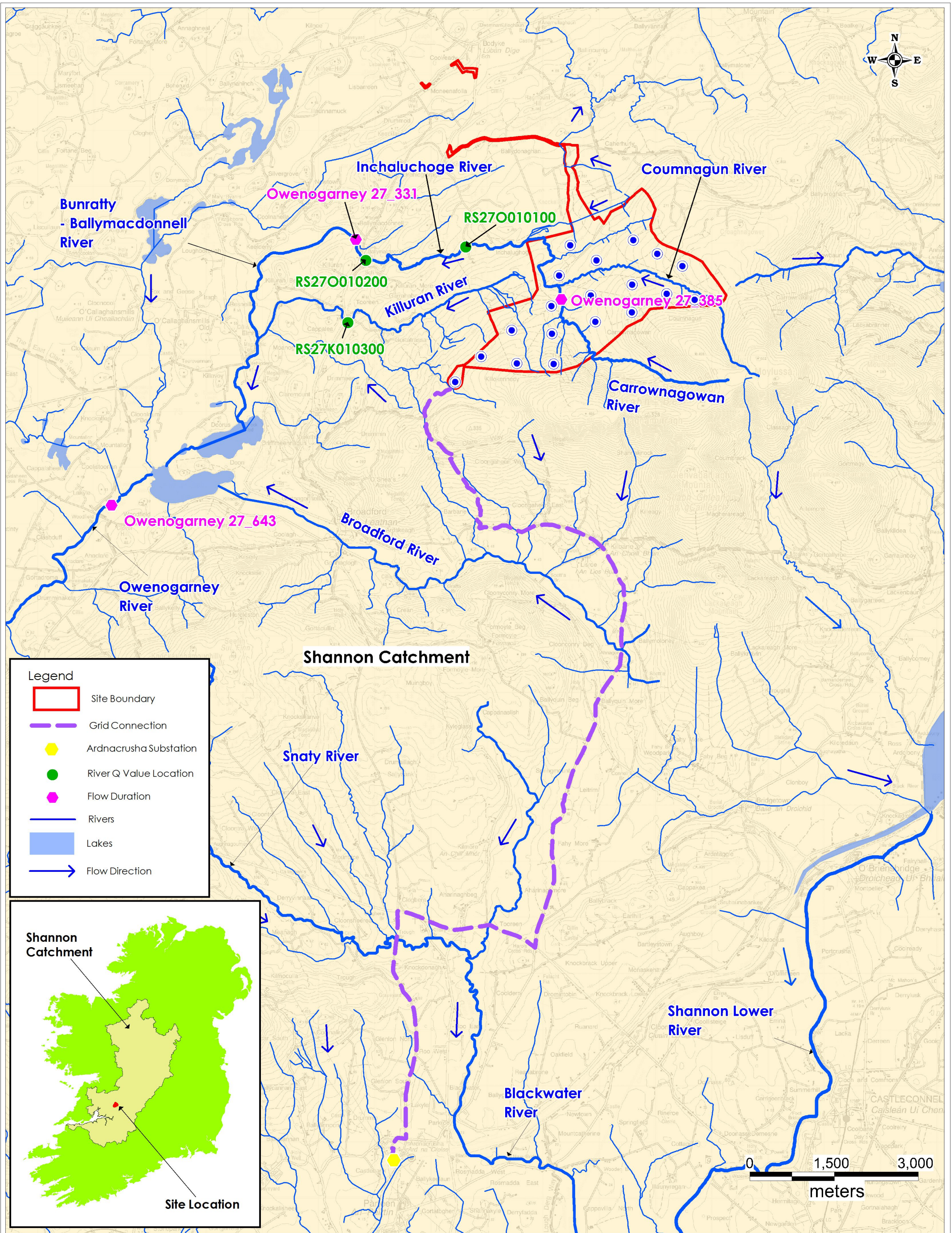


# Appendix 8-1

## Water Chapter Figures and Maps

- Figure 8.1 Regional Hydrology Map (WF and Grid Route)
- Figure 8.2. Regional Hydrology (Ballard)
- Figure 8.3. Regional Hydrology (Cooraclare)
- Figure 8.4. Regional Hydrology (Trillickacurry)
- Figure 8.5 Local Hydrology Map
- Figure 8.11 Local Hydrology Map with sampling points (Grid Route)
- Figure 8.12 Local Hydrogeology Map (Wind Farm)
- Figure 8.13 Local Hydrogeology Map (Grid Route)
- Figure 8.14. Local Hydrogeology (Ballard)
- Figure 8.15. Local Hydrogeology (Cooraclare)
- Figure 8.16. Local Hydrogeology (Trillickacurry)
- Figure 8.17 Designates Sites Map (WF and GC)
- Figure 8.18 CSM Cross-Sections between Wind Farm site and Slieve Bernagh SAC
- Figure 8.19. Local Public Water Supply Map
- Figure 8.20\_Cross-Sections towards Local Public Water Supply Sources
- Figure 8.21. Local Private Water Supply Map
- Figure 8.22 Hydrological Constraints 75m Buffer Map
- Figure 8.23 Existing and Proposed river crossings Map
- Figure 8.25 Cumulative Map



