|---|
|  | UW/F Related Works
Construction Works Area |
|  | UW/F Grid Connection
Construction Works Area |
|  | Upperchurh Windfarm
Construction Works Area |
|  | UW/F Replacement Forest
Construction Works Area |
|  | UW/F Other Activities:
- Upperchurh Hen H
- Haul Route Activitie
- Killonan Line |
|  | 50m Study Area from all
Construction Works Area |

UWF Other Activities:

- Upperchurh Hen Harrier Scheme
- Haul Route Activities
- Killonan Line

50m Study Area from all Construction Works Area

300m Cumulative Evaluation Study Area
from all Watercourse Crossing Locations

Nearest watercourse crossing
location to the otter

Survey Results :

-  Fox
 Otter
 Mammal Pathways



Project: UWF Related Works (RW)

Drawn by: AB	Checked by: JB	Date: January 19	Sheet Size: A3
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Title:
Figure WP 8.9

Non Volant Mammals within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 2 of 2

Legend:

Study Area Extents:

UWf Related Works
Construction Works Area

UWf Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWf Replacement Forestry
Construction Works Area

UWf Other Activities:
- Upperchurch Hen Harrier Scheme
- Haul Route Activities
- Killonan Line

50m Study Area from all
Construction Works Area

300m Cumulative Evaluation Study Area
from all Watercourse Crossing Locations

Nearest watercourse crossing
location to the other

Survey Results :

▲ Fox

△ Deer

▲ Otter

▲ Mammal Pathways

▲ Badger - Results from Upperchurch
Windfarm RFI EIS 2013



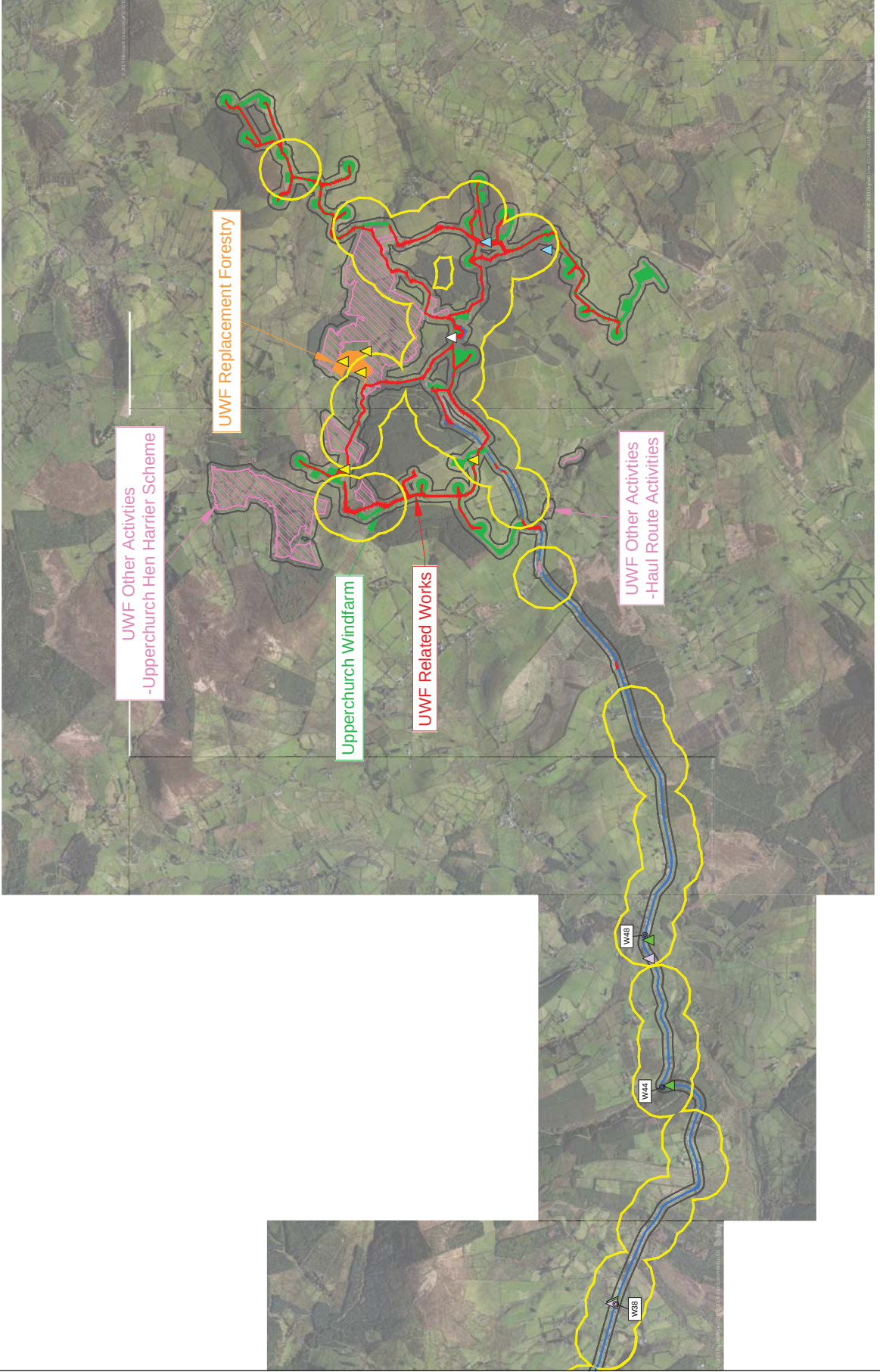
Project:
UWf Related Works (RW)

Drawn by: AB
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Sheet Size: A3



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Title:
Figure RW 8.10

Amphibians & Reptiles within the
UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

— UWF Related Works
Construction Works Area

— 50m Study Area
UWF Related Works
Construction Works Area

Survey Results :

● Viviparous Lizard

● Frog

Survey Results on the map are those of the
UWF 2013 EIS

No Smooth Newt, Common Frog or Viviparous
Lizard were recorded in 2017 survey

REFERENCE DOCUMENTS

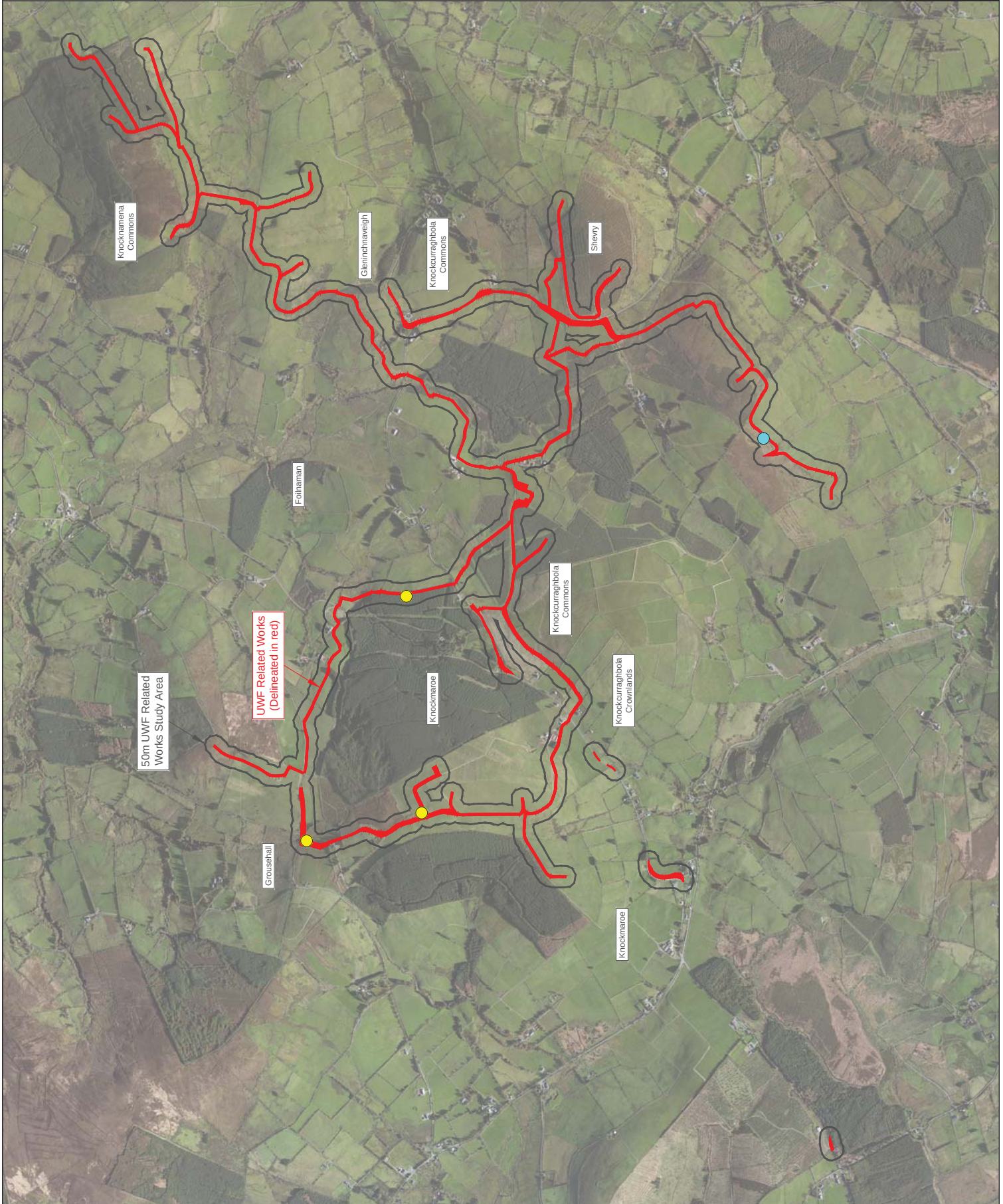


Project:
UWF Related Works (RW)

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Title:
Figure CE 8.10

Amphibians & Reptiles within the
UWF Related Works Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

— UWF Related Works
Construction Works Area

— 100m Study Area
UWF Related Works
Construction Works Area

Cumulative Projects:

— UWF Grid Connection
Construction Works Area

— Upperchurch Windfarm
Construction Works Area

— UWF Replacement Forestry
Construction Works Area

UWF Other Activities:
- Upperchurch Hen Harrier Scheme
- Haul Route Activities

Survey Results:

● Viviparous Lizard

● Viviparous Lizard

Survey Results on the map are those
of the UWF 2013 EIS

No Smooth Newt, Common Frog or Viviparous
Lizard were recorded in 2017 survey



Project:

UWF Related Works (RW)

Drawn by:

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Checked by:

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Date:

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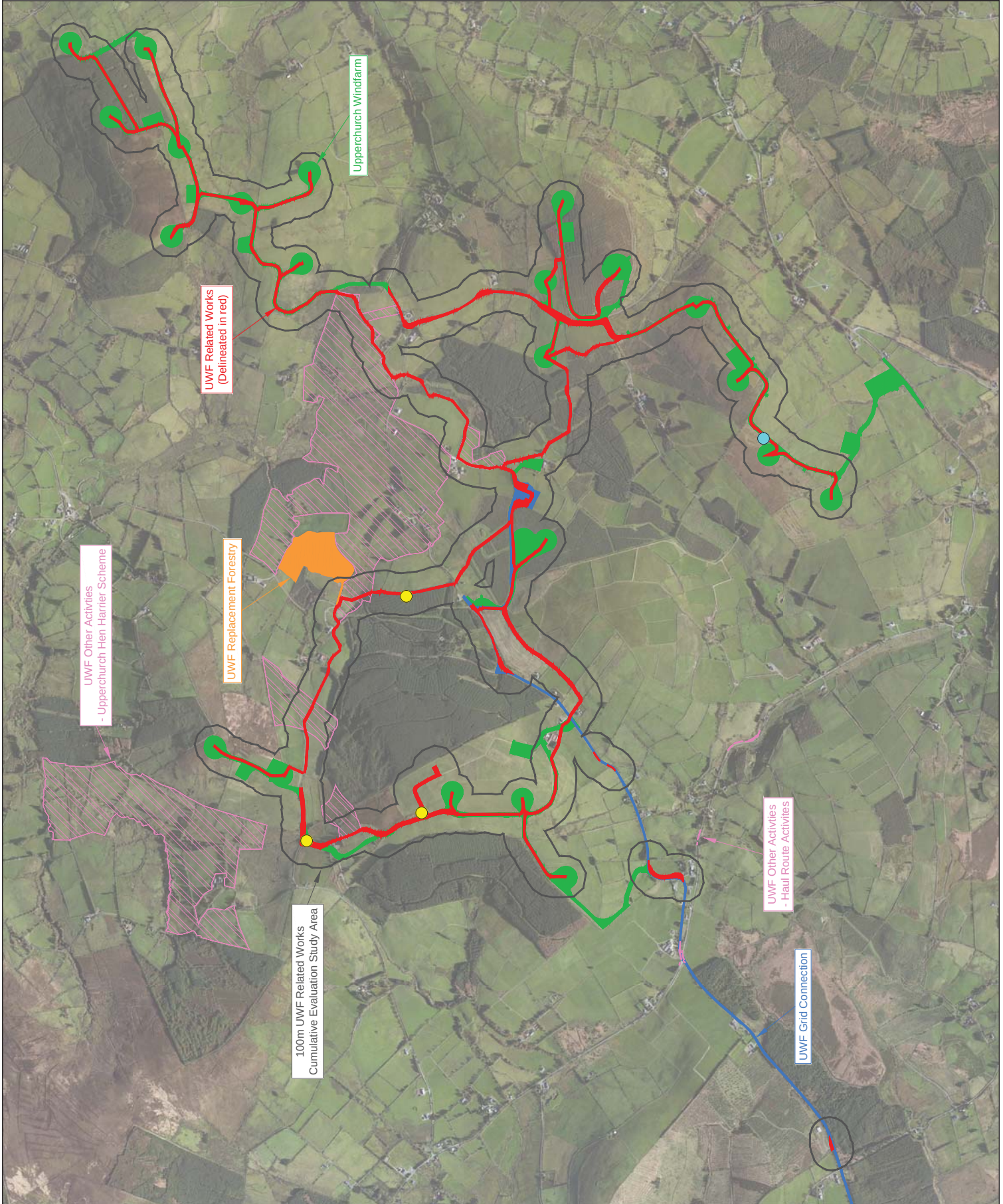
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Title:
Figure WP 8.10

Amphibians & Reptiles within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works
Construction Works Area

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWF Replacement Forestry
Construction Works Area

50m Study Area from all
Construction Works Area

100m Cumulative Evaluation Study
Area from all Construction Works Area

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Project:
UWF Related Works (RW)

Drawn by:
AB

Checked by:
JB

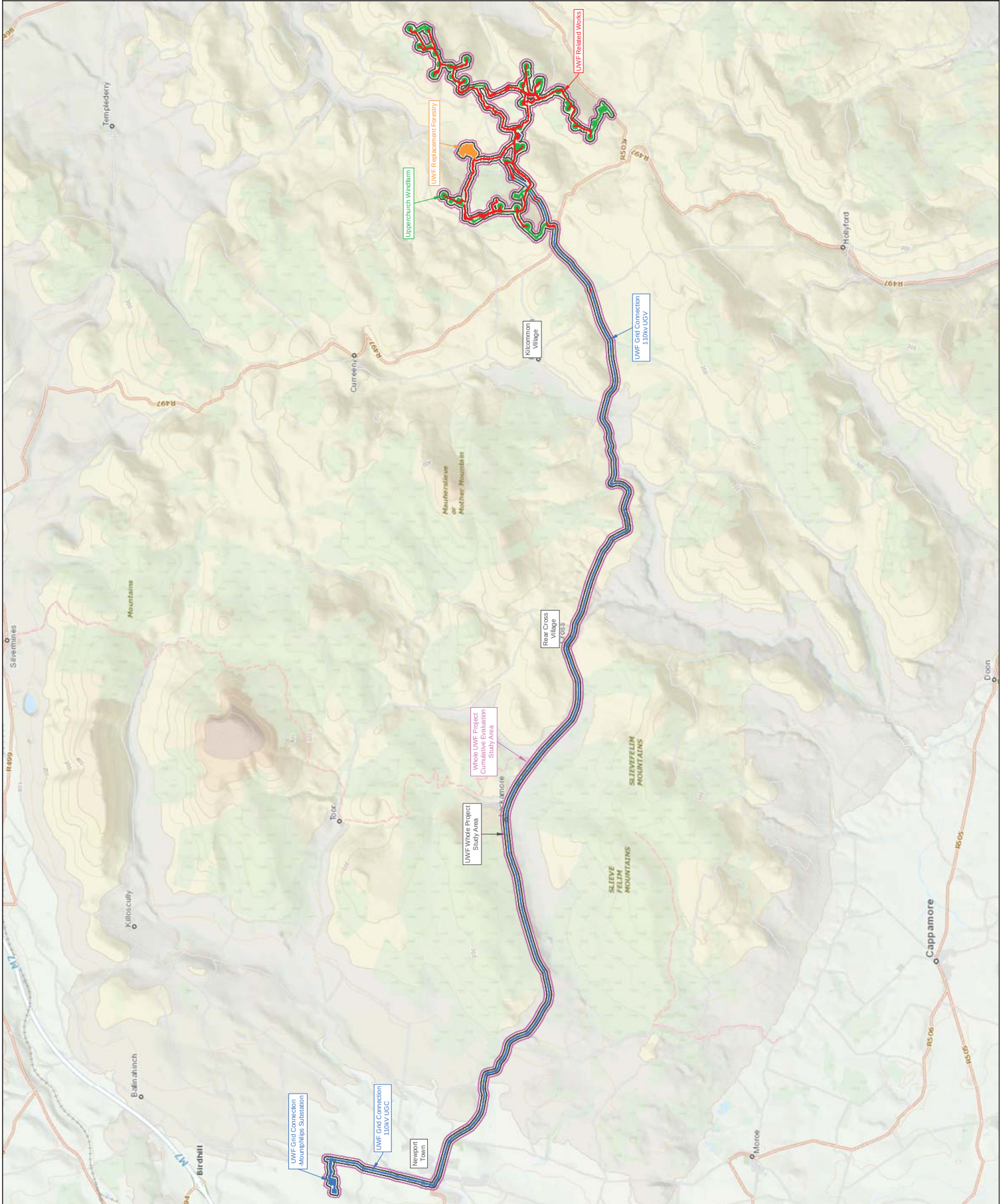
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Title:
Figure RW 8.11

Marsh Fritillary within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

UWF Related Works
Construction Works Area

50m Study Area

- UWF Re
- Construct

Survey Results :

☆ Marsh Fritillary

 Suitable Marsh Fritillary Habitat

Project: UWF Related Works (RW)

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Title: Marsh Frithillary within the UWF
Related Works Cumulative
Evaluation Study Area

Legend:

UWF Related Works
Construction Works Area

50m Study Area
- UWF Related Works
Construction Works Area

2km Study Area
- UWF Related Works
Construction Works Area

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

UWF Replacement Forestry
Construction Works Area

- Upperchurch Hen Harrier Scheme
- Haul Route Activities

Marsh Fritillary

Suitable Marsh Fritillary Habitat



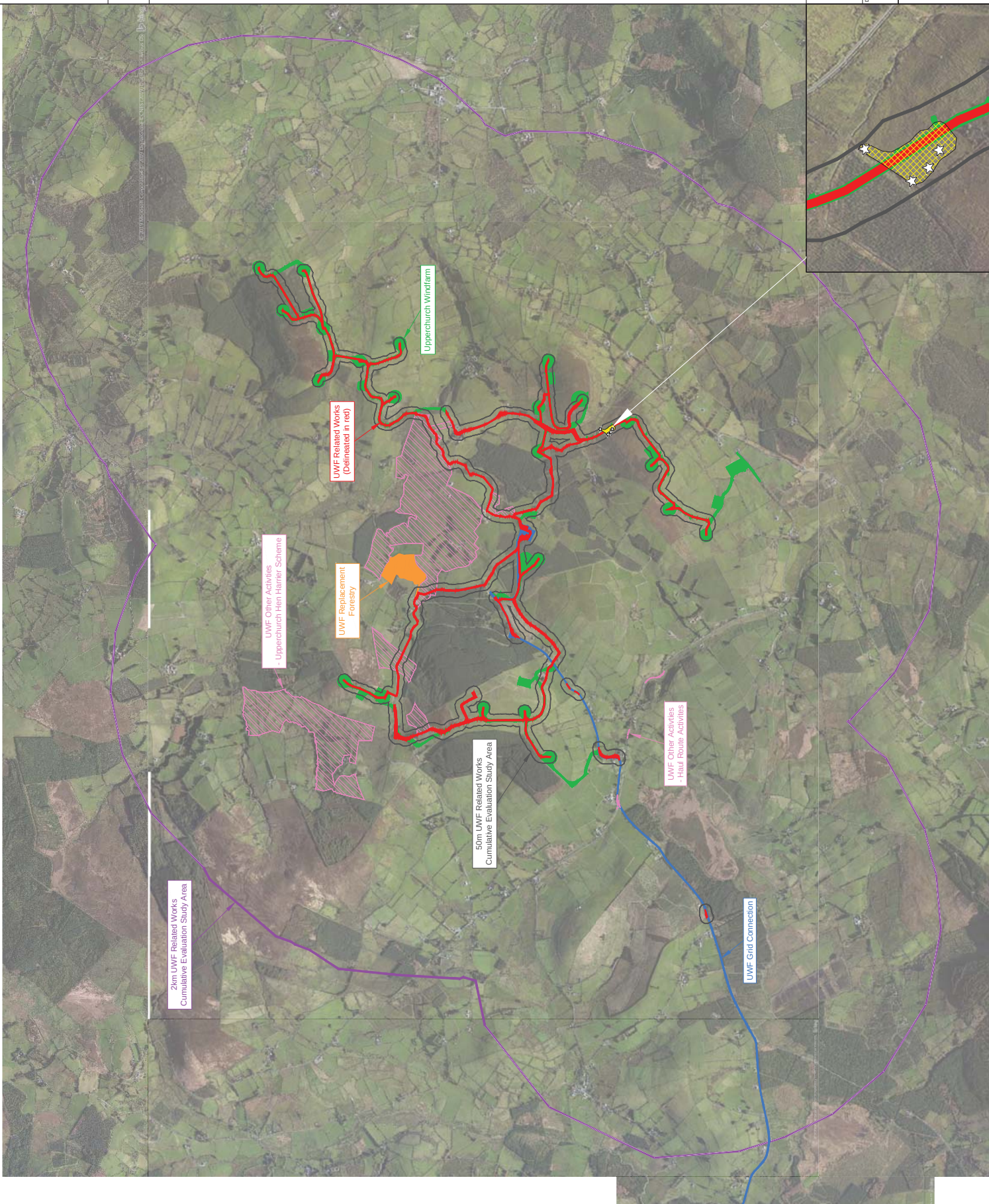
Project: UWF Related Works (RW)

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Title:
Figure WP 8.11
Marsh Fritillary w
Cumulative Evalu

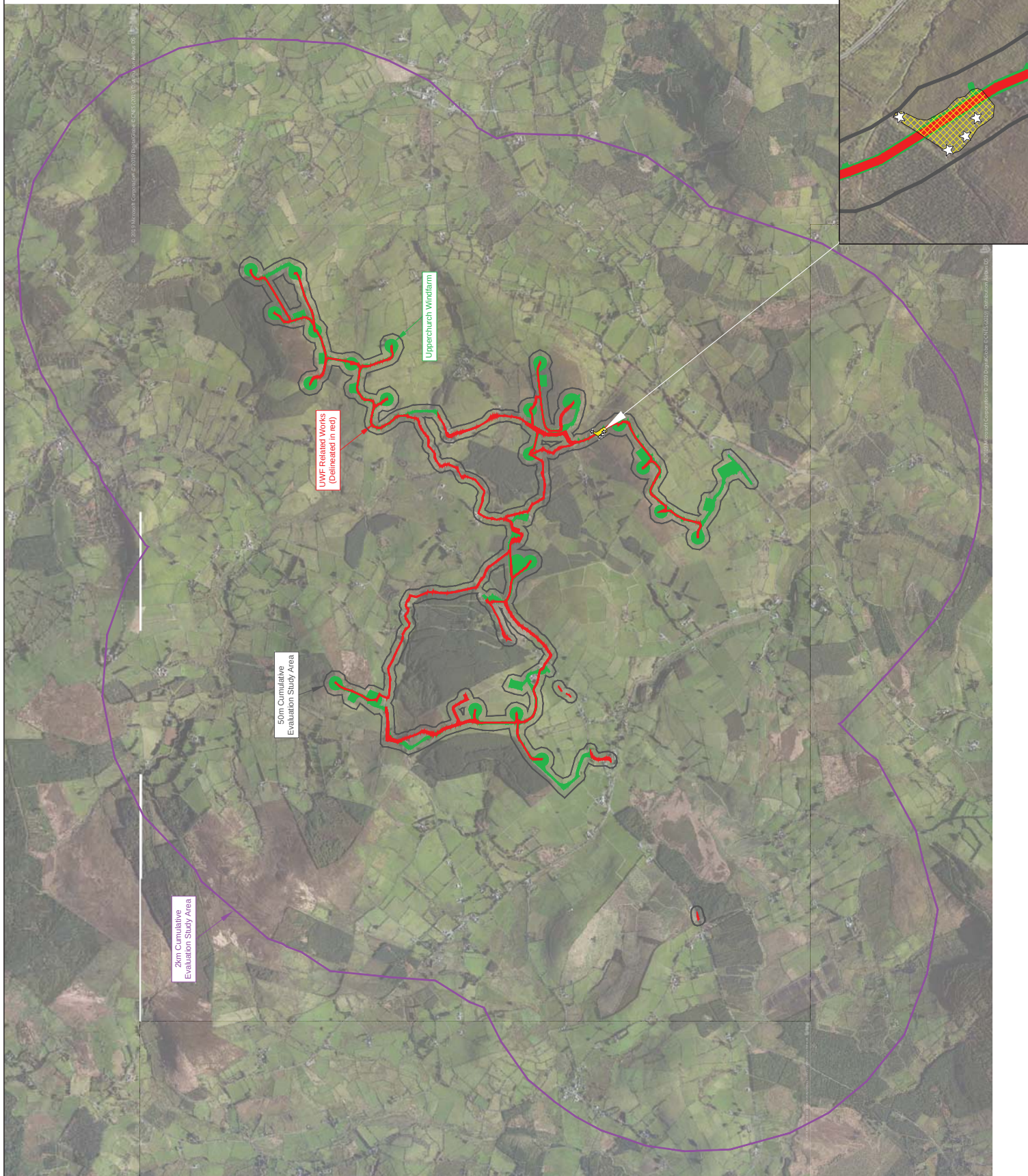
Legend:

UWF Related Works
Construction Works Area

Upperchurch Windfarm
Construction Works Area

2km Cumulative Evaluation Study Area

☆ Marsh Fritillary
 👉 Suitable Marsh Fritillary Habitat



Project: UWF Related Works (RW)

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AB	JB	January 19	A3



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Title:
Figure RW 9.1
Location of the UWF Related
Works Study Area

Map Number:
1 of 1

Legend:

- UWF Related Works
 - Realigned Windfarm Roads
 - Internal Windfarm Cabling
 - Telecom Relay Pole
 - Haul Route Works

Villages

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Project:

UWF Related Works (RW)

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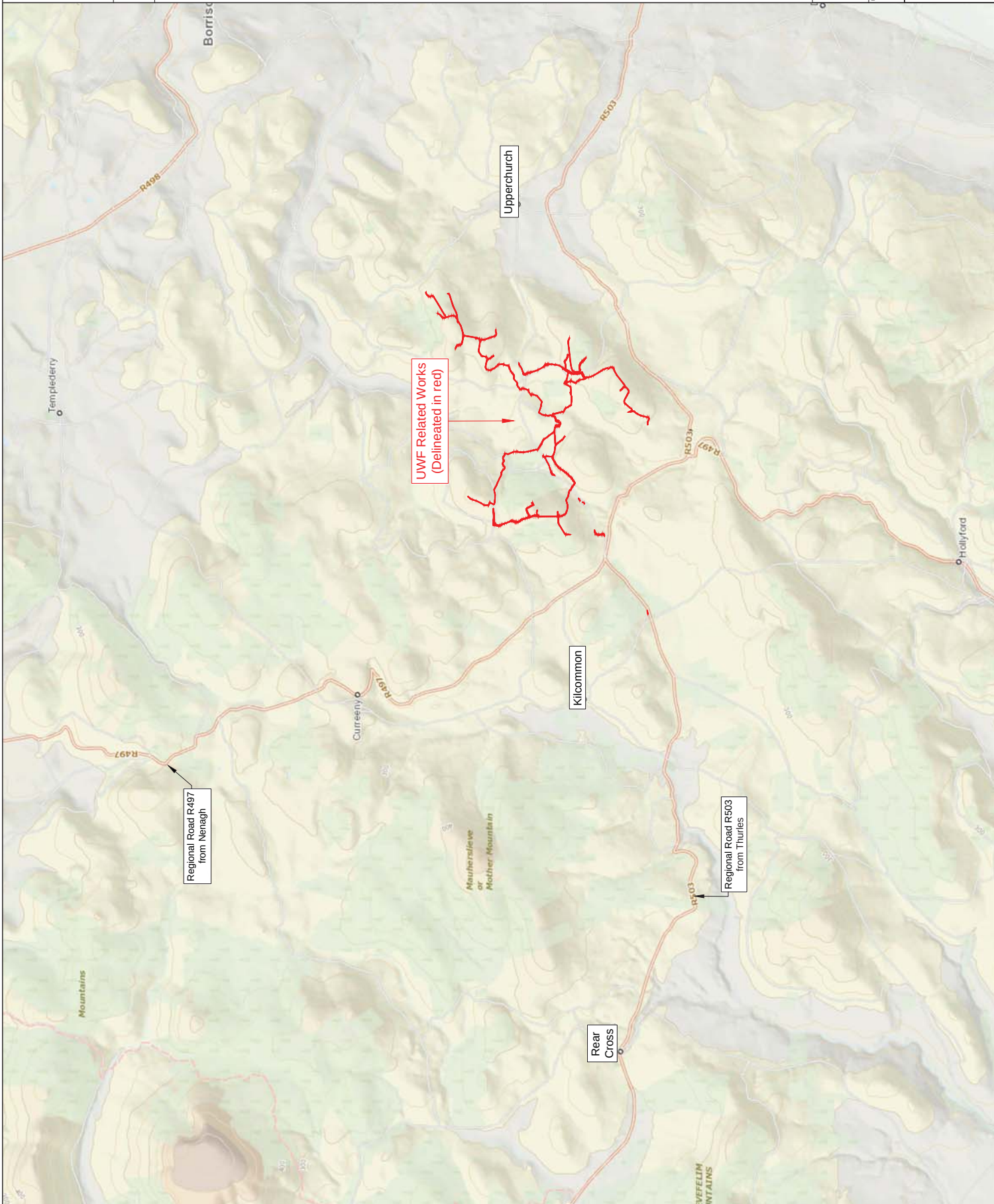
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Title:
Figure RW 9.2

Agricultural Lands within the
UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

— UWF Related Works Construction
Works Area

Landholding - Agricultural Land



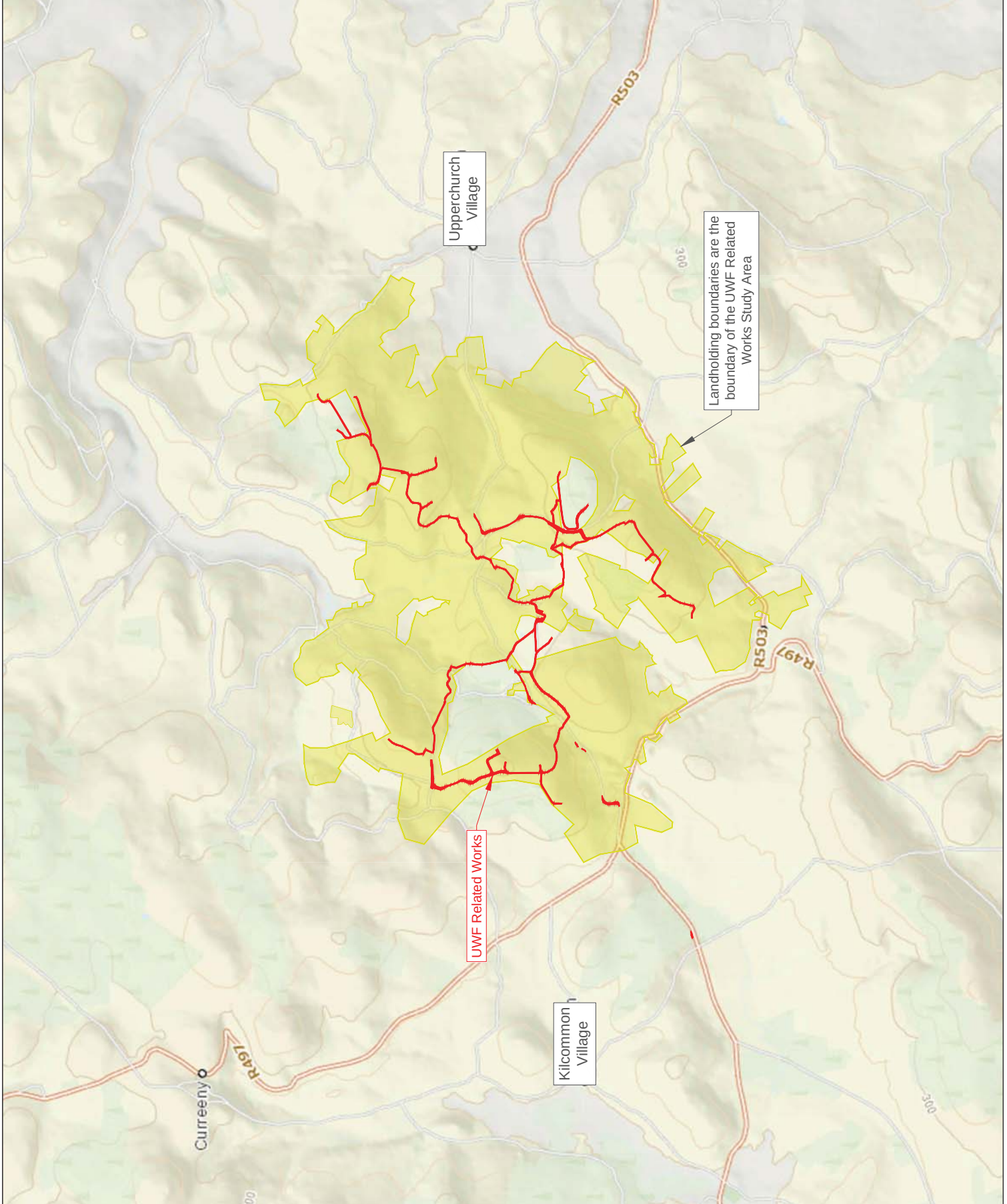
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AB	JB	January 19	A3



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Title: **Figure CE 9.2**
Agricultural Lands within the UWF
Related Works Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Study Area Extends:

Survey Results:

Cumulative Projects:

- UWF Grid Connection

Construction Works Area

UWF Replacement Forestry



UWF Related Works (RW)

Drawn by:

Checked by:

Date:

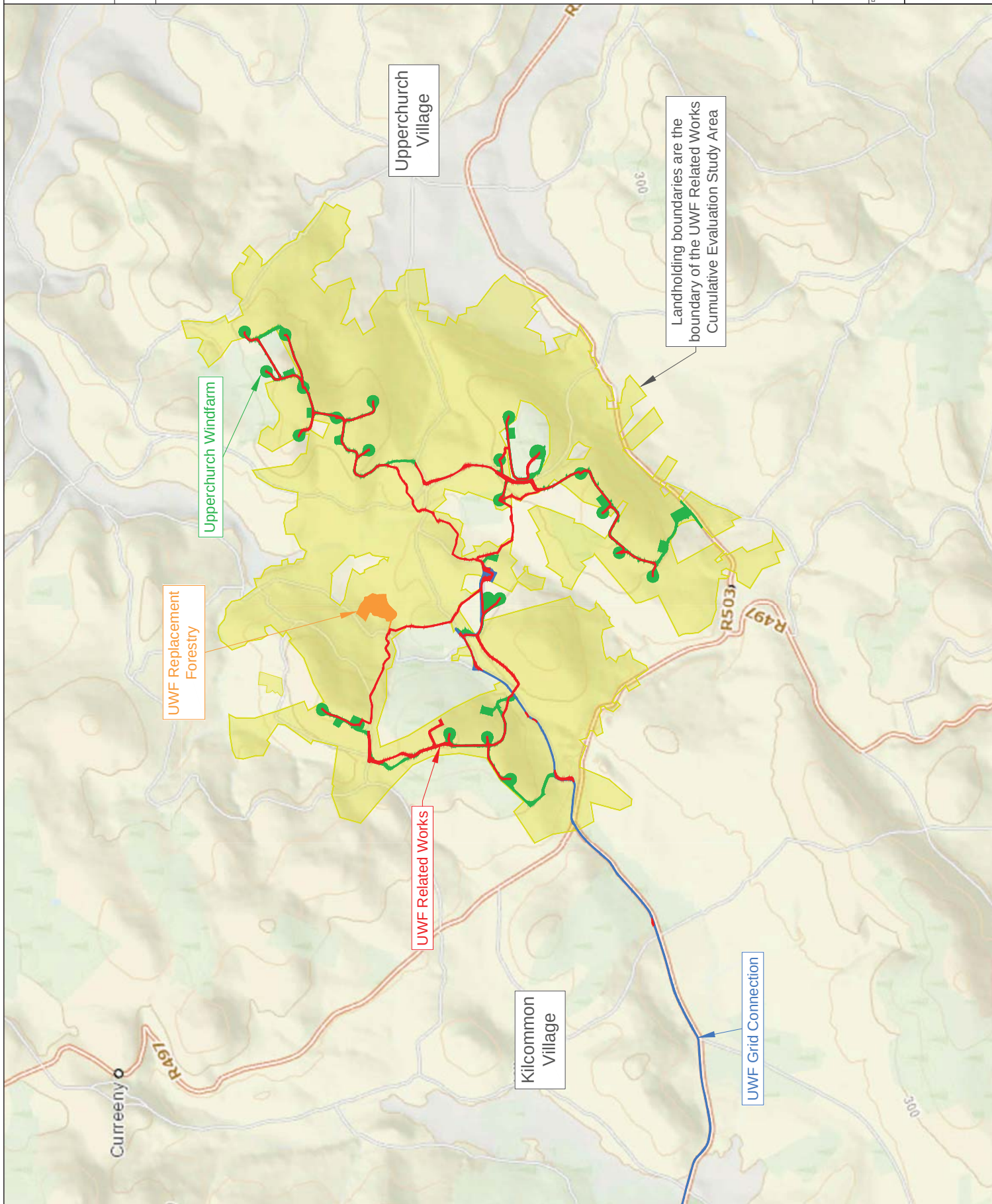
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Title:
Figure WP 9.2

Agricultural Lands within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
1 of 1

Legend:

- UWF Grid Connection
Construction Works Area
- UWF Related Works
Construction Works Area
- Upperchurch Windfarm
Construction Works Area
- UWF Replacement Forestry
Construction Works Area
- Landholding - Agricultural Land

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

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Date:

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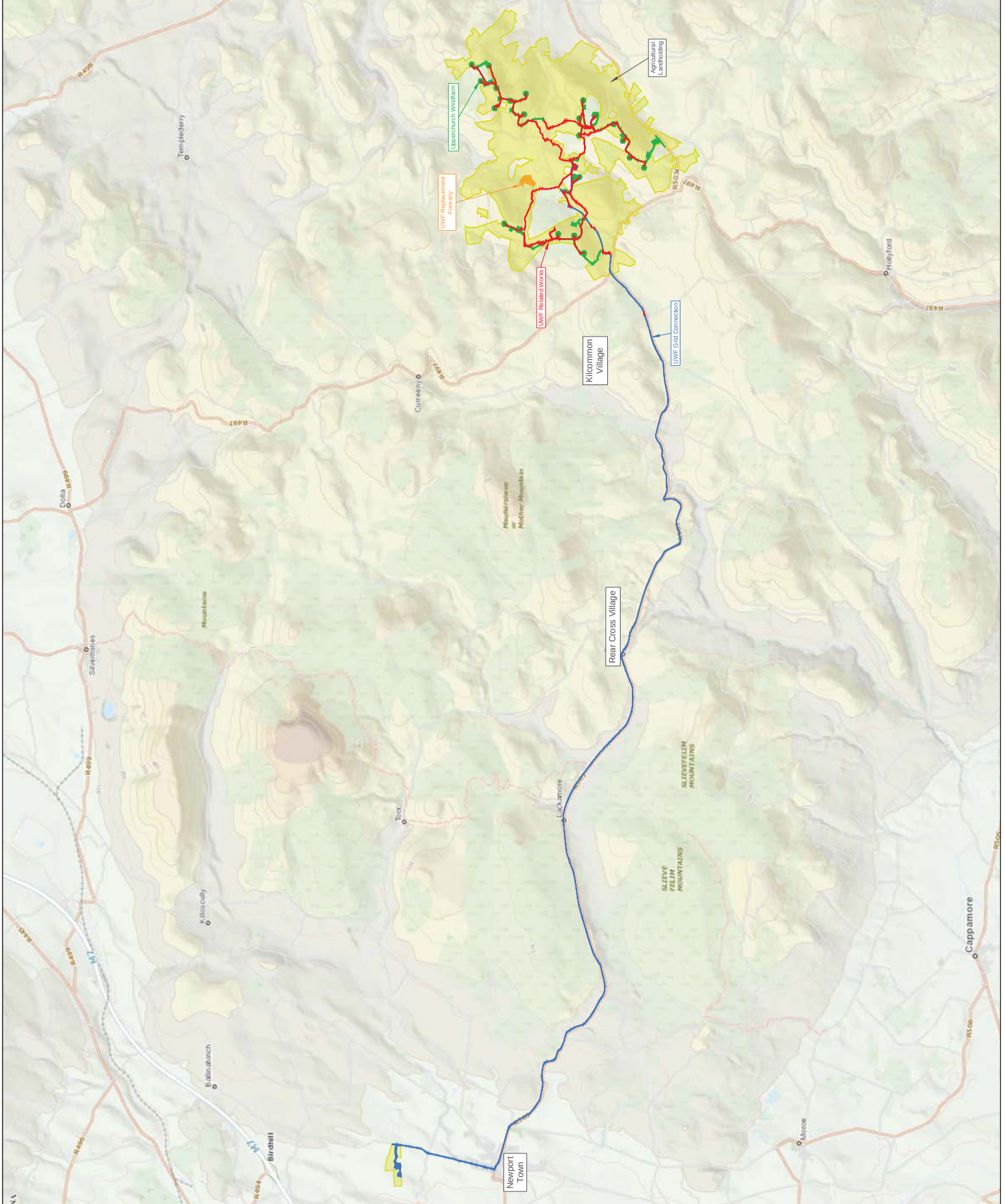
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Title:

Figure RW 9.3

Forestry Lands within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

- UWF Related Works
Construction Works Area
- Landholding - Forestry Land

Project:

UWF Related Works (RW)

Drawn by:

Date: _____

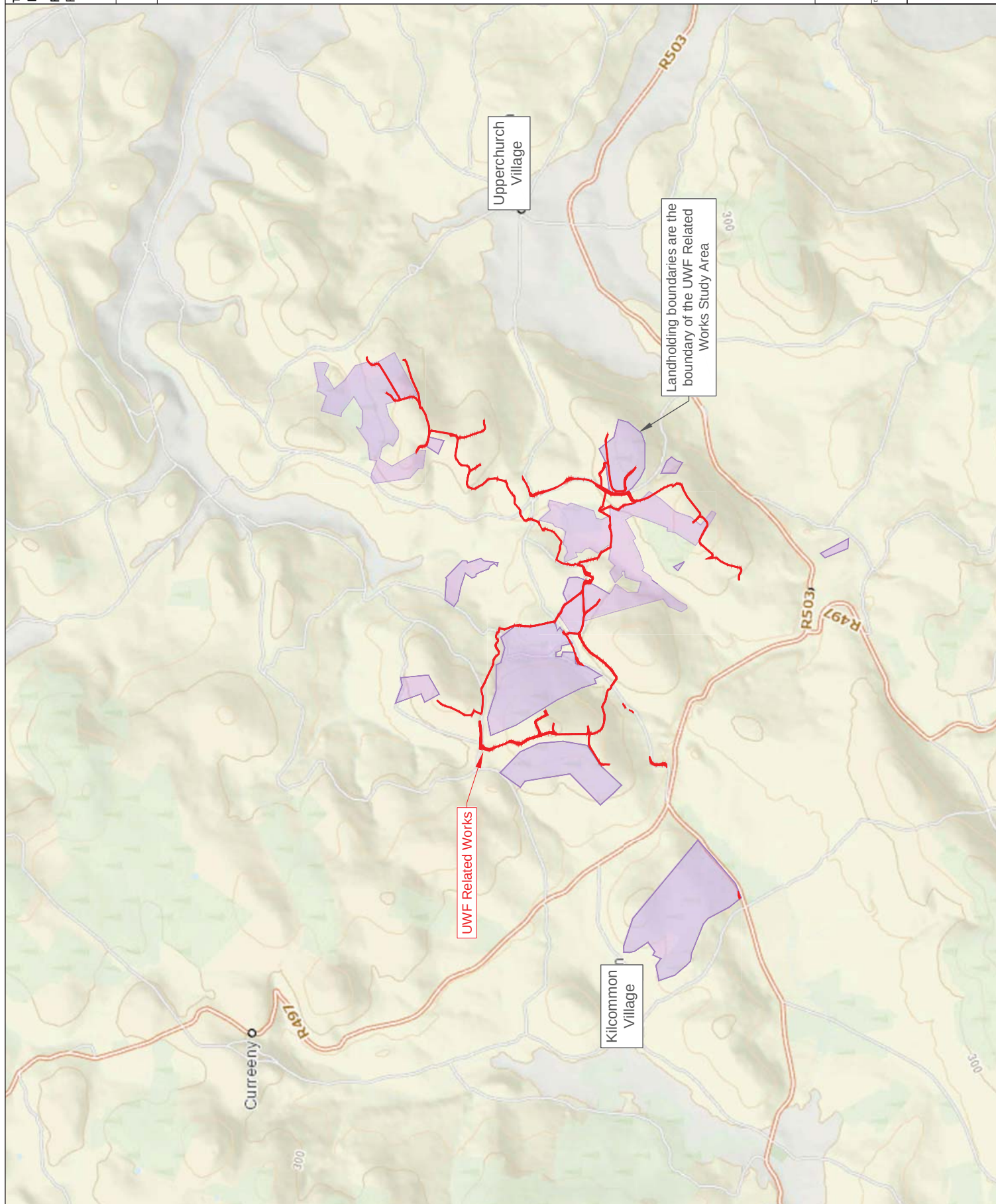
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Size:



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Title: **Figure CE 9.3**
Forestry Lands within the UWF
Related Works Cumulative
Evaluation Study Area

Legend:

UWF Replacement Forestry
Construction Works Area

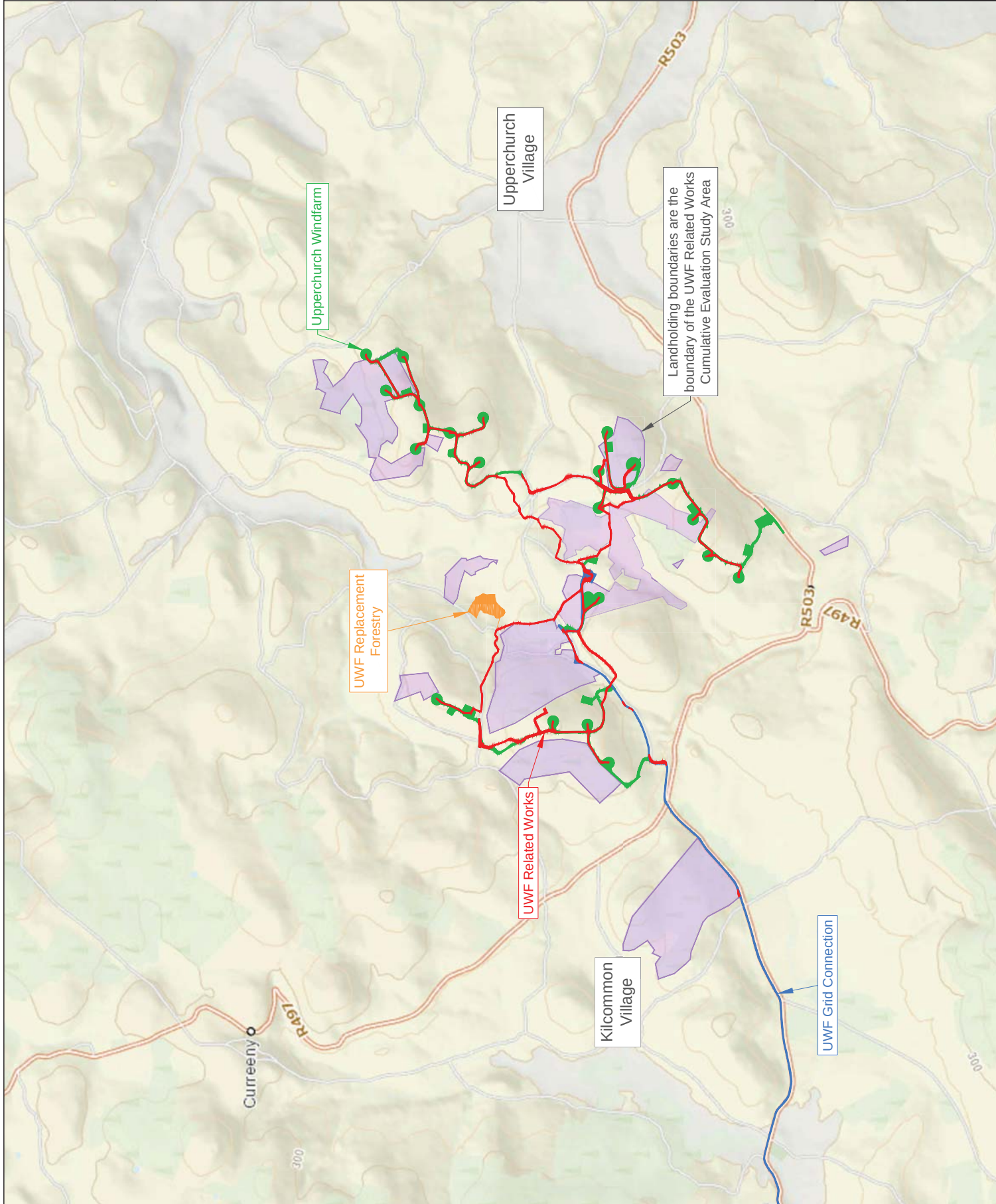


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Title:
Figure WP 9.3

Forestry Lands within the Whole Project Cumulative Evaluation Study Area

Map Number:
1 of 1

Legend:

- UWF Grid Connection Construction Works Area
- UWF Related Works Construction Works Area
- Upperchurch Windfarm Construction Works Area
- UWF Replacement Forestry Construction Works Area
- Landholding - Forestry

Project:

UWF Related Works (RW)

_____ *drawn by:*

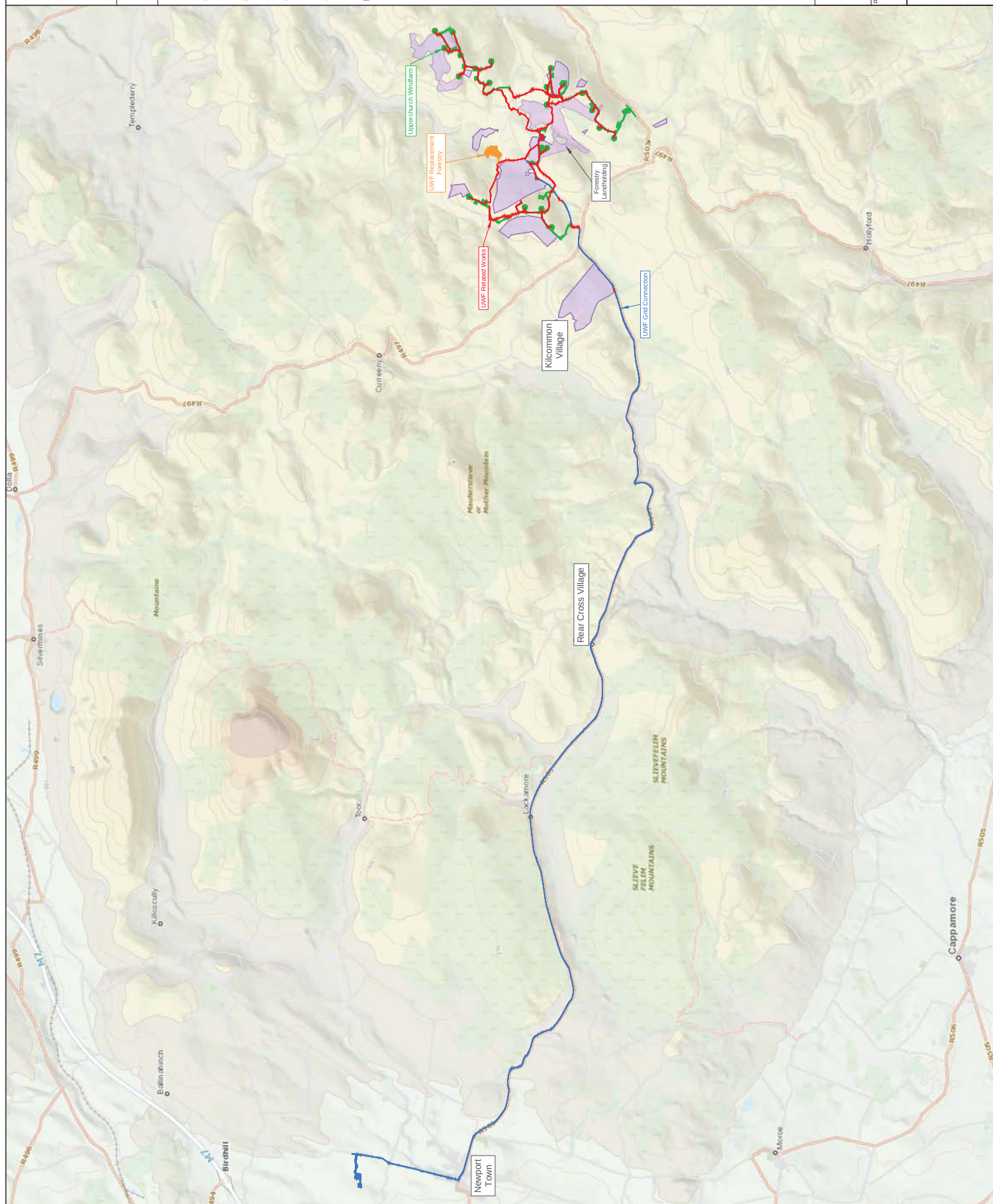
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Legend

UWF Related Works WF
Confection Works Boundary



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Client: Ecopower Developments Ltd.

Job: UWF Related Works

Title: Location of the UWF Related Works

Figure No: Figure RW 10.1

Drawing No: P1299-4-0119-FRW-10-1-A3-0A

Sheet Size: A3

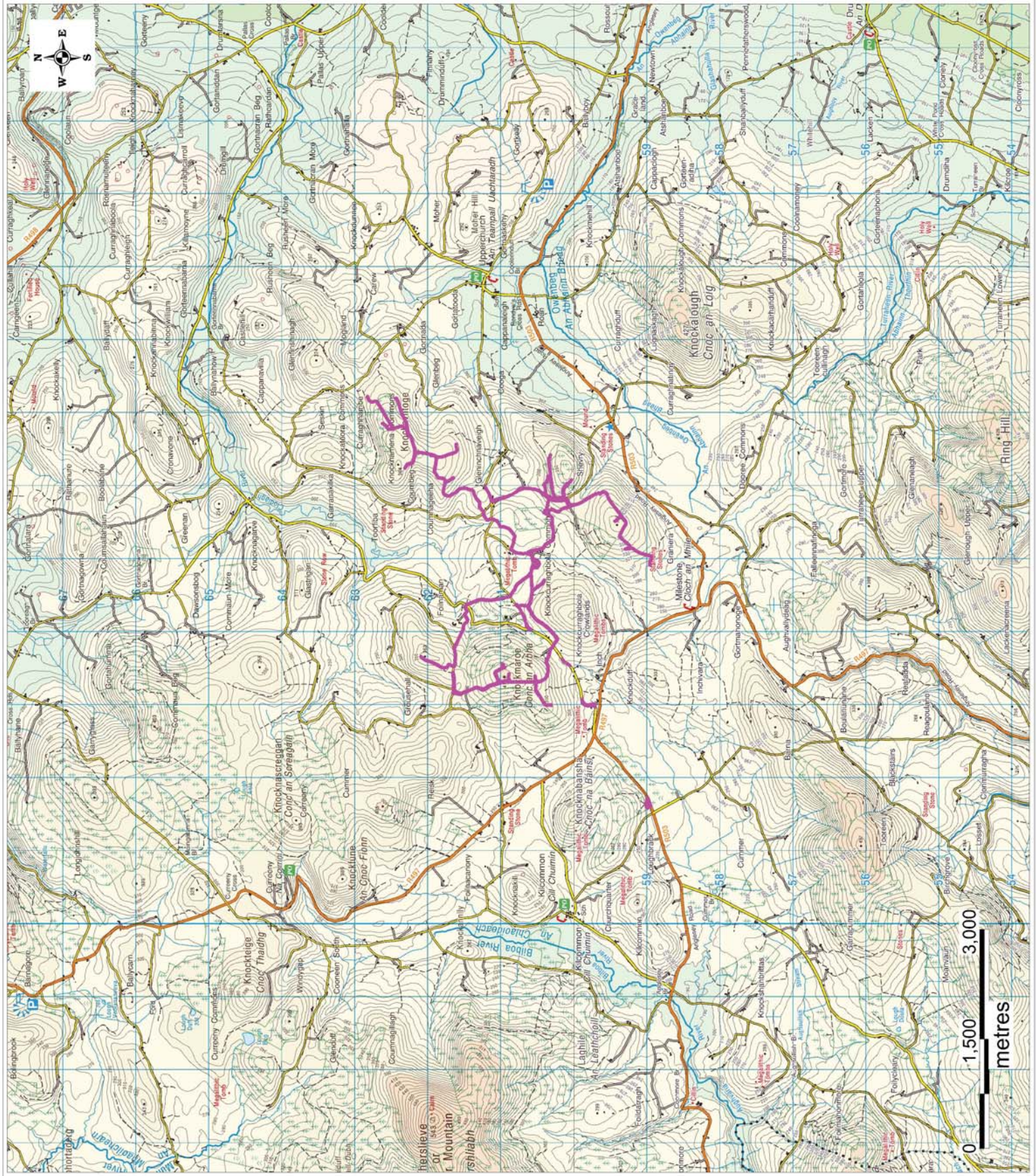
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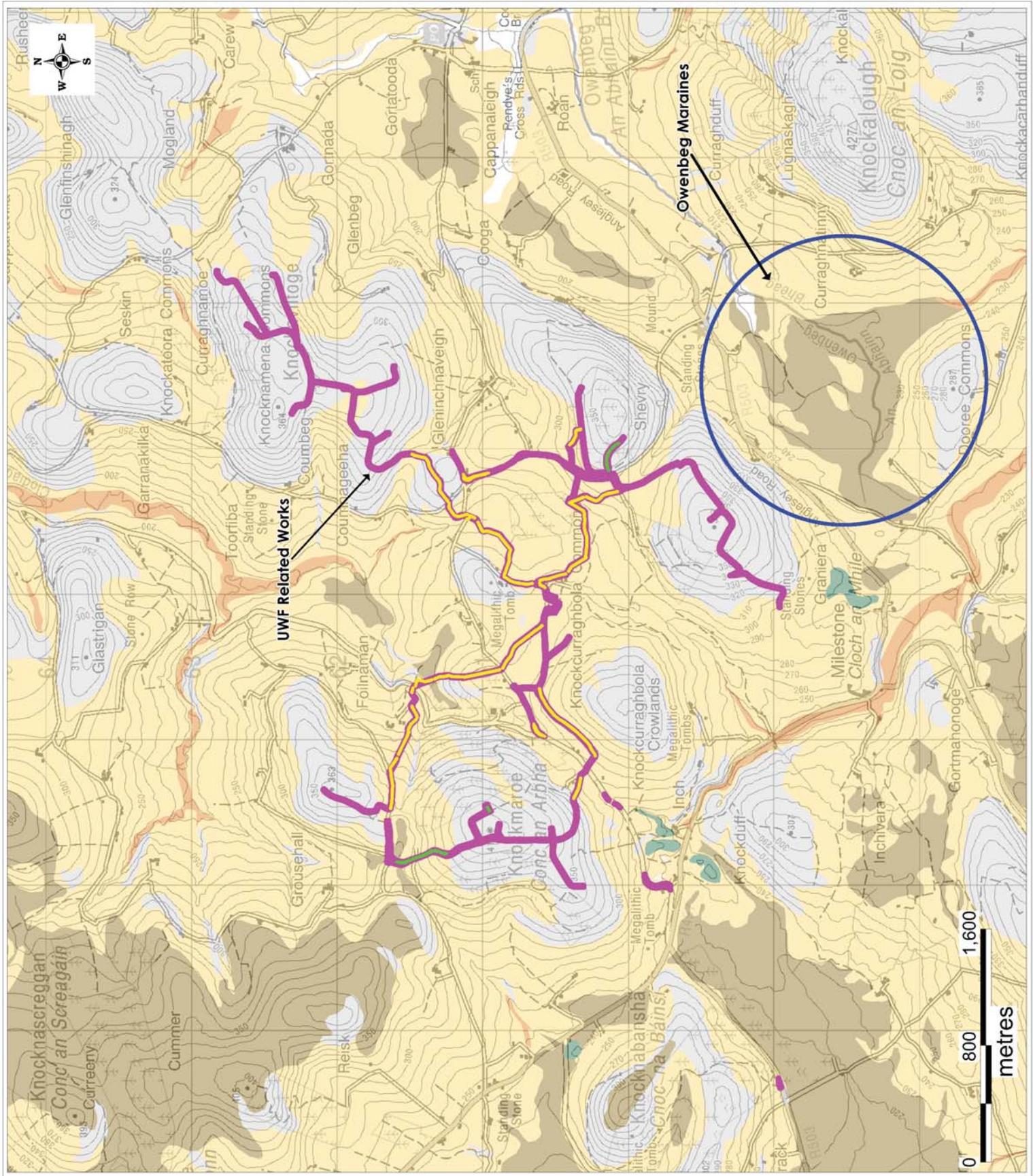
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Date: 29/01/2019

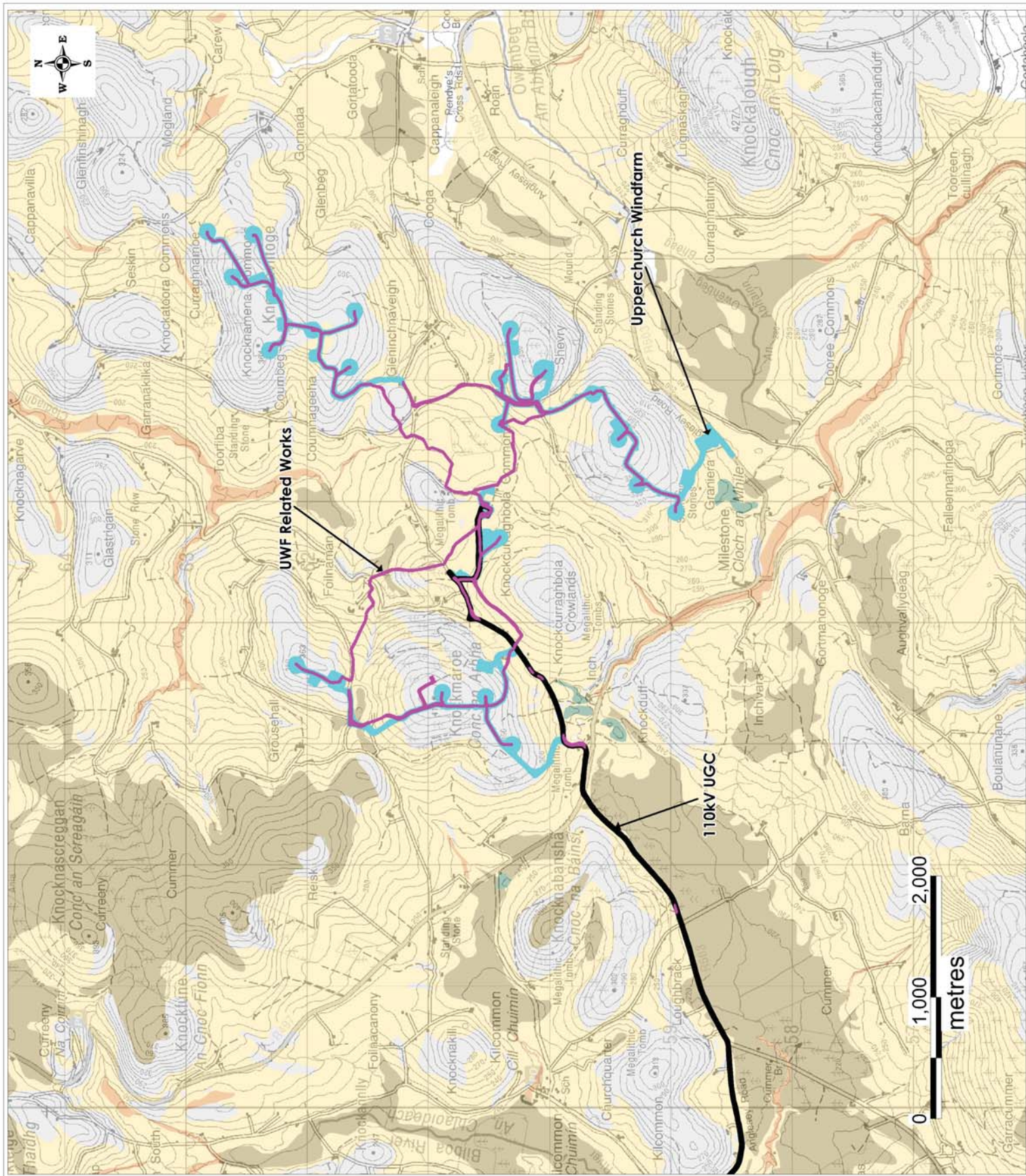
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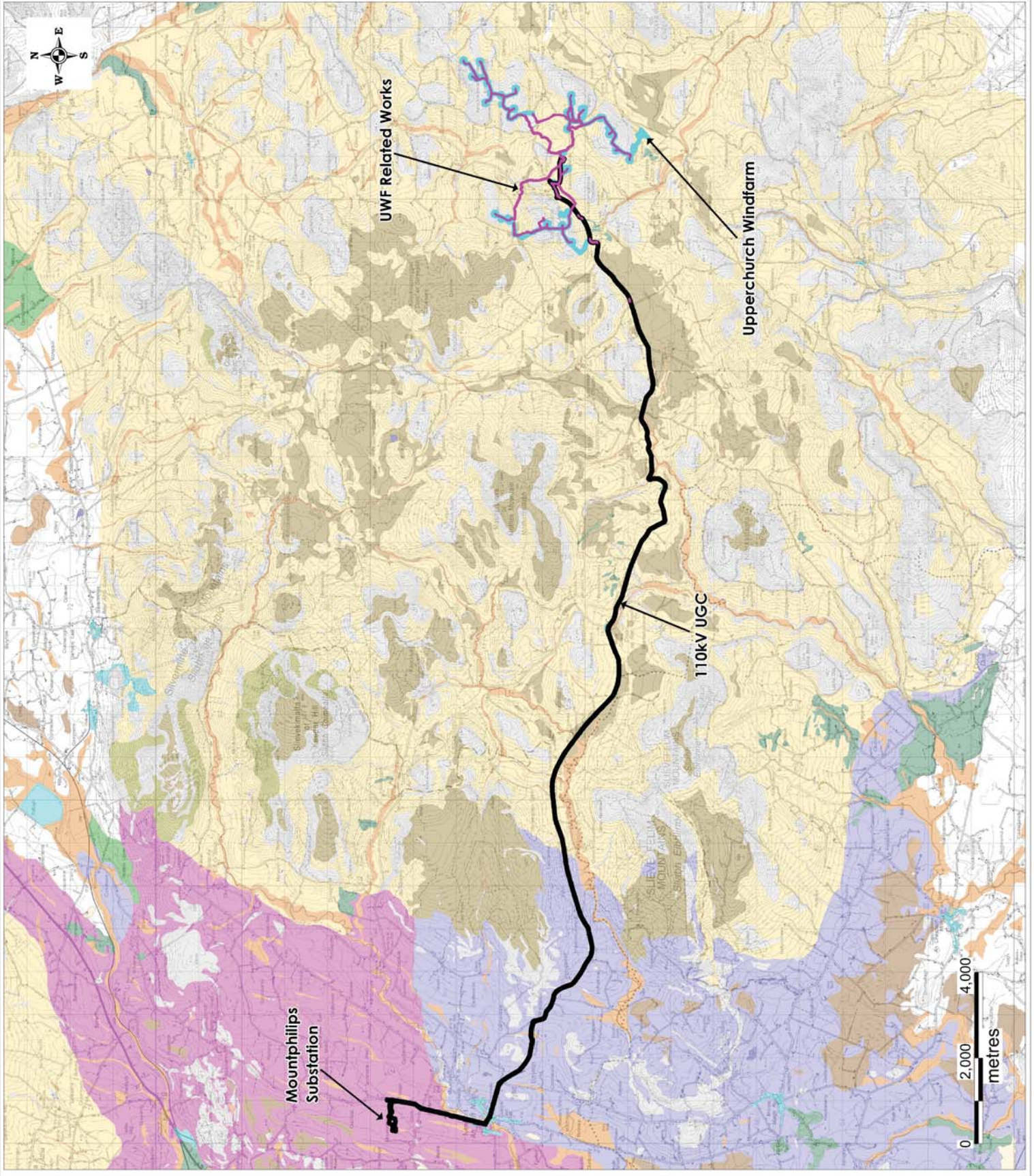


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Job: UWF Related Works	
Title: Local Soils & Subsoils within the UWF Related Works Study Area	
Figure No: Figure RW 10.2.1	
Drawing No: P1299-4-0119-FRW-10-2-1-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:25,000	Drawn By: GD
Date: 29/01/2019	Checked By: MG



Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Soils & Subsoils within the UWF Related Works Cumulative Evaluation Study Area Map	
Figure No: Figure CE 10.2.1	
Drawing No: P1299-4-0119-FCE-10-2-1-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:30,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG





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Client: Ecopower Developments Ltd.
Job: UWF Related Works
Title: Local Soils & Subsoils within the Whole Project Cumulative Evaluation Study Area Map
Figure No: Figure WP 10.2.1
Drawing No: P1299-4-0119-FWP-10-2-1-A3-0A
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Project No: P1299-4
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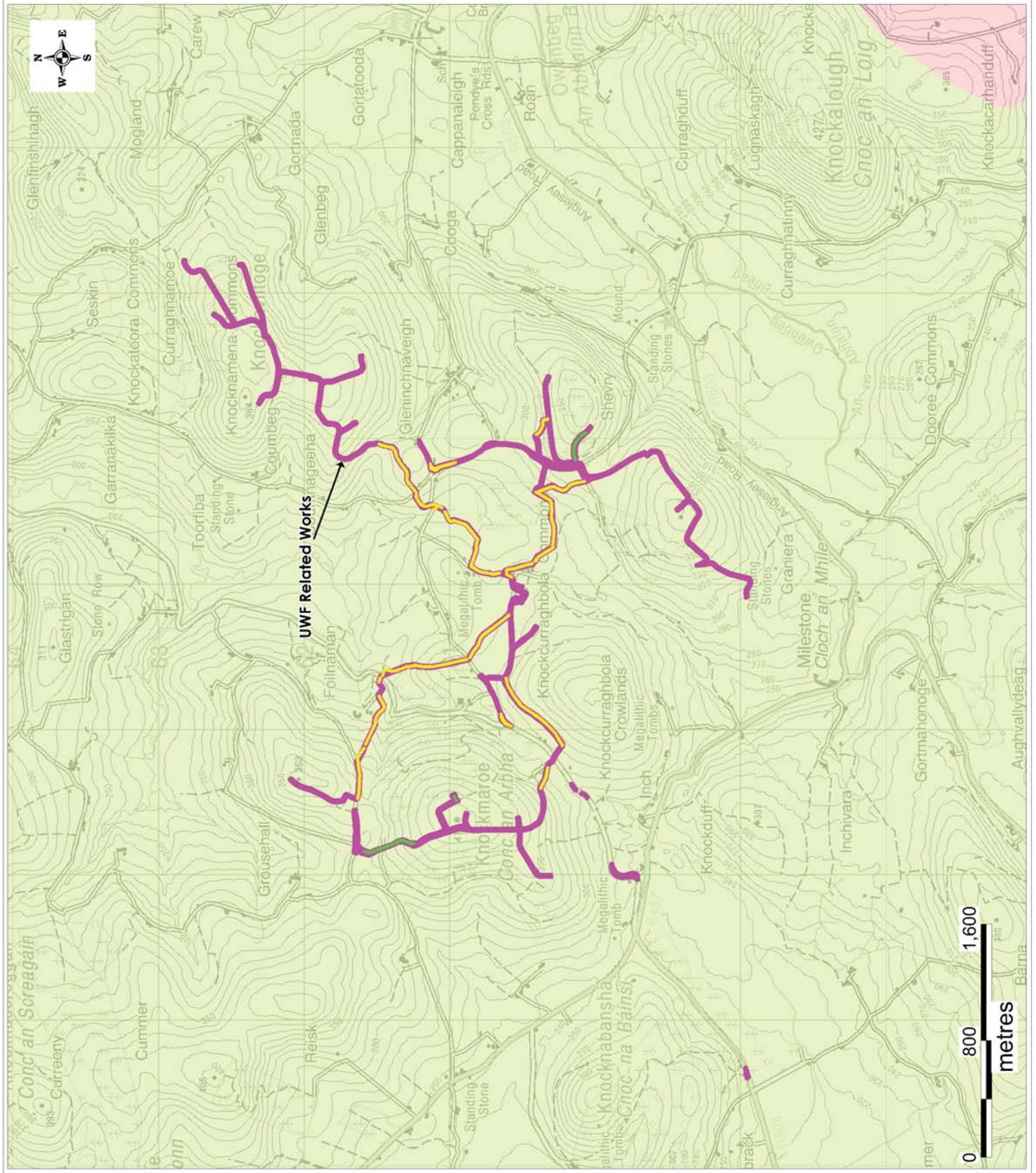
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 - Works Boundary
 - Permanent Access Roads
 - Temporary Access Roads
 - Devonian Old Red Sandstones
 - Silurian Metasediments and Volcanics

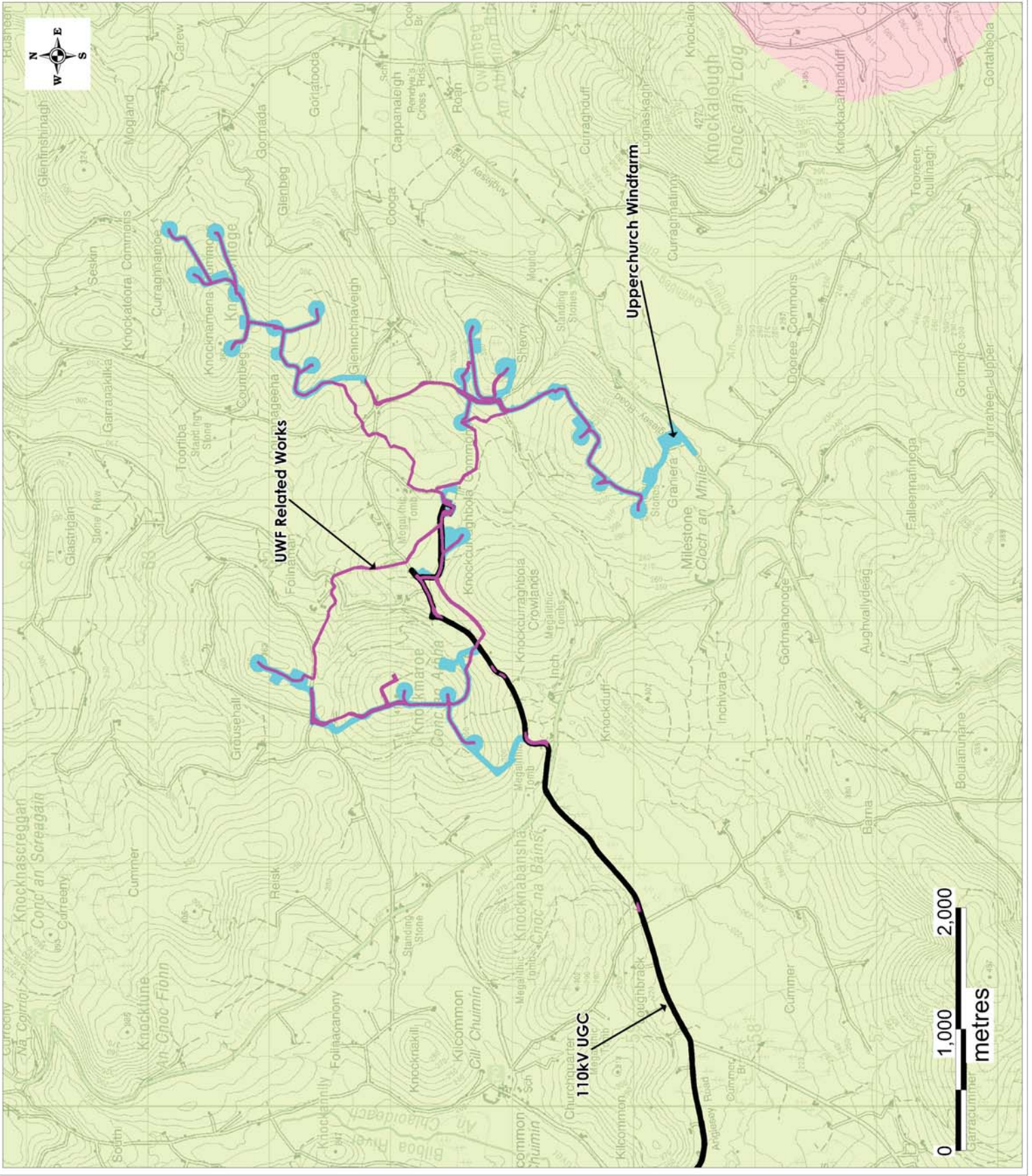
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Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Bedrock within the UWF Related Works Study Area Map	
Figure No: Figure RW 10.2.2	
Drawing No: P1299-4-0119-FRW-10-2-2-A3-0A	
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Date: 29/01/2019	Checked By: MG





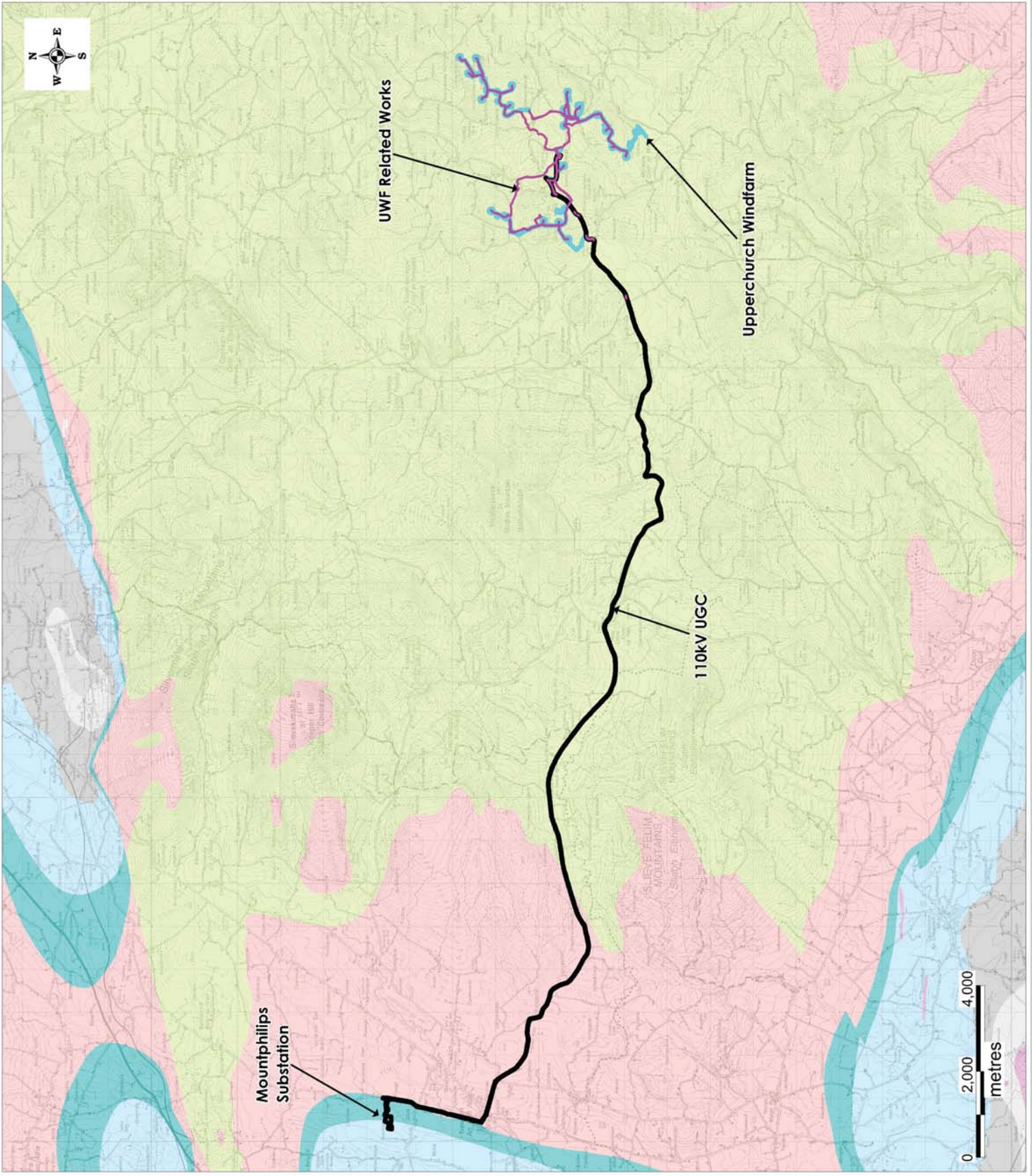
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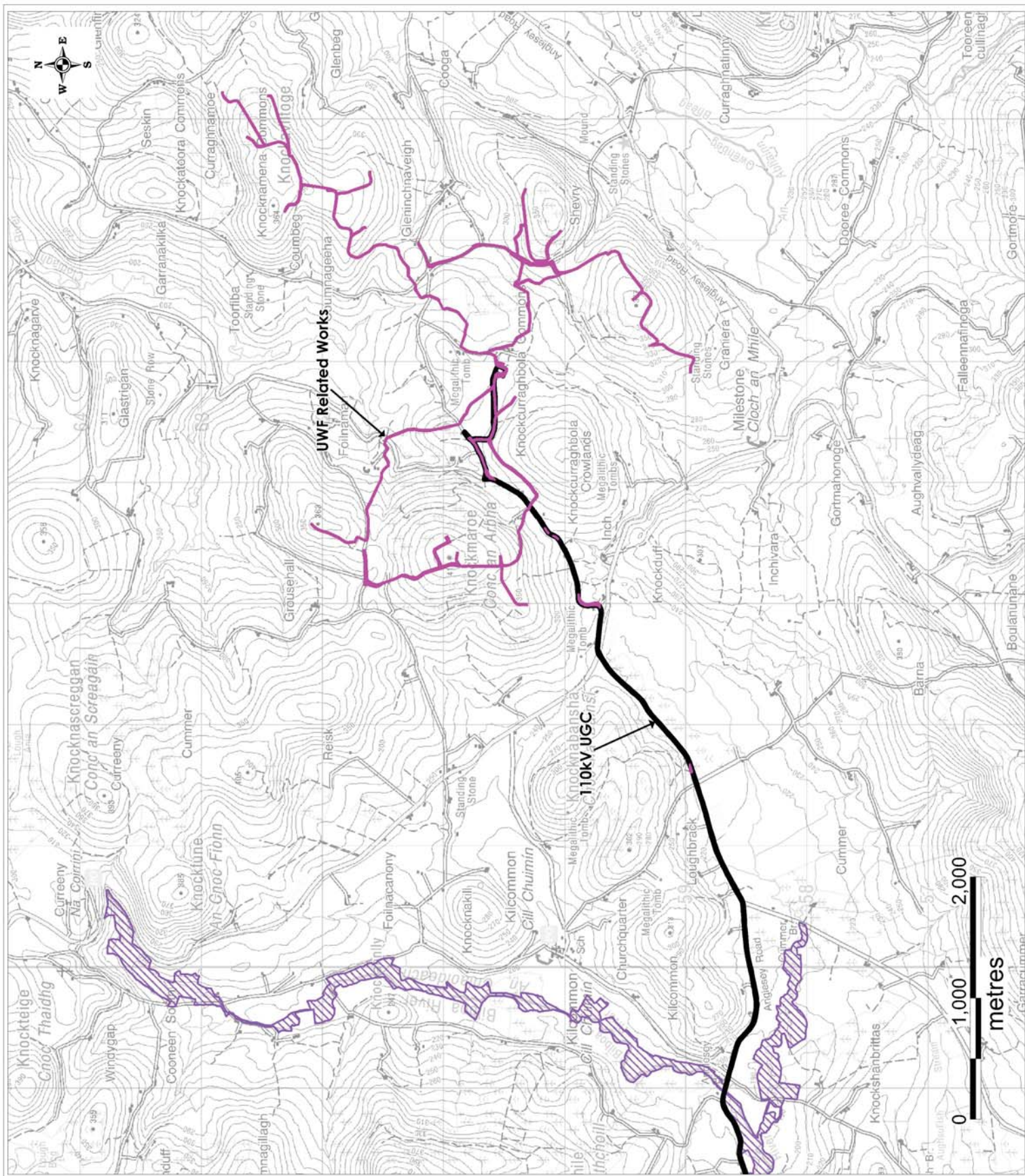
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Client: Ecopower Developments Ltd.
Job: UWF Related Works
Title: Local Bedrock within the UWF Related Works Cumulative Evaluation Study Area Map
Figure No: Figure CE 10.2.2
Drawing No: P1299-4-0119-FCE-10-2-2-A3-0A
Sheet Size: A3
Project No: P1299-4
Scale: 1:30,000
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Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Bedrock within the Whole Project Cumulative Evaluation Study Area Map	
Figure No: Figure WP 10.2.2	
Drawing No: P1299-4-0119-FWP-10-2-2-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:85,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG



Legend

UWF Grid Connection
Construction Works Boundary

UWF Related Works Construction
Works Boundary

Lower River Shannon SAC



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Client: Ecopower Developments Ltd.