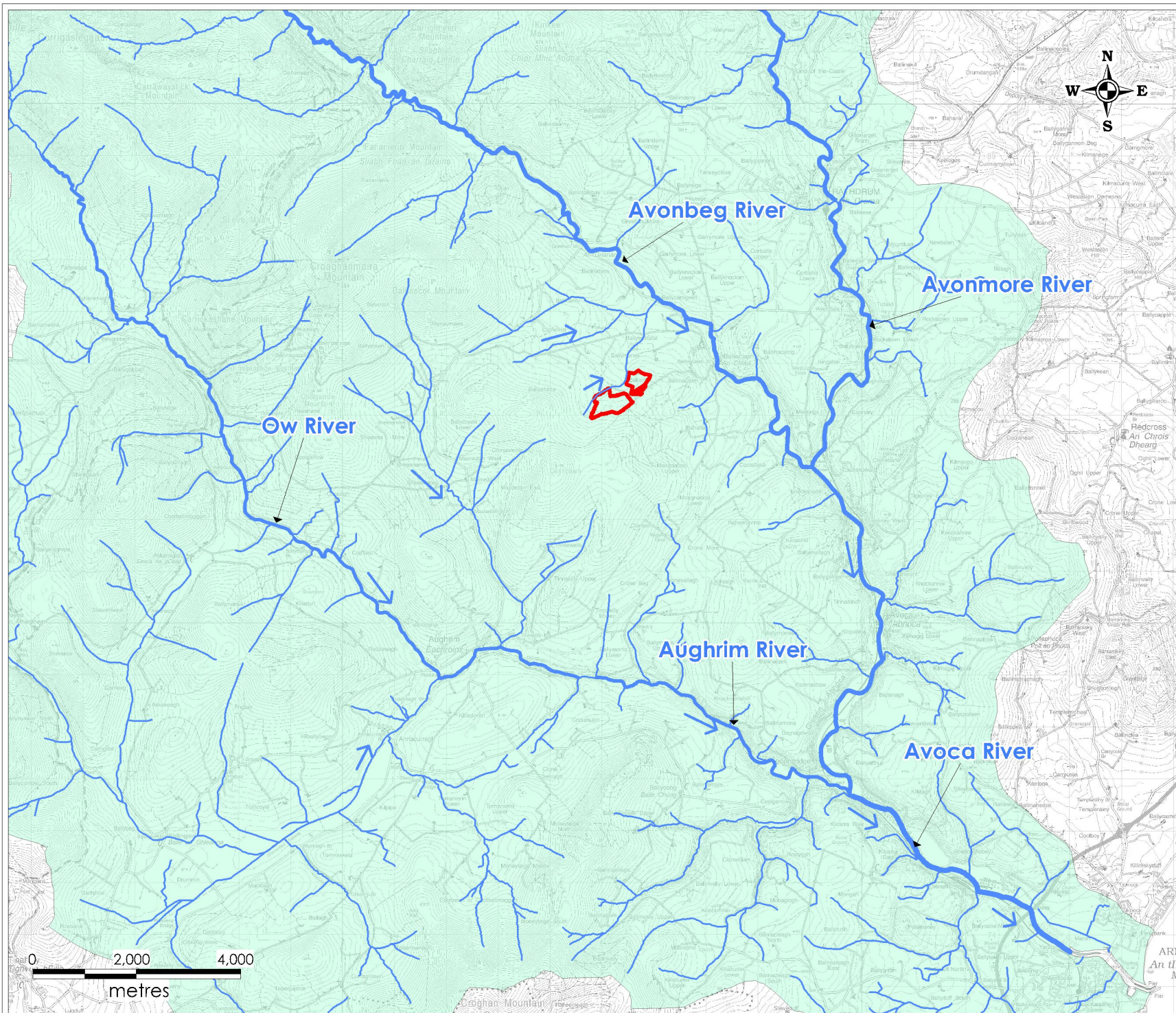


Client: Malachy Walsh and Partners
Job: Carrownagowan WF, Co. Clare
Title: Regional Hydrology Map (Wind Farm)
Figure No: 8.1


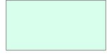

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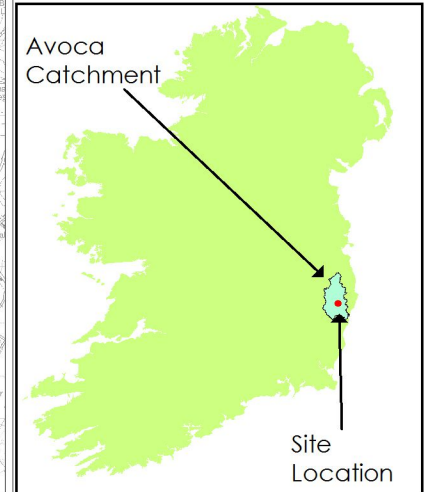
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**Legend**

-  Site Boundary (Ballard)
-  Avoca Catchment
-  Rivers



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web: [www.hydroenvironmental.ie](http://www.hydroenvironmental.ie)

Title: Regional Hydrology Map (Ballard)

Client: Malachy Walsh and Partners

Job: Carrownagowan WF, Co. Clare

Project No: P1444-0

Figure No: 8.2

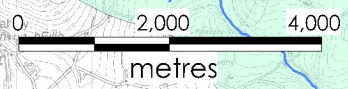
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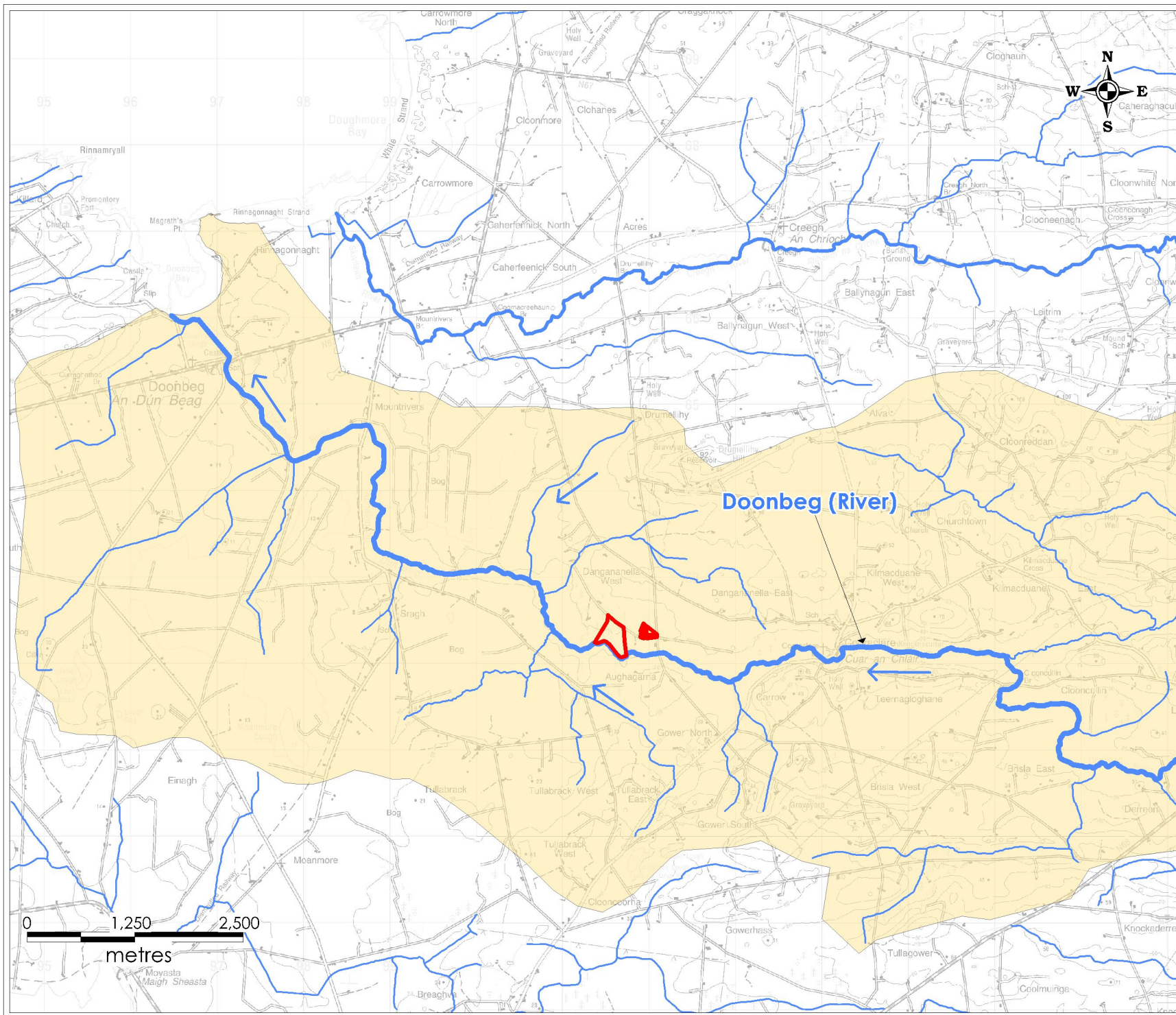
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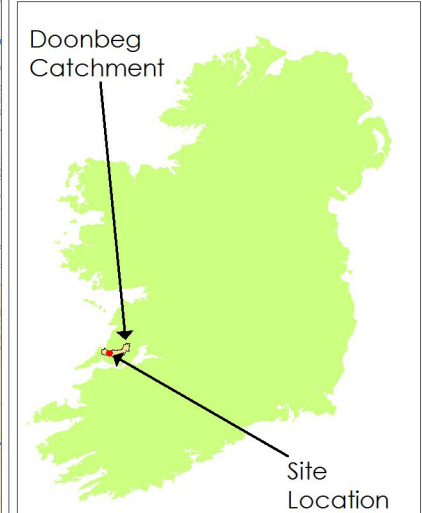






**Legend**

-  Site Boundary (Cooaclare)
-  Doonbeg Catchment
-  Rivers



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Title: Regional Hydrology Map (Cooaclare)

Client: Malachy Walsh and Partners

Job: Carrownagowan WF, Co. Clare

Project No: P1444-0

Figure No: 8.3

Sheet Size: A4

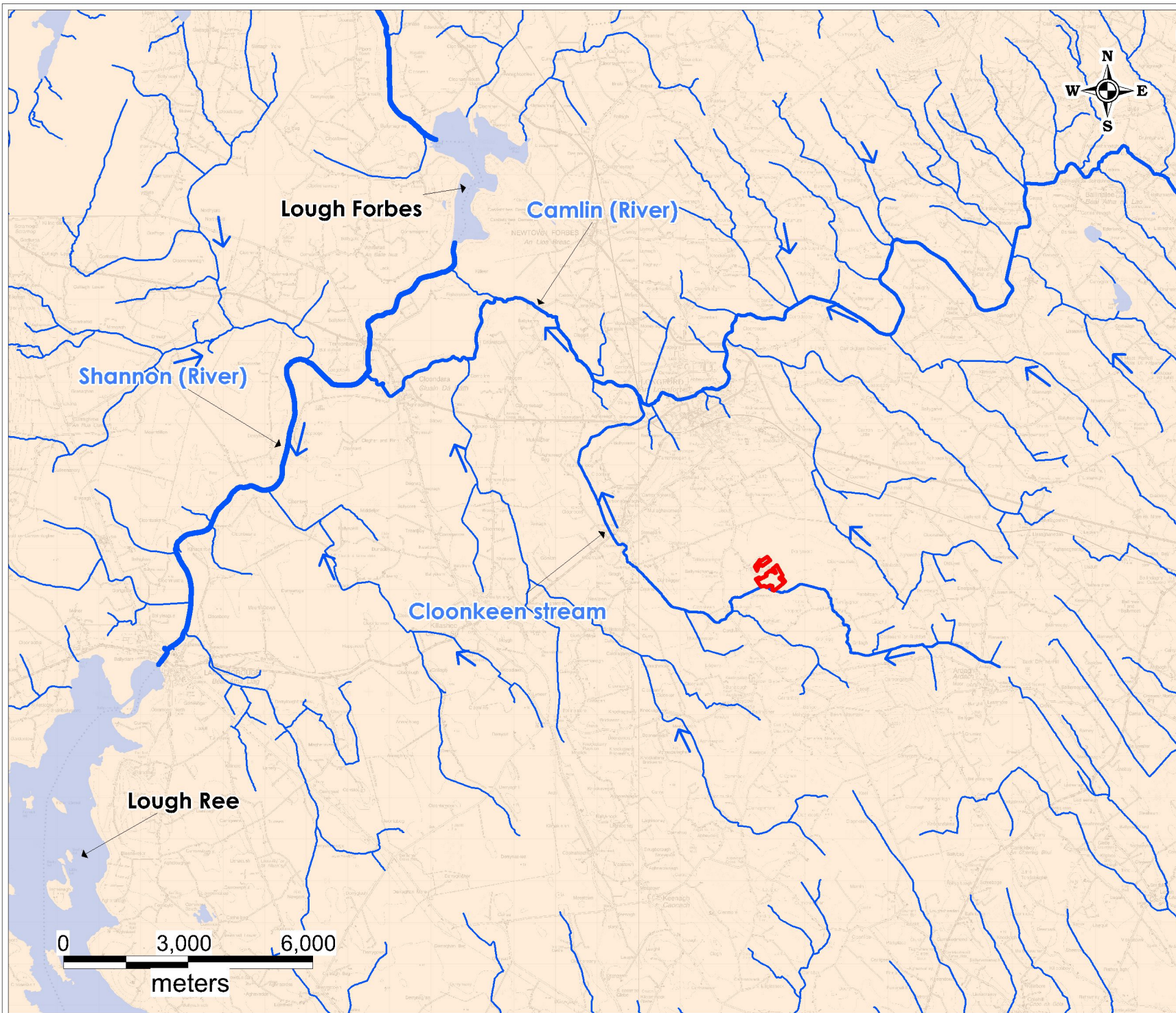
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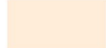



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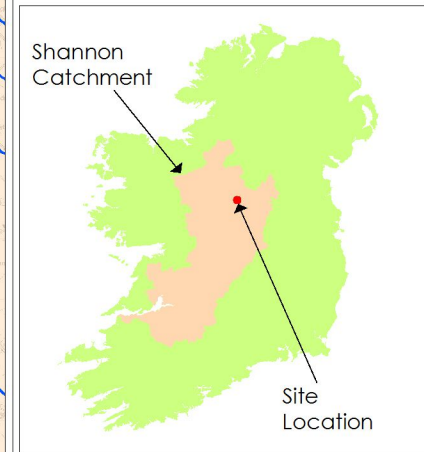
Drawn By: GD	Checked By: MG
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**Legend**

-  Site\_Boundary (Trillickacurry)
-  Shannon Catchment
-  Rivers
-  Flow Direction
-  Lakes



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Title: Regional Hydrology Map (Trillickacurry)

Client: Malachy Walsh and Partners

Job: Carrownagowan WF, Co. Clare

Project No: P1444-0

Figure No: 8.4

Sheet Size: A4

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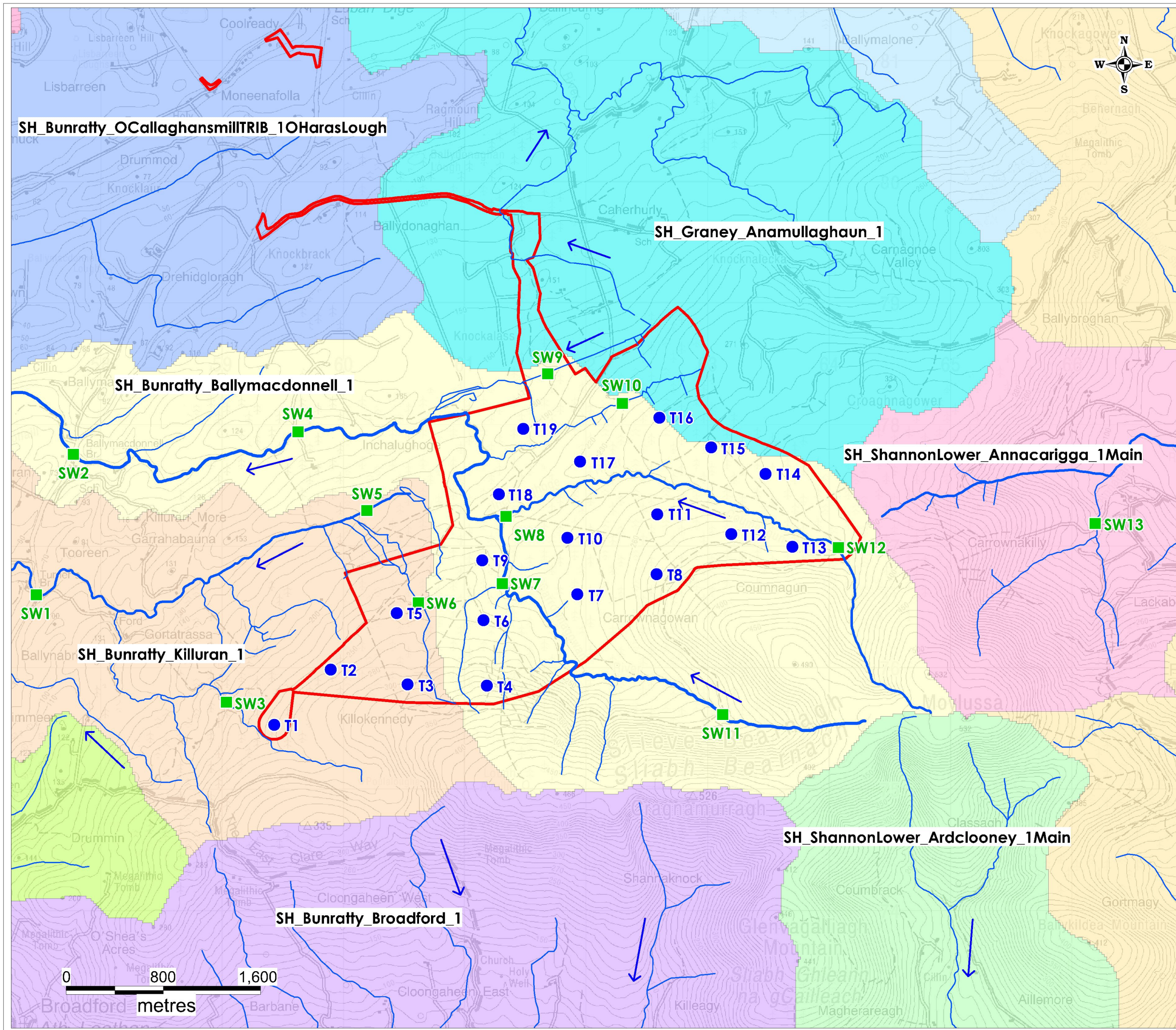
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Checked By: MG