Job: UWF Related Works

Title: Lower River Shannon SAC within the UWF Related Works Cumulative Evaluation Study Area

Figure No: Figure CE 10.3

Drawing No: P1299-4-0119-FCE-10-3-A3-0A

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Date: 28/01/2019	Checked By: MG
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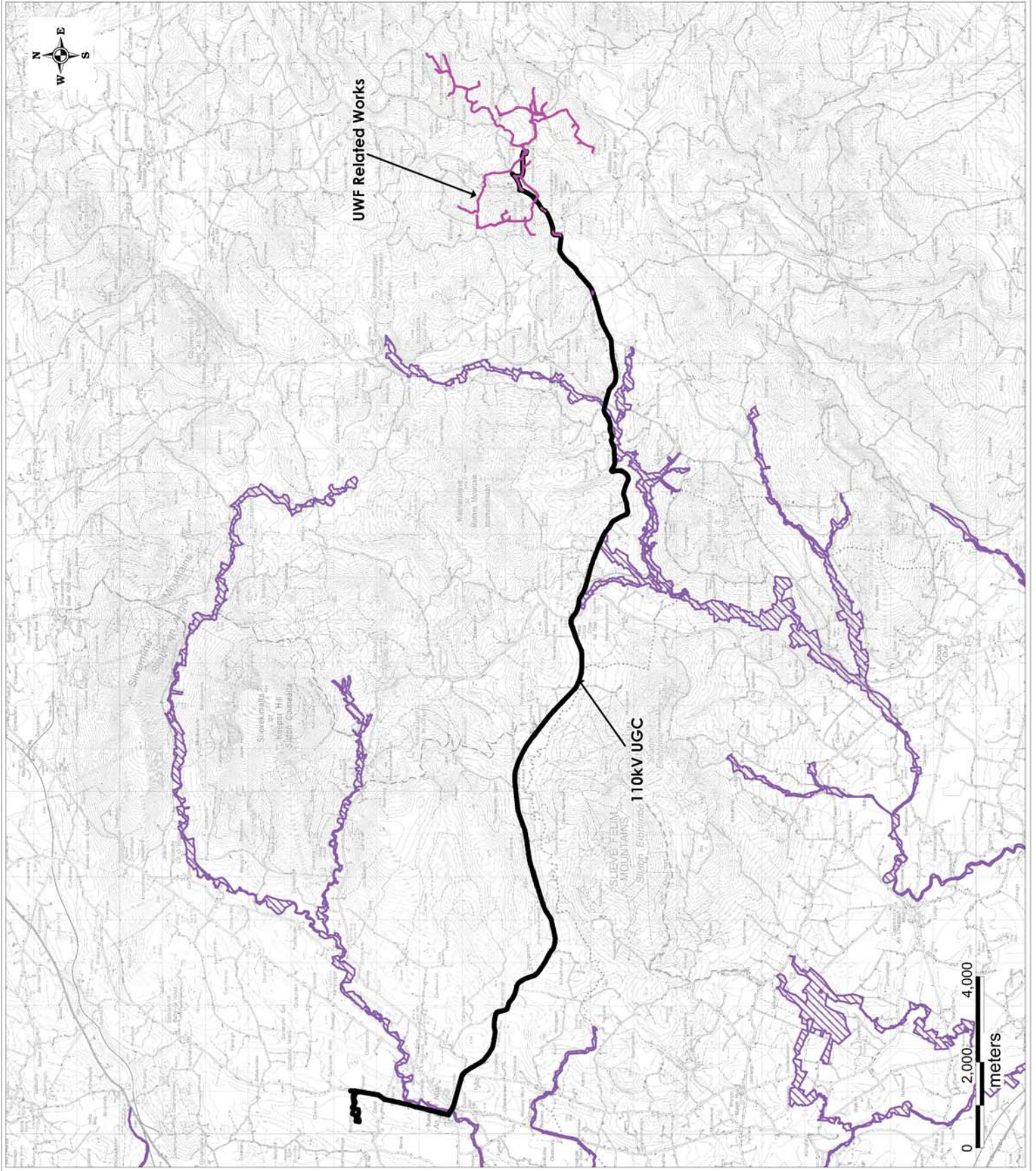
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- UWF Grid Connection Construction Works Boundary
 - UWF Related Works Construction Works Boundary
 - Lower River Shannon SAC

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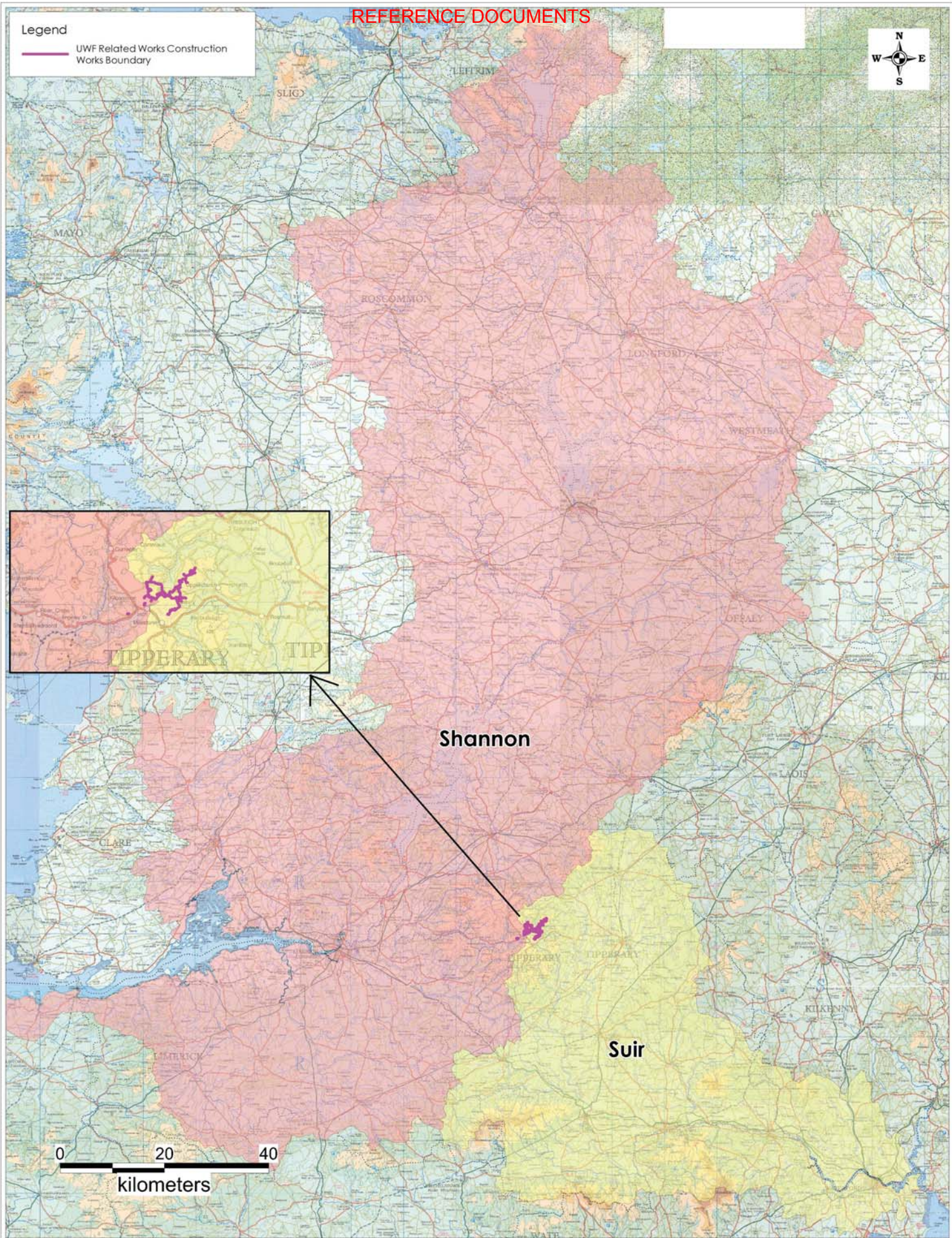
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email: info@hydroenvironmental.ie
web: www.hydroenvironmental.ie

Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Lower River Shannon SAC within the Whole Project Cumulative Evaluation Study Area	
Figure No: Figure WP 10.3	
Drawing No: P1299-4-0119-FWP-10-3-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:85,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG



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Drawing No: P1299-4-0119-FRW-11-1-1-A3-0A

Job: UWF Related Works

Sheet Size: A3

Project No: P1299-4

Title: Location of the UWF Related Works - River-Basin Map

Scale: 1:650,000

Drawn By: GD

Figure No: Figure RW 11.1.1

Date: 29/01/2019

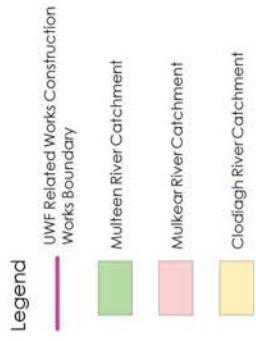
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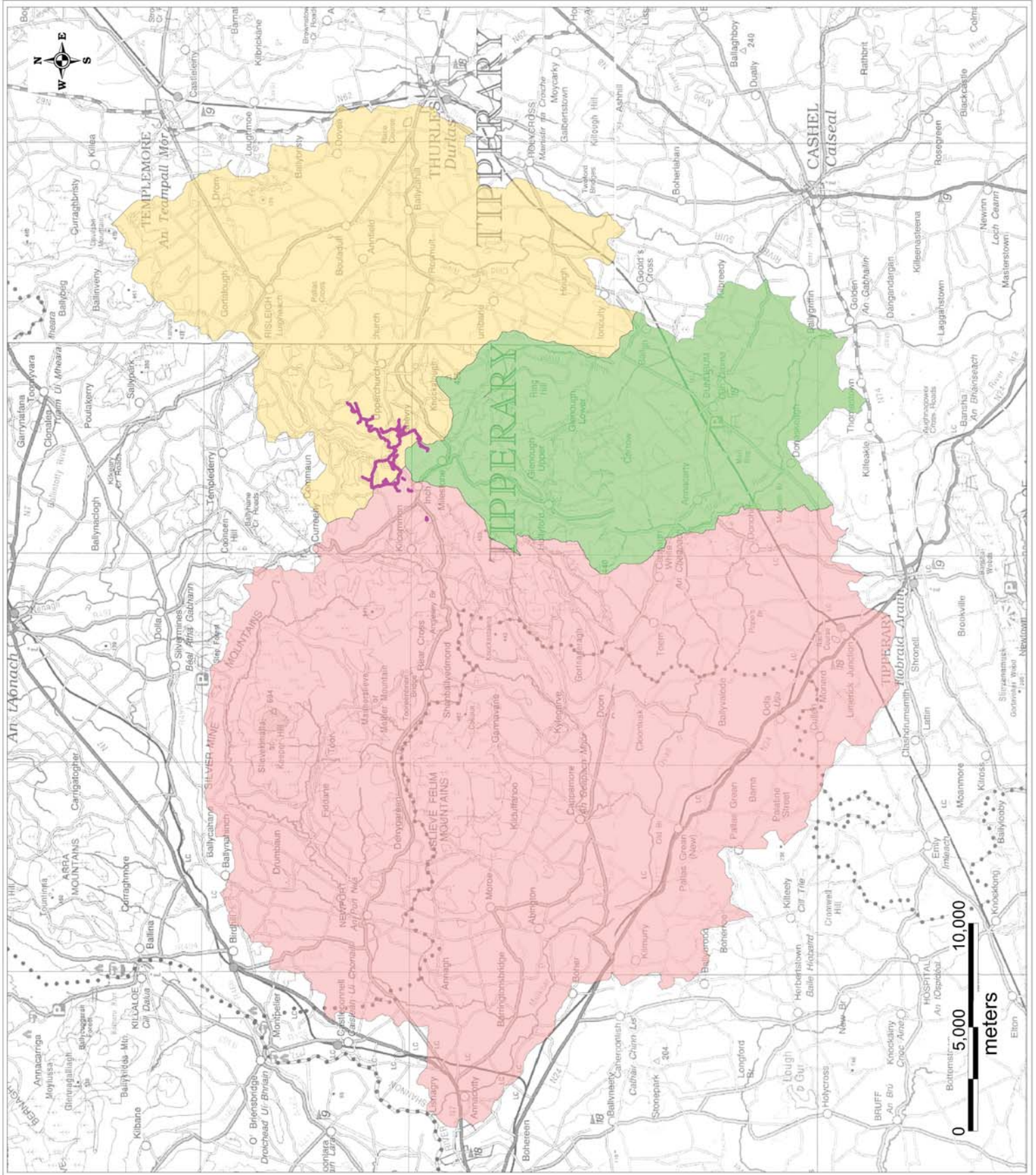


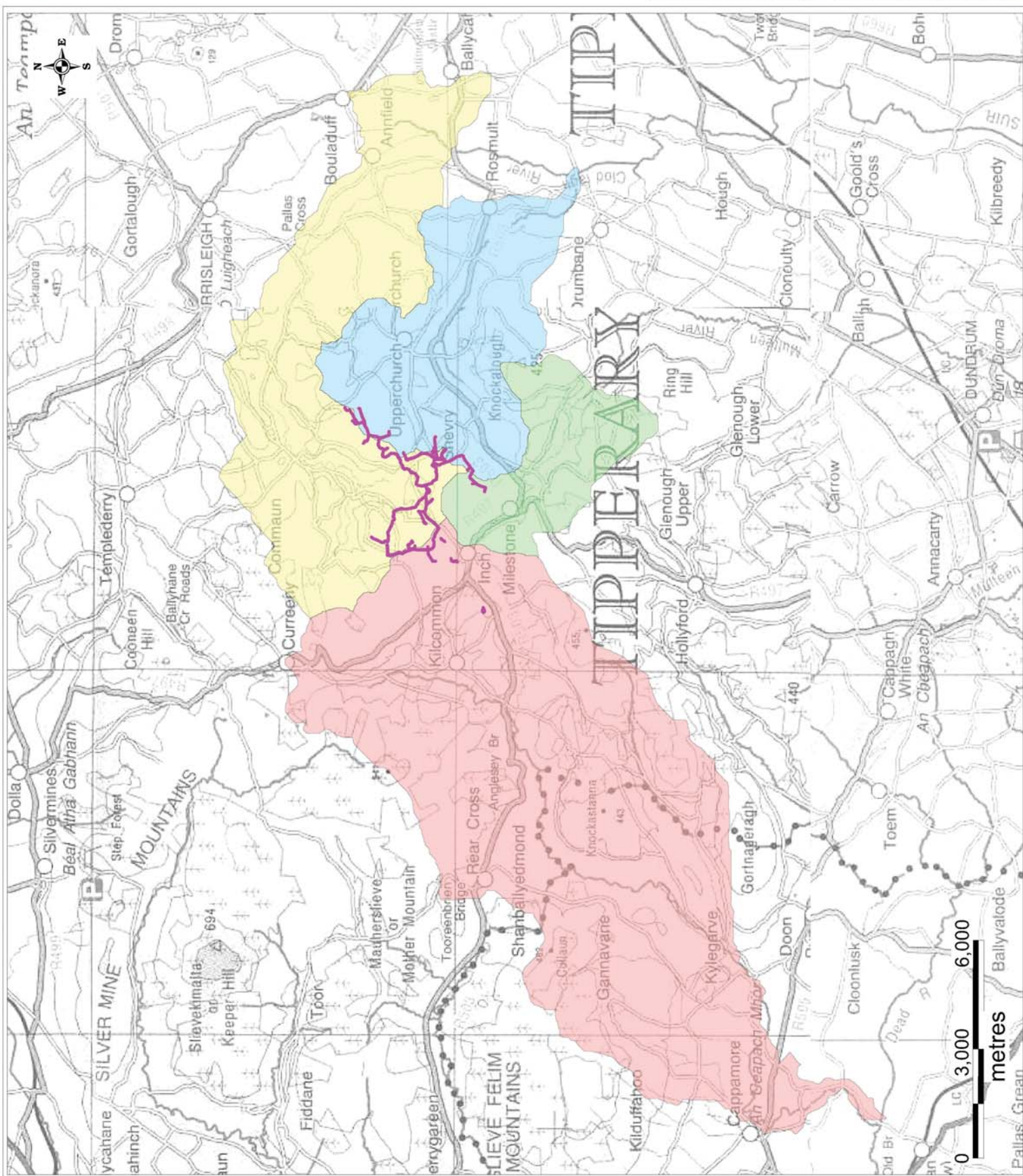
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web: www.hydroenvironmental.ie

Client: Ecopower Development Ltd.
Job: UWF Related Works
Title: Location of the UWF Related Works - Regional Hydrology
Figure No: Figure RW 11.1.2
Drawing No: P1299-4-0119-FRW-11-1-2-A3-0A
Sheet Size: A3
Scale: 1:175,000
Date: 29/01/2019
Project No: P1299-4
Drawn By: GD
Checked By: MG





Legend

UWF Related Works Construction
Works boundary

Wenbeg River

urraheen River

Clodiagh River Local

Wilboa River



**HYDRO
ENVIRONMENTAL
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Dungarvan fax: +353 (0)58 44244

Co. Waterford
Ireland

Author's address: Department of Economics, University of California, San Diego, 950 University Avenue, La Jolla, CA 92037, USA. E-mail: edward@uclink.berkeley.edu

Client: Ecopower Development Ltd.

Job: UWF Related Works

Title: Local Surface Waterbodies within the Related Works Study Area

Figure No: Figure RW 11.2.1

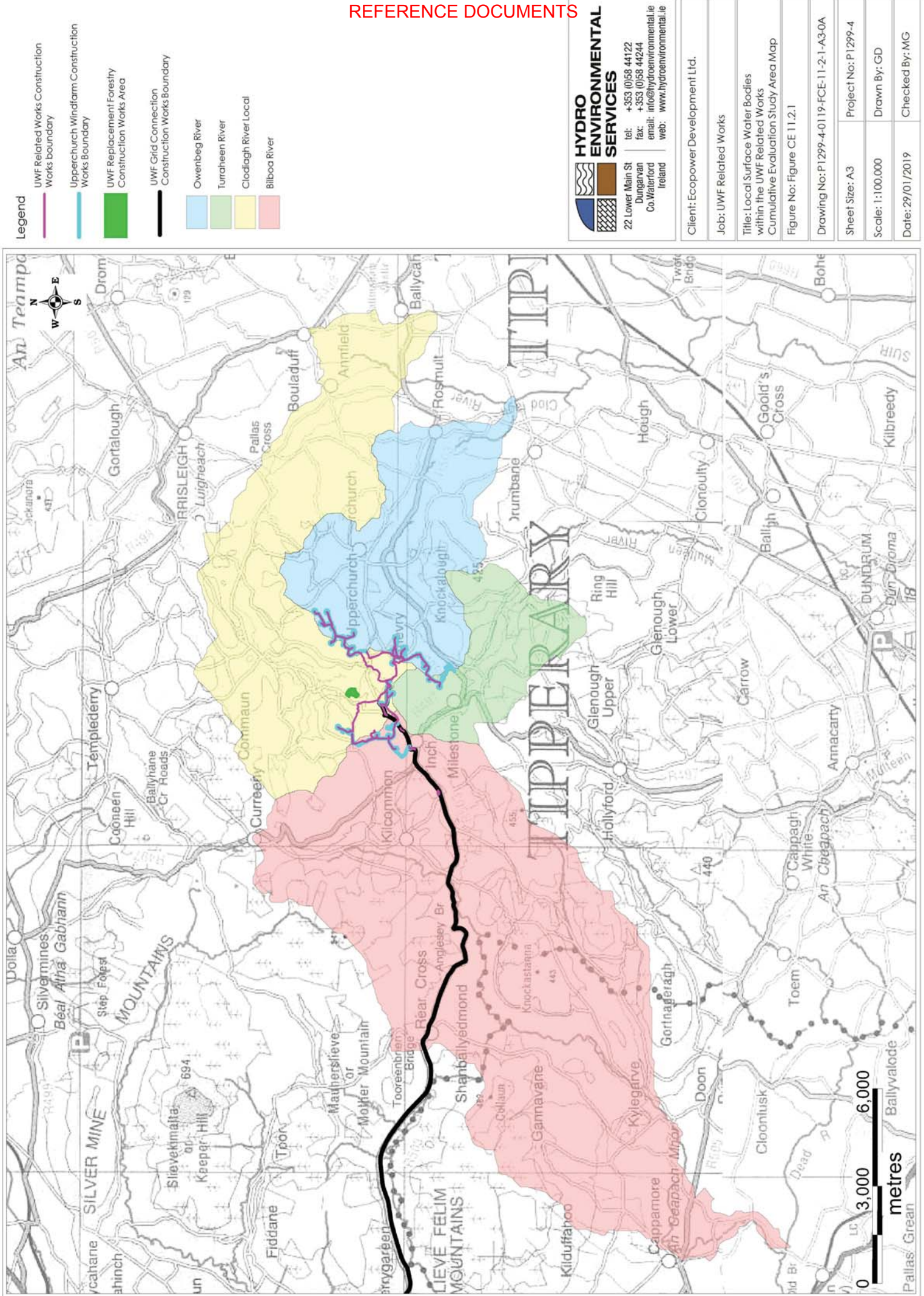
Drawing No: P1299-4-0119-FRW-11-2-1-A3-0A

Sheet Size: A3
Project No: P1299-4

scale: 1:100,000

Drawn By: GD

Date: 29/01/2019	Checked By: MG
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Legend

- UWF Grid Connection Construction Works Boundary
- Related Works Construction Works boundary
- Upperchurch Windfarm Construction Works Boundary
- UWF Grid Connection Construction Works Area

- Clodiagh River Local
- Owenbeg River
- Turraheen River
- Small River
- Newport (Mulkear) River
- Clare (Annagh) River
- Bilboa River

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Client: Ecopower Development Ltd.

Job: UWF Related Works

Title: Local Surface Waterbodies within the Whole Project Cumulative Evaluation Study Area - Overview Map

Figure No: Figure WP 11.2.1

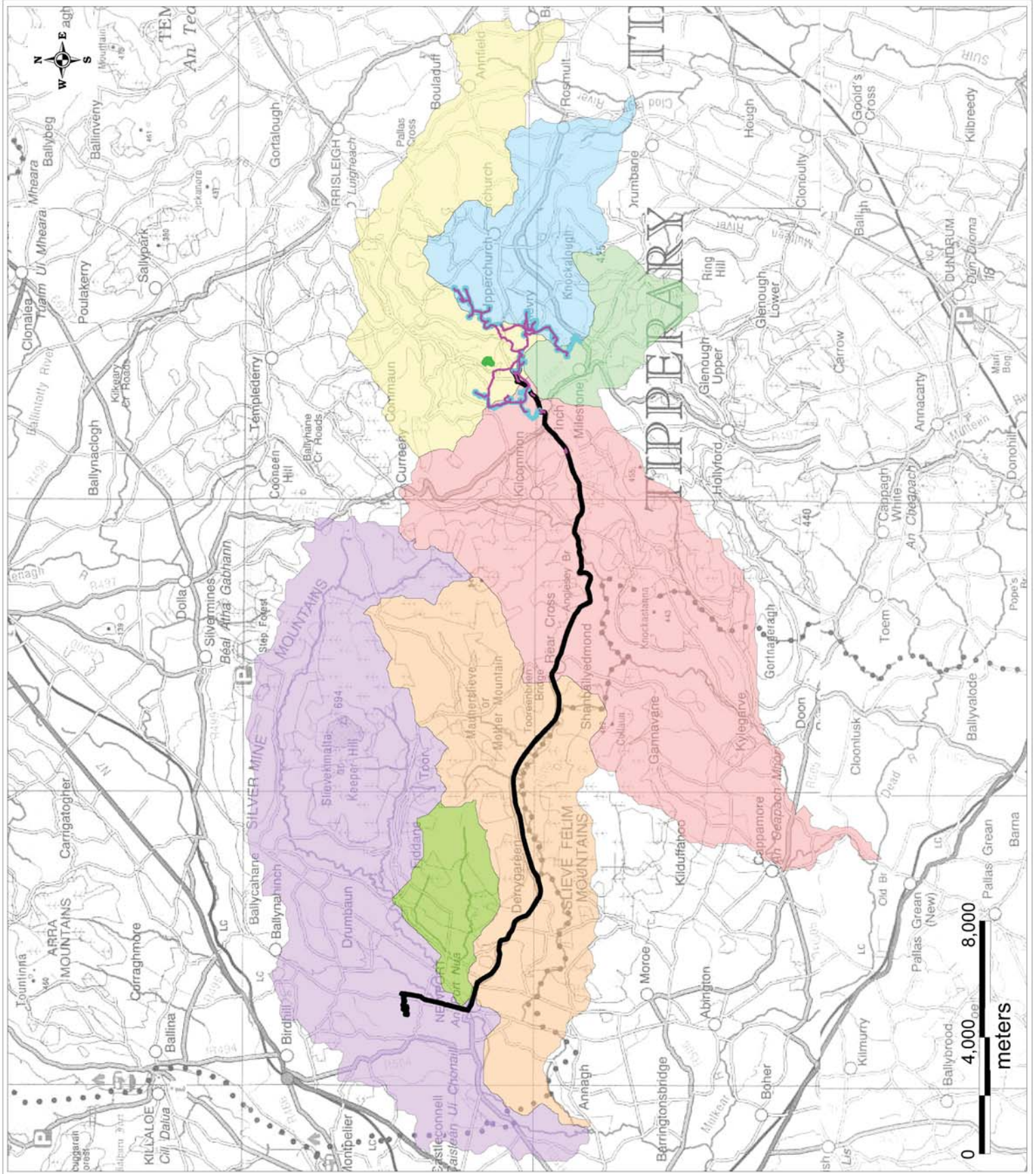
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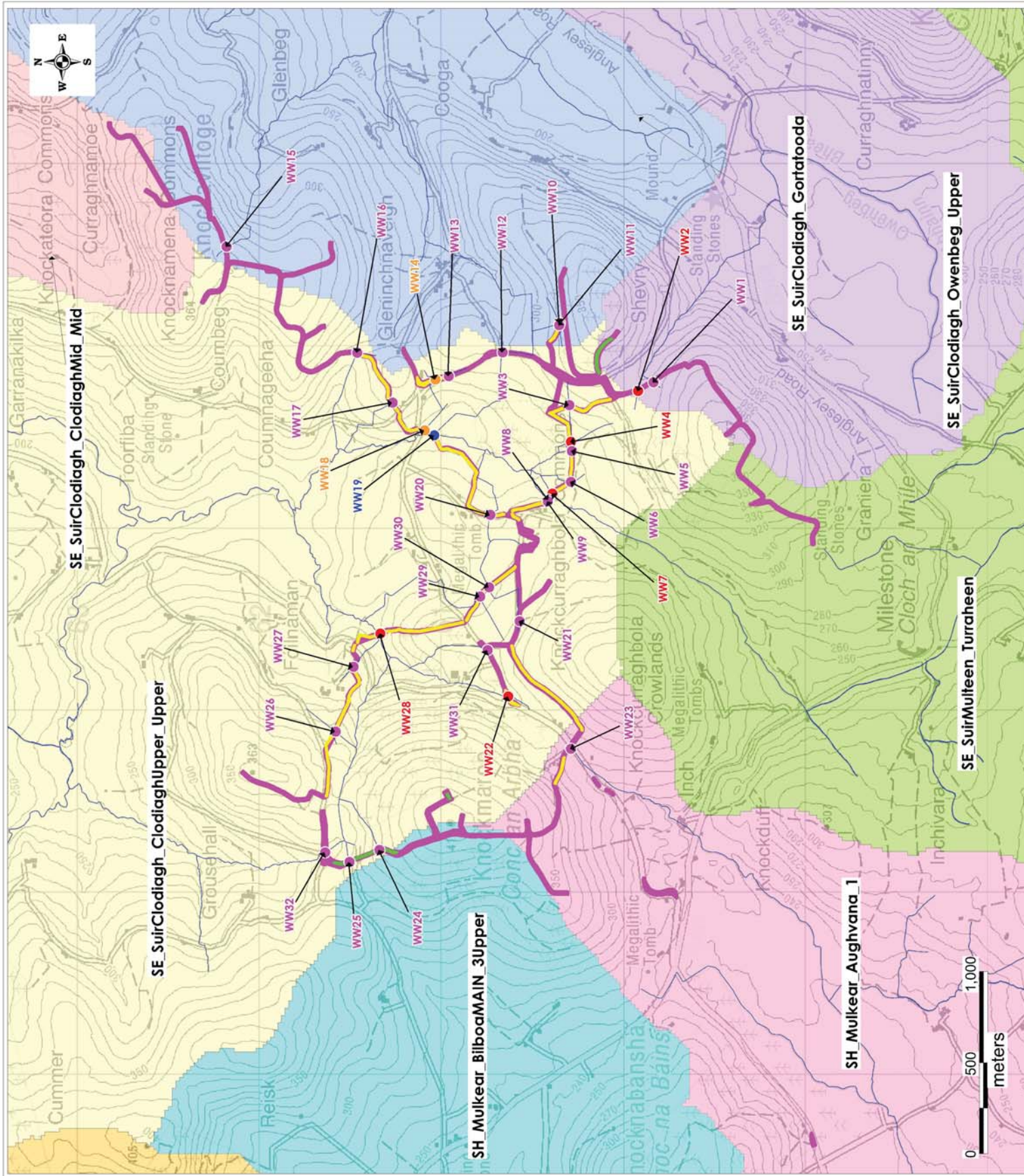
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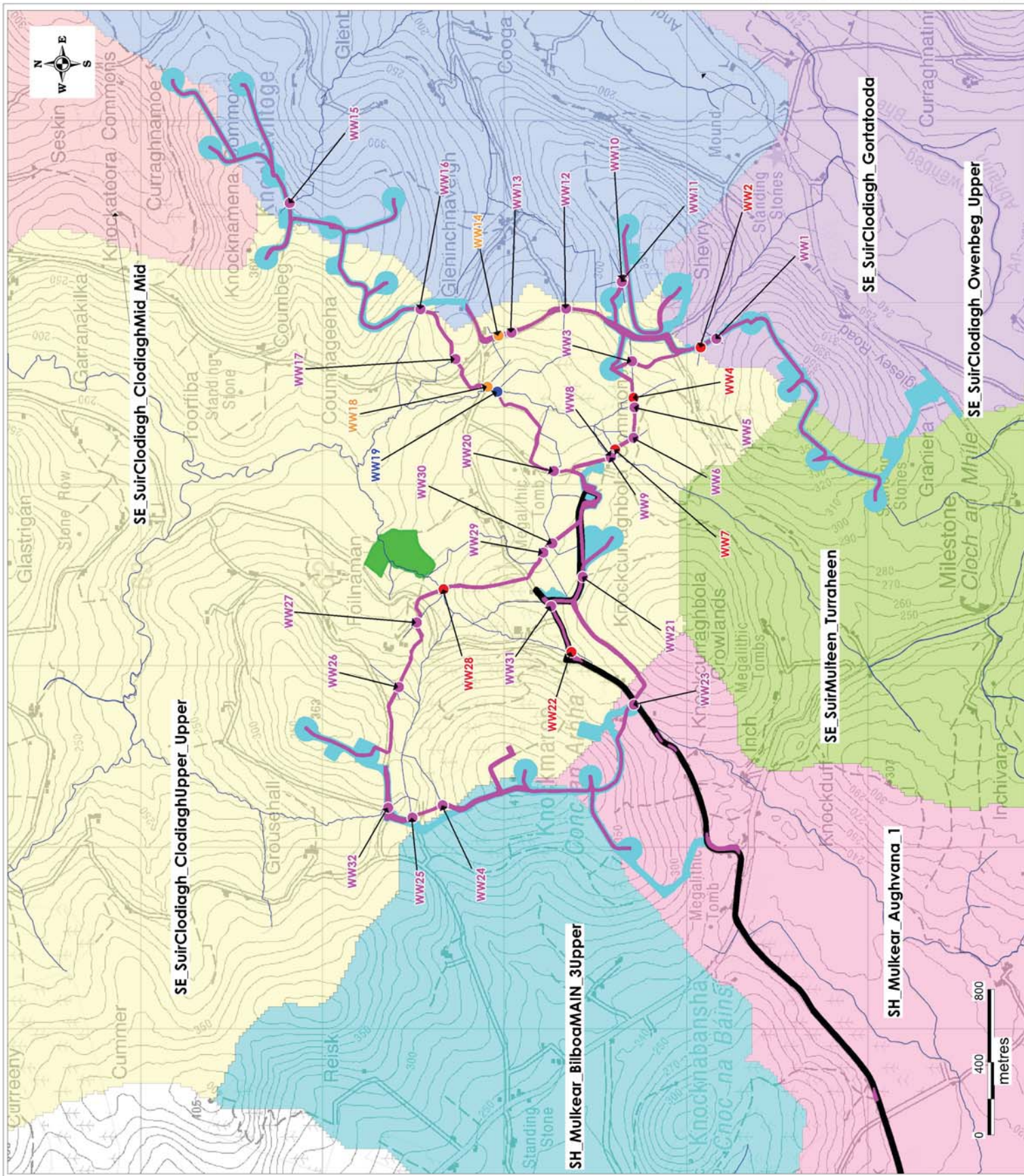
Date: 30/01/2019



Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Surface Waterbodies (WFD) within the UWF Related Works Study Area	
Figure No: Figure RW 11.2.2	
Drawing No: P1299-4-0119-FRW-11-2-2-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:20,000	Drawn By: GD
Date: 29/01/2019	Checked By: MG



REFERENCE DOCUMENTS



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web: www.hydroenvironmental.ie

Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Surface Waterbodies (WFD) within the UWF Related Works Cumulative Evaluation Study Area	
Figure No: Figure CE 11.2.2.	
Drawing No: P1 299-4-0119-FCE-11-2-4-A3-0A	
Sheet Size: A3	Project No: P1 299-4
Scale: 1:20,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG

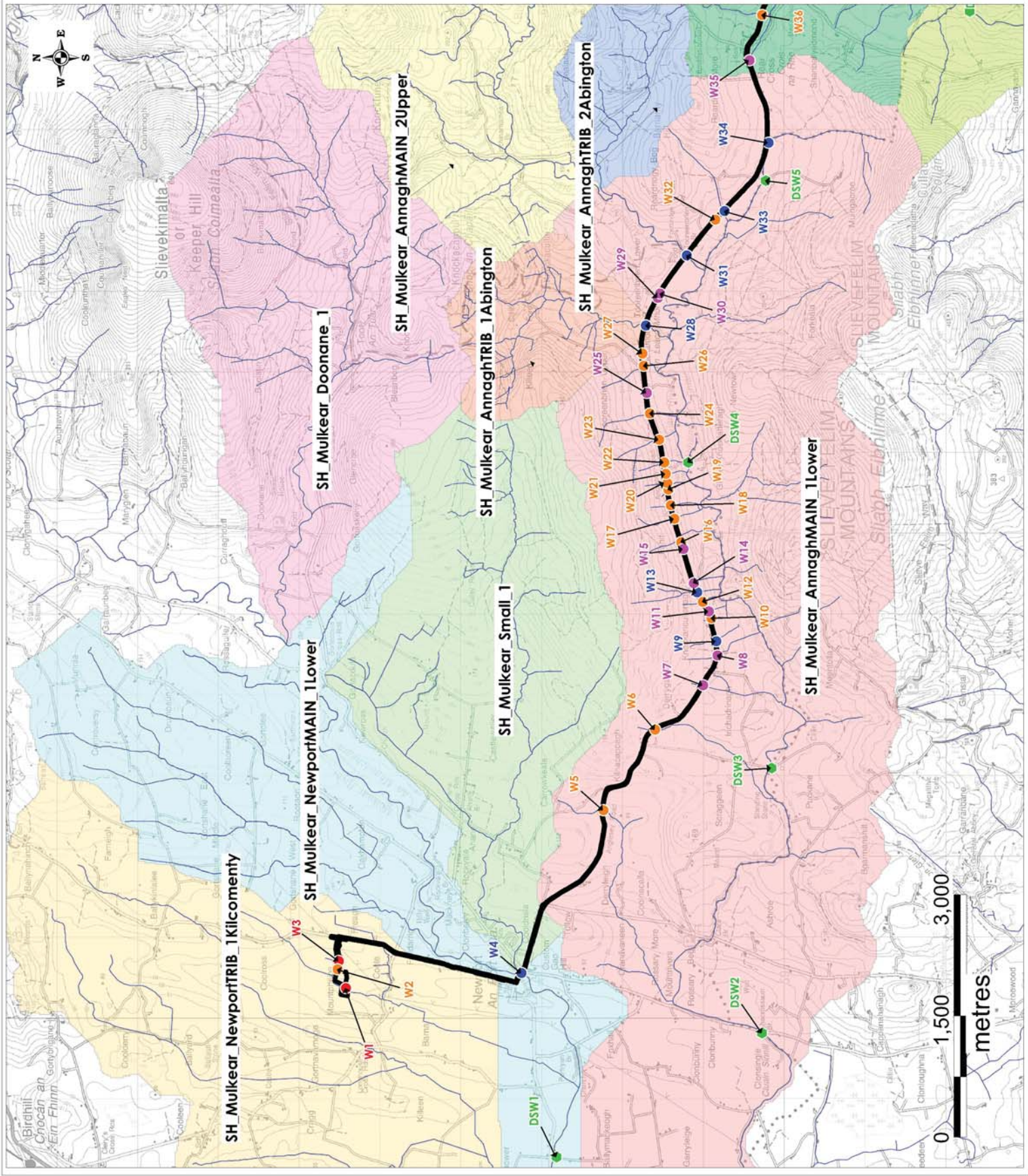
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SERVICES**

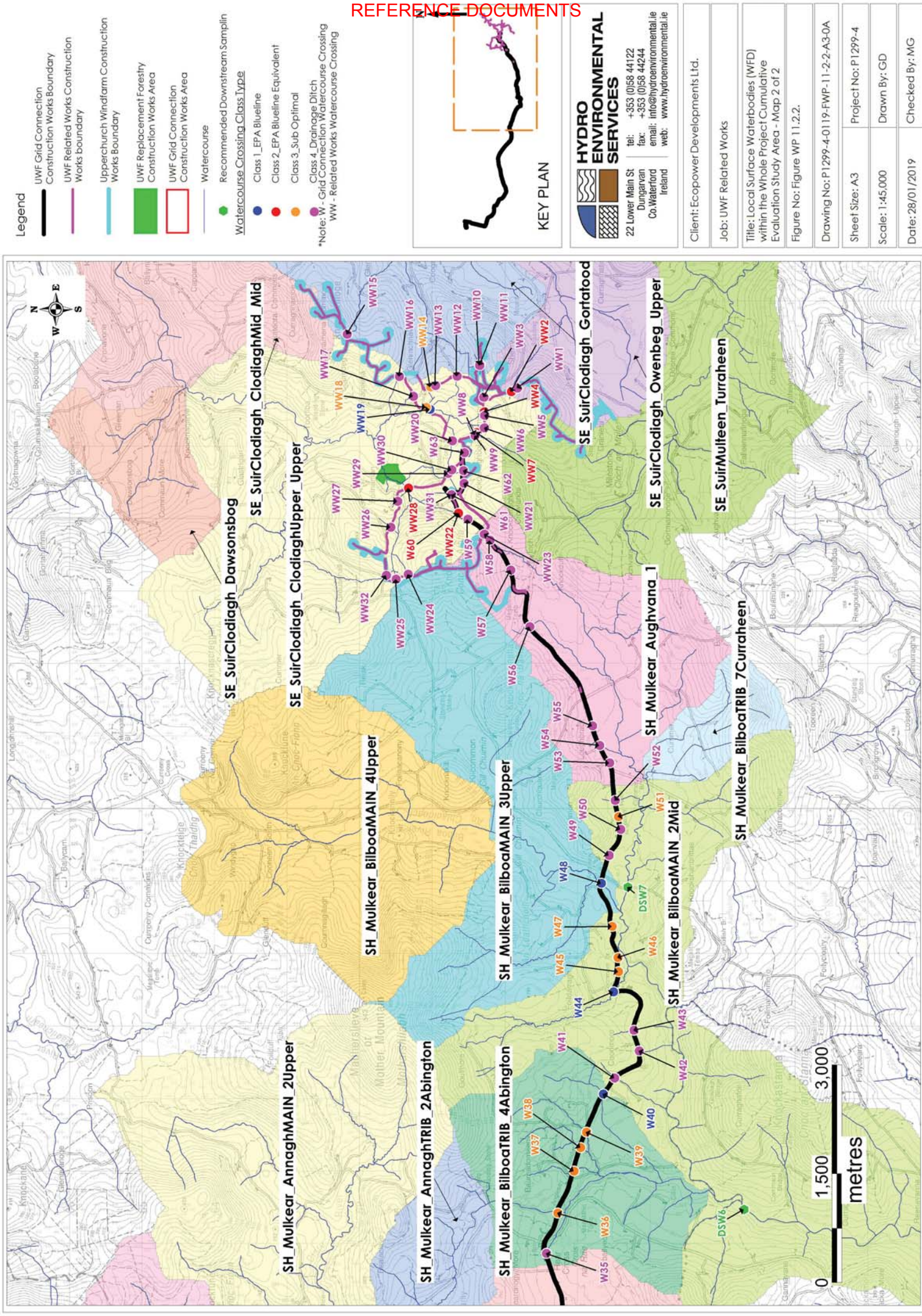


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Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Surface Waterbodies (WFD) within the Whole Project Cumulative Evaluation Study Area - Map 1 of 2	
Figure No: Figure WP 11.2.2.	
Drawing No: P1299-4-0119-FWP-11-2-2-A3-0A	
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Scale: 1:45,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG





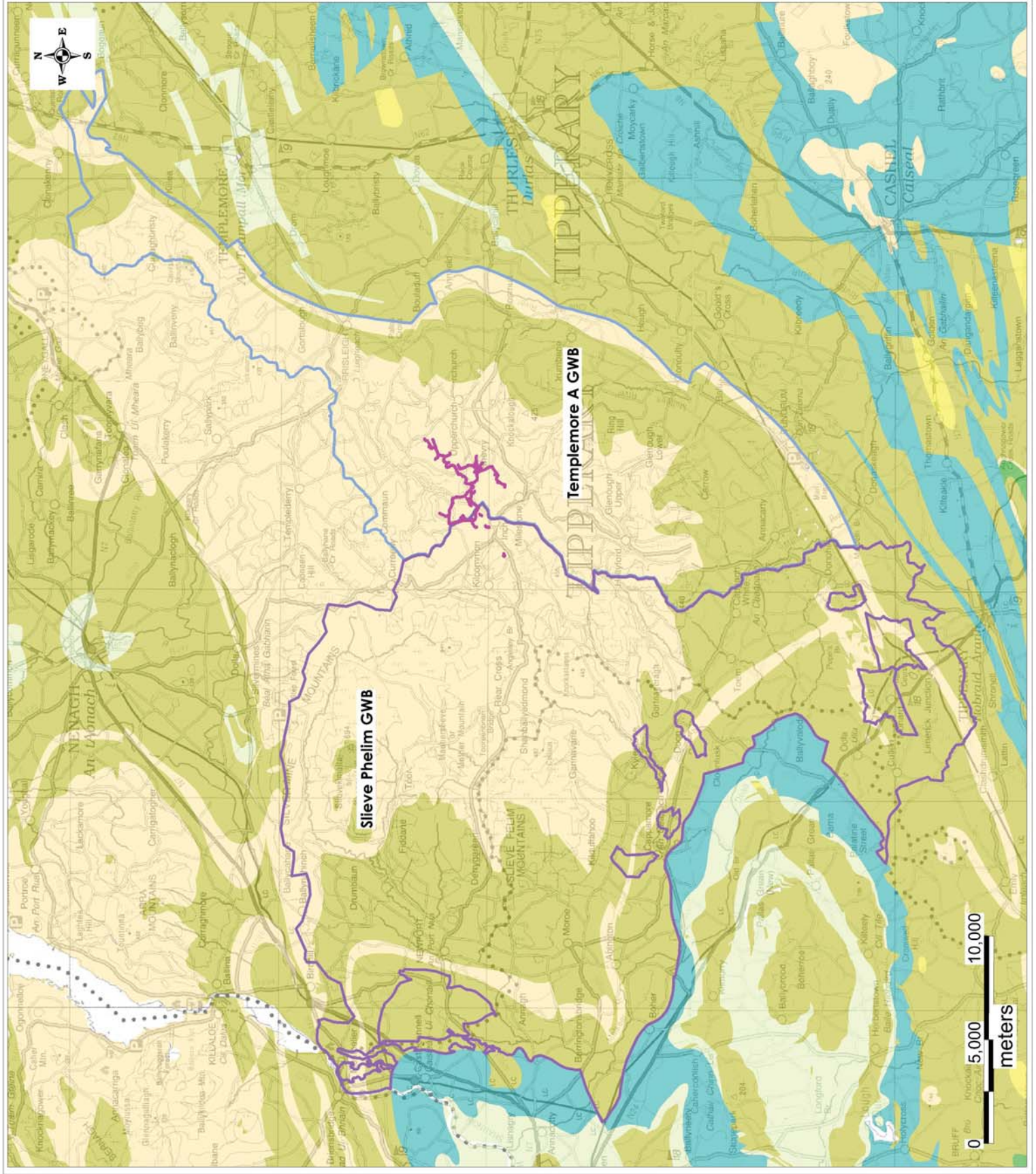


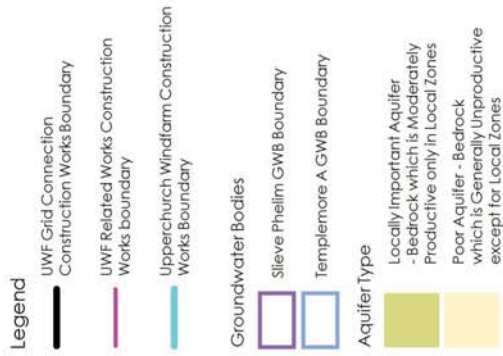
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Client: Ecopower Developments Ltd.
Job: UWF Related Works
Title: Local Groundwater Bodies within the UWF Related Works Study Area
Figure No: Figure RW 11.3
Drawing No: P1299-4-0119-FRW-11-3-A3-0A
Sheet Size: A3
Scale: 1:175,000
Date: 29/01/2019
Project No: P1299-4
Drawn By: GD
Checked By: MG



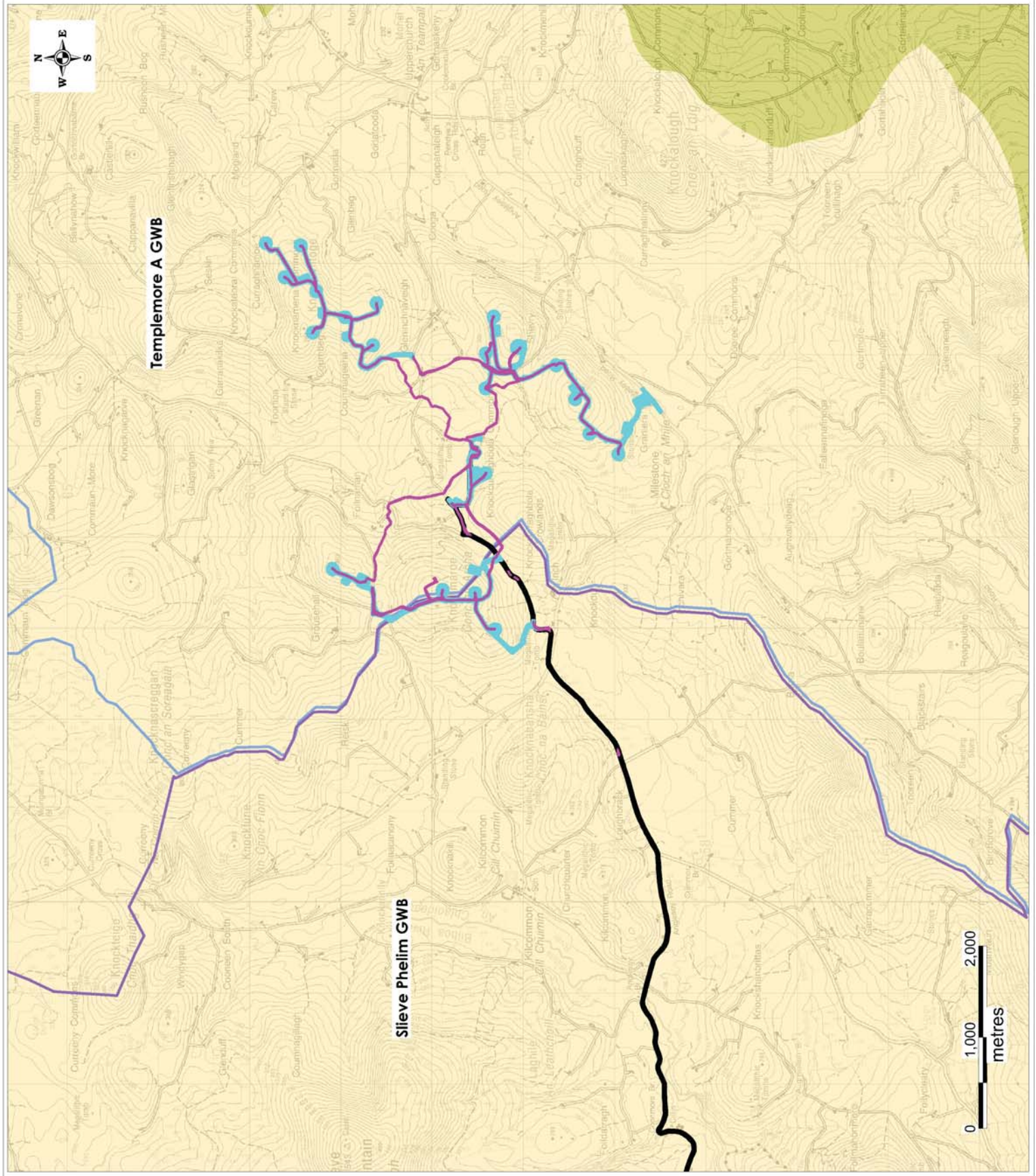


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Client: Ecopower Developments Ltd.
Job: UWF Related Works
Title: Local Groundwater Bodies within the UWF Related Works Cumulative Evaluation Study Area
Figure No: Figure CE 11.3
Drawing No: P1299-4-0119-FCE-11-3-A3-0A
Sheet Size: A3
Scale: 1:40,000
Date: 28/01/2019
Project No: P1299-4
Drawn By: GD
Checked By: MG



Legend

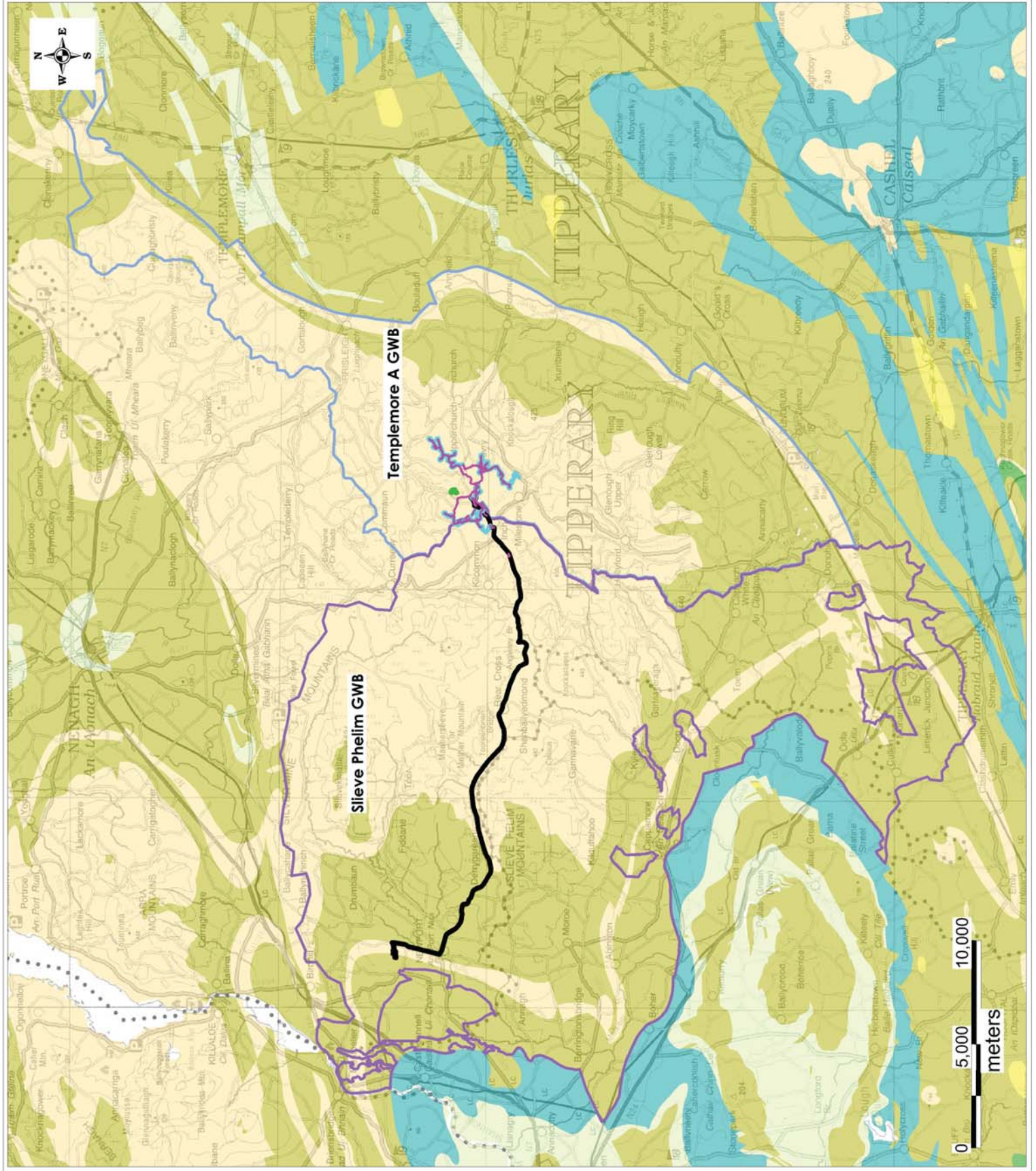
- UWF Grid Connection Construction Works Boundary
- UWF Related Works Construction Works boundary
- Upperchurch Windfarm Construction Works Boundary
- UWF Replacement Forestry Construction Works Area
- Groundwater Bodies
- Sieve Phelim GWB Boundary
- Templemore A GWB Boundary
- Aquifer Type
- Locally Important Aquifer - Karstified
- Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
- Locally Important Aquifer - Bedrock which is Generally Moderately Productive
- Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones
- Locally Important Aquifer - Bedrock which is Generally Moderately Productive
- Regionally Important Aquifer - Karstified (diffuse)

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Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Groundwater Bodies within the Whole Project Cumulative Evaluation Study Area	
Figure No: Figure WP 11.3	
Drawing No: P1299-4-0119-FCE-11-3-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:175,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG



Client: Ecopower Development Ltd.