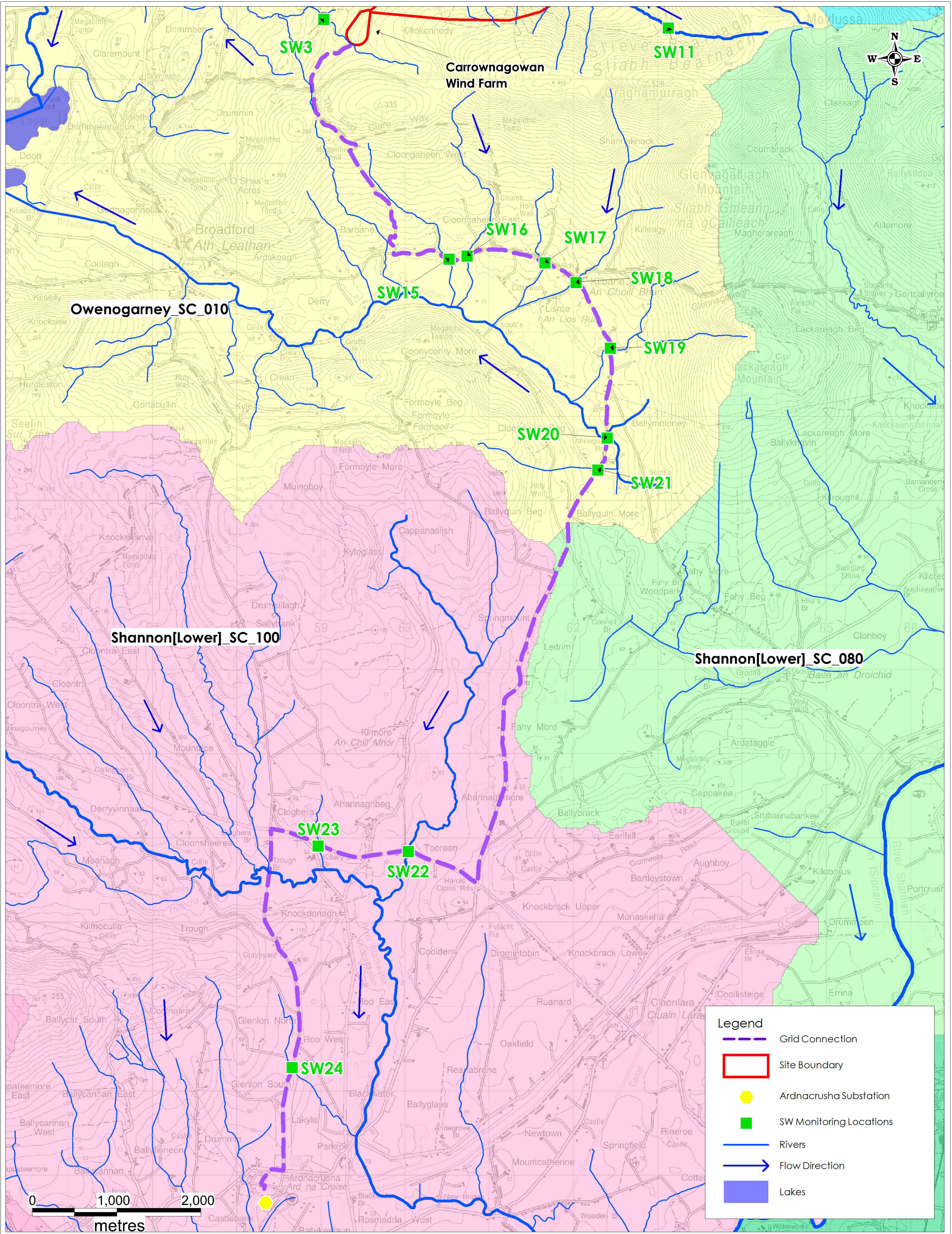


- Legend**
- Site Boundary
  - Proposed Turbine Layout
  - Rivers
  - Lakes
  - Flow Direction
  - SW Monitoring Location

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Client: Malachy Walsh and Partners	
Job: Carrownagowan WF, Co. Clare	
Title: Local Hydrology Map (Wind Farm)	
Figure No: 8.5	
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Date: 13/03/2020	Checked By: MG



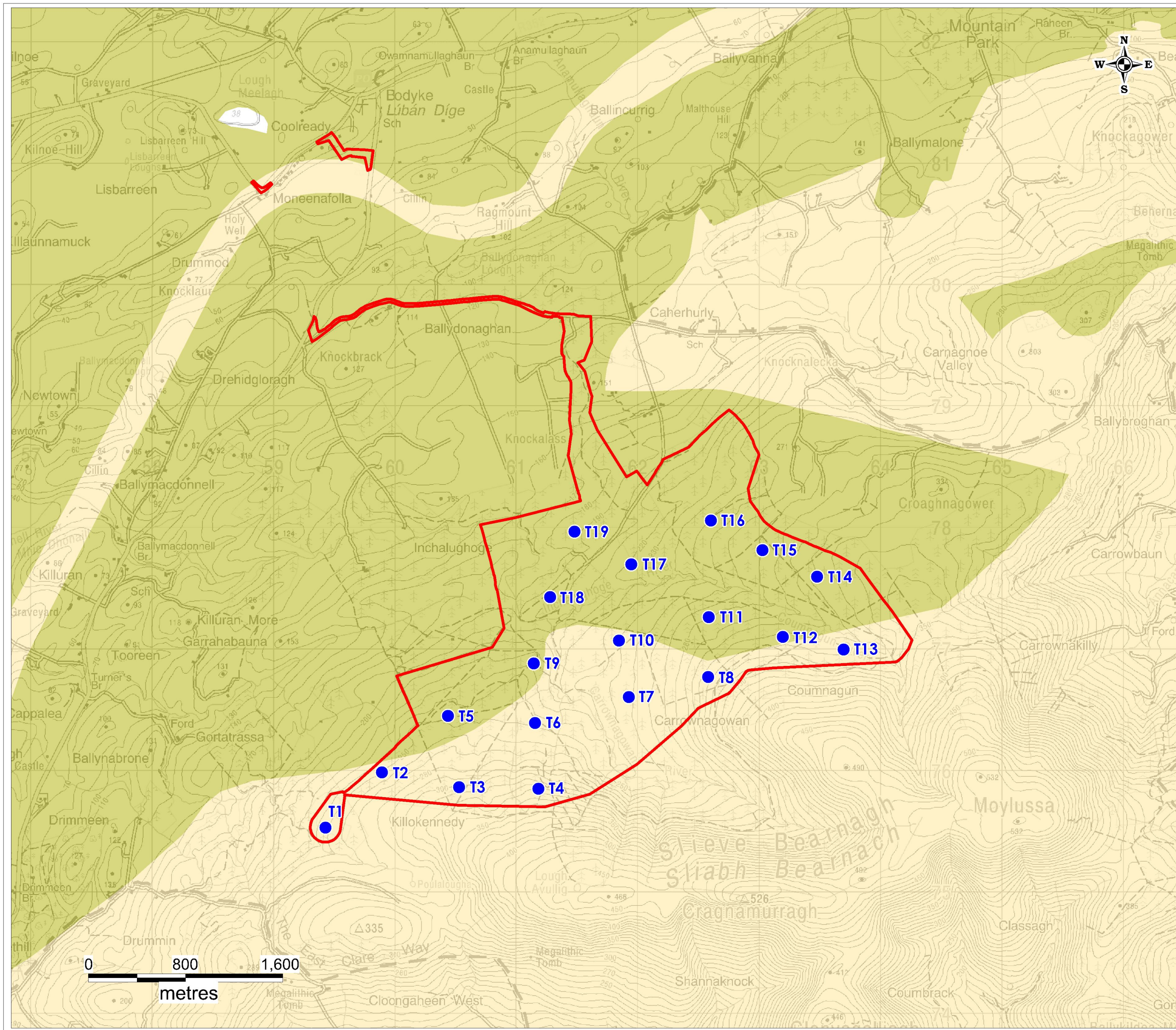


Client: Malachy Walsh and Partners
Job: Carrowmagowan WF, Co. Clare
Title: Local Hydrology with sampling points (Grid route)
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Date: 13/03/2020	Checked By: MG

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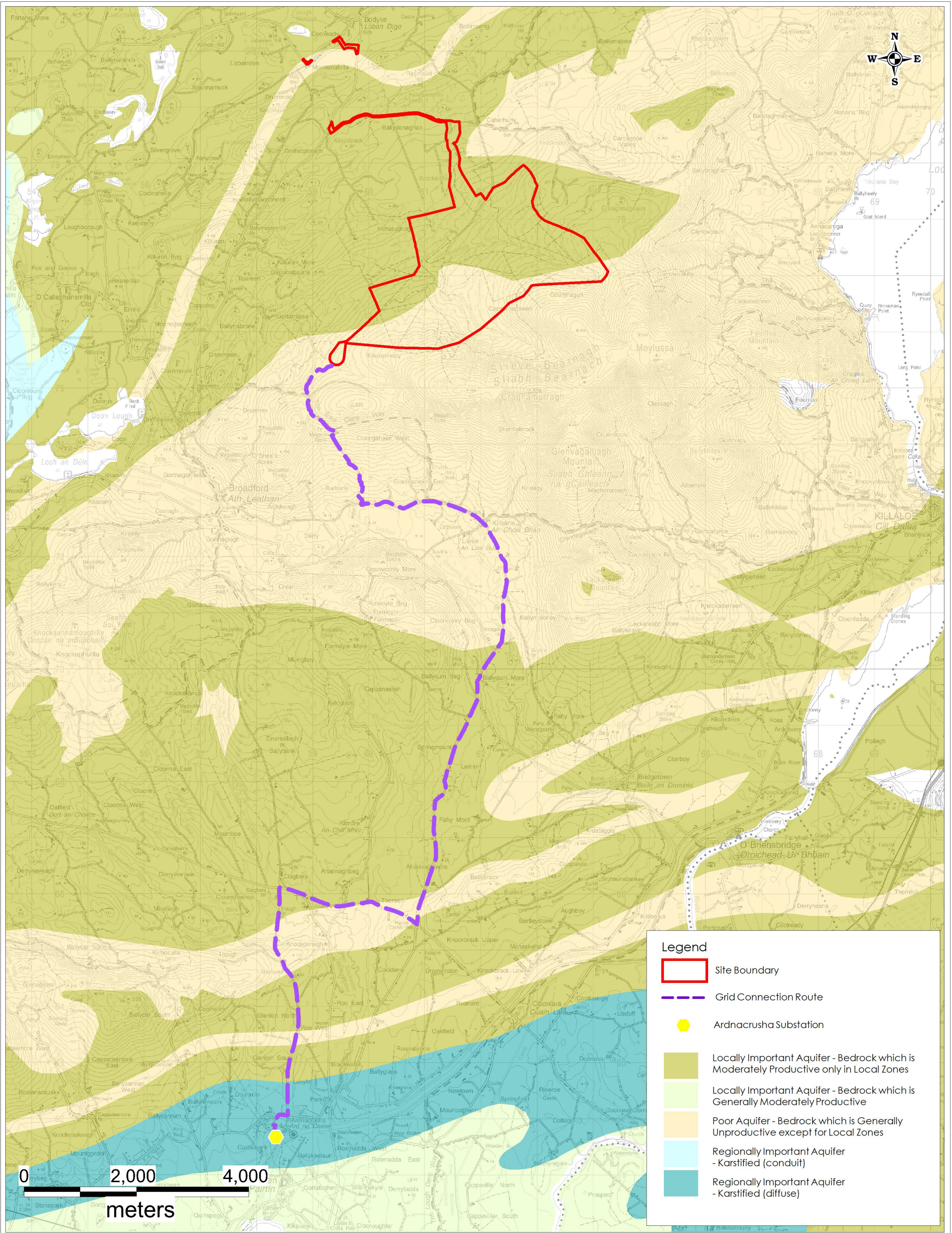
**Legend**

- Site Boundary
- Proposed Turbine Layout
- Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
- Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones

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Client: Malachy Walsh and Partners	
Job: Carrowmagowan WF, Co. Clare	
Title: Local Hydrogeology Map (Wind Farm)	
Figure No: 8.12	
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Scale: 1:30,000	Drawn By: GD
Date: 13/03/2020	Checked By: MG





**Legend**

- Site Boundary
- Grid Connection Route
- ★ Ardnacrusha Substation
- 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
- Regionally Important Aquifer - Karstified (conduit)
- Regionally Important Aquifer - Karstified (diffuse)

Client: Malachy Walsh and Partners
Job: Carrowmagowan WF, Co. Clare
Title: Local Hydrogeology Map (WF/Grid route)
Figure No: 8.13