Job: UWF Related Works

Title: Local Wells & Springs within the UWF Related Works Study Area Map

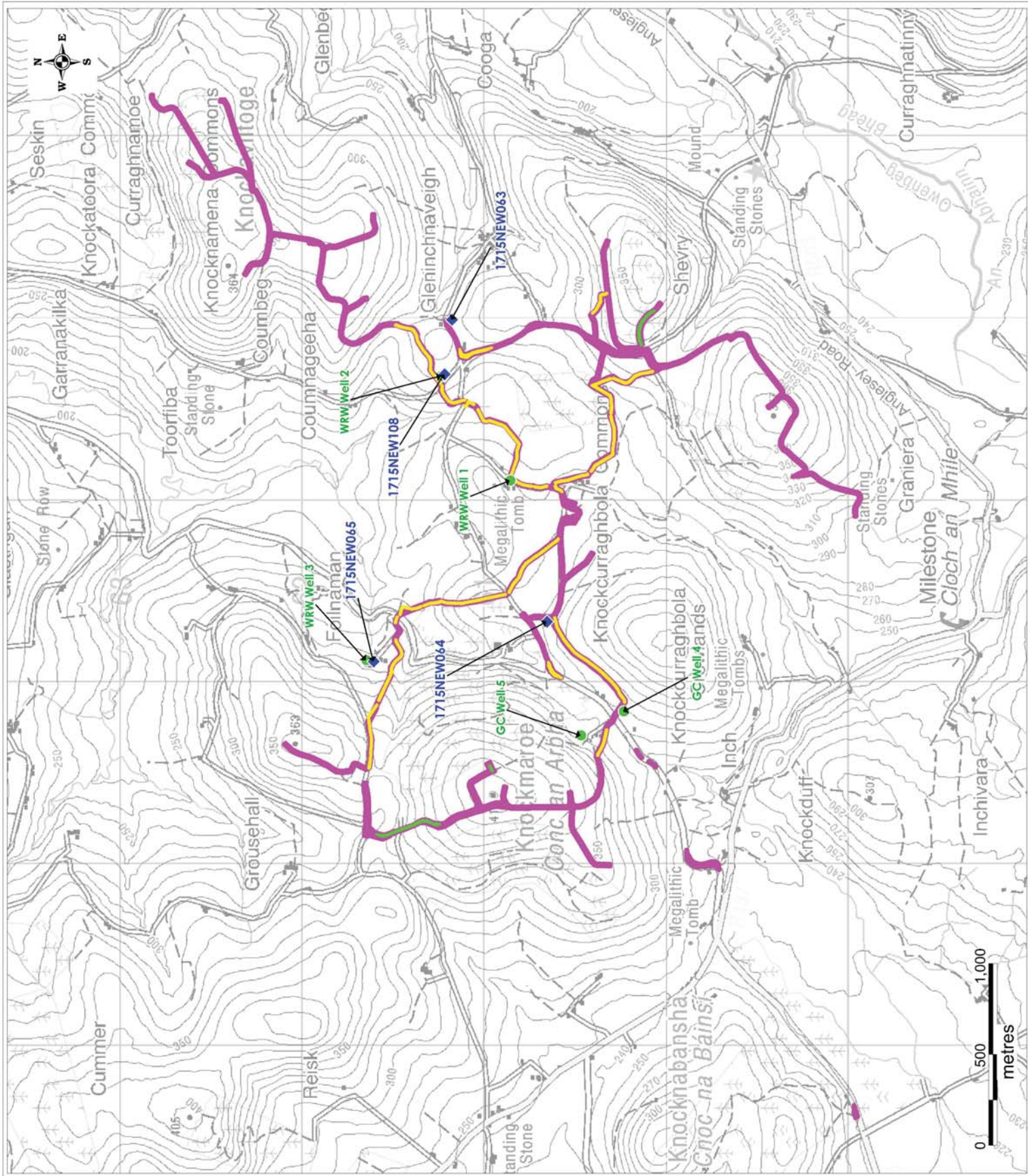
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Drawing No: P1299-4-0119-FRW-11-4-A3-0A

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Scale: 1:20,000	Drawn By: GD
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Date: 29/01/2019	Checked By: MG
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Client: Ecopower Development Ltd.

Job: UWF Related Works

Title: Local Wells & Springs within the UWF Related Works Cumulative Evaluation Study Area Map

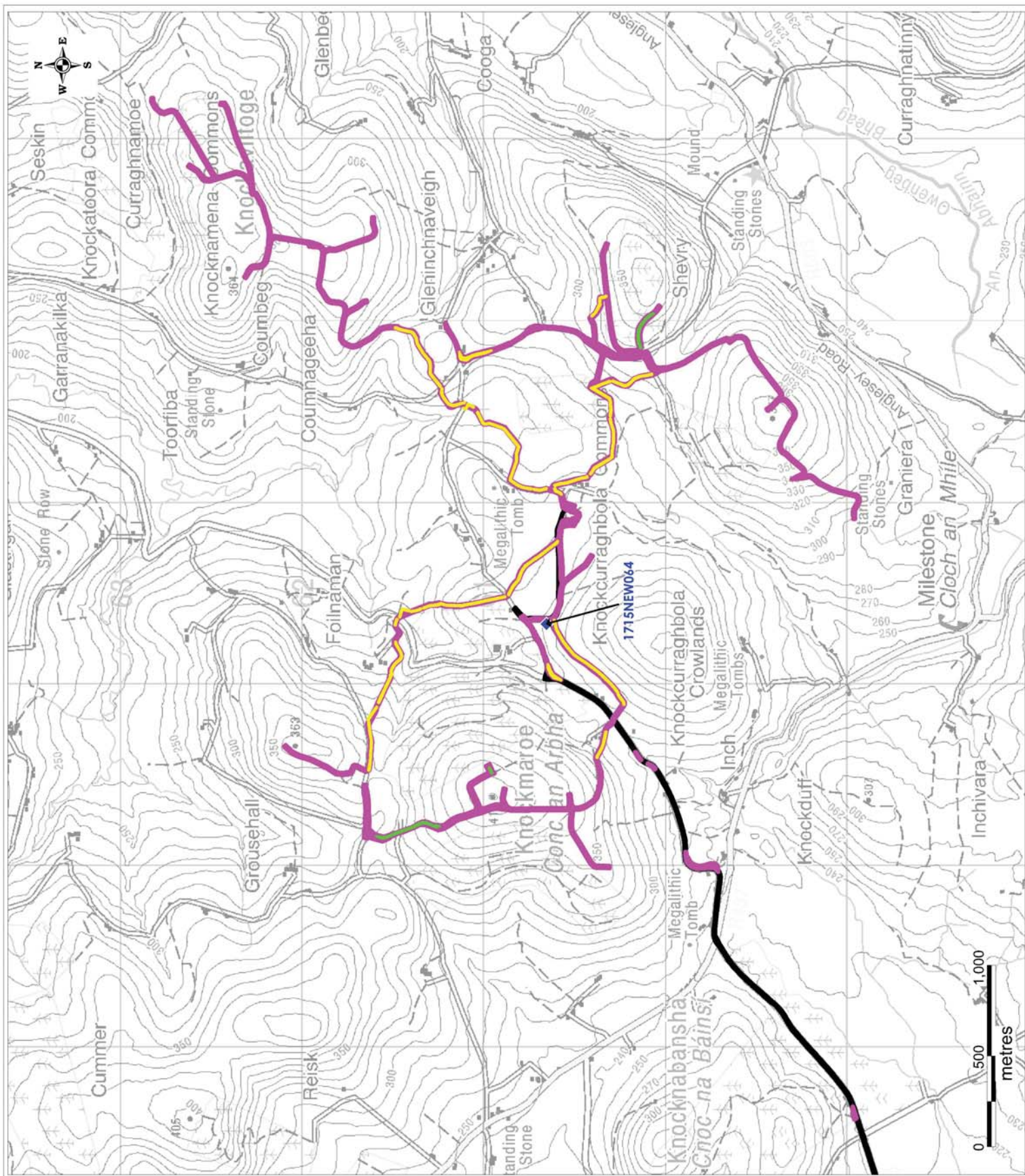
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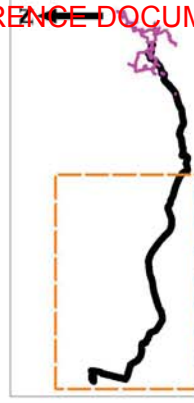
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Date: 28/01/2019	Checked By: MG
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Legend

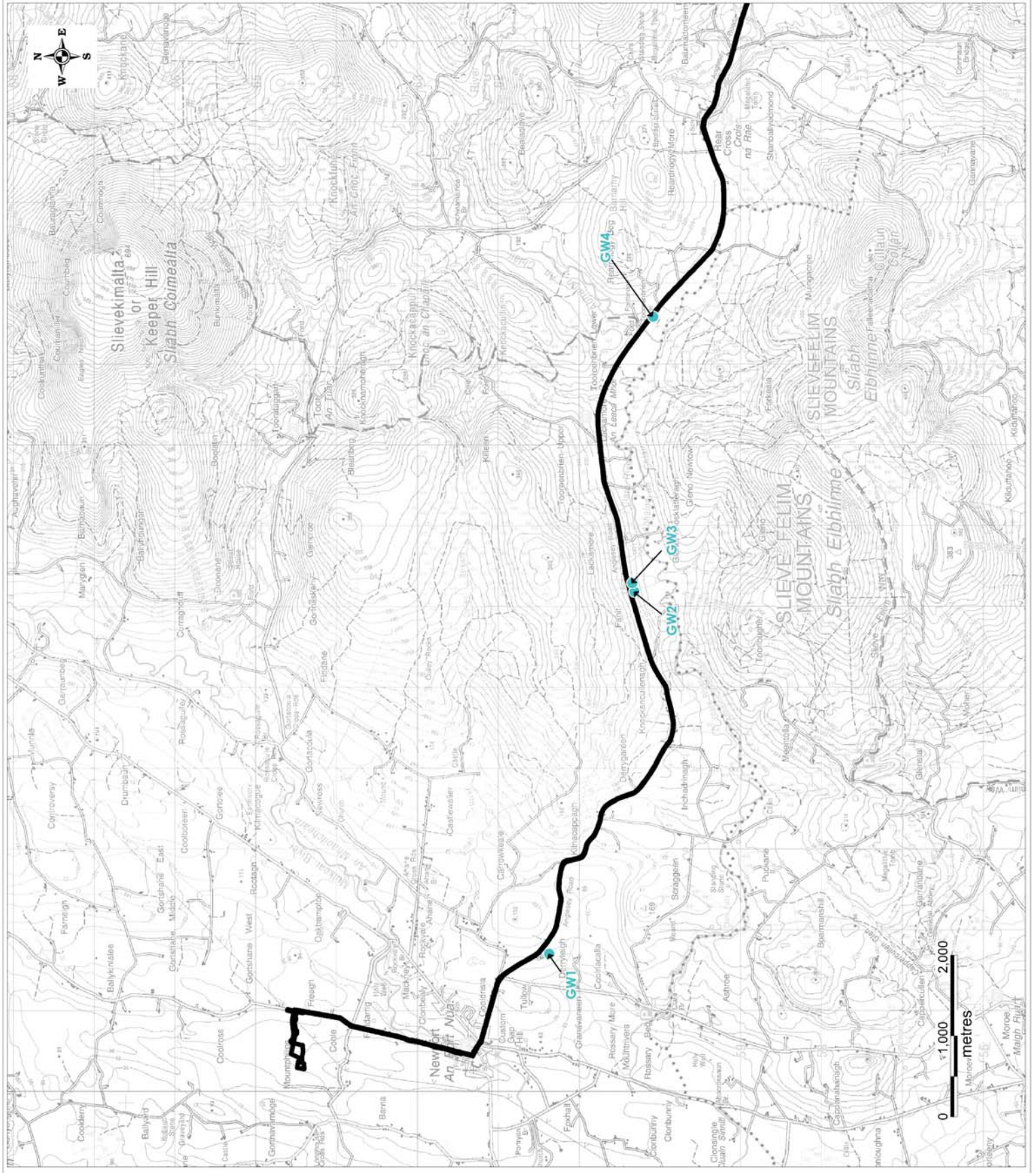
- UWF Grid Connection
- Construction Works Boundary
- UWF Related Works Construction
- Works Boundary
- Mapped GSI Wells (accuracy <50m) Within 100m of the UWF Related Works and UWF Grid Connection
- Private Dwelling Locations Within 100m of the UWF Related Works and UWF Grid Connection

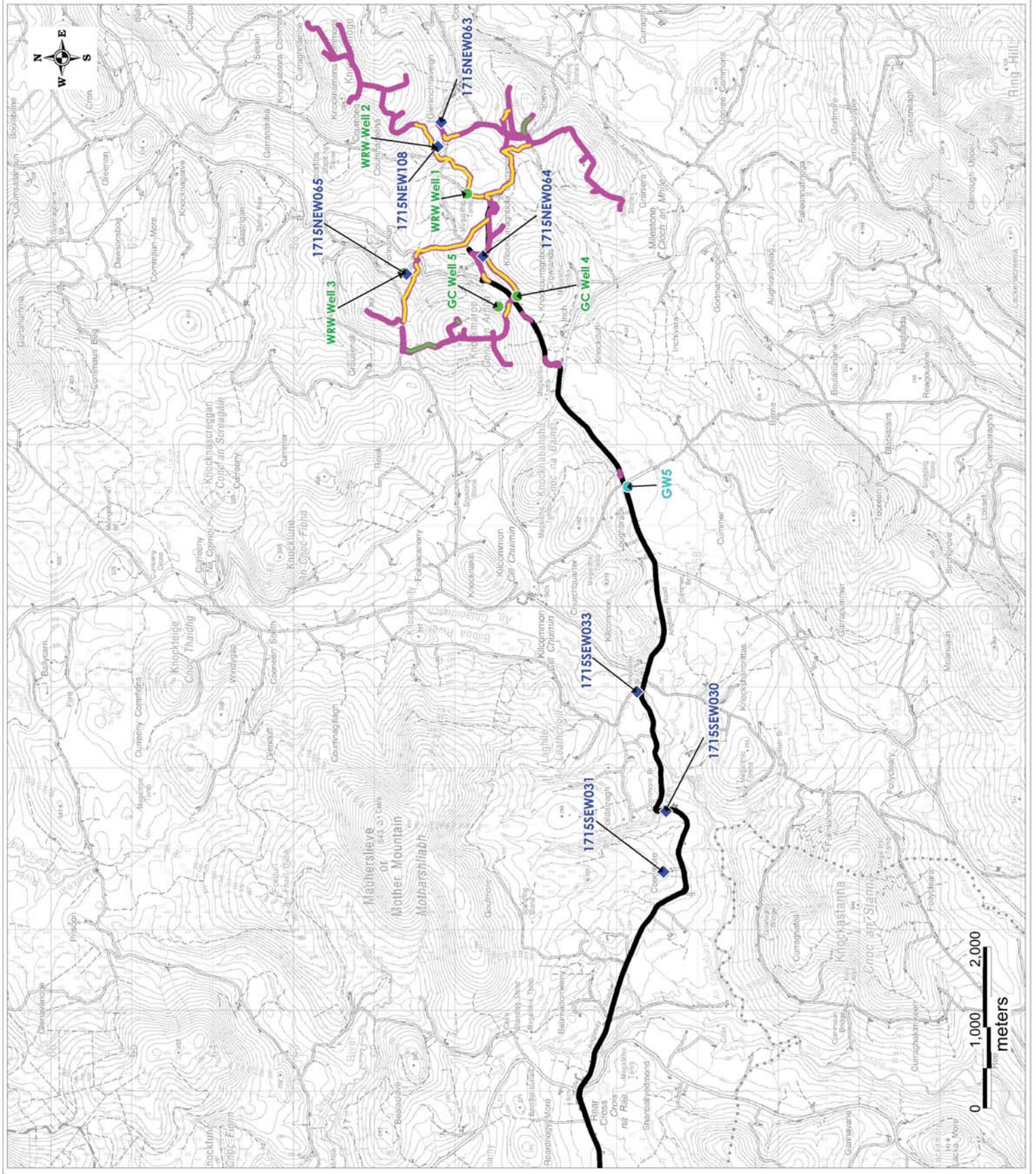


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Client: Ecopower Development Ltd.
Job: UWF Related Works
Title: Local Wells & Springs within the Whole Project Cumulative Evaluation Study Area - Map 1 of 2
Figure No: Figure CE 11.4.
Drawing No: P1299-4-0119-FCE-11-4-A3-0A
Sheet Size: A3
Project No: P1299-4
Scale: 1:45,000
Drawn By: GD
Date: 28/01/2019
Checked By: MG





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Client: Ecopower Developments Ltd.

Job: UWF Related Works

Title: Lower River Shannon SAC within the UWF Related Works Study Area

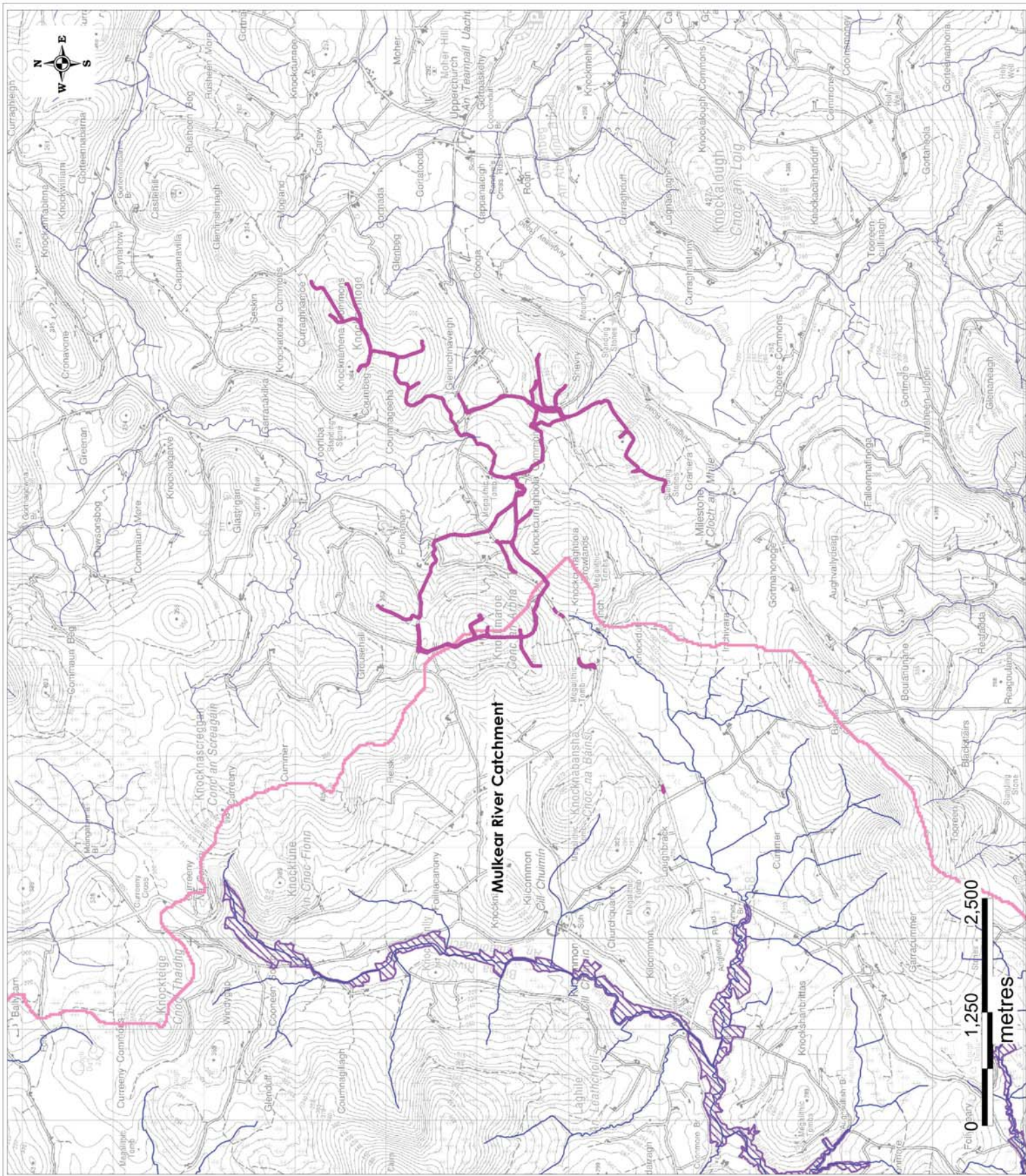
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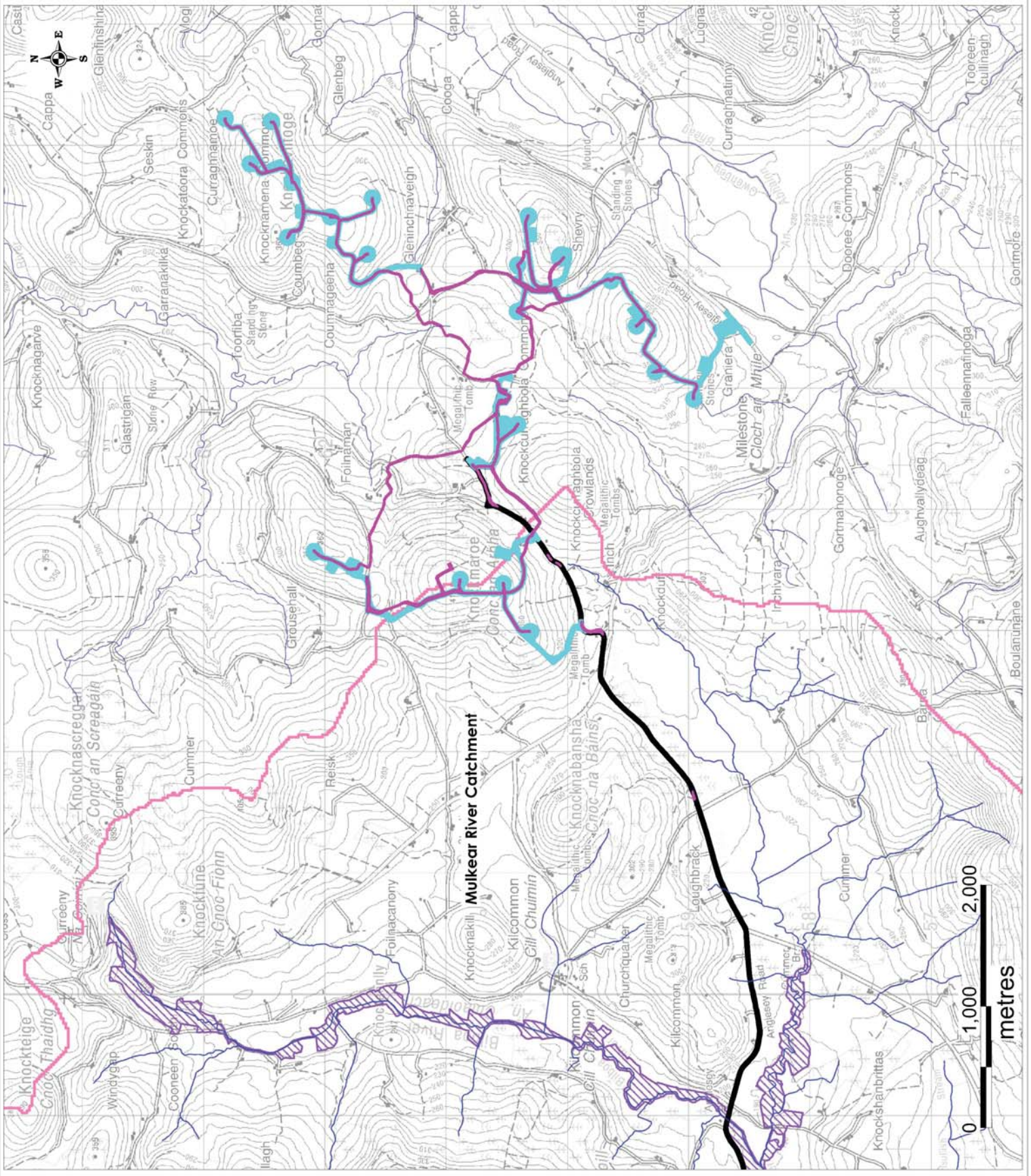
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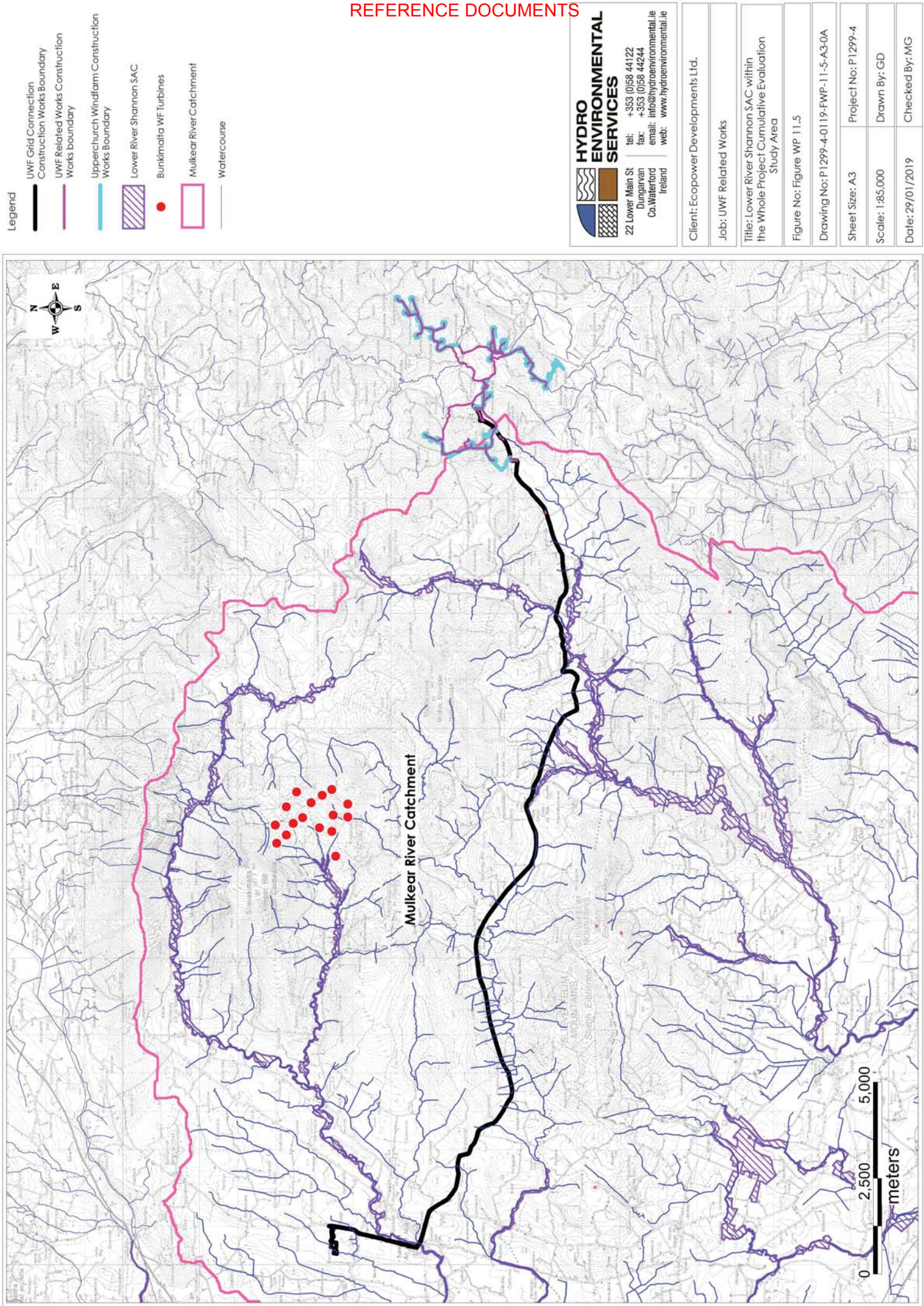
Sheet Size: A3

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Date: 29/01/2019 Checked By: MG	
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Legend

- UWF Grid Connection
- Construction Works Boundary
- UWF Related Works Construction
- Works boundary
- Upperchurch Windfarm Construction
- Works Boundary
- Lower River Shannon SAC
- Bunkmalta WF Turbines
- Mulkear River Catchment
- Watercourse

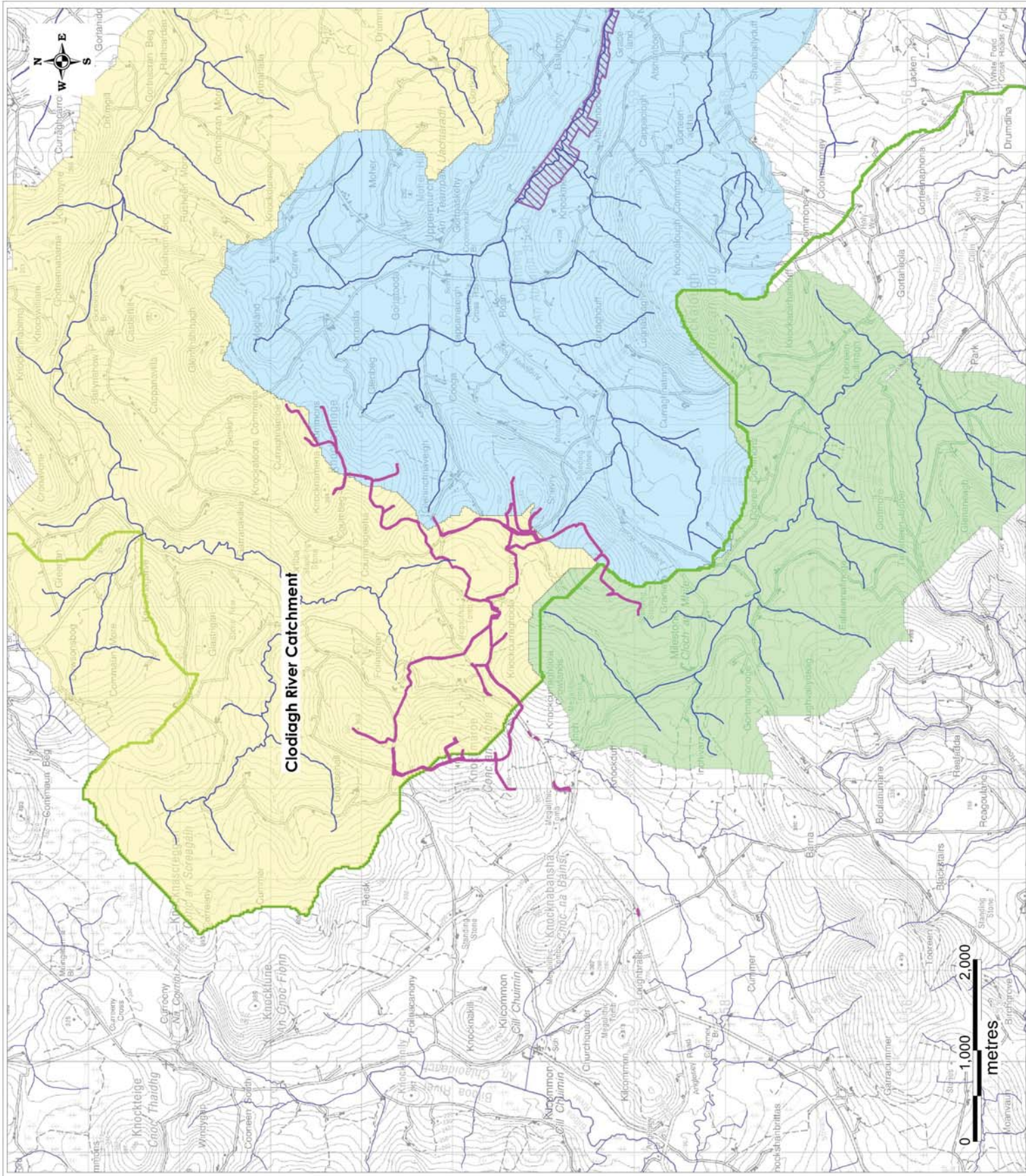
HYDRO ENVIRONMENTAL SERVICES

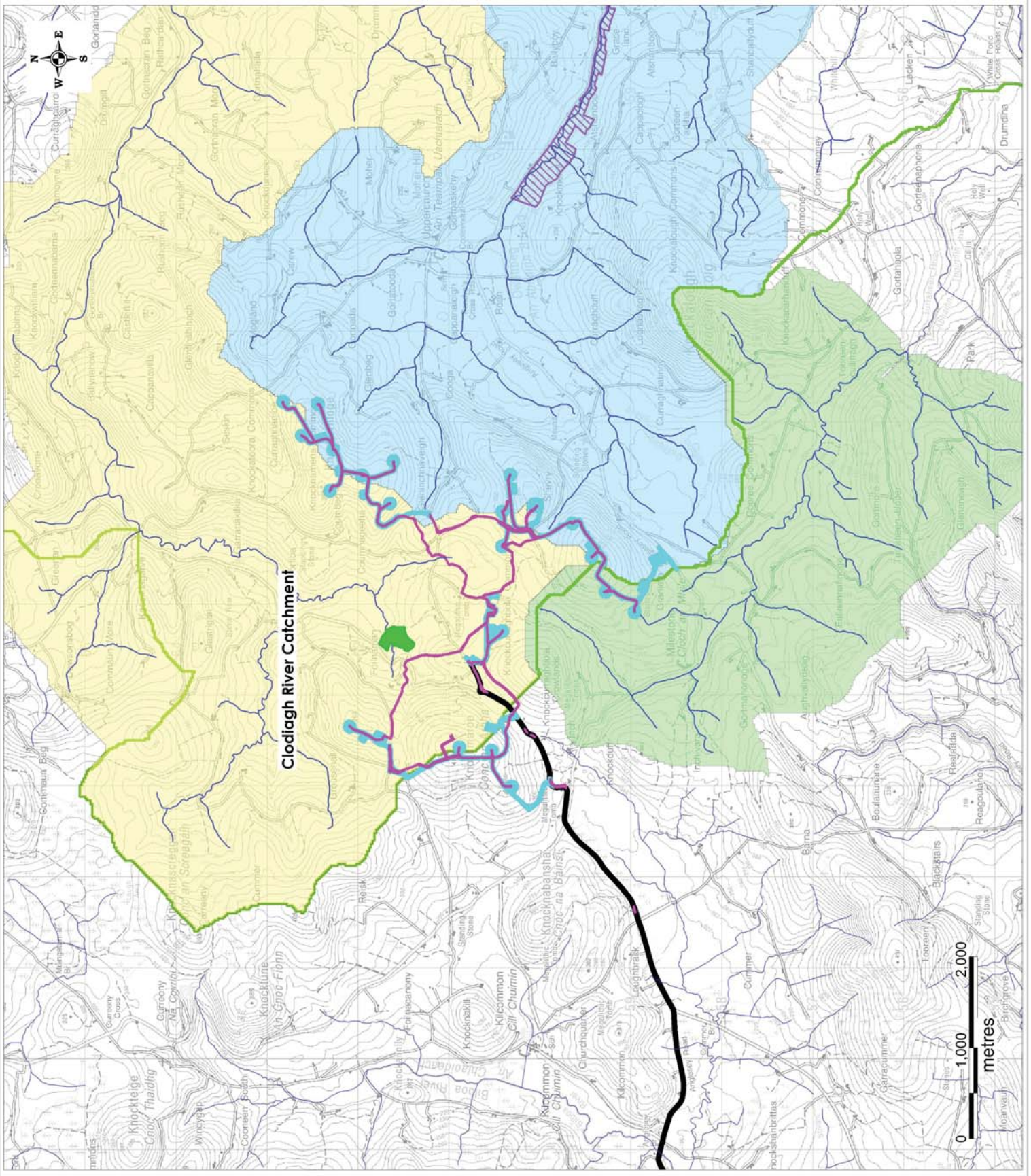
22 Lower Main St
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Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Lower River Shannon SAC within the Whole Project Cumulative Evaluation Study Area	
Figure No: Figure WP 11.5	
Drawing No: P1299-4-0119-FWP-11-5-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:85,000	Drawn By: GD
Date: 29/01/2019	Checked By: MG

Date: 28/01/2019	Checked By: MG
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Legend

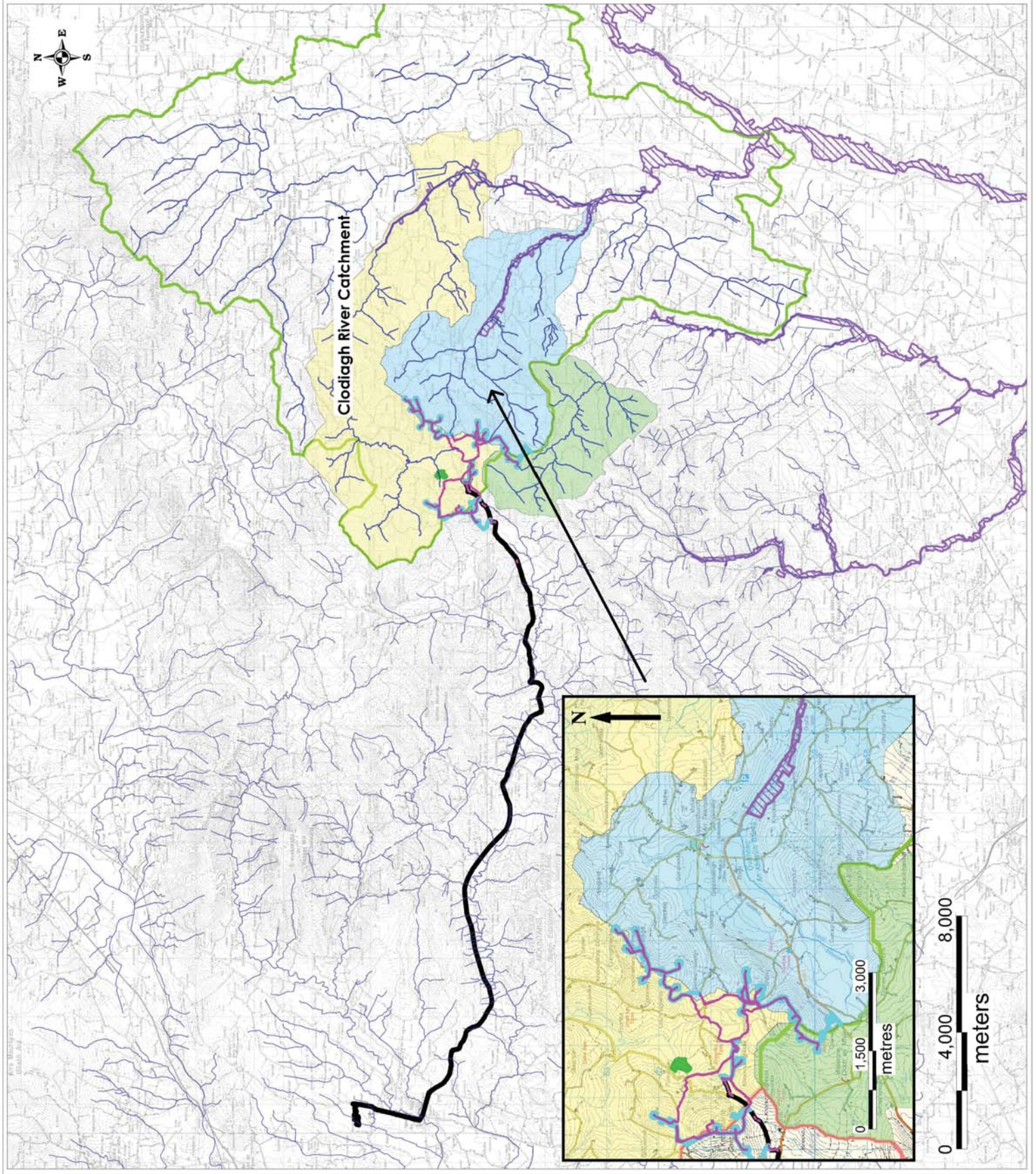
- UWF Grid Connection Construction Works Boundary
- UWF Related Works Construction Works boundary
- Upperchurch Windfarm Construction Works Boundary
- Lower River Suir SAC
- Clodiagh River Catchment
- UWF Replacement Forestry Construction Works Area
- Watercourse
- Clodiagh River (Suir Catchment)
- Turaheen River (Suir Catchment)
- Owenbeg River (Suir Catchment)

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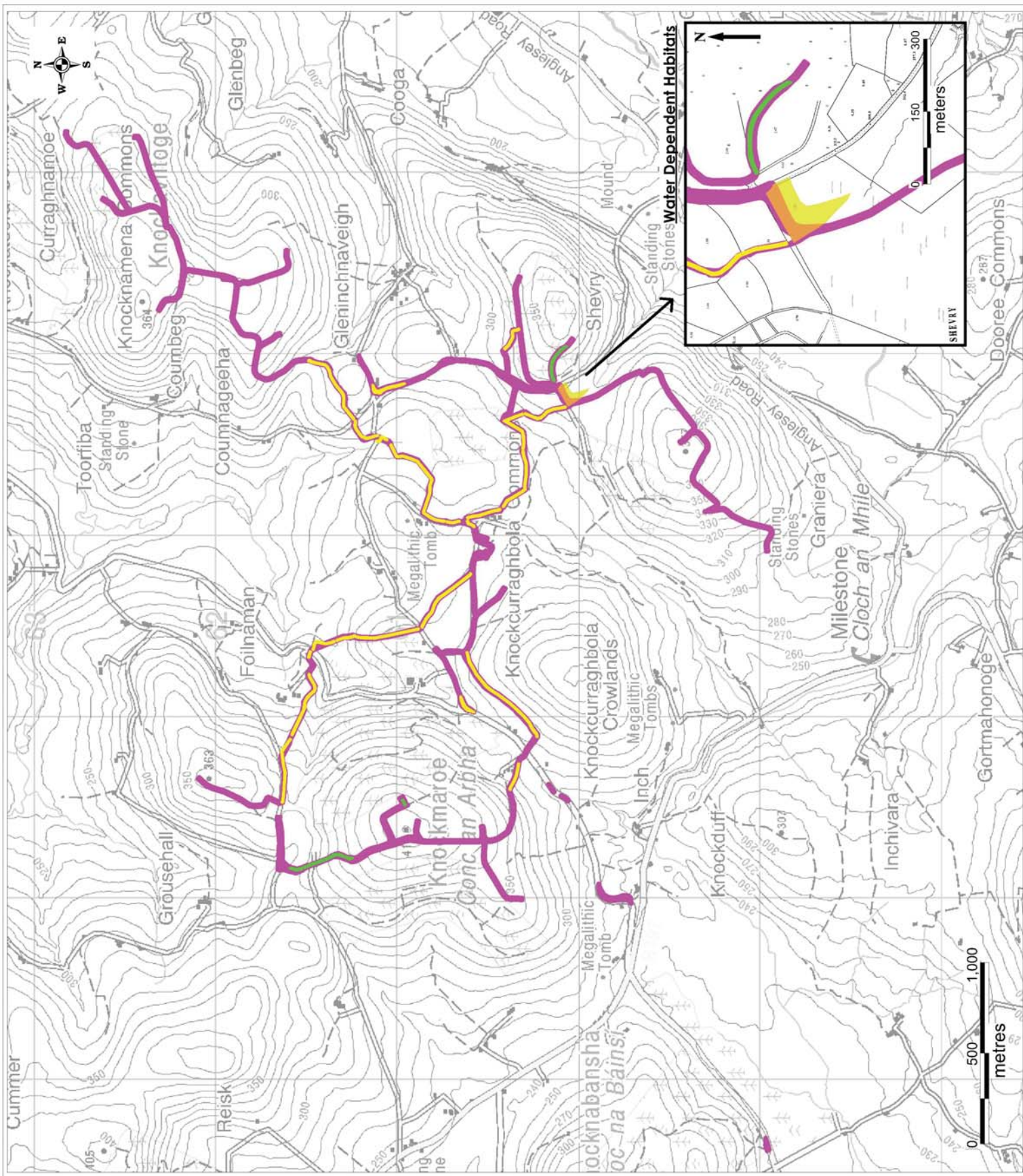
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Client: Ecopower Developments Ltd.
Job: UWF Related Works
Title: Lower River Suir SAC within the Whole Project Cumulative Evaluation Study Area
Figure No: Figure WP 11.6
Drawing No: P1299-4-0119-FWP-11-6-A3-0A
Sheet Size: A3
Scale: 1:125,000
Date: 28/01/2019
Project No: P1299-4
Drawn By: GD
Checked By: MG



Date: 29/01/2019	Checked By: MG
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- Legend**
- UWIF Related Works Construction Works Boundary
 - Permanent Access Roads
 - Temporary Access Roads
 - Upperchurch Windfarm Construction Works Boundary
 - UWIF Grid Connection
 - Construction Works Boundary
 - Local Water Dependent Habitats

*Note: Smaller map show Local Water Dependent Habitat that is intersected or adjacent to UWIF Related Works

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Client: Ecopower Developments Ltd.