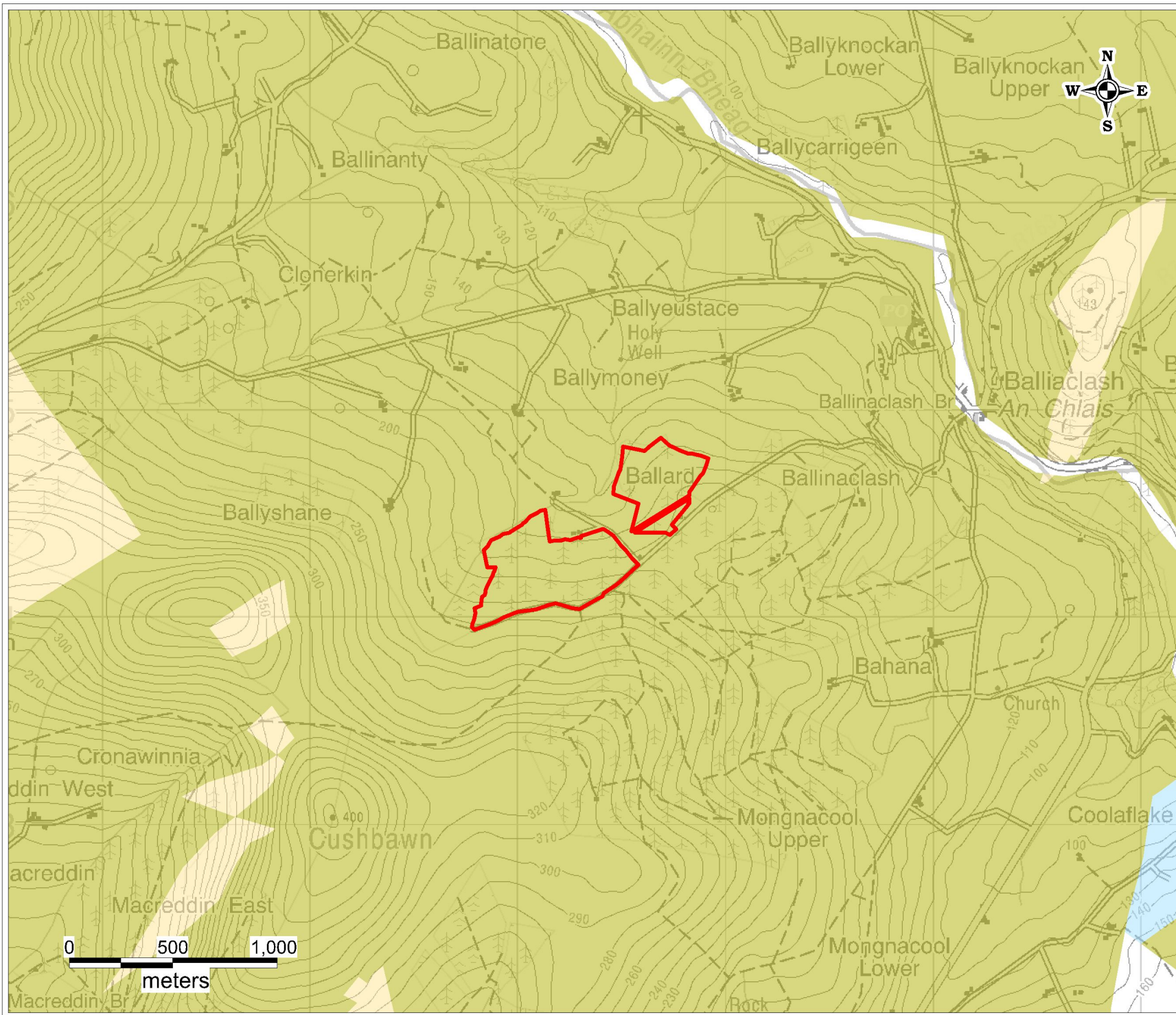
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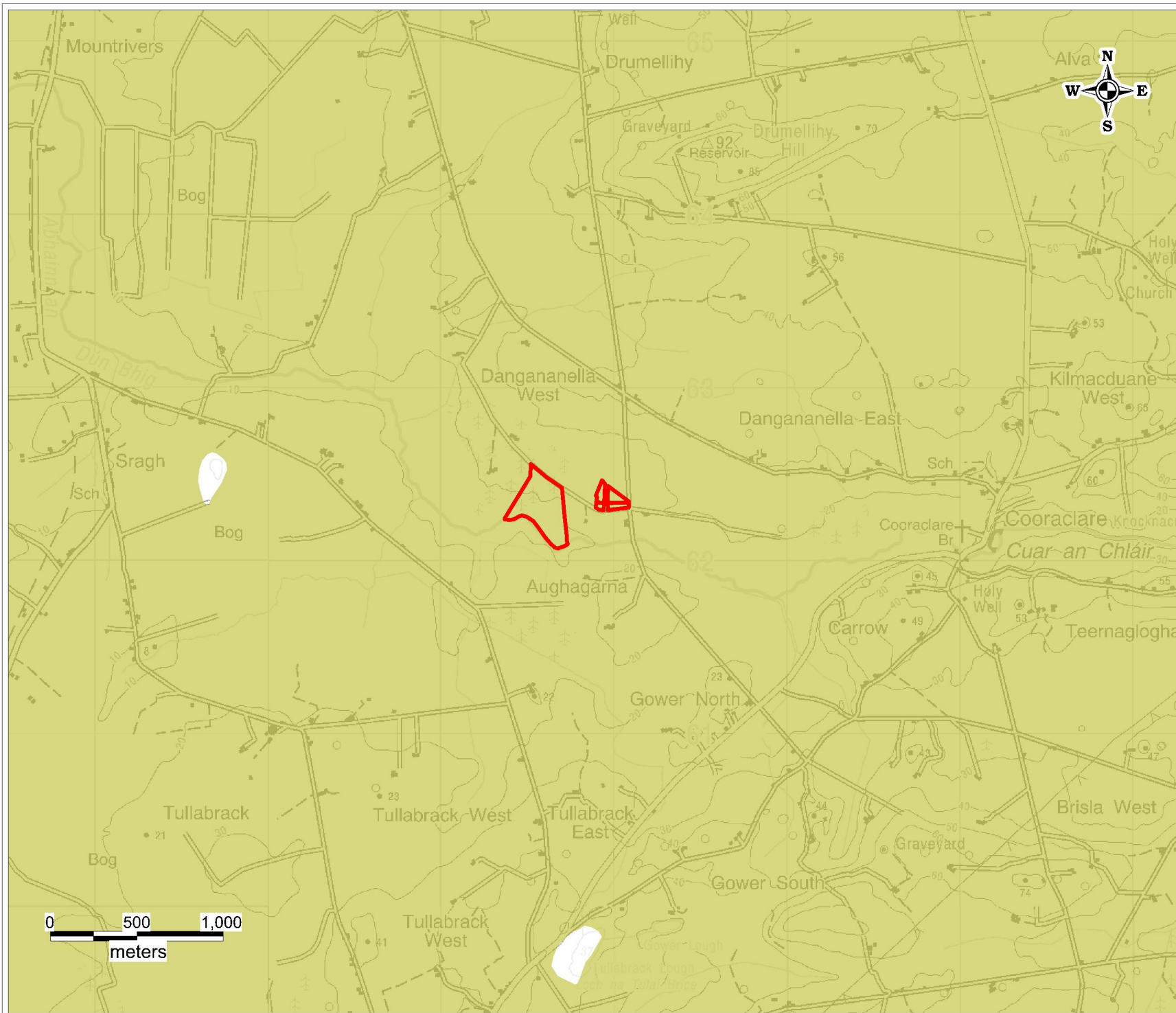
**Legend**

-  Site Boundary (Ballard)
-  Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
-  Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones

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Title: Local Hydrogeology Map (Ballard)	
Client: Malachy Walsh and Partners	
Job: Carrownagowan WF, Co. Clare	
Project No: P1444-0	
Figure No: 8.14	
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Date: 13/03/2020	
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Drawn By: GD	Checked By: MG





**Legend**

 Site Boundary (Cooraclare)

 Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones

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Title: Local Hydrogeology Map (Cooraclare)