Job: UWIF Related Works

Title: Local Water Dependent Habitats within the UWIF Related Works Cumulative Evaluation Study Area

Figure No: Figure CE 11.7

Drawing No: P1299-4-0119-FCE-11.7-A3-0A

Sheet Size: A3

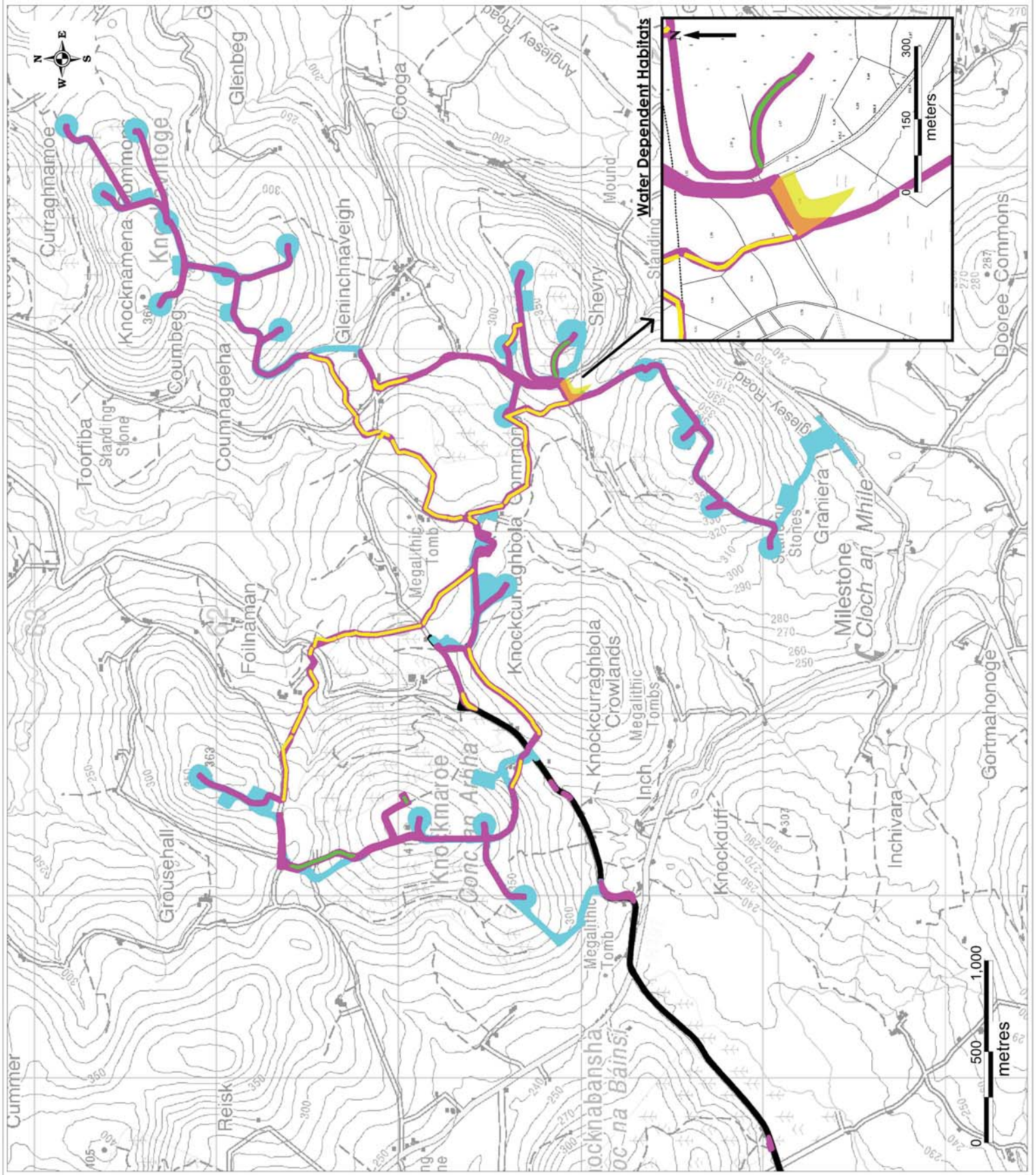
Scale: 1:20,000

Date: 28/01/2019

Project No: P1299-4

Drawn By: GD

Checked By: MG



Legend

- UWF Related Works Construction Works Boundary
- Permanent Access Roads
- Temporary Access Roads
- Upperchurch Windfarm Construction Works Boundary
- UWF Grid Connection Construction Works Boundary
- Local Water Dependent Habitats

*Note: Smaller map show Local Water Dependent Habitat that is intersected or adjacent to UWF Related Works

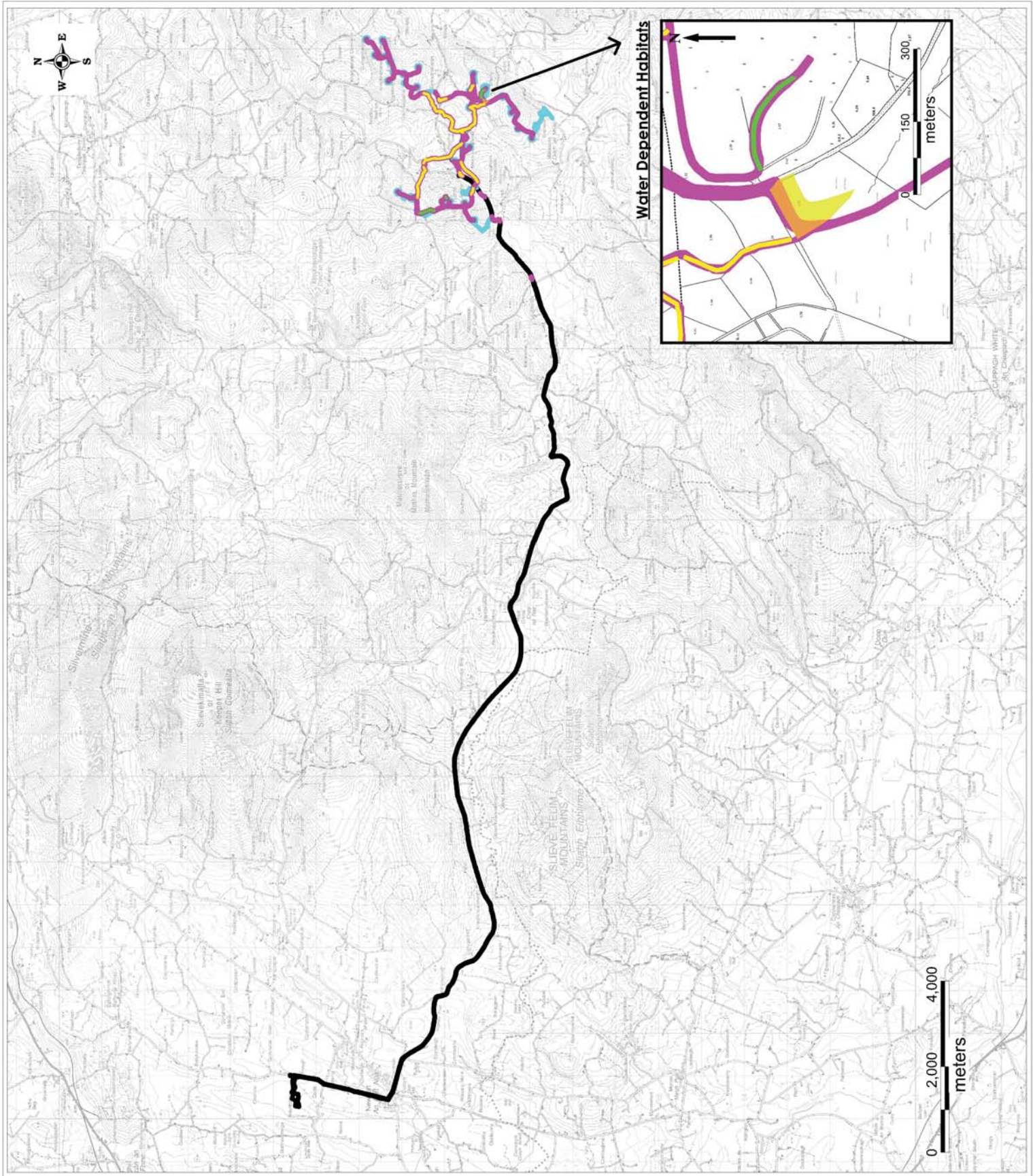


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Client: Ecopower Developments Ltd.	
Job: UWF Related Works	
Title: Local Water Dependent Habitats within the Whole Project Cumulative Evaluation Study Area	
Figure No: Figure WP 11.7	
Drawing No: P1299-4-0119-FWP-11-7-A3-0A	
Sheet Size: A3	Project No: P1299-4
Scale: 1:85,000	Drawn By: GD
Date: 28/01/2019	Checked By: MG





Title:
Figure RW 12.1

Location of the UWF Related Works

Map Number:
1 of 1

Legend:

- UWF Related Works
 - Resigned Windfarm Roads
 - Internal Windfarm Cabling
 - Telecom Relay Pole
 - Haul Route Works

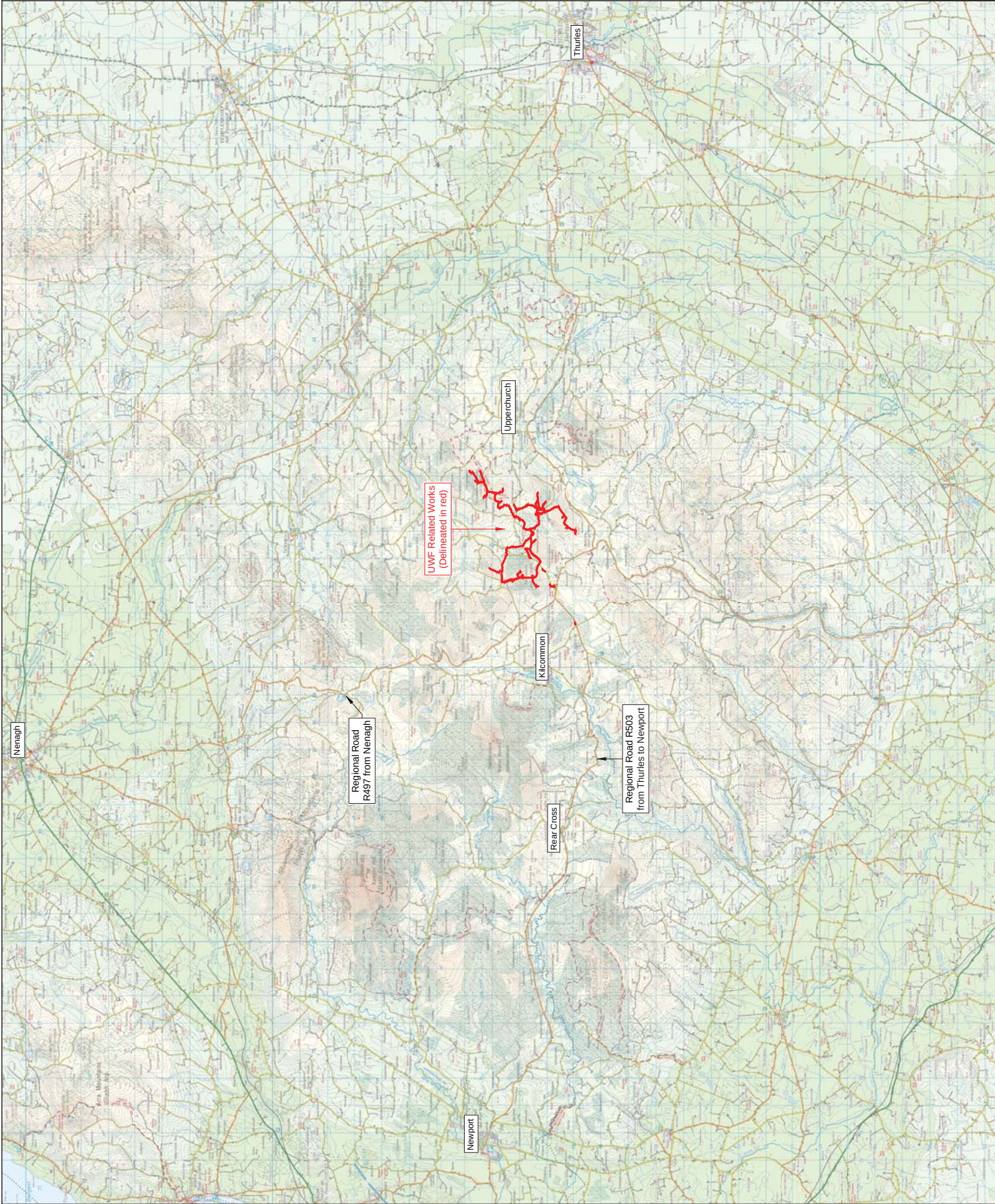
Project:
UWF Related Works (RW)

Drawn by: AB
Checked by: JB
Date: January 19
Sheet Size: A3



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Purcellinch Business Park, Kilkenny
TEL: +353 86 7750140
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Title:
Figure RW 12.2.1

Local Residents & Community (Dust, Noise) within the UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Extents:

- UWF Related Works Construction Works Area
- Air Quality, Noise and Vibration: 350m Study Area from Grid Connection Construction Works Area
- Local Haul Roads
- Air Quality: 50m from Local Haul Roads
- Road Numbers

Survey Results:

- Air Quality: Houses within 50m of Construction Works Area
- Air Quality: Houses between 51m and 100m of Construction Works Area
- Air Quality: Houses between 101m and 350m of Construction Works Area
- Air Quality: Houses 50m from Local Haul Roads

REFERENCE DOCUMENTS



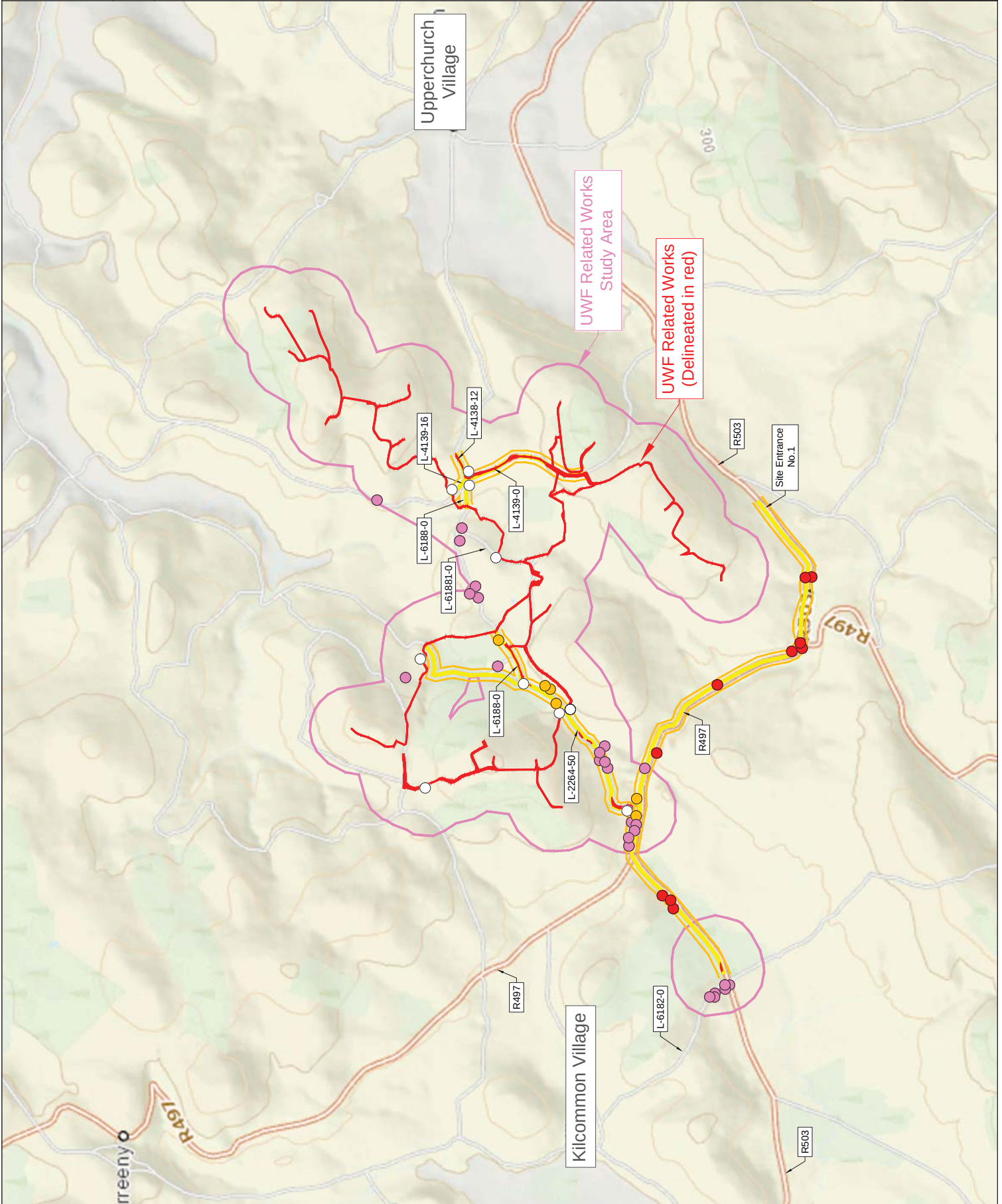
Project:
UWF Related Works (RW)

Drawn by: AB
Checked by: JB
Date: January 19
Sheet Size: A3



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Environmental Developments Ltd
Zooch House
Purcellstown Business Park, Kilkenny
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Title:
Figure CE 12.2.1

Local Residents & Community (Dust, Noise) within the UWF Related Works Cumulative Study Area

Map Number:
Map 1 of 1

Legend:

Study Extents:

UWF Related Works
Construction Works Area

Air Quality, Noise and Vibration:
700m Study Area from Construction Works Area

Local Haul Roads

Air Quality: 50m from Local Haul Roads

Road Numbers

Cumulative Projects:

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

Survey Results:

Air Quality:
Houses within 50m of the UWF Related Works Construction Works Area

Air Quality:
Houses between 51m and 100m of the UWF Related Works Construction Works Area

Air Quality:
Houses between 101m and 350m of the UWF Related Works Construction Works Area

Air Quality: Houses 50m from
Local Haul Roads



Project:
UWF Related Works (RW)

Drawn by:
AB

Checked by:
JB

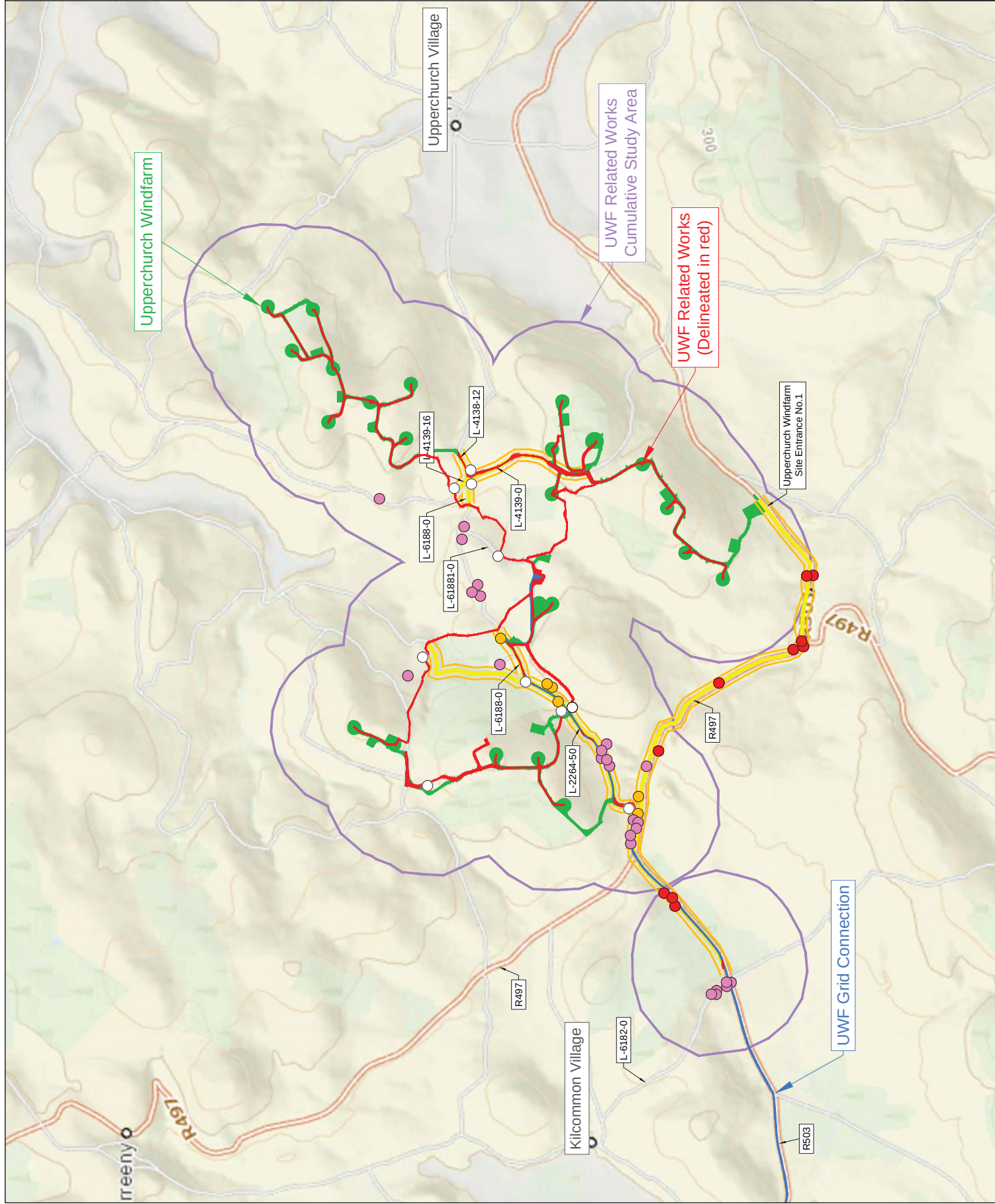
Date:
January 19

Sheet Size:
A3



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Punchinello Business Park, Kilkenny
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MOB: +353 83 8805644

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Title:
Figure WP 12.2.1

Local Residents & Community (Dust, Noise) within the Whole Project Cumulative Evaluation Study Area

Map Number:
1 of 1

Legend:

Study Area:

- UWF Grid Connection Construction Works Area
- UWF Related Works Construction Works Area
- Upperchurch Windfarm Construction Works Area
- Air Quality, Noise & Vibration Study Area from all Construction Works Areas

■ **Air Quality, Noise & Vibration:**
 500m Study Area from Substation

■ **Air Quality, Noise & Vibration:**
 50m from the Haul Route Roads

■ **Haul Route Roads**

Survey Results:

- Shannonbridge - Killonan 220kV OHL
- | | |
|--|--|
|  | Air Quality: Houses 50m from Local Haul Roads |
|  | Air Quality: Houses within 50m of all Construction Works Areas |
|  | Air Quality: Houses between 51m and 100m of all Construction Works Areas |
|  | Air Quality: Houses between 101m and 350m of all Construction Works Areas |

REFERENCE DOCUMENTS

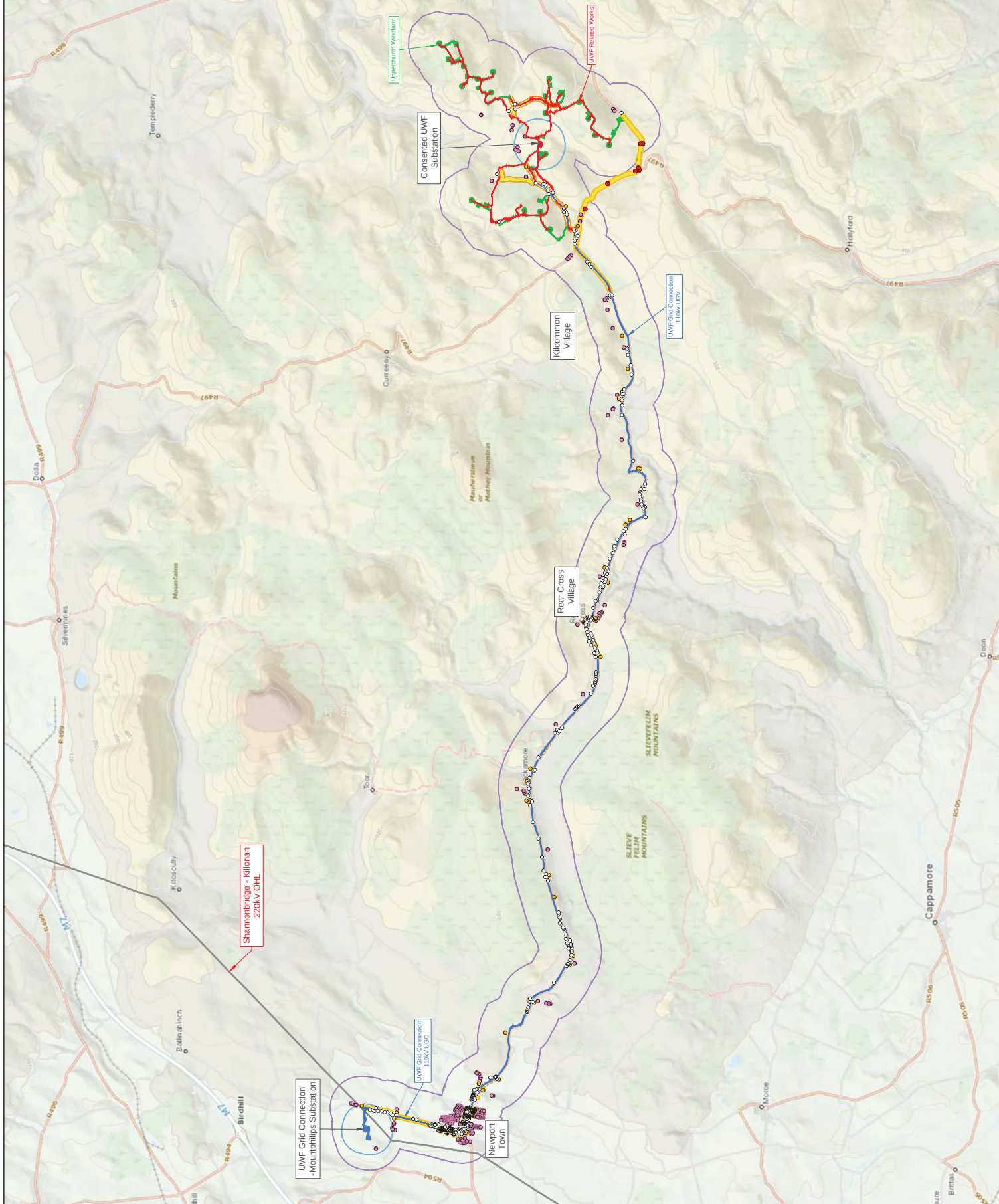


Project: UWF Related Works (RW)

Drawn by:	AB	Checked by:	JB	Date:	January 19	Sheet Size:	A3
 Aoife Butler Ecopower Developments Ltd Zetec House, Purcellinch Business Park, Kilkenny TEL : +353 56 7750140 MOB: +353 83 8805644							



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Title:
Figure RW 12.2.2

Local Residents & Community (EMF)
within the UWF Related Works
Study Area

Map Number:
Map 1 of 1

Legend:

Study Extents:

— UWF Related Works
Construction Works Area

— EMF:
100m Study Area
- Internal Windfarm Cabling

Survey Results:

○ EMF:
Houses within the 100m Study Area

REFERENCE DOCUMENTS

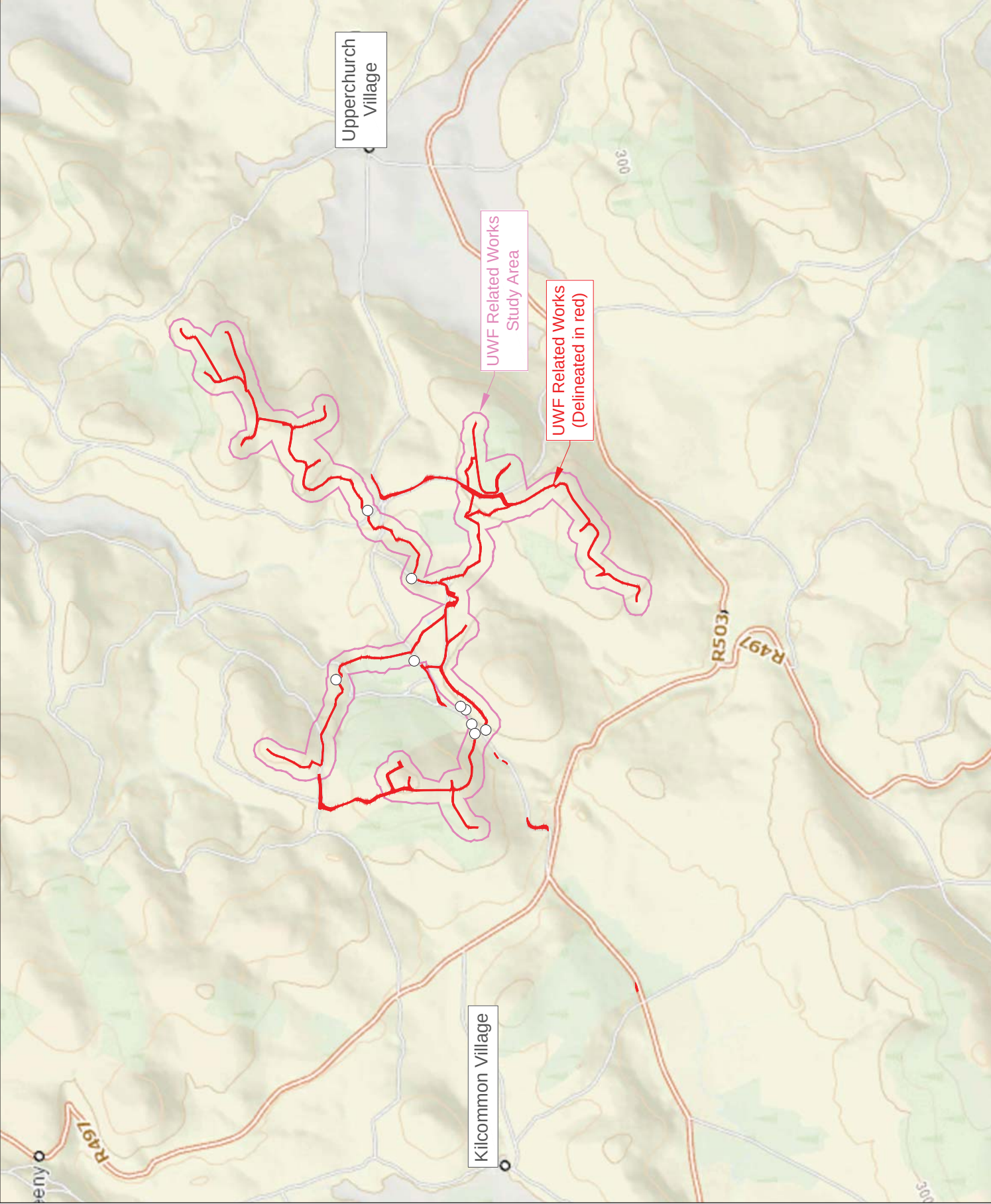


Project:
UWF Related Works (RW)

Drawn by: AB
Checked by: JB
Date: January 19
Sheet Size: A3



ECOPower
Ardle Butler
Zooch Development Ltd
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Title:
Figure CE 12.2.2

Local Residents & Community (EMF)
within the UWF Related Works
Cumulative Study Area

Map Number:
Map 1 of 1

Legend:

Study Extents:

— UWF Related Works
Construction Works Area

— EMF:
200m Study Area
Internal Windfarm Cabling

Cumulative Projects:

— UWF Grid Connection
Construction Works Area

— Upperchurch Windfarm
Construction Works Area

Survey Results:

○ EMF: Houses within 100m of Internal
Windfarm Cabling

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by: AB

Checked by: JB

Date:

January 19

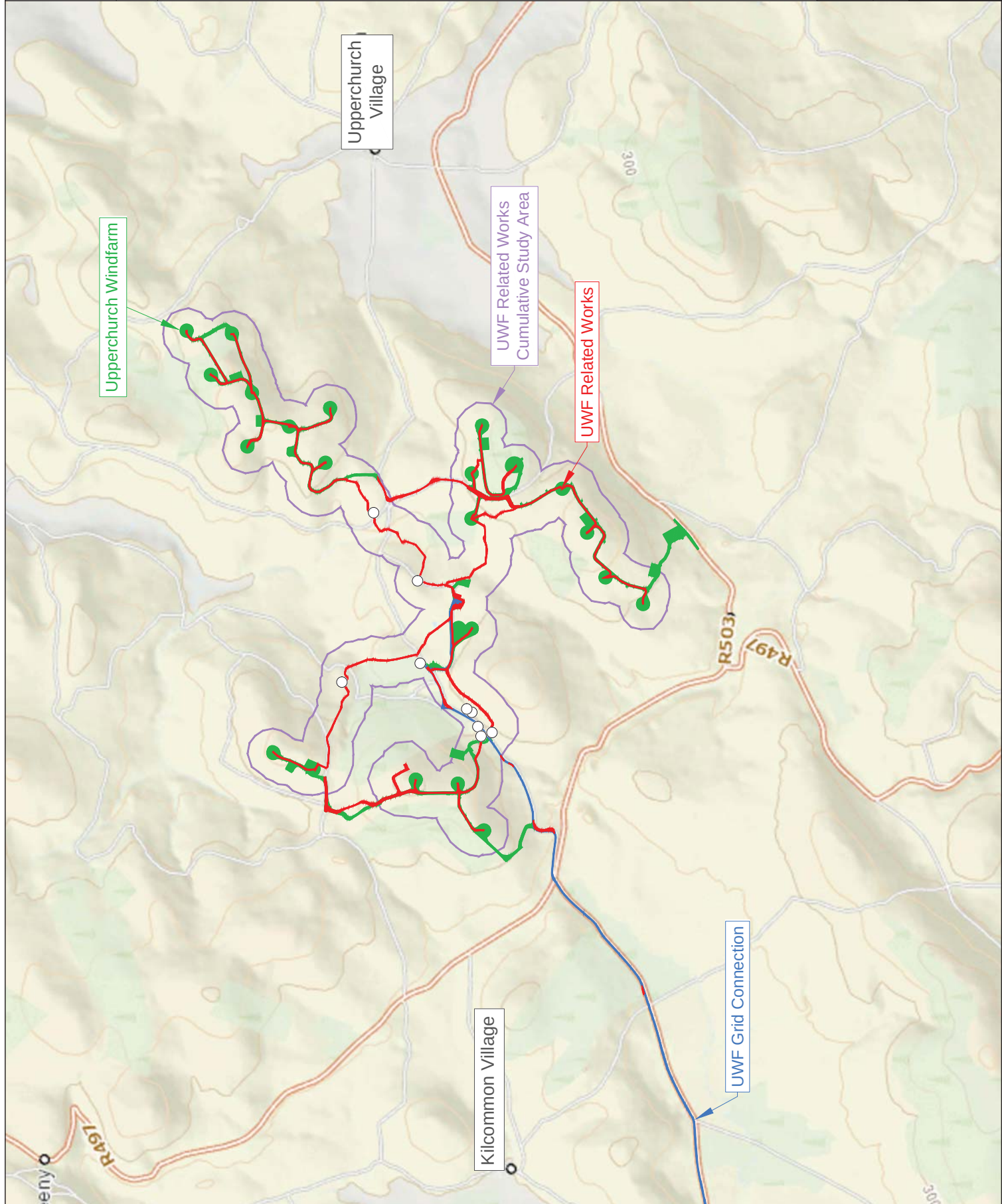
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Title:
Figure WP 12.2.2

**Local Residents & Community (EMF)
within the Whole Project Cumulative
Evaluation Study Area**

Map Number:
1 of 1

Legend:

Study Area:

- UWF Grid Connection
Construction Works Area
- UWF Related Works
Construction Works Area
- Upperchurch Windfarm
Construction Works Area

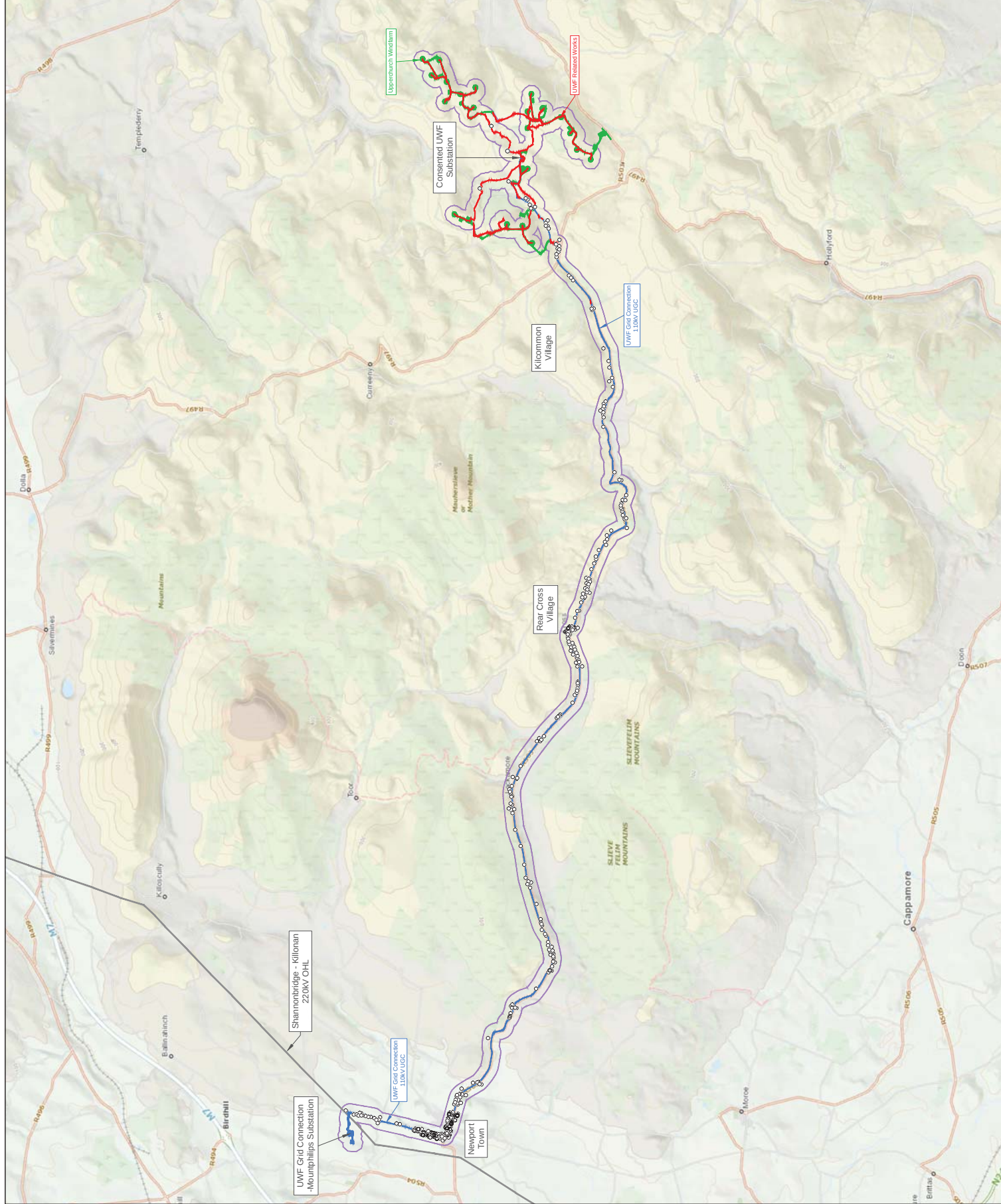
- EMF: 200m - - - - -

Survey Results:

- Shannonbridge - Killoonan 220kV OHL
- EMF:** Houses within the 100m of
- Mountphilips Substation
 - UWF Grid Connection
 - Internal Windfarm Cabling
 - Consented Upperchurch Turbines
 - Consented Upperchurch Substation

Project: UWF Related Works (RW)

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Title:
Figure RW 12.3
Transient People within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area:

UWF Related Works
Construction Works Area

Air Quality, Noise & Vibration:
350m Study Area from the
Construction Works Area

Survey Results:

Air Quality, Noise & Vibration:
Landholding - Agricultural Land

Air Quality, Noise & Vibration:
Landholding - Forestry

Air Quality, Noise & Vibration:
Walking/Cycling Trails

REFERENCE DOCUMENTS



Project:
UWF Related Works (RW)