Client: Malachy Walsh and Partners

Job: Carrownagowan WF, Co. Clare

Project No: P1444-0

Figure No: 8.15

Sheet Size: A4

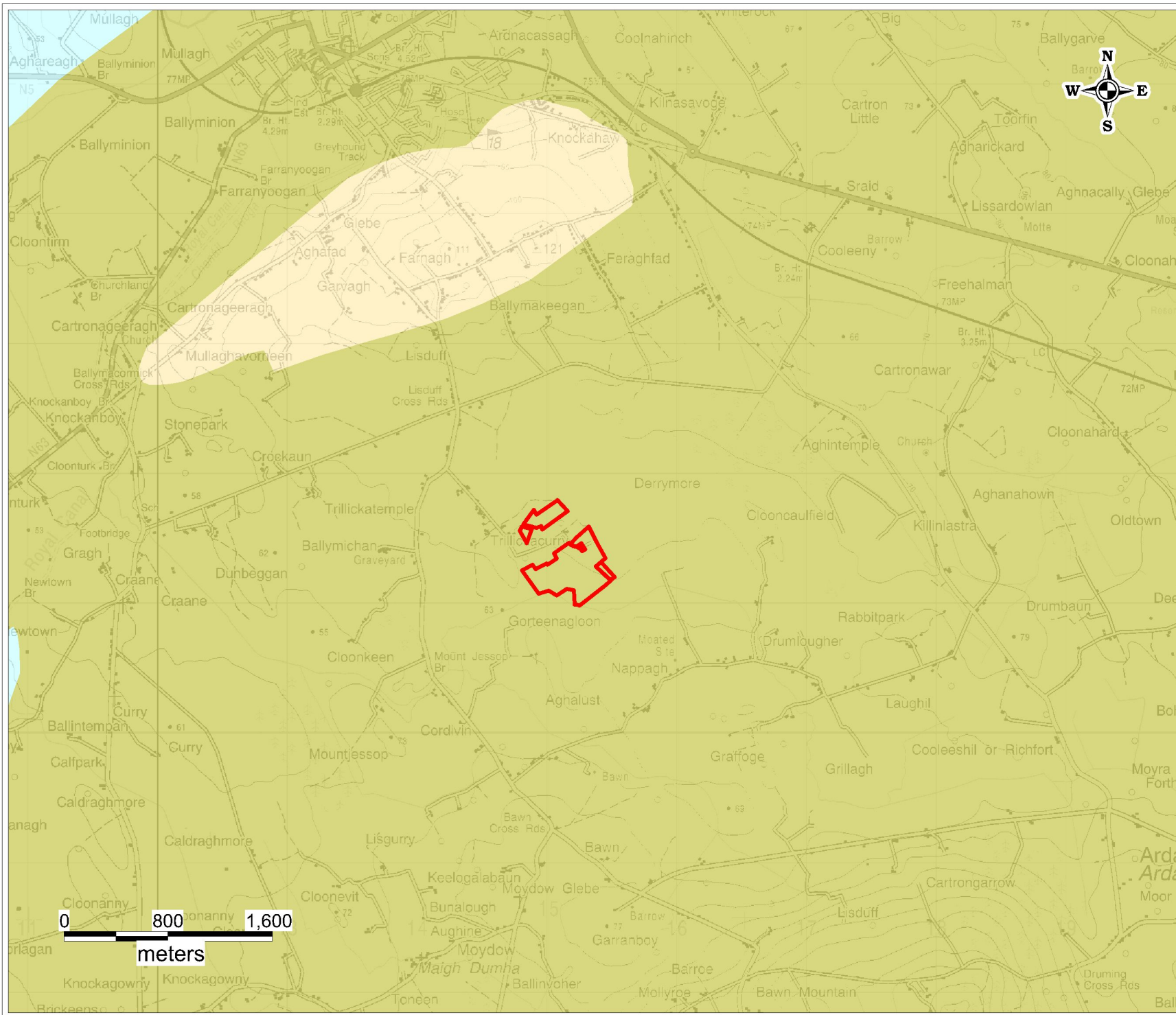
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Date: 13/03/2020




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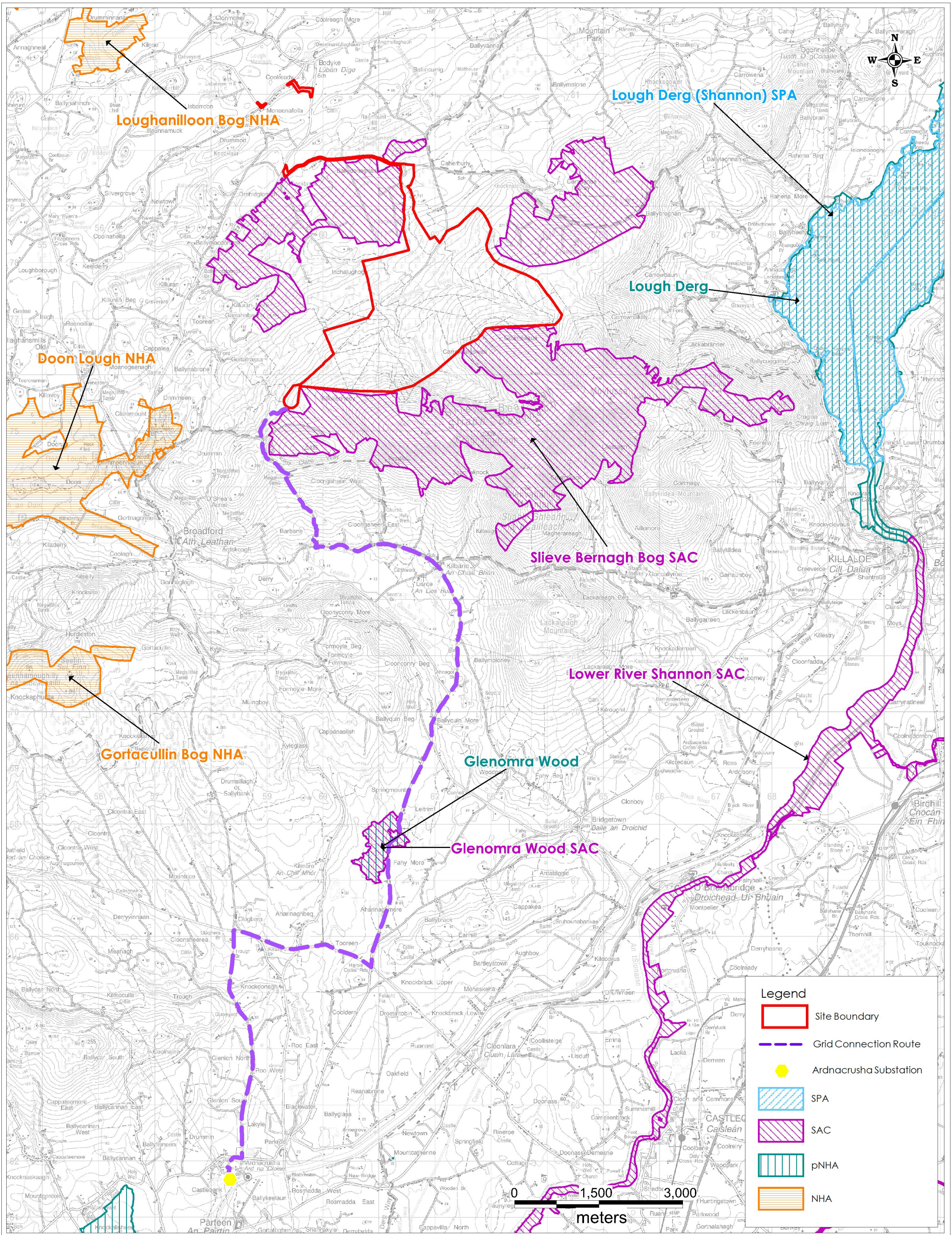
**Legend**

-  Site\_Boundary (Trillickacurry)
-  Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones
-  Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones

					
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Title: Local Hydrogeology Map (Trillickacurry)	
Client: Malachy Walsh and Partners	
Job: Carrownagowan WF, Co. Clare	
Project No: P1444-0	
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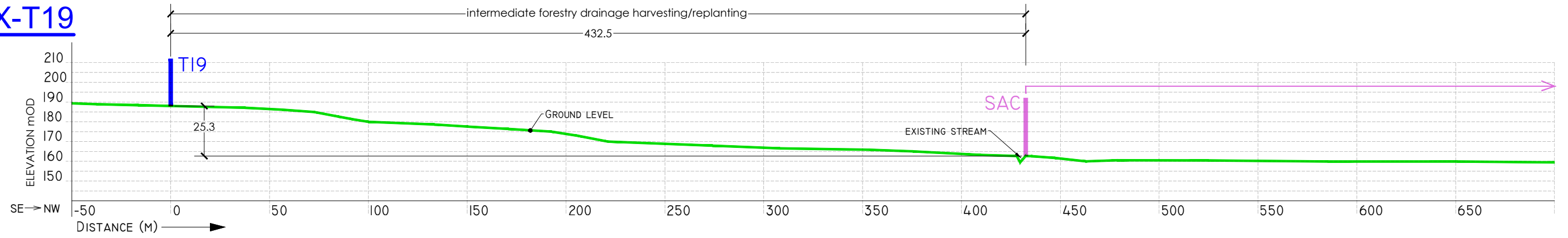
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Job: Carrowmagowan WF, Co. Clare
Title: Designated Sites Map (WF/Grid route)
Figure No: 8.17

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Date: 13/03/2020	Checked By: MG