Drawn by:
AB

Checked by:
JB

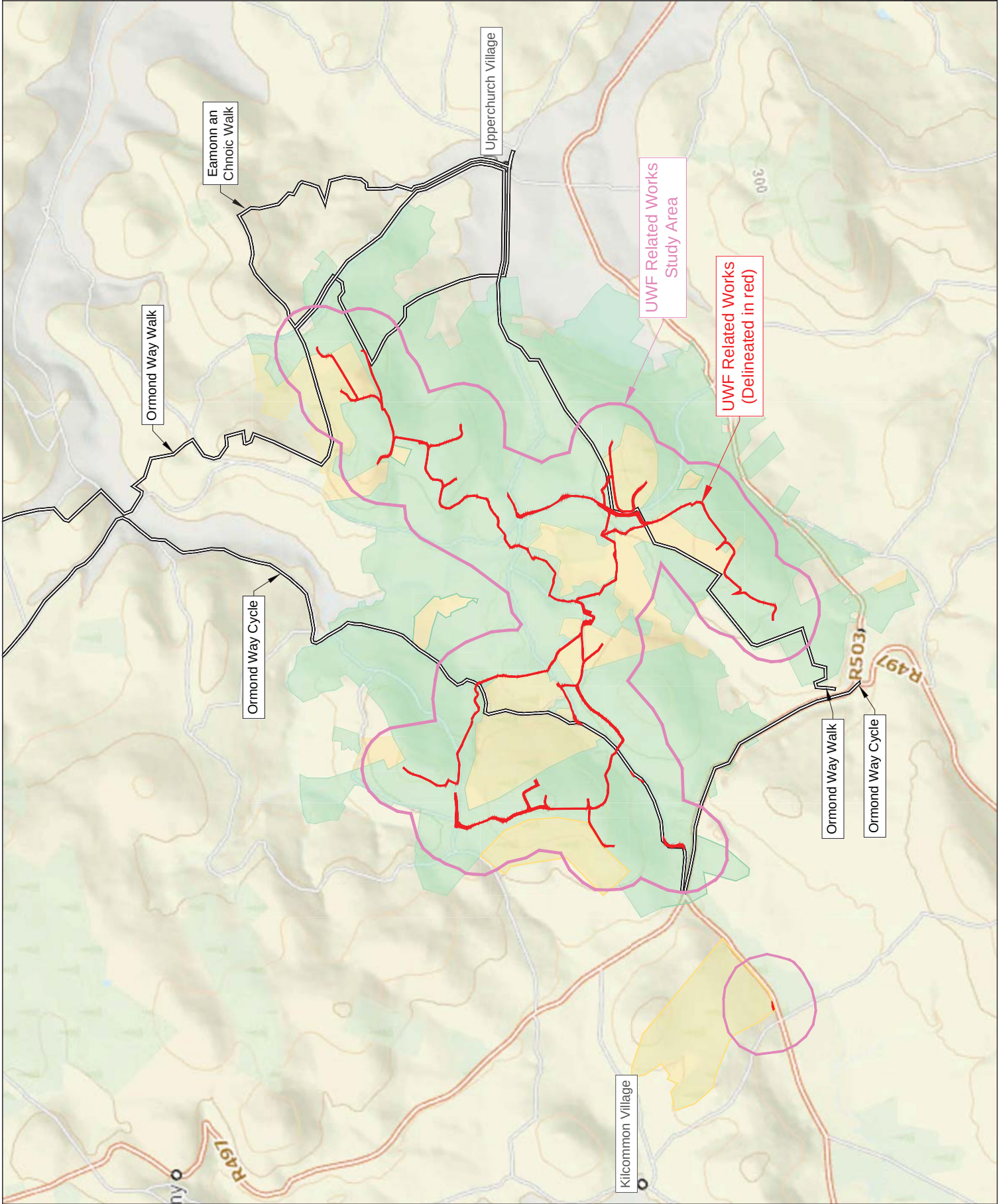
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Title:
Figure CE 12.3

Transient People within the UWF
Related Works Cumulative Study Area

Map Number:
Map 1 of 1

Legend:

Study Area:

- UWF Related Works
Construction Works Area
- Air Quality, Noise & Vibration:
700m Study Area from the
Construction Works Area

Cumulative Projects:

- UWF Grid Connection
Construction Works Area
- Upperchurch Windfarm
Construction Works Area

Survey Results:

- Air Quality, Noise & Vibration:
Landholding - Agricultural Land
- Air Quality, Noise & Vibration:
Landholding - Forestry
- Air Quality, Noise & Vibration:
Walking/Cycling Trails

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by:

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Date:

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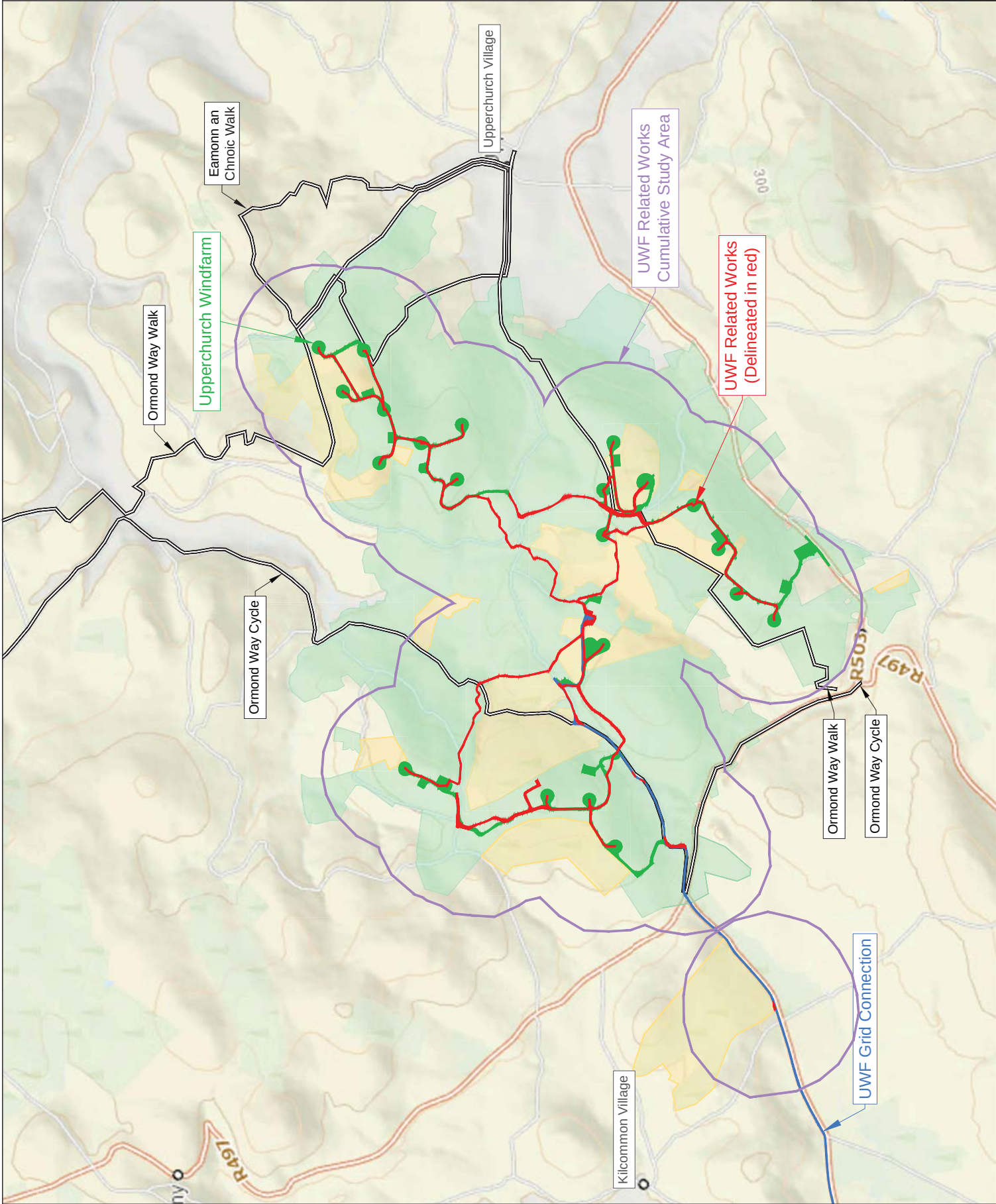
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Transient People within the Whole Project Cumulative Evaluation Study Area

Legend:

UWF Grid Connection Construction Works Area

- UWF Grid Connection
Construction Works Area
- UWF Related Works
Construction Works Area
- Upperchurch Windfarm
Construction Works Area

- Air Quality, Noise & Vibration:**
700m Study Area from all of the
Construction Works Areas
- Air Quality, Noise & Vibration:**
Regional Roads

- Operational Stage Noise:**
400m Study Area
- Consented Upperchurch S

Air Quality, Noise & Vibration:
Landholding - Agricultural Land

- Air Quality, Noise & Vibration:**
Landholding - Forestry

- ## Air Quality, Noise & Vibration: Walking/Cycling Trails

- Shannonbridge - Killonan 220kV OHL
- Killonan - Nenagh 110kV OHL



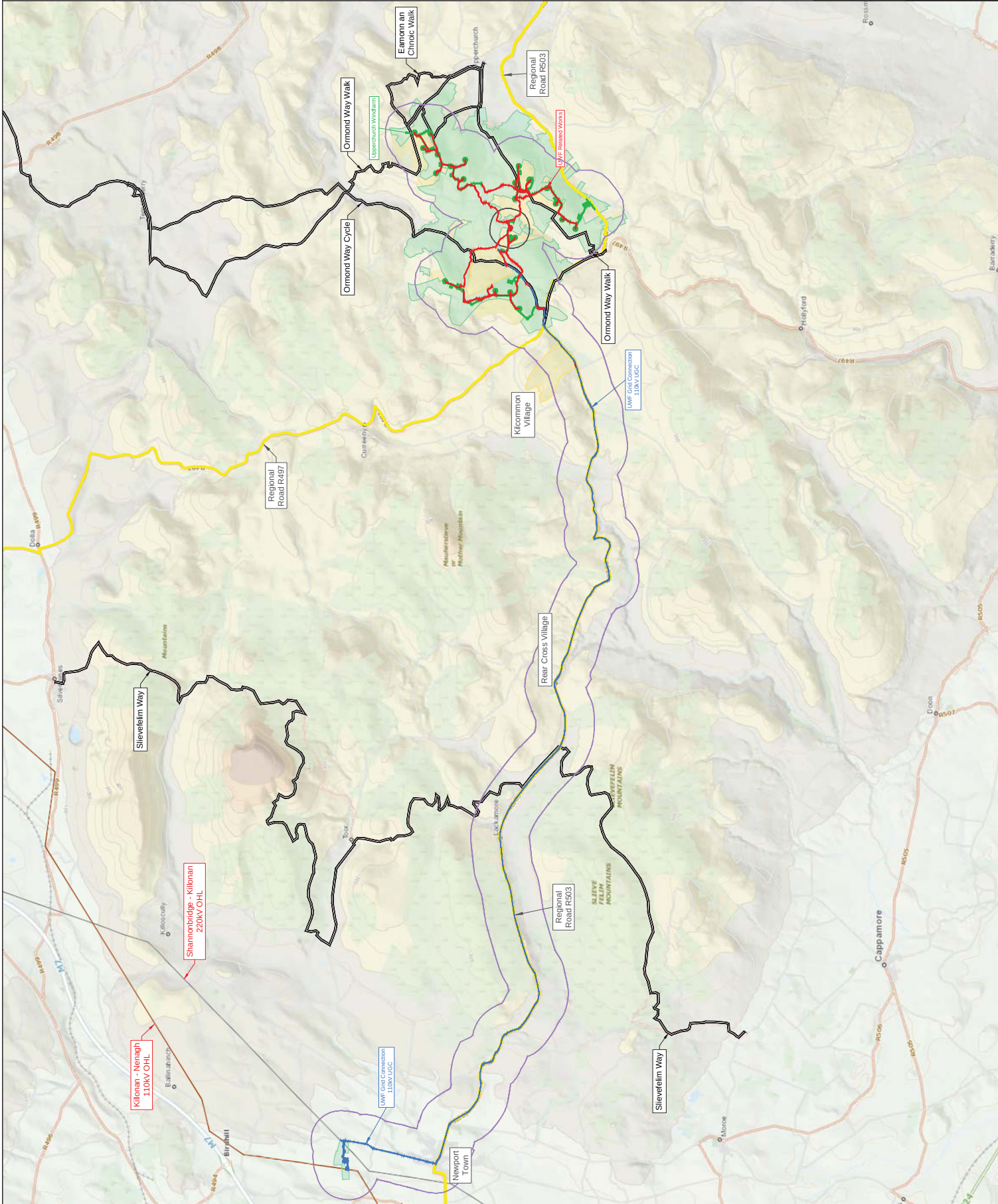
UWF Related Works (RW)

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Figures for Chapter 13: Climate	Tab 13 (printed version)
No mapping or figures for Chapter 13	

REFERENCE DOCUMENTS



Title:
Figure RW 14.1

Location of the UWF Related Works

Map Number:
Map 1 of 1

Legend:

UWF Related Works
Construction Works Area



Project:

UWF Related Works (RW)

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Title:
Figure RW 14.2

Local Residents & Community
(Built Services) within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works Construction
Works Area with 7m Buffer

Irish Water Line

Eir Network Overhead Line

ESB Networks Overhead Line

Road Number

Survey Results:

Built Service Users

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by:

AB

Checked by:

JB

Date:

January 19

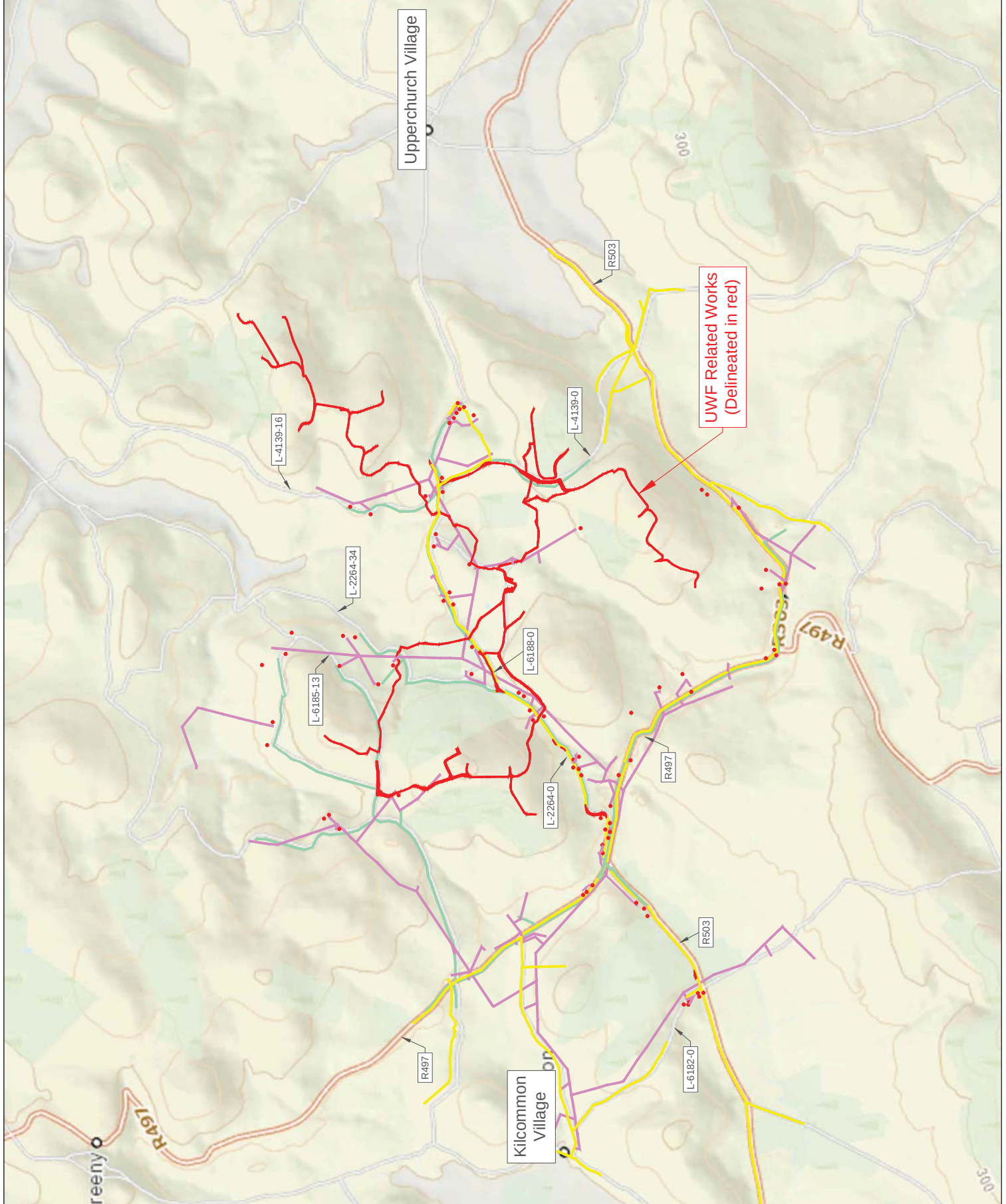
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REFERENCE DOCUMENTS



Title:
Figure CE 14.2
Local Residents & Services) within
Evaluation Study

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

- UWF Related Works Construction
Works Area with 7m buffer

- Irish Water Line
Eir Network
ESB Networks

Cumulative Projects:

- UWF Grid Connection
Construction Works Area
- Upperchurch Windfarm
Construction Works Area

Survey Results:

- Built Service Users**

Project:

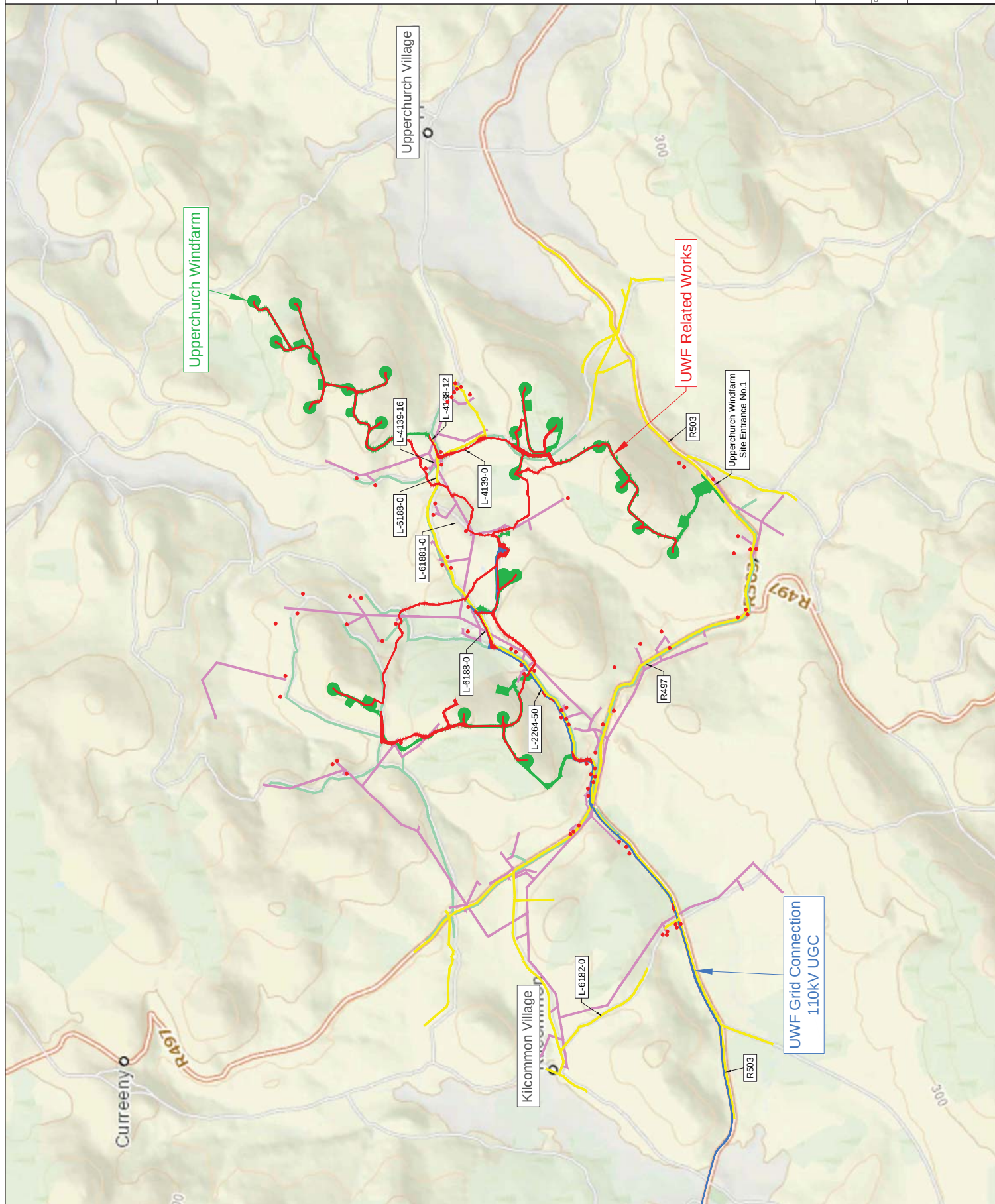
UWF Related Works (RW)

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Title:
Figure RW 15.1
Location of the UWF Related Works

Map Number:
1 of 1

Legend:

- UWF Related Works
- Realigned Windfarm Roads
- Internal Windfarm Cabling
- Telecom Relay Pole
- Haul Route Works

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by:

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Checked by:

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Date:

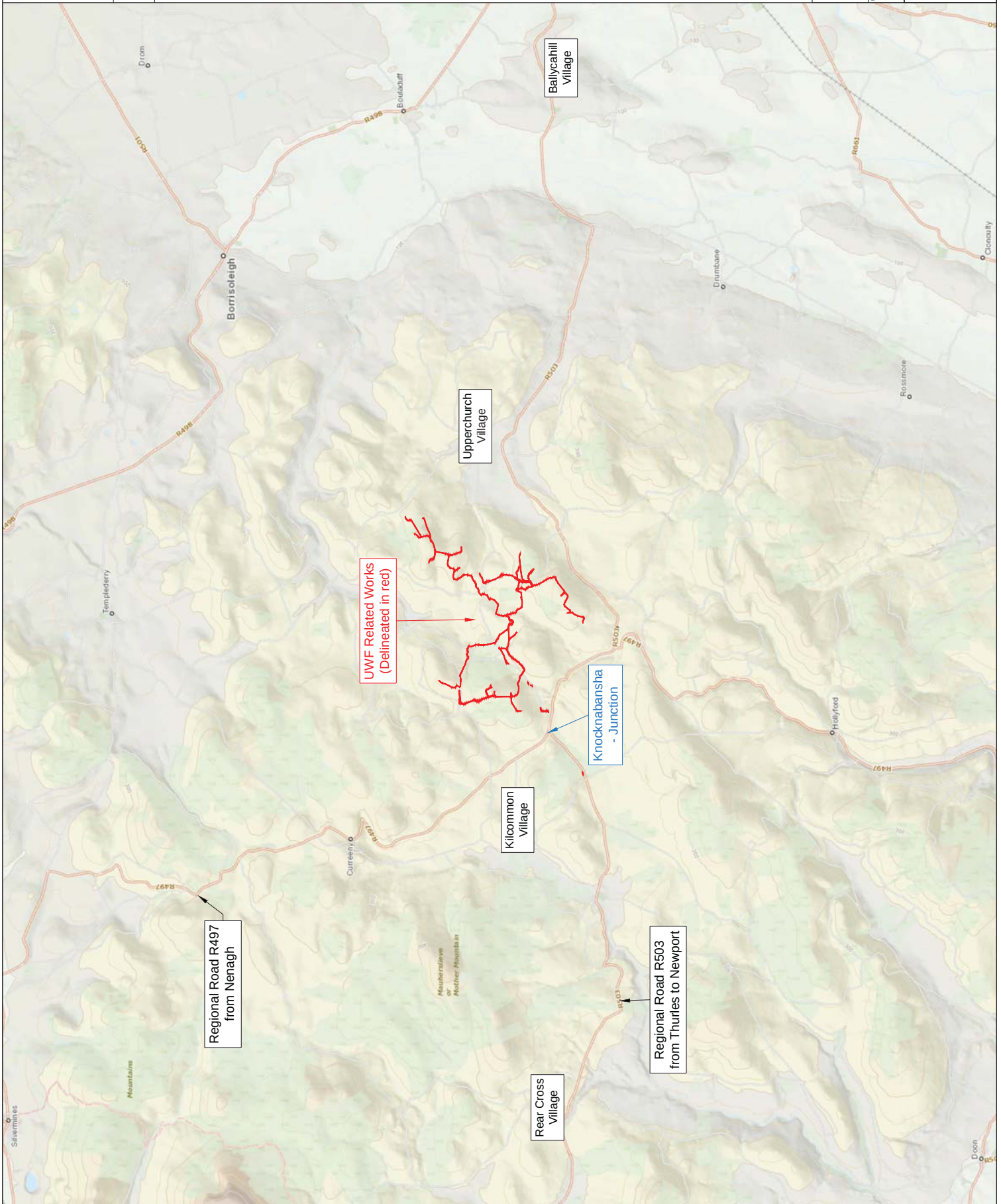
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Title:
Figure RW 15.2
Public Roads within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

- UWF Related Works
- Construction Works Area
- Public Roads - Local roads used to deliver construction materials
- Regional Roads
- Related Works Site Entrances
- Road Number
- Knocknabansha Townland

Survey Results:

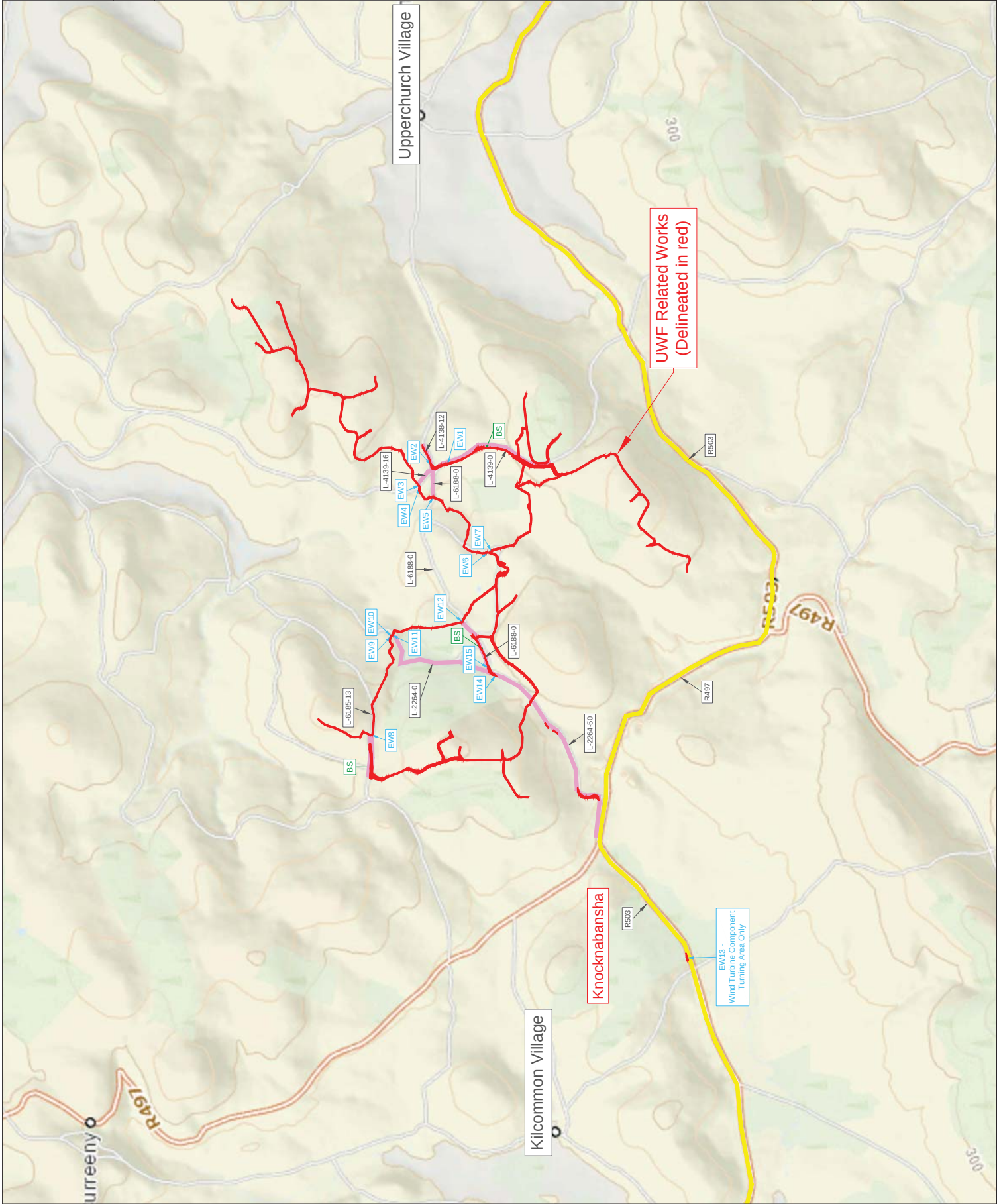
Buried Structures along the Haul Route



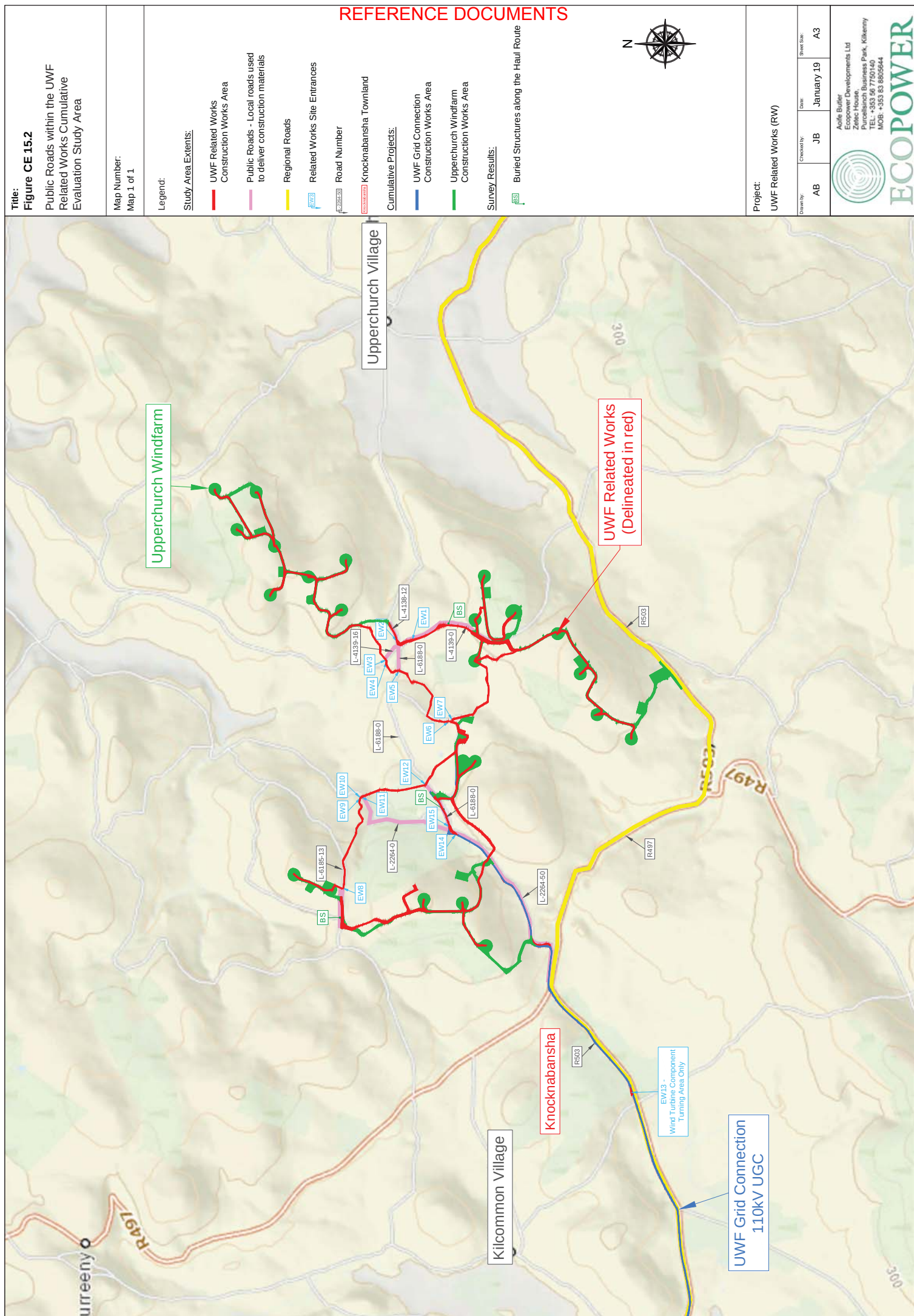
Project:
UWF Related Works (RW)

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Title:
Figure WP 15.2

Public Roads within the Whole Project
Cumulative Evaluation Study Area

Map Number:
1 of 1

Legend:

Study Area Extents:

UWF Grid Connection
Construction Works Area

UWF Related Works
Construction Works Area

Upperchurch Windfarm
Construction Works Area

Public Roads - Local roads used
to deliver construction materials

Regional Roads

Road Number

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

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Date:

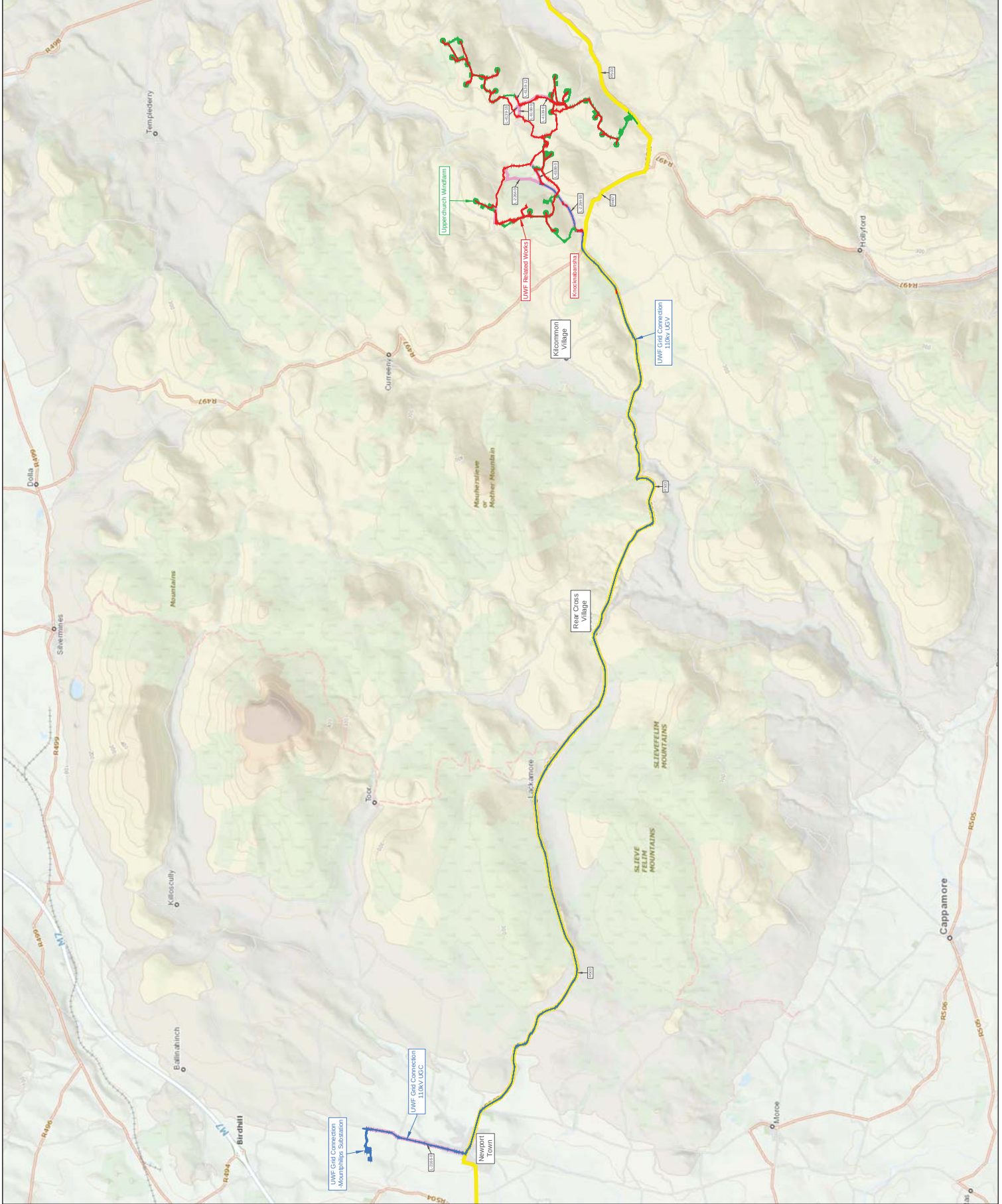
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Title:
Figure RW 15.3

Road Users within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

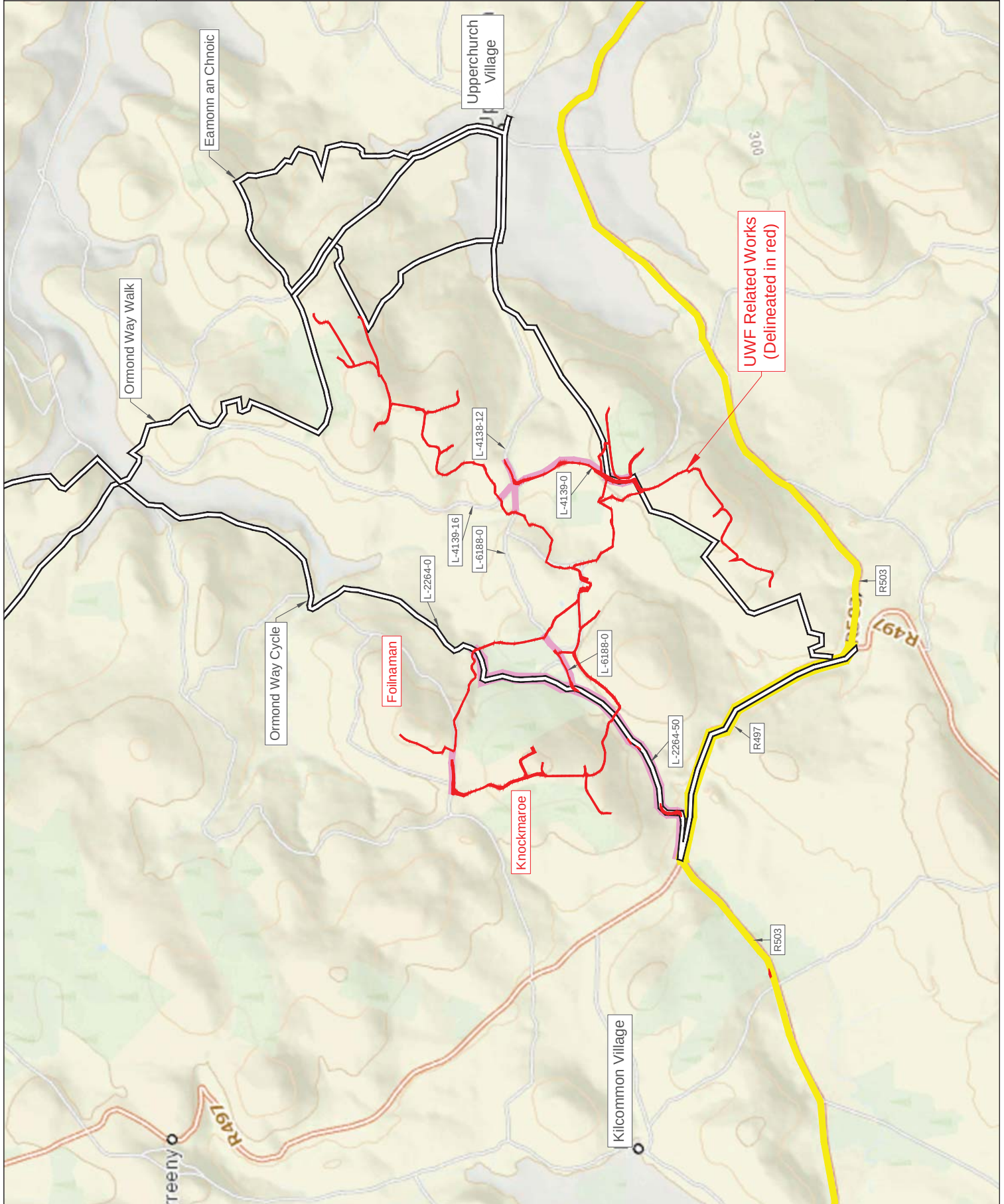
Study Area Extents:

- UWF Related Works Construction Works Area
- Public Roads - Local roads used to deliver construction materials
- Regional Roads
- R205.20 Road Number
- R205.20 Townlands
- Survey Results:**
 - Walking and Cycling Trails



Project:
UWF Related Works (RW)

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Title:
Figure CE 15.3

Road Users within the UWF
Related Works Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works
Construction Works Area

Public Roads - Local roads used to deliver
construction materials

Regional Roads

Road Number

Townlands

Cumulative Projects:

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

Survey Results:

Walking and Cycling Trails

REFERENCE DOCUMENTS



Project:
UWF Related Works (RW)

Drawn by:
AB

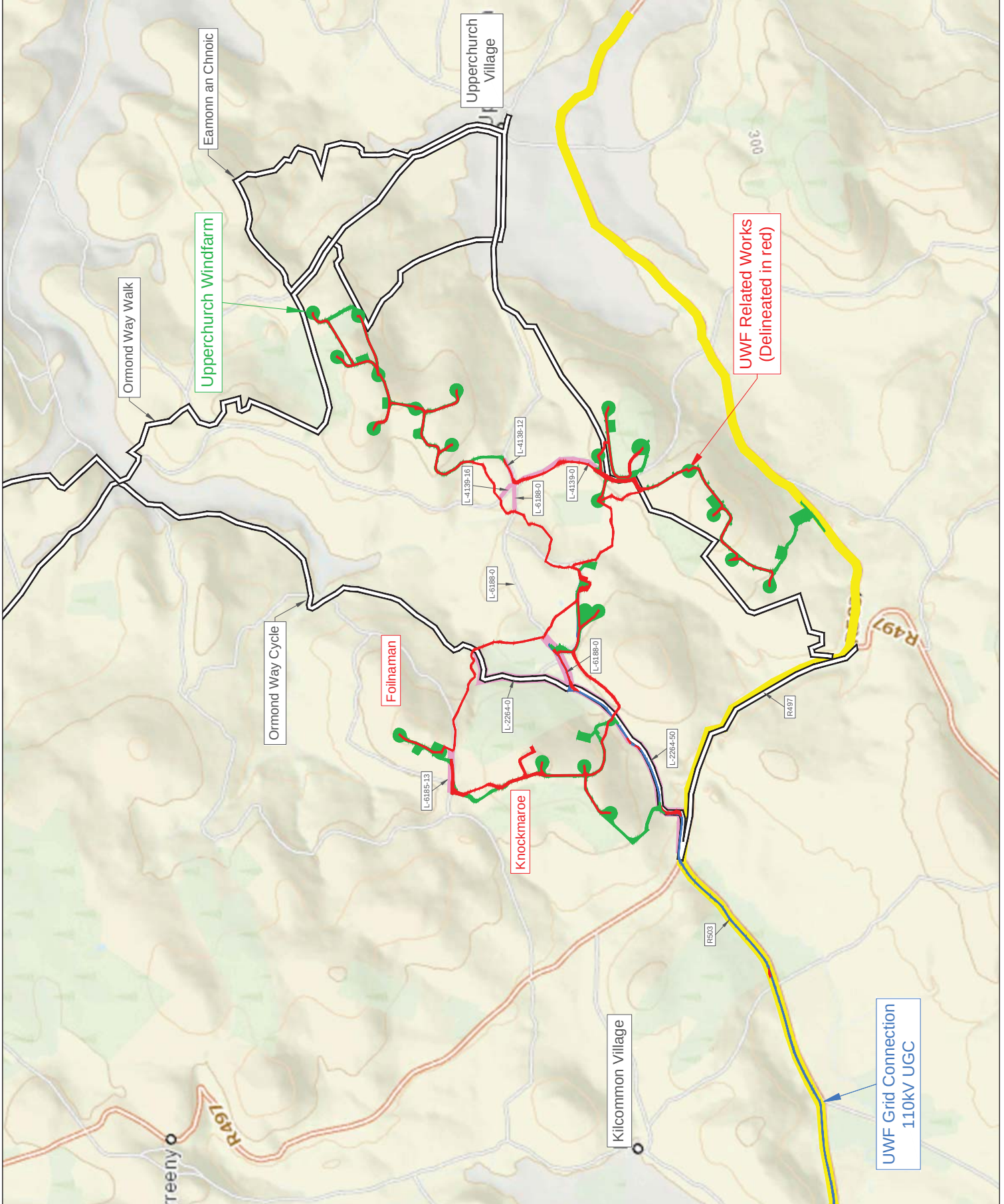
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Title:
Figure WP 15.3

Road Users within the Whole Project
Cumulative Evaluation Study Area

Map Number:
1 of 1

Legend:

Study Area Extents:

UWF Grid Connection
Construction Works Area

UWF Related Works
Construction Works Area

Upperchurch Windfarm
Construction Works Area

Public Roads - Local roads used to deliver
construction materials

Regional Roads

Road Number

Survey Results:

Walking and Cycling Trails

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by:

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Date:

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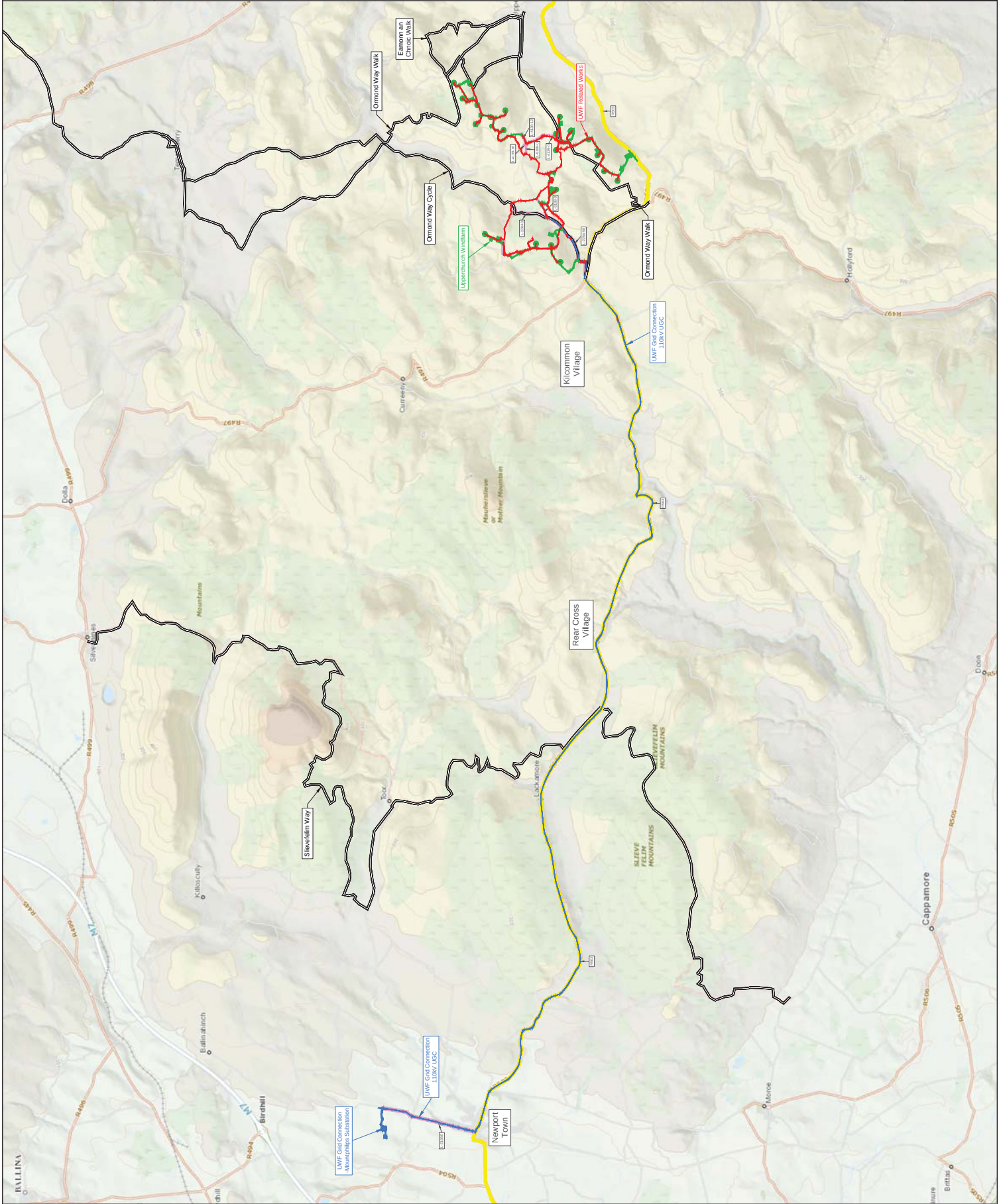
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REFERENCE DOCUMENTS



Title:
Figure RW 16.1

Location of the UWF Related Works on Historical Mapping

Map Number:
Map 1 of 1

Legend:

- UWF Related Works
- Realigned Windfarm Roads
- Internal Windfarm Cabling
- Telecom Relay Pole
- Haul Route Works

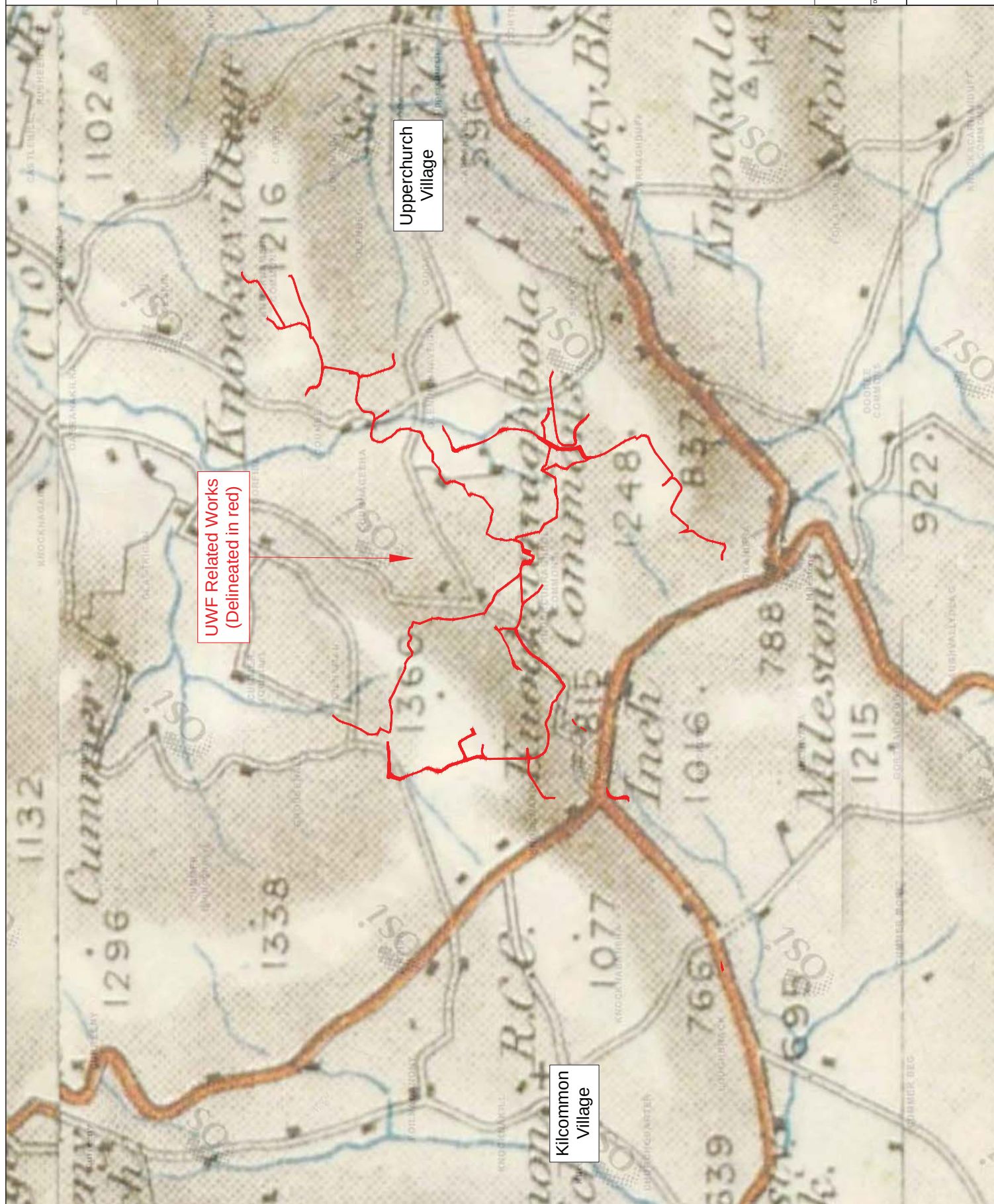
Project: UWF Related Works (RW)

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Title:
Figure RW 16.2

Recorded Legally Protected Sites within
the UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

— UWF Related Works
Construction Works Area

— 500m Study Area
UWF Related Works
Construction Works Area

— 2km Study Area
Telecoms Relay Pole

Survey Results :

● Recorded Legally Protected Sites

● RL16 Recorded Legally Protected Sites
Identification (Related Works)

● Location of Test Trench at RL6



Project:

UWF Related Works (RW)

Drawn by:

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Checked by:

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Date:

January 19

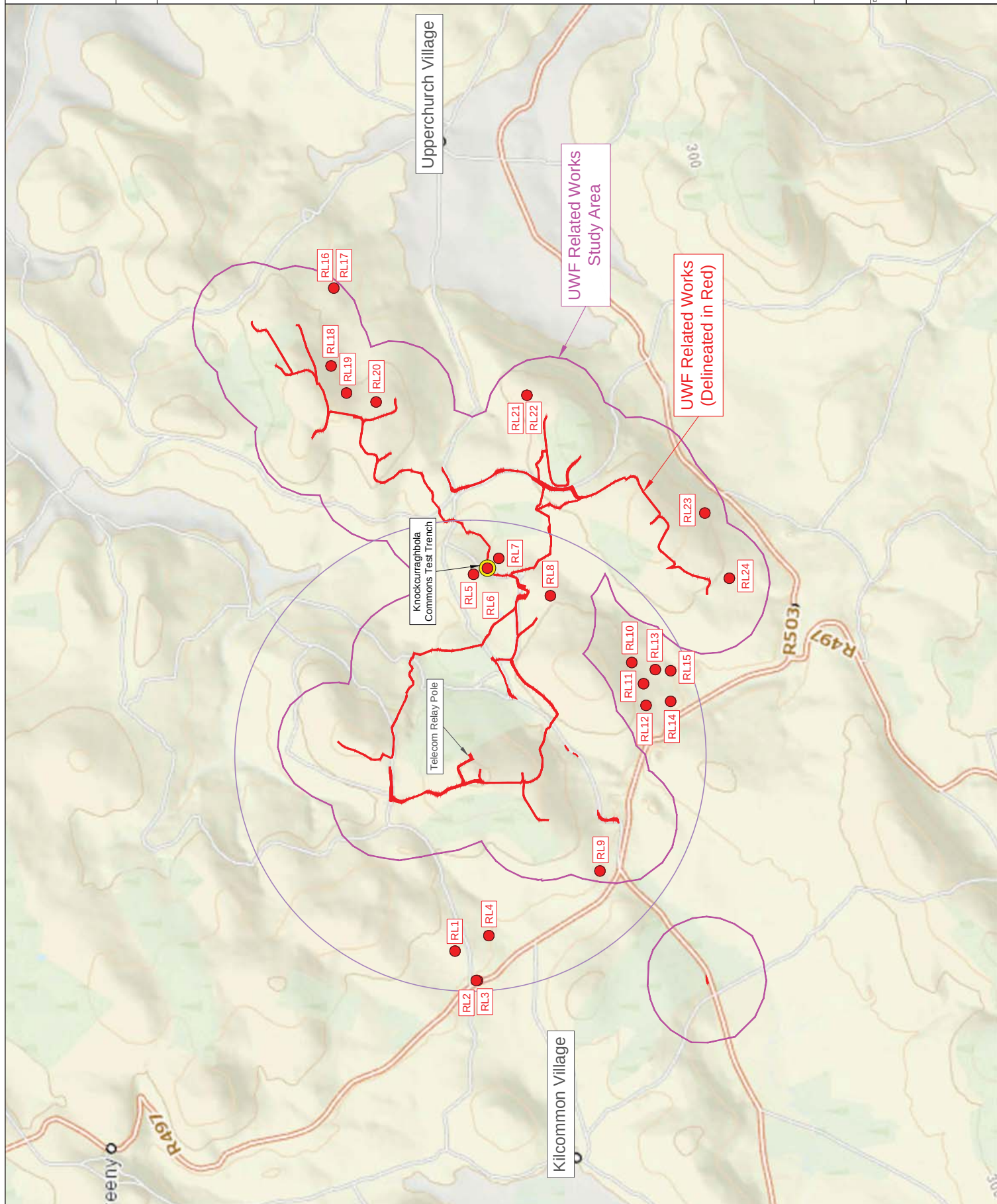
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REFERENCE DOCUMENTS



Title: Figure CE 16.2
Recorded Legally Protected Sites within the UWF Related Works Cumulative Evaluation Study Area

Study Area Extends :	
—	UWF Related Works Construction Works Area
—	500m Study Area - UWF Related Works Construction Works Area
—	4km Study Area - Telecoms Relay Pole

Cumulative Projects :	
—	UWF Grid Connection Construction Works Area
—	Upperchurch Windfarm Construction Works Area
○	Other existing and permitted projects/activity
●	Milestone Windfarm turbines

Survey Results :	
●	Recorded Legally Protected Sites within either 500m of CWA or 2km of Telecom Relay Pole
RL#	Recorded Legally Protected Sites Identification
●	Location of Test Trench at RL6

Legend:

- UWF Related Works Construction Works Area
- 500m Study Area - UWF Related Works Construction Works Area
- 4km Study Area - Telecoms Relay Pole
- Cumulative Projects :
 - UWF Grid Connection Construction Works Area
 - Upperchurch Windfarm Construction Works Area
 - Other existing and permitted projects/activity
 - Milestone Windfarm turbines
- Survey Results :
 - Recorded Legally Protected Sites within either 500m of CWA or 2km of Telecom Relay Pole
 - Recorded Legally Protected Sites Identification
 - Location of Test Trench at RL6

Project: UWF Related Works (RW)

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AB	JB	January 19	A3

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[illegible]

The map displays the Upperchurch Windfarm (UWF) area, highlighting the 500m UWF Related Works CWA Cumulative Evaluation Study Area. Key features include:

- UWF Grid Connection 110kV UGC:** A blue line representing the 110kV underground grid connection.
- Upperchurch Windfarm:** Located in the upper left, marked with green dots.
- Upperchurch Village:** Located in the upper right.
- Kilcommon Village:** Located in the lower left.
- Folnaman Mast (Existing):** A white circle with a black dot, labeled "Folnaman Mast (Existing)".
- Telecom Relay Pole:** A white circle with a black dot, labeled "Telecom Relay Pole".
- Knockcuraghbola Commons Test Trench:** A red line segment, labeled "Knockcuraghbola Commons Test Trench".
- Milestone Windfarm (As Built):** A yellow circle, labeled "Milestone Windfarm (As Built)".
- Cummermore Comms Pole (Existing):** A white circle with a black dot, labeled "Cummermore Comms Pole (Existing)".
- UWF Related Works (Delineated in red):** A network of red lines representing the UWF Related Works, with some segments delineated in red.
- 500m from UWF Related Works CWA Cumulative Evaluation Study Area:** A purple line indicating the 500m boundary of the cumulative evaluation study area.
- Curreeny R497 and R503:** Roads shown in the lower left and lower right.

Upperchurch Windfarm

Upperchurch Village

500m from UWF Related Works CWA Cumulative Evaluation Study Area

UWF Related Works (Delineated in red)

Knockuraghbola Commons Test Trench

Folinman Mast (Existing)

Telecom Relay Pole

Milestone Windfarm (As Built)

Cummermore Comms. Pole (Existing)

Kilcommon Village

UWF Grid Connection 110kV UGC

RL1, RL2, RL3, RL4, RL5, RL6, RL7, RL8, RL9, RL10, RL11, RL12, RL13, RL14, RL15, RL16, RL17, RL18, RL19, RL20, RL21, RL22, RL23, RL24

R497, R503

[illegible]

Map of the 500m from UWF Related Works CWA Cumulative Evaluation Study Area. The map shows a network of red lines representing UWF Related Works, with green lines indicating areas where the works are delineated in red. Key locations include Upperchurch Village, Knockouraghola Commons Test Trench, Telecom Relay Pole, Follanham Mast (Existing), Kilcommon Village, and Milestone Windfarm (As Built). The map also shows the UWF Grid Connection 110KV UGC and the Cummermore Comms Pole (Existing). A legend at the top indicates the project status: Project UWF (red line), UWF (green line), and Survey (yellow line).

The map displays the proposed 110kV UGC connection and the cumulative evaluation study area. Key features include:

- Upperchurch Village** and **Kilcommon Village** are marked at the top and bottom of the map.
- Knockouraghobla Commons Test Trench** is labeled near the center.
- Follanham Mast (Existing)** is labeled near the center.
- Milestone Windfarm (As Built)** is labeled near the center.
- Cumulative Evaluation Study Area** is outlined in orange.
- UWF Grid Connection 110kV UGC** is outlined in blue.
- 500m from UWF Related Works CWA Cumulative Evaluation Study Area** is outlined in purple.
- UWF Related Works (Delineated in red)** are marked with red dots and labels (RL1 to RL24).
- Other locations** include **Commernore Commis Pole (Existing)** and **Commernore Commis Pole (Existing)**.

The map displays the Cumnamore Wind Farm (UWF) site, showing the 500m Cumulative Works CWA Evaluation Study Area. The map includes various landmarks such as Upperchurch Village, Kilcommon Village, and the UWF Grid Connection 110KV UGC. It also shows the location of the Cumnamore Commis Pole (Existing) and the Milestone Windfarm (As Built). The map is overlaid with a grid of red lines representing the UWF Related Works (Delineated in red) and a purple line representing the 500m from UWF Related Works CWA Cumulative Evaluation Study Area. The map is titled 'Cumnamore Wind Farm' and includes a legend for 'Cumnamore Wind Farm' and 'Survey'.

Upperchurch Village

500m from UWF Related Works CWA Cumulative Evaluation Study Area

UWF Related Works (Delineated in red)

RL19, RL20, RL21, RL22, RL23, RL24

Knockcurraghbola Commons Test Trench

RL5, RL6, RL7, RL8

Telecom Relay Pole

Folinaman Mast (Existing)

RL1, RL2, RL3, RL4

Kilcommon Village

RL9, RL10, RL11, RL12, RL13, RL14, RL15

Milestone Windfarm (As Built)

R503, R497

Cummermore Comms. Pole (Existing)

UWF Grid Connection 110kV UGC

The map displays the UWF Grid Connection 110kV UGC area. A large orange circle indicates the 500m from UWF Related Works CWA Cumulative Evaluation Study Area. The UWF Related Works are delineated in red. Key features include:

- Upperchurch Village** (top left)
- Knockcuraghbola Commons Test Trench** (center left)
- Folinham Mast (Existing)** (center left)
- Telecom Relay Pole** (center left)
- Milestone Windfarm (As Built)** (center right)
- Cummermore Commons Pole (Existing)** (bottom right)
- UWF Grid Connection 110kV UGC** (bottom right)
- UWF Related Works (Delineated in red)** (center right)
- 500m from UWF Related Works CWA Cumulative Evaluation Study Area** (orange circle)

The map also shows various roads and landmarks, including R503, R497, and the UWF Grid Connection 110kV UGC line.

The map displays the proposed 110kV UGC line (blue line) and the 500m CWA Cumulative Evaluation Study Area (orange circle). The UWF Grid Connection 110kV UGC is shown as a blue line running from the bottom left towards the center. The 500m CWA Cumulative Evaluation Study Area is indicated by a large orange circle. Various related works (RL1-RL24) are marked with red dots and labeled. The map also shows existing infrastructure such as the Folinman Mast, Telecom Relay Pole, Commons Test Trench, Milestone Windfarm, and Cummermore Commis Pole. The map includes labels for Upperchurch Village, Kilcommon Village, and the UWF Grid Connection 110kV UGC.

The map displays the UWF Grid Connection 110KV UGC area. A large orange circle delineates the 500m from UWF Related Works CWA Cumulative Evaluation Study Area. Within this area, UWF Related Works are shown in red, and the Milestone Windfarm (As Built) is shown in green. The map includes labels for RL1 through RL24, Kilcommon Village, and Cummermore Comms Pole (Existing). The map also shows the UWF Grid Connection 110KV UGC line and the UWF Related Works (Delineated in red) area.

500m from UWF Related Works CWA Cumulative Evaluation Study Area

UWF Related Works (Delineated in red)

RL8, RL9, RL10, RL11, RL12, RL13, RL14, RL15, RL22, RL23, RL24

Milestone Windfarm (As Built)

Cummermore Comms. Pole (Existing)

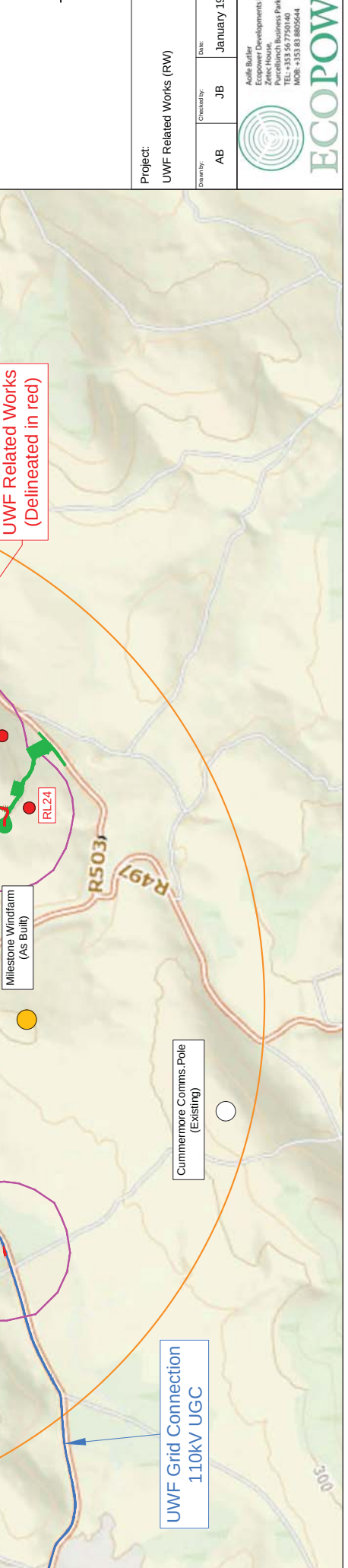
UWF Grid Connection 110kV UGC

The map displays the UWF Grid Connection 110kV UGC area. A large orange circle indicates the 500m from UWF Related Works CWA Cumulative Evaluation Study Area. A red line delineates the UWF Related Works. A yellow circle marks the Milestone Windfarm (As Built). A white circle marks the Cummermore Comms Pole (Existing). The map also shows the UWF Grid Connection 110kV UGC and the UWF Grid Connection 110kV UGC.

The map displays the UWF Grid Connection 110KV UGC area. Key features include:

- UWF Grid Connection 110KV UGC:** Indicated by a blue line with an arrow pointing to it.
- UWF Related Works (Delineated in red):** A red line segment connecting several red dots labeled RL10, RL11, RL12, RL13, RL14, RL15, RL23, and RL24.
- Evaluation Study Area:** A purple shaded region encompassing the UWF related works and the Milestone Windfarm.
- Milestone Windfarm (As Built):** A yellow circle with a label pointing to it.
- Cummermore Comms Pole (Existing):** A white circle with a label pointing to it.
- Topography:** The map shows contour lines and elevation markers (e.g., 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000).
- Legend:**
 - Project:** UWF
 - Drawn by:** AB

Topographic map showing the UWF Grid Connection 110KV UGC, UWF Related Works (delineated in red), and Milestone Windfarm (As Built). The map includes labels for R503, R497, and R500 roads, and a legend for Project UWF, Drawn by: AB, and a scale bar.



UWF Grid Connection
110KV UGC

Cummermore Comms. Pole
(Existing)

R49

300

UWF Grid Connection 110kV UGC

Cummermore Comms. Pole (Existing)

300

110KV UGC

(Existing)

300

110KV UGC

(Existing)

300

Title:
Figure WP 16.2

Recorded Legally Protected Sites
within the Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

- UWF Related Works
- UWF Grid Connection
- Upperchurch Windfarm
- 500m Study Area
 - UWF Related Works
 - UWF Grid Connection
- Upperchurch Windfarm 2013 Study Area
- 4km Study Area
 - Mounphilips Substation
 - Telecoms Relay Pole

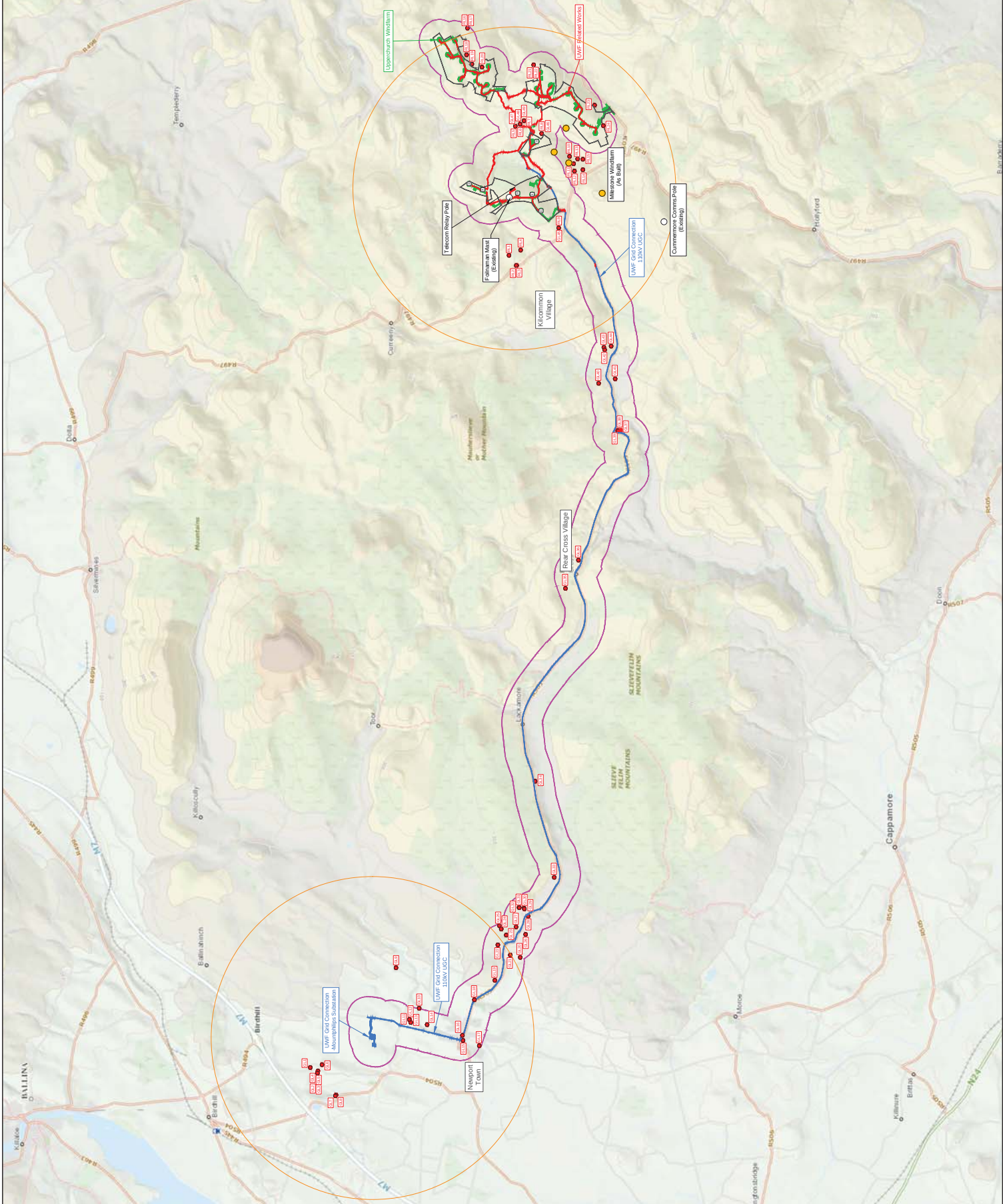
Survey Results :

- Other existing and permitted projects/activity
- Other project - Milestone Windfarm turbines
- Recorded Legally Protected Sites within either 500m pf CWA or 2km of Telecom Relay Pole
- Recorded Legally Protected Sites Identification (Related Works)
- Recorded Legally Protected Sites Identification (Grid Connection)
- ☒ Consented UWF Turbines within 2km of Telecoms Relay Pole



Project:
UWF Related Works (RW)

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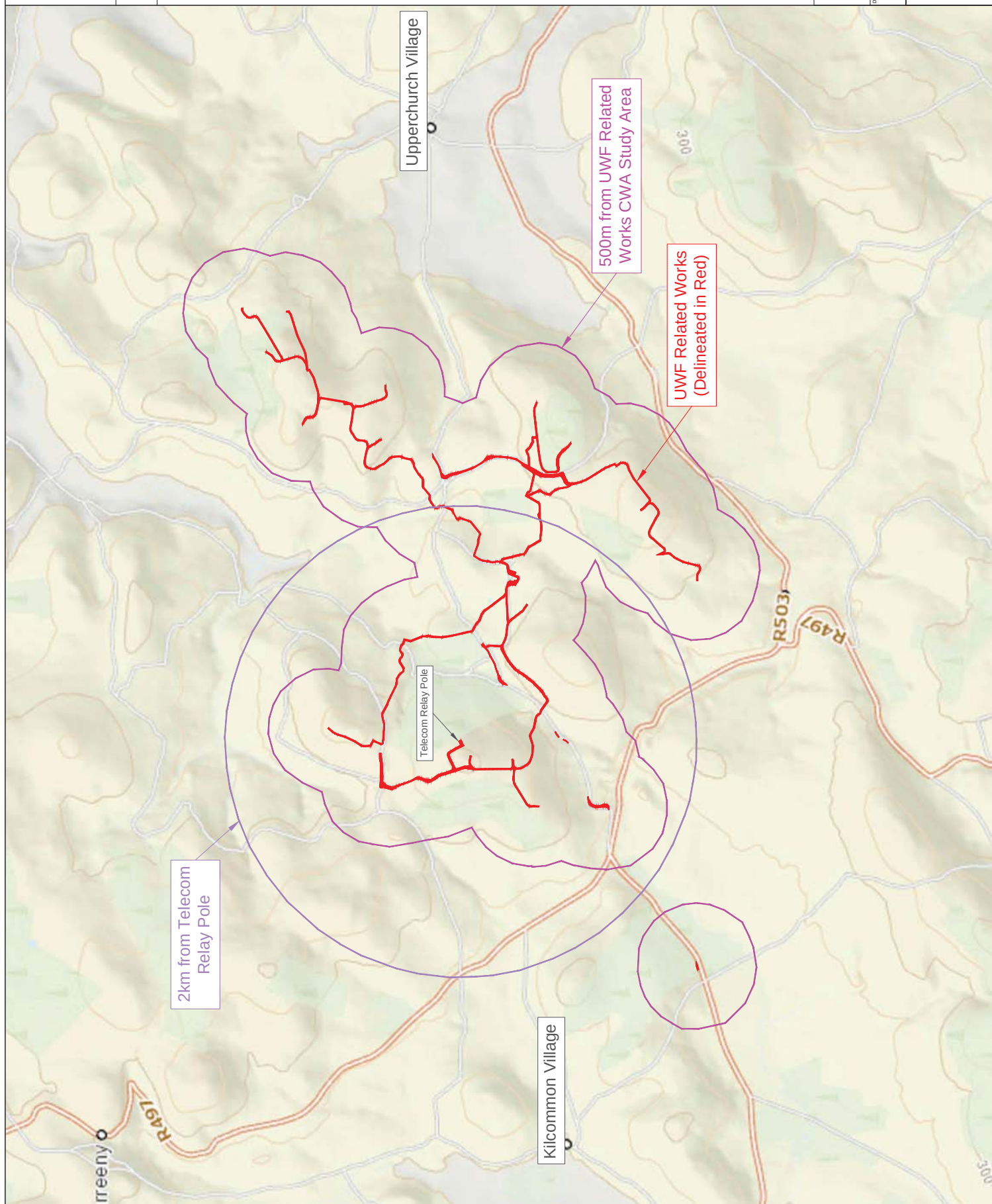
A vertical strip of a topographic map. It features contour lines in shades of brown and grey, indicating elevation. A red line, likely a road or railway, runs vertically through the center. The background is a mix of light green and yellow, representing different land cover types.

-
- Topographic map of the study area. The map shows contour lines, a river, and a road. A red line indicates the location of the study site, and a purple line indicates the location of the study site. The map is oriented with North at the top.

Upperchurch Village

Telecom Relay Pole

UWRF Related Works Construction Works Area and the 2km Study Area for the Telecoms Relay Pole there were no Other Recorded Site recorded



The map displays the Upperchurch Windfarm area, showing the proposed UWF Related Works (delineated in red) and the UWF Related Works CWA Cumulative Evaluation Study Area (delineated in purple). The map includes labels for Upperchurch Village, Upperchurch Windfarm, 500m from UWF Related Works CWA Cumulative Evaluation Study Area, UWF Related Works (Delineated in red), Telecom Relay Pole, 2km from Telecom Relay Pole, Kilcommon Village, and UWF Grid Connection 110kV UGC.

Map Number:
Map Overview on OSI Mapping

Study Area Extents :

500m Study Area
- UWF Related Works
Construction Works Area

Cumulative Projects:

Survey Results :

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Title:
Figure WP 16.3
Other Recorded Sites within
the Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

- UWF Grid Connection
UWF Related Works
Upperchurch Windfarm

- 500m Study Area
- UWF Grid Connection
- UWF Related Works

- 2km Study Area
- Telecoms Relay Pole
 - Mountphilips Substation

Survey Results :

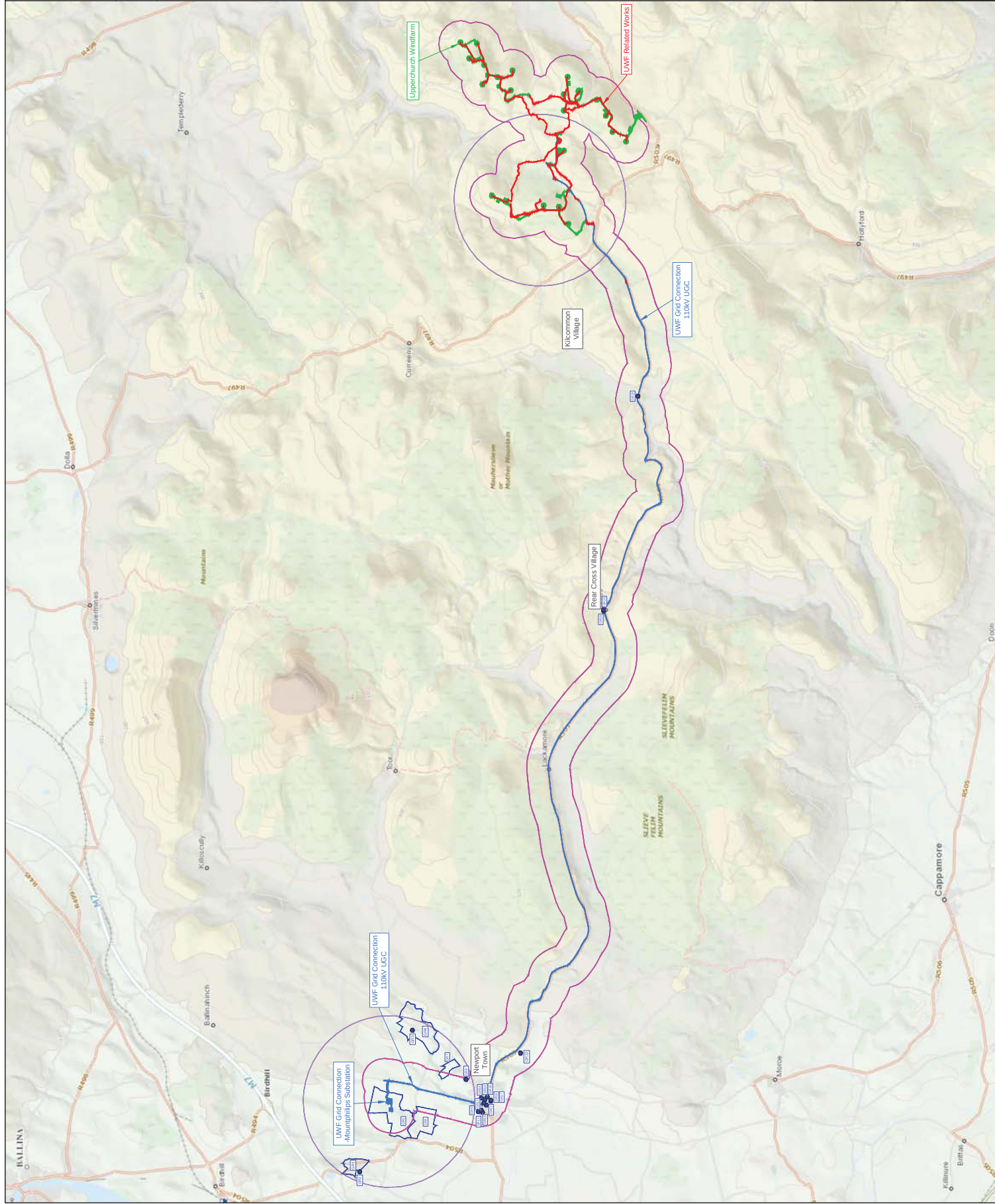
- Other Recorded Sites
- Other Recorded Sites Identification (Grid Connection)
- Other Recorded Site - Demesne

REFERENCE DOCUMENTS



Project: UWF Related Works (RW)

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Title:

Figure RW 16.4

Previously Unrecorded Sites within the UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

UWF Related Works

500m Study Area

- UWF Related Works

— 2km Study Area

- Telecoms Relay Pole

Townlands

Survey Results :

● Previously Unrecorded Site

**Previously Unrecorded Site Identification
(Related Works)**

Project:

UWF Related Works (RW)

raven by:

Checked by:

Date: _____

11



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Title:
Figure WP 16.4

Previously Unrecorded Sites within
the Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

UWV Grid Connection

UWV Related Works

Upperchurch Windfarm

500m Study Area

UWV Grid Connection
- UWV Related Works

Upperchurch Windfarm 2013
Study Area

2km Study Area
- Telecoms Relay Pole
- Mounphilips Substation

Survey Results :

Previously Unrecorded Sites

Previously Unrecorded Sites Identification
(Grid Connection)

Previously Unrecorded Sites Identification
(Related Works)

Previously Unrecorded Sites - Demesne

Consented UWV Turbines within
2km of Telecoms Relay Pole

Existing Milestone Windfarm



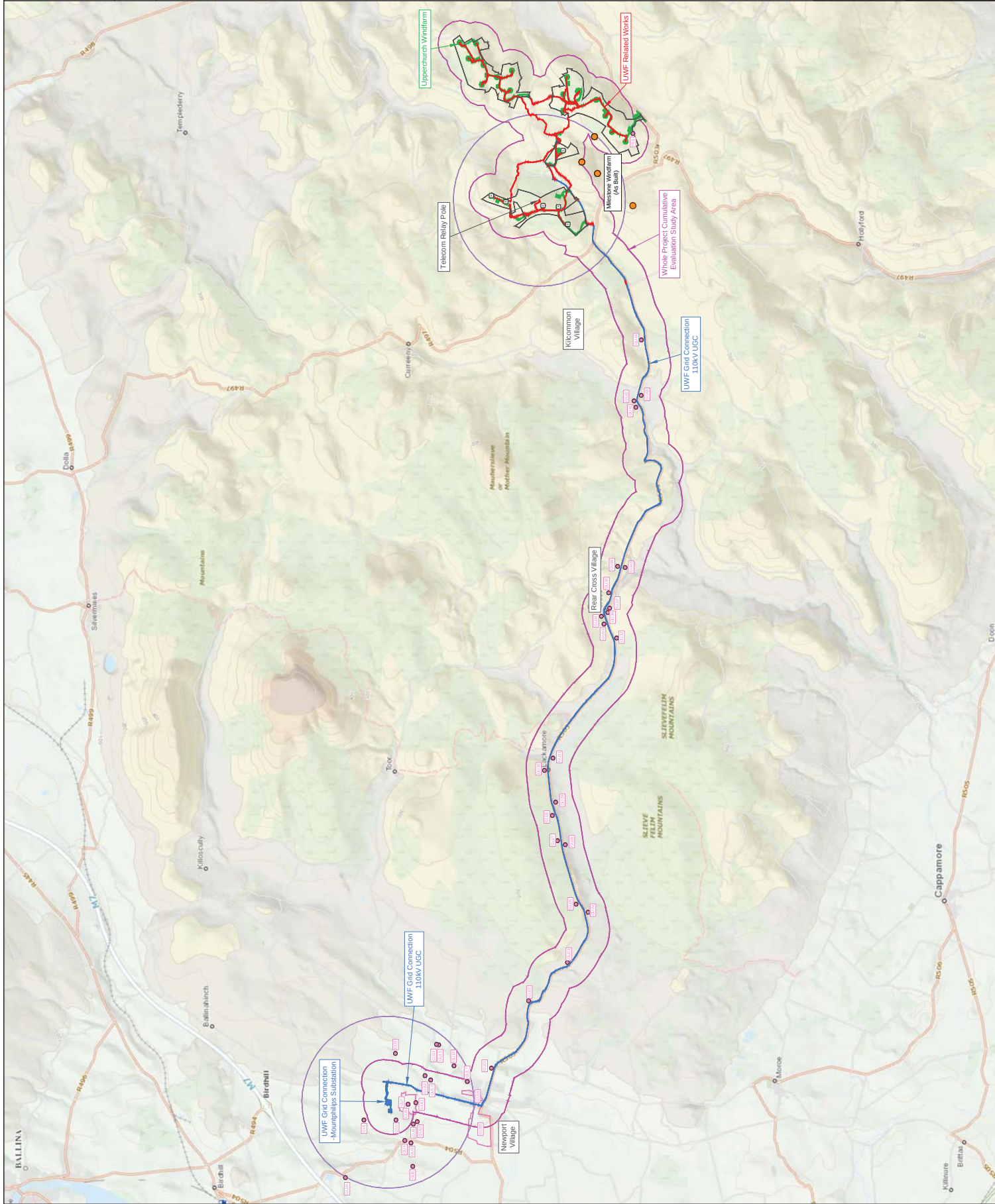
Project:
UWV Related Works (RW)

Drawn by: AB
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Title:
Figure RW 16.5
Unrecorded Subsurface Sites within
the UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

— UWF Related Works

Survey Results :

● Location of Test Trench

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by:

AB

Checked by:

JB

Date:

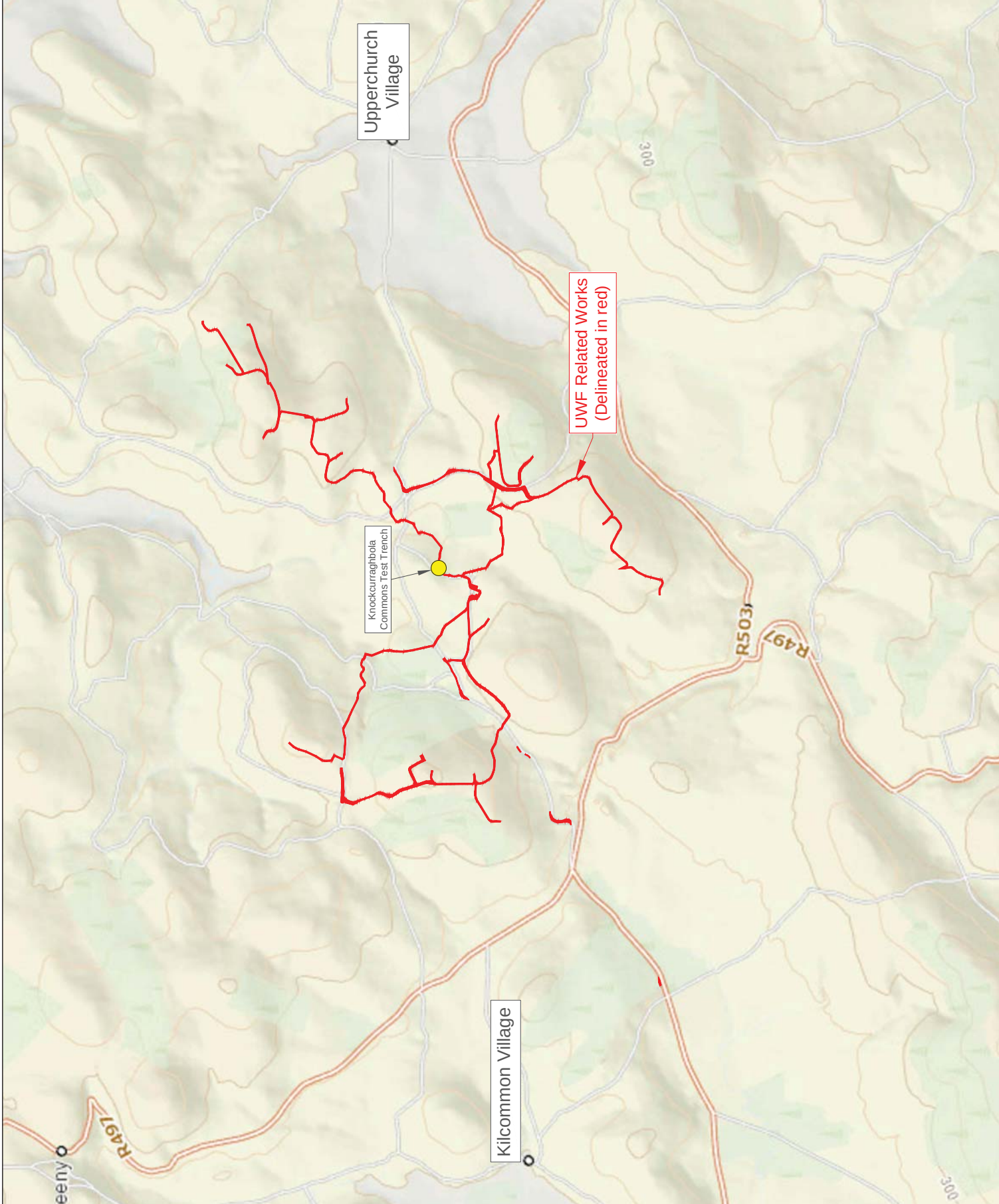
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Title:
Figure CE 16.5

Unrecorded Subsurface Sites
within the UWF Related Works
Cumulative Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents :

UWF Related Works
Construction Works Area

Cumulative Projects :

UWF Grid Connection
Construction Works Area

Upperchurch Windfarm
Construction Works Area

Survey Results :

Location of Test Trench

REFERENCE DOCUMENTS



Project:
UWF Related Works (RW)

Drawn by:
AB

Checked by:
JB

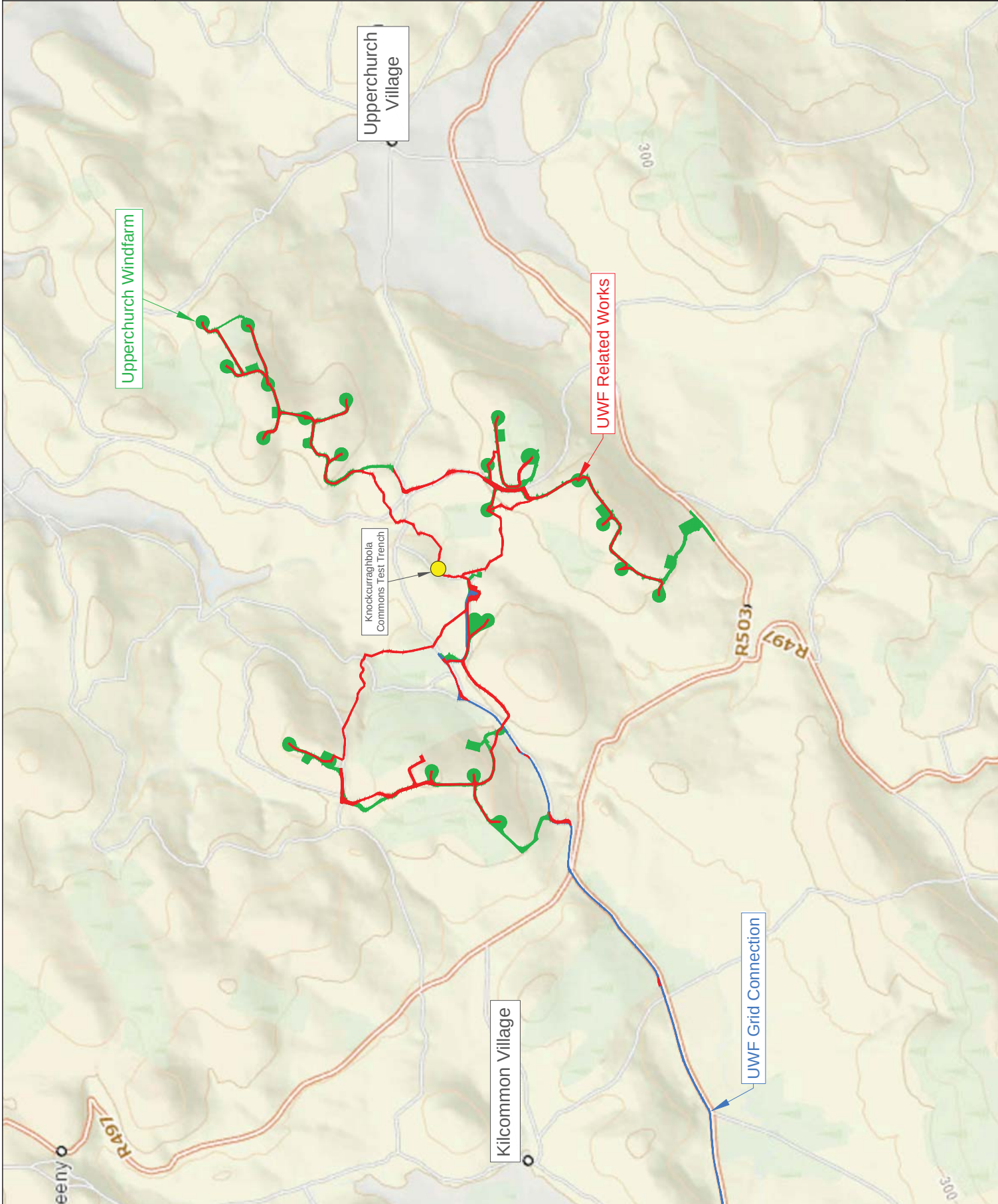
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Title:
Figure WP 16.5

Unrecorded Subsurface Sites within the Whole Project Cumulative Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extends:

UWF Related Works

UWF Grid Connection

Upperchurch Windfarm

Survey Results :

● Location of Test Trench

Project:

UWF Related Works (RW)

drawn by:

Check

1

Date: _____

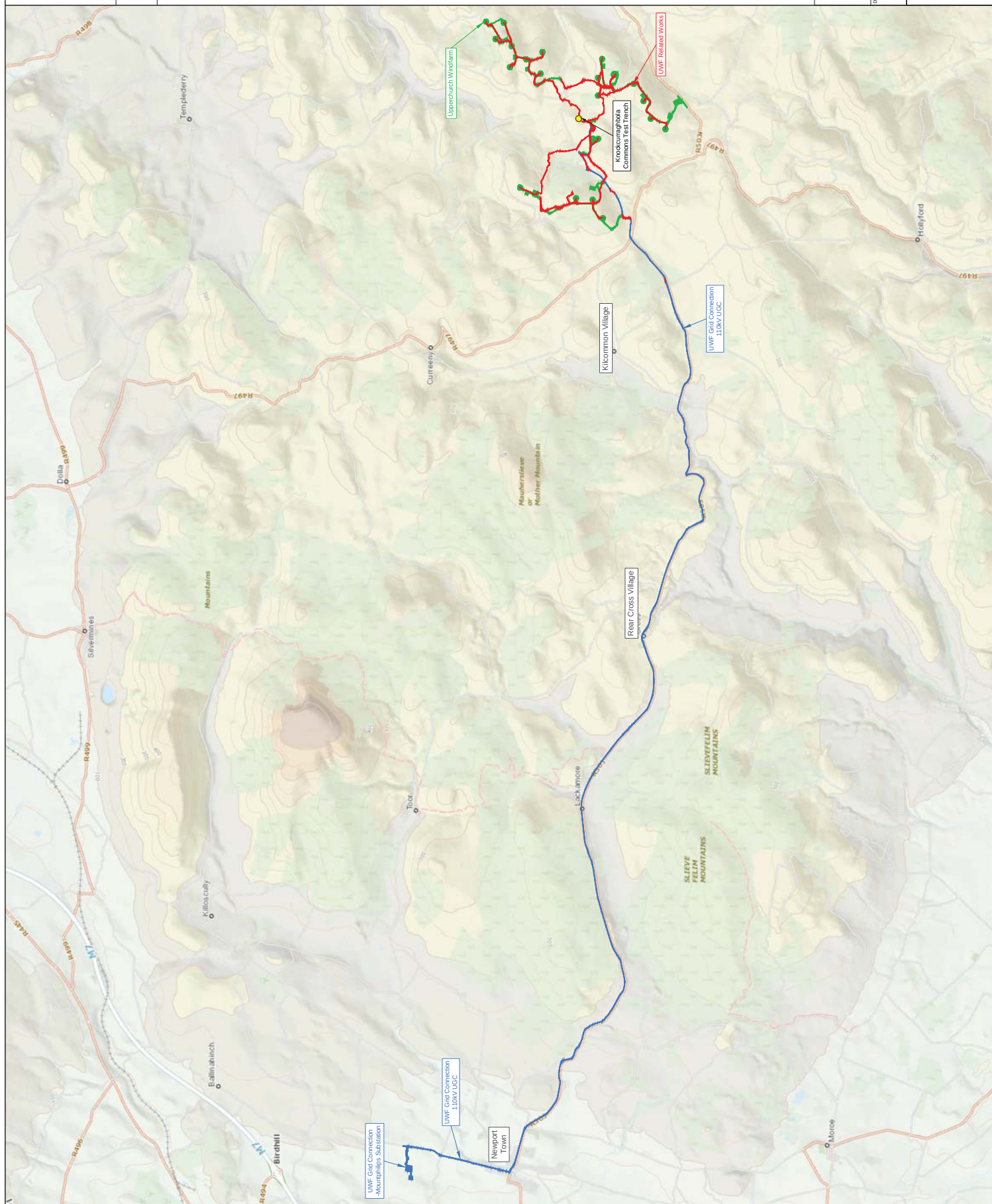
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Title:
Figure RW 17.1

Location of the UWF Related Works

Map Number:
Map 1 of 1

Legend:

— UWF Related Works

— LCA 17 Upperchurch, Kilcommon & Hollyford Mountain Mosaic

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Project:

UWF Related Works (RW)

Drawn by:

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Date:

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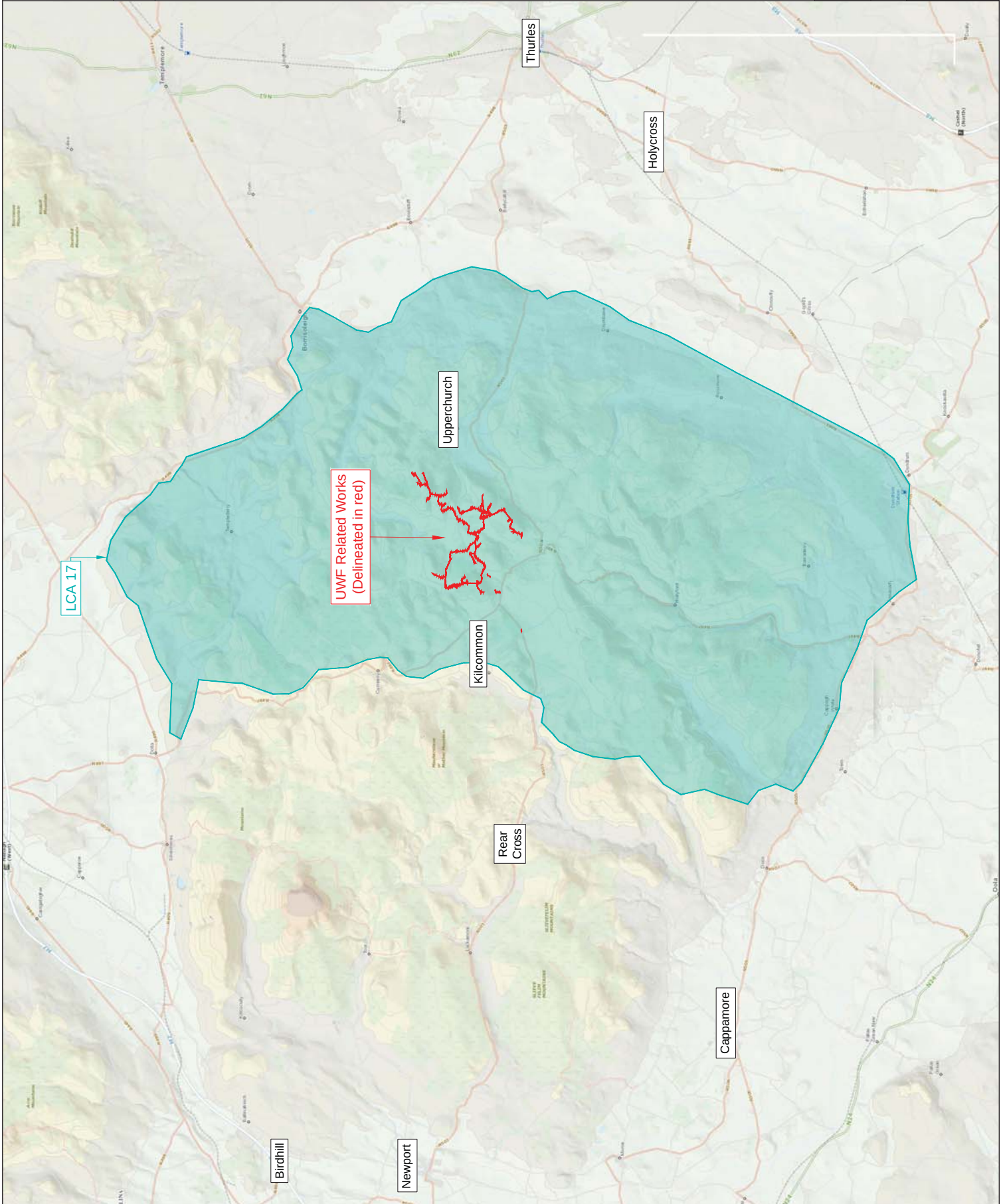
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Title: **Figure RW 17.2**
Landscape Character within the
UWF Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area: _____

- **UWF Related Works**
 - Realigned Windfarm Roads
 - Internal Windfarm Cabling
 - Telecom Relay Pole
 - Haul Route Works
- **500m Study Area from the UWF Related Works**
- **2km Study Area from Telecom Relay Pole**

REFERENCE DOCUMENTS



Project:

JWF Related Works (RW)

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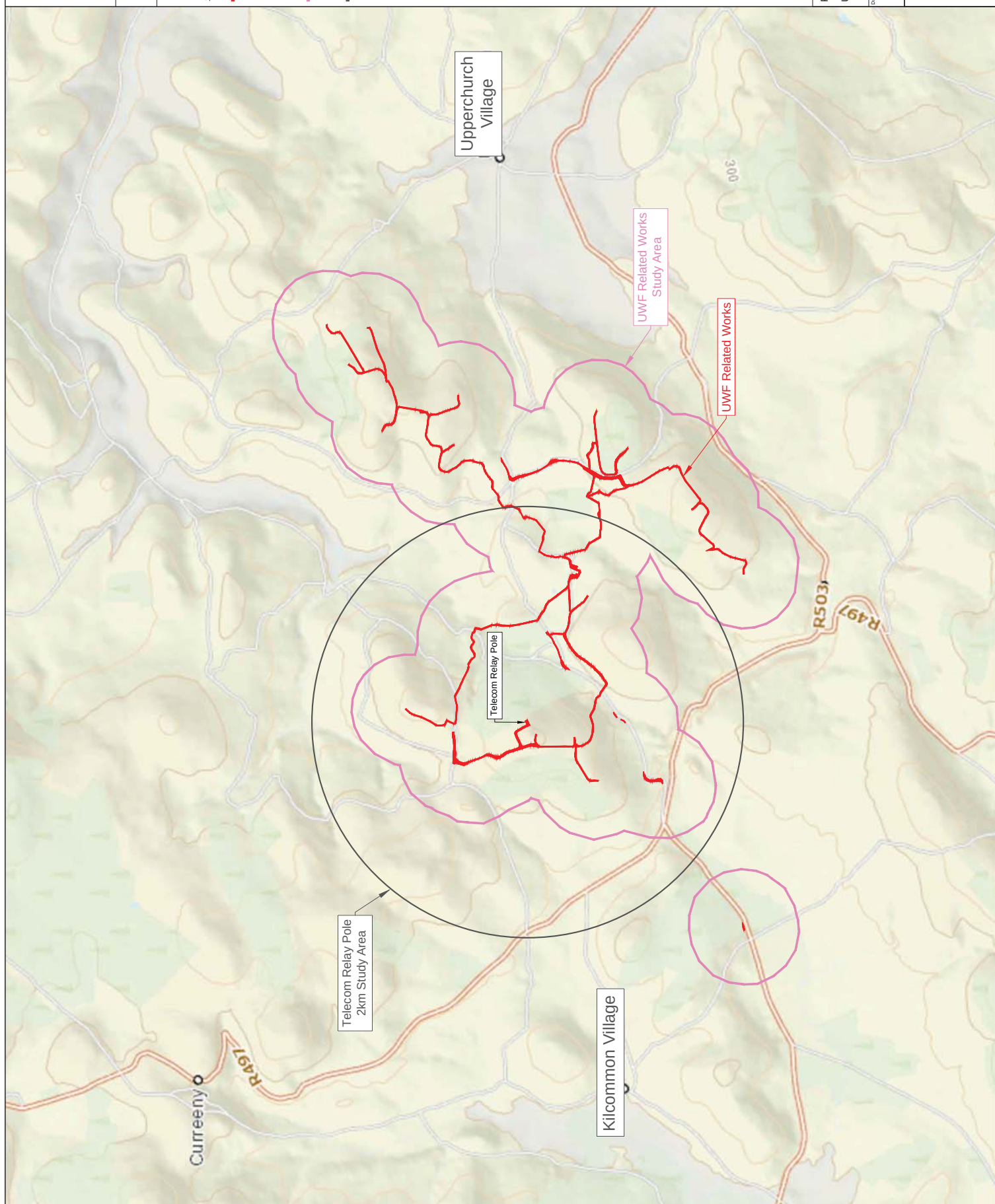
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Title:
Figure CE 17.2

Landscape Character within the
UWF Related Works Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works Construction
Works Area

1km Study Area
- Internal Windfarm Cabling
- Realigned Windfarm Roads

4km Study Area from Telecom Relay Pole

Cumulative Projects:

UWF Grid Connection Construction
Works Area

Upperchurch Windfarm Construction
Works Area

UWF Replacement Forestry Construction
Works Area

Existing Milestone Windfarm

Other existing and permitted
projects/activity

Survey Results:

Landholding - Agricultural Land

Landholding - Forestry Land

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

Drawn by:

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Date:

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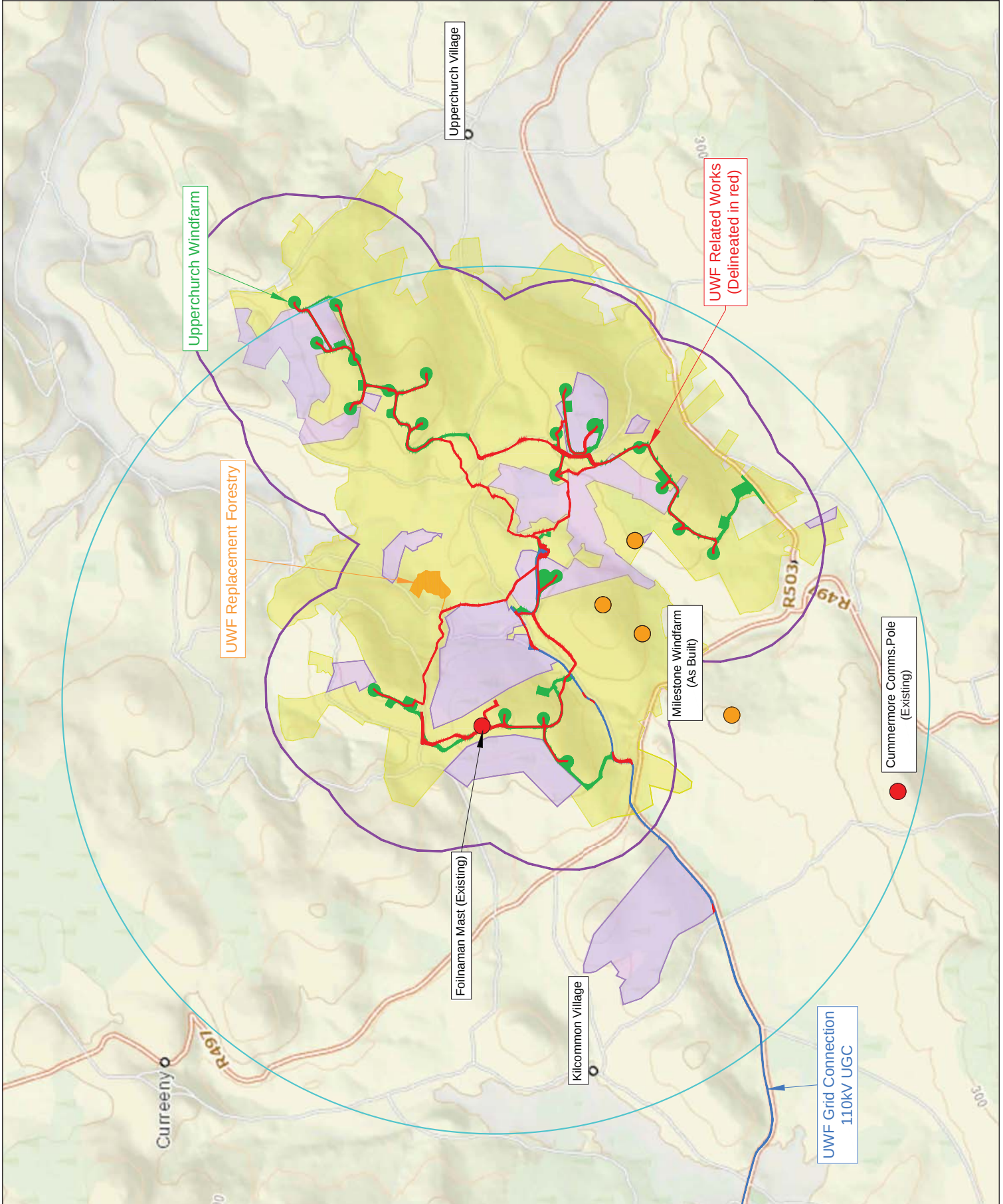
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Title:
Figure WP 17.2
Landscape Character within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area:

- UWF Grid Connection
 - UWF Related Works
 - UWF Replacement Forestry
 - Upperchurch Windfarm
 - 1km Study Area
 - UWF Grid Connection
 - Internal Windfarm Cabling
 - Realigned Windfarm Roads
 - 4km Study Area
 - Mounthilips Substation
 - Telecom Relay Pole
 - UWF Replacement Forestry
- Survey Results:
- Existing Milestone Windfarm
 - Other existing and permitted projects/activity
 - Landholding - Agricultural Land
 - Landholding - Forestry Land

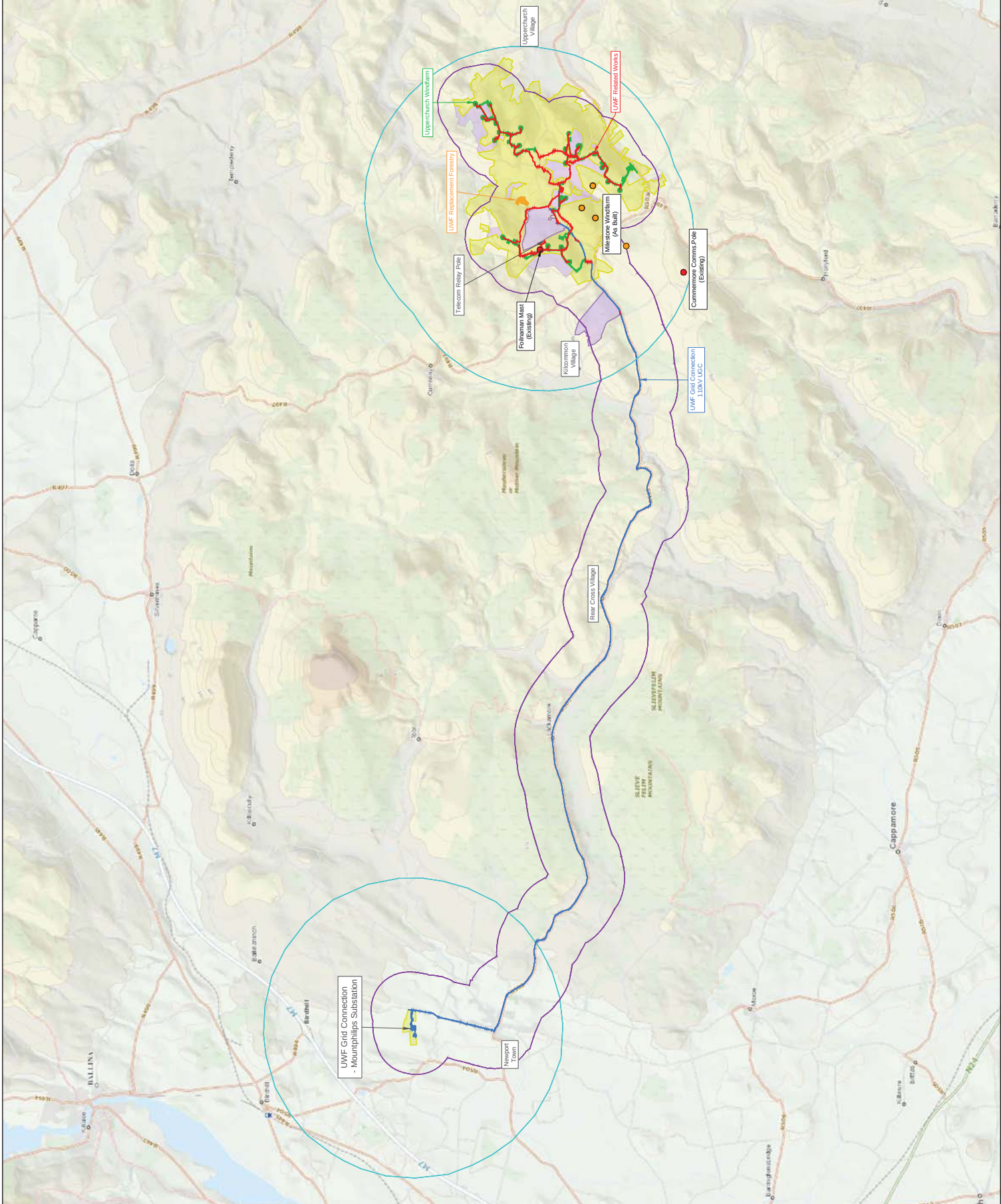


Project:
UWF Related Works (RW)

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Title:
Figure RW 17.3
Visual Amenity within the UWF
Related Works Study Area

Map Number:
Map 1 of 1

Legend:

Study Area:

— UWF Related Works

— 500m Study Area from the
UWF Related Works

— 2km Study Area from Telecom Relay Pole

Survey Results:

— Walking/Cycling and Scenic Routes

REFERENCE DOCUMENTS



Project:

UWF Related Works (RW)

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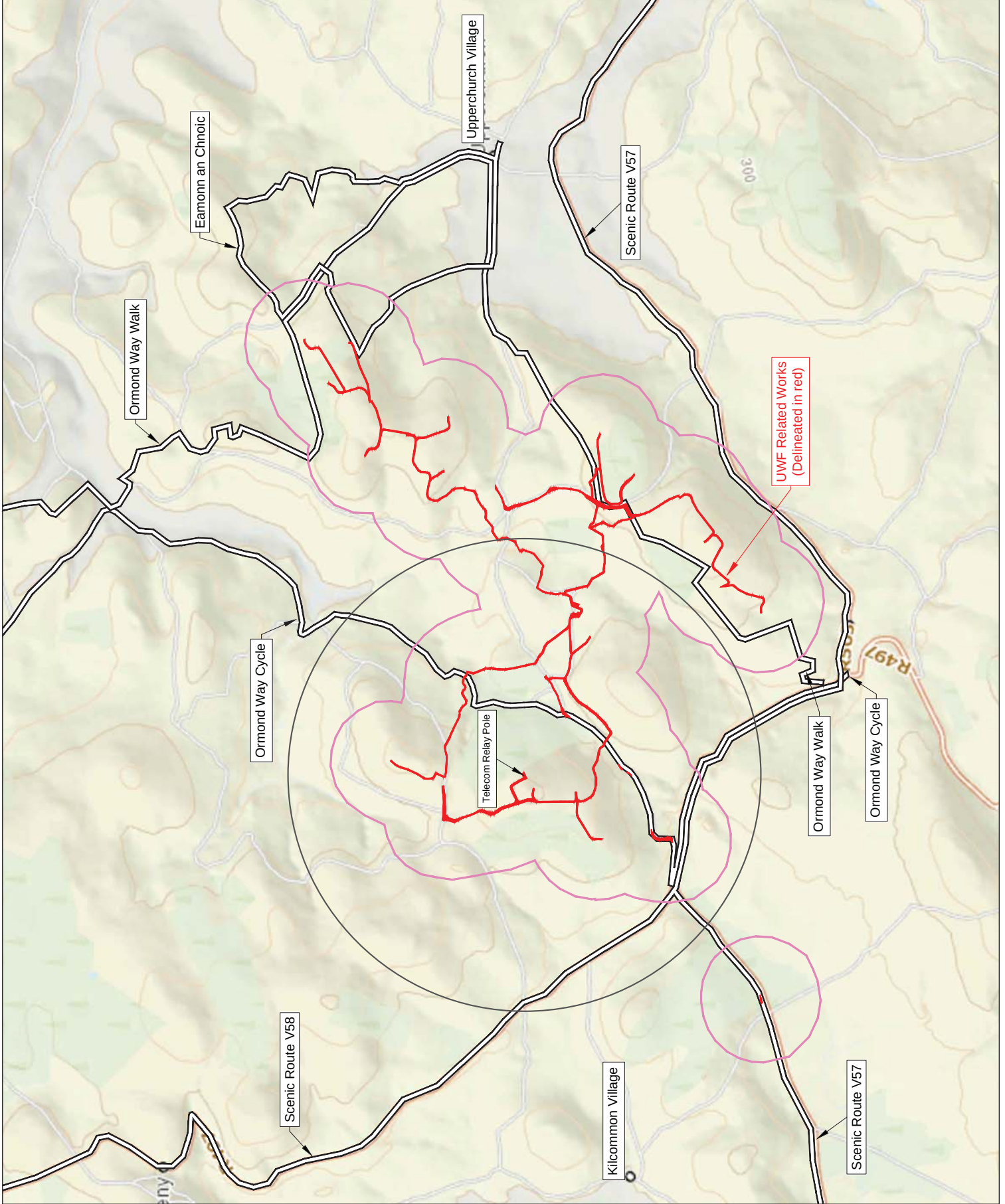
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Title:
Figure CE 17.3

Visual Amenity within the UWF
Related Works Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area Extents:

UWF Related Works Construction
Works Area

2km Study Area from Telecom Relay Pole

4km Study Area from Telecom Relay Pole

Cumulative Projects:

UWF Grid Connection Construction
Works Area

Upperchurch Windfarm Construction
Works Area

UWF Replacement Forestry Construction
Works Area

Existing Milestone Windfarm

Other existing and permitted
projects/activity

Survey Results:

Landholding - Agricultural Land

Landholding - Forestry Land

Walking/Cycling and Scenic Routes



Project:

UWF Related Works (RW)

Drawn by:

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Checked by:

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Date:

January 19

Sheet Size:

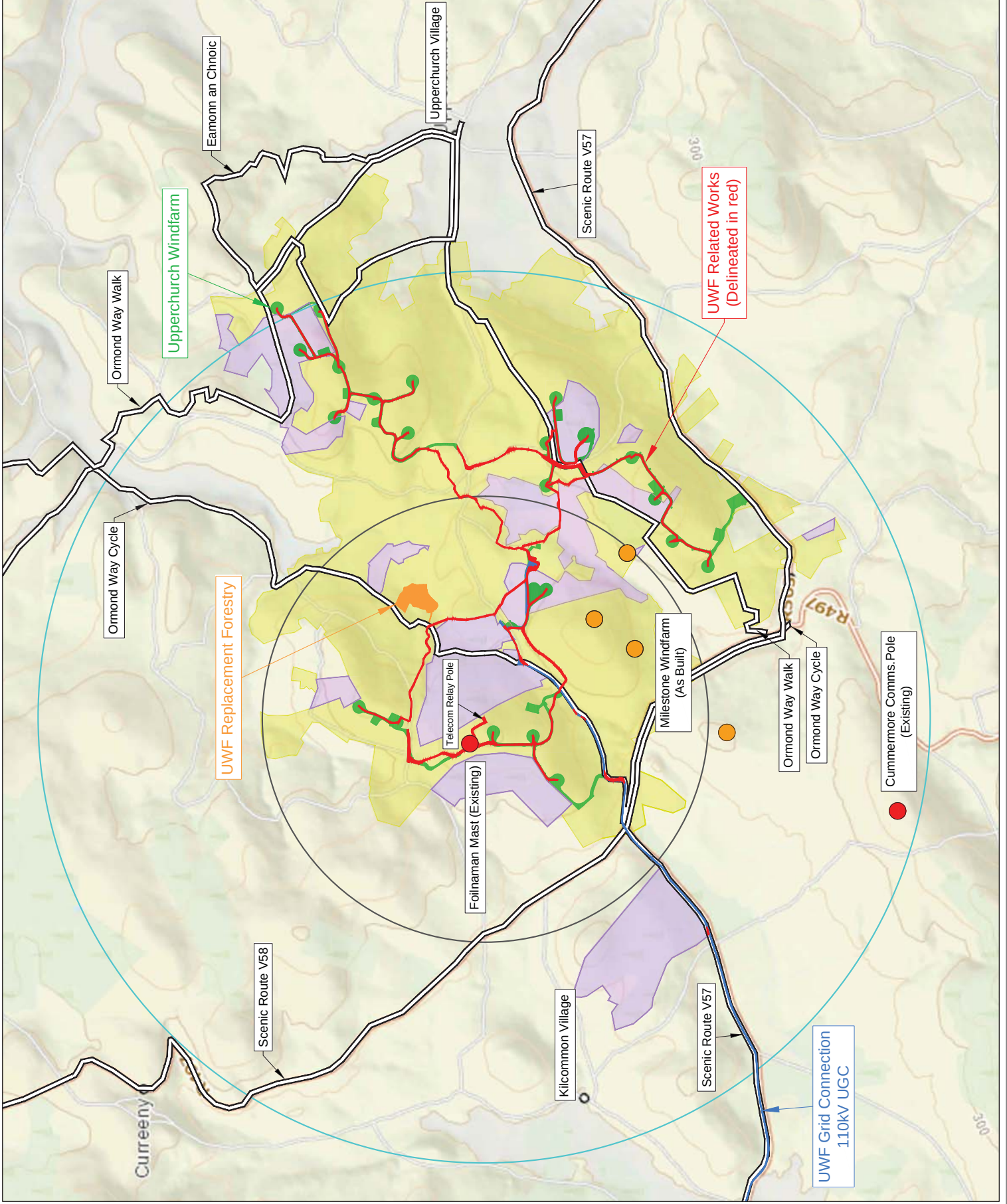
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REFERENCE DOCUMENTS



Title:
Figure WP 17.3
Visual Amenity within the
Whole Project Cumulative
Evaluation Study Area

Map Number:
Map 1 of 1

Legend:

Study Area:

- UWF Grid Connection
- UWF Related Works
- UWF Replacement Forestry
- Upperchurch Windfarm

- 1km Study Area
 - UWF Grid Connection
 - Internal Windfarm Cabling
 - Realigned Windfarm Roads

- 4km Study Area
 - Mounphilips Substation
 - Telecom Relay Pole
 - UWF Replacement Forestry

Survey Results:

- Existing Milestone Windfarm
- Other existing and permitted projects/activity
- Landholding - Agricultural Land
- Landholding - Forestry Land
- Walking/Cycling and Scenic Routes



Project:
UWF Related Works (RW)

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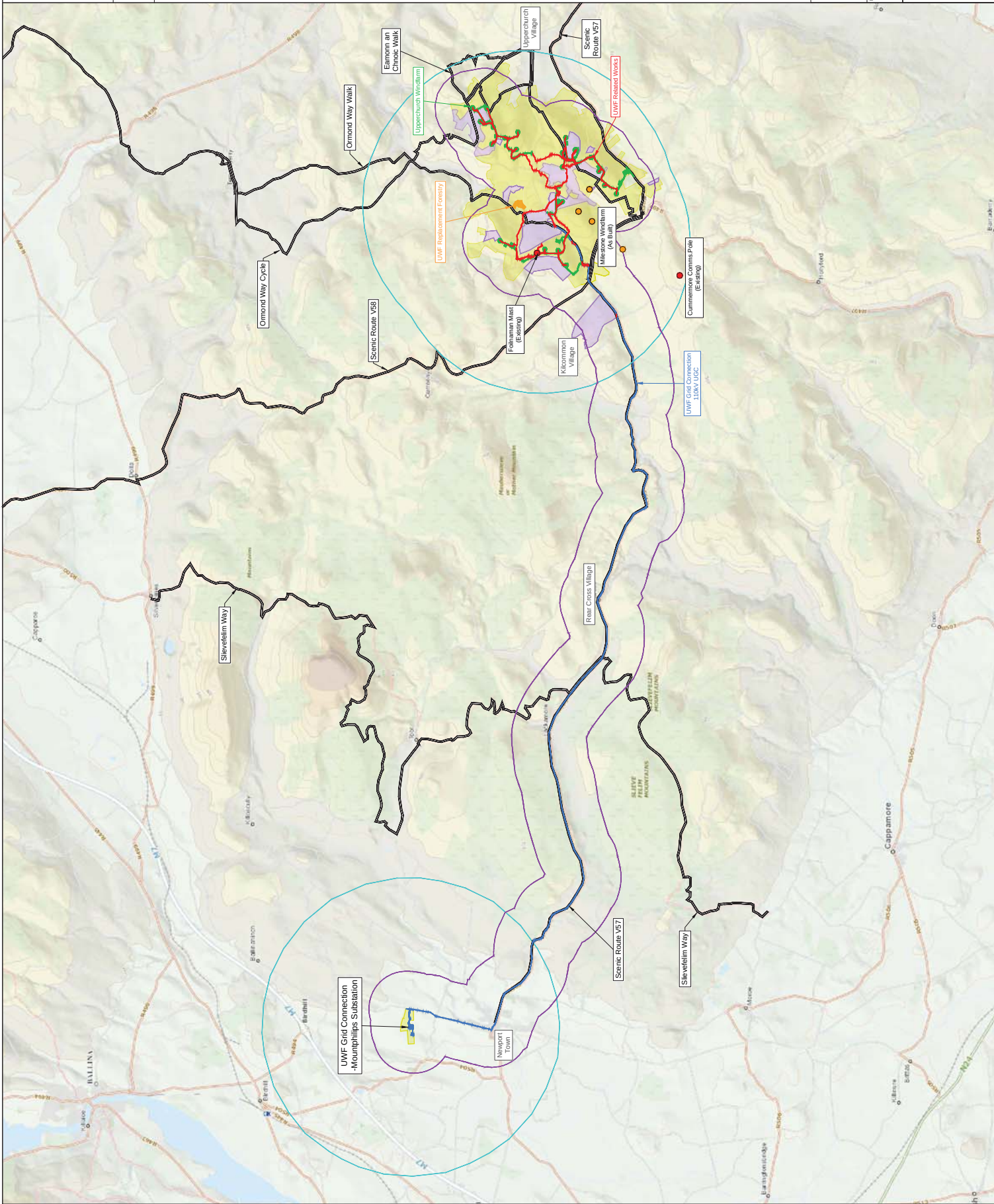
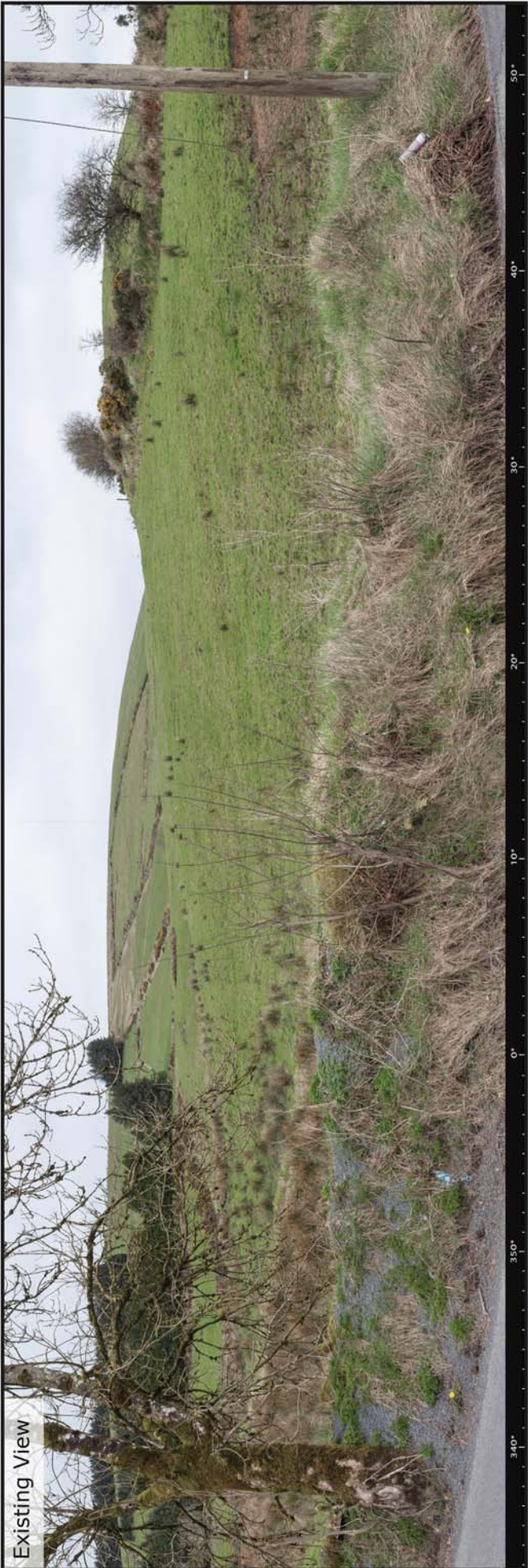


Figure RW 17.4: Visibility of the Telecom Relay Pole from VP1 on the R503



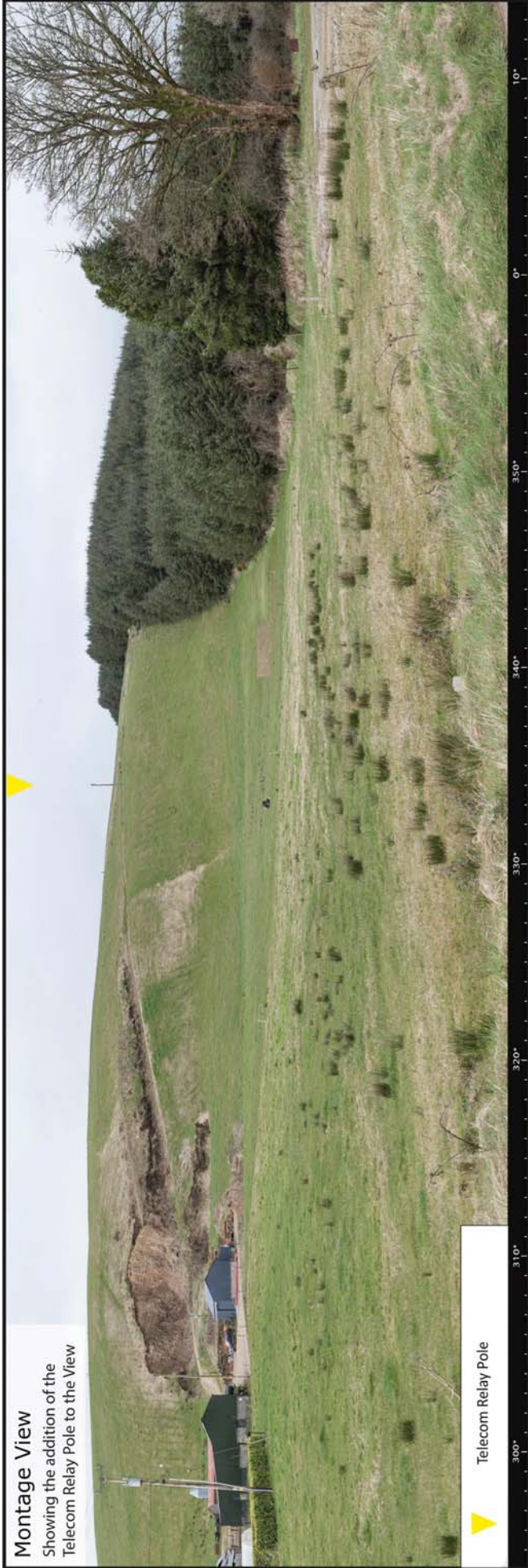
These are 80° panoramic montages captured and presented in accordance with the guidance set by the British Landscape Institute 2011 - Advice Note 01/11.

To view these panoramas on a flat surface one must move from left to right along its length whilst maintaining a perpendicular viewing direction and the specified correct viewing distance of 30cm. To see this entire panoramic scene in reality would necessitate turning one's head through 40°.

Easting (IG) : Northing (IG) : Direction of View Angle of View:	193193 159631 14° E of Grid North 80°	Lens: Camera: Camera Height:	50mm / Full Frame Sensor Canon 1-D Mark II digital SLR 1.7m Above Ground Level	Date: Time:	15-Mar-17 12:30
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Figure RW 17.5: Visibility of the Telecom Relay Pole from VP2 on the L-2264-50 Local Road



These are 80° panoramic montages captured and presented in accordance with the guidance set by the British Landscape Institute 2011 - Advice Note 01/11.

To view these panoramas on a flat surface one must move from left to right along its length whilst maintaining a perpendicular viewing direction and the specified correct viewing distance of 30cm. To see this entire panoramic scene in reality would necessitate turning one's head through 40°.

Easting (IG) :
Northing (IG) :
Direction of View
Angle of View:

193857
160325
26° W of Grid North
80°

Lens:
Camera:
Camera Height:

50mm / Full Frame Sensor
Canon 1-D Mark II digital SLR
1.7m Above Ground Level

Date:
Time:

15-Mar-17
12:47



Figures for Chapter 18: Interaction of the Foregoing		Tab 18 (printed version)
No mapping or figures for Chapter 18		

REFERENCE DOCUMENTS



Figures for Chapter 19: Monitoring Arrangements	Tab 19 (printed version)
No mapping or figures for Chapter 19	

REFERENCE DOCUMENTS



Figures for Chapter 20: Executive Summary	Tab 20 (printed version)
No mapping or figures for Chapter 20	

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