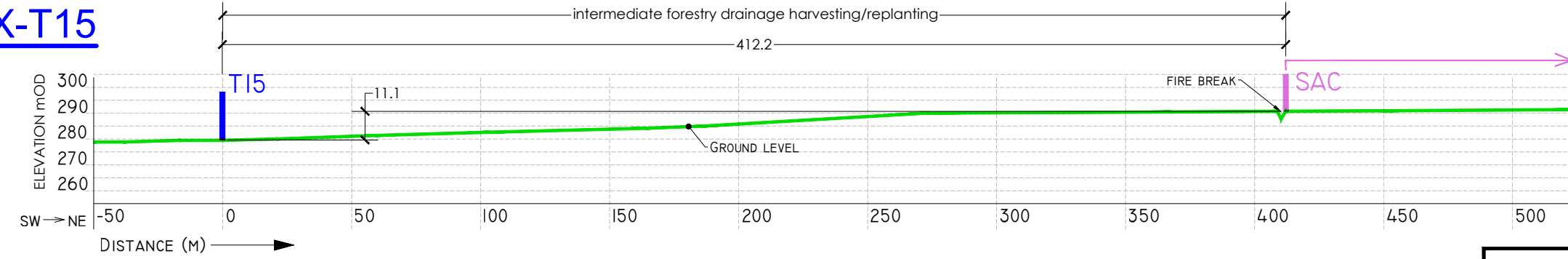

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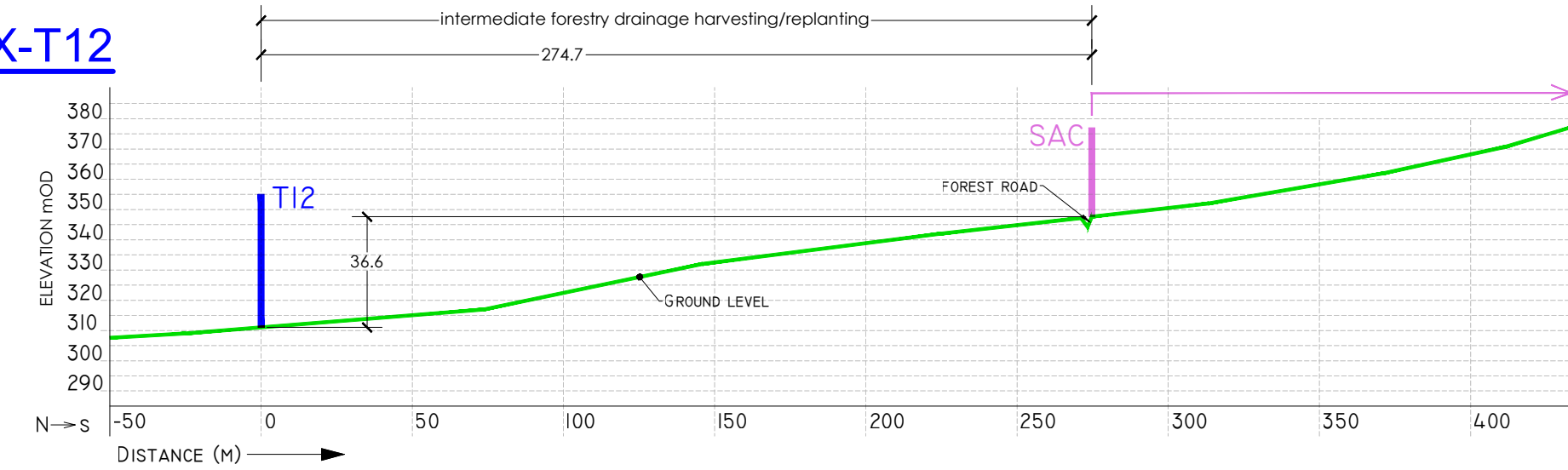
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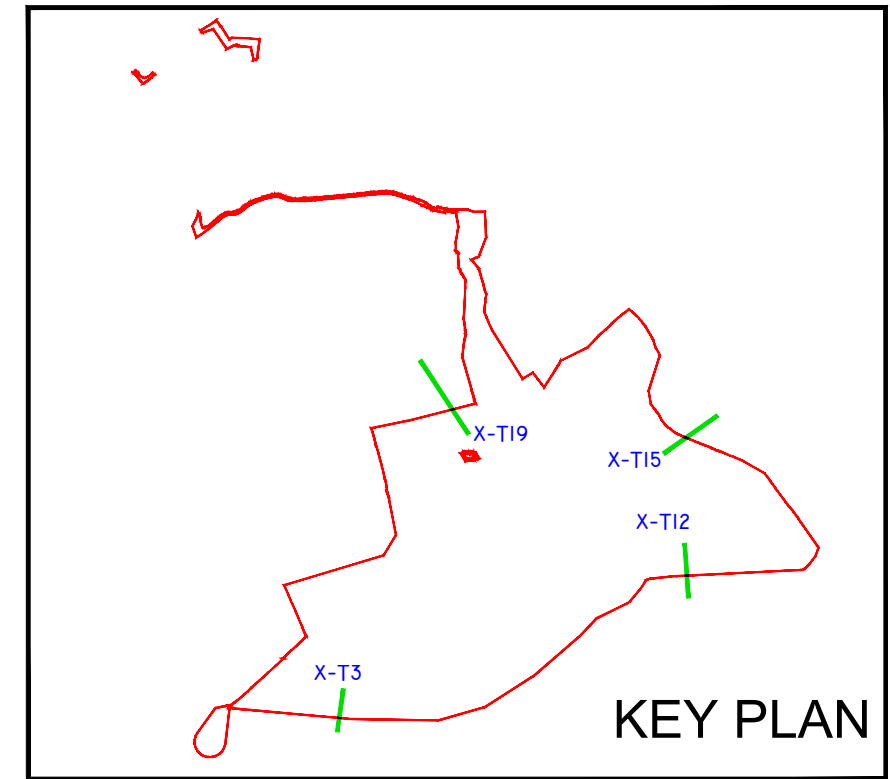
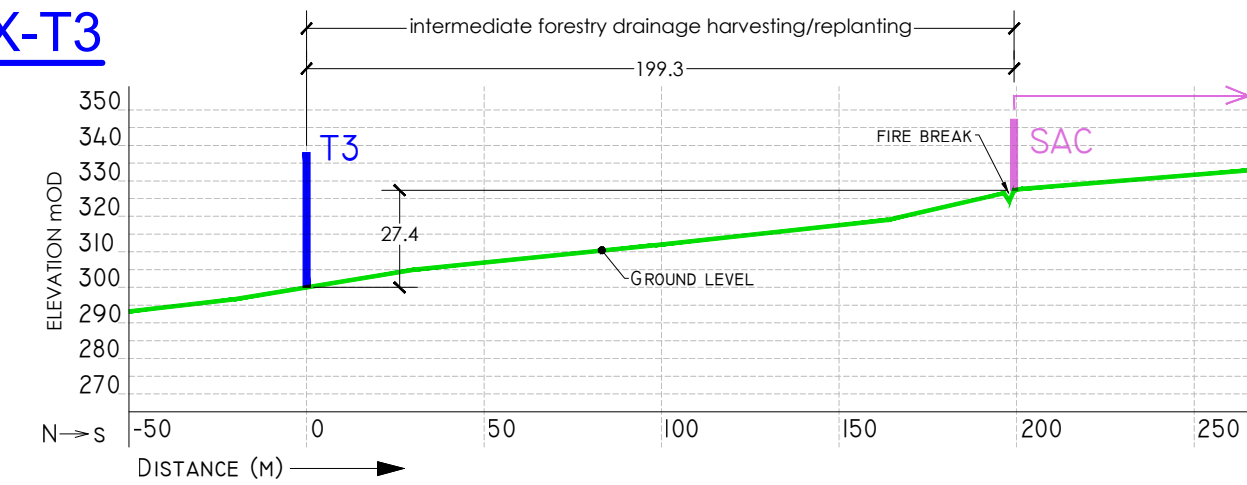
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### X-T12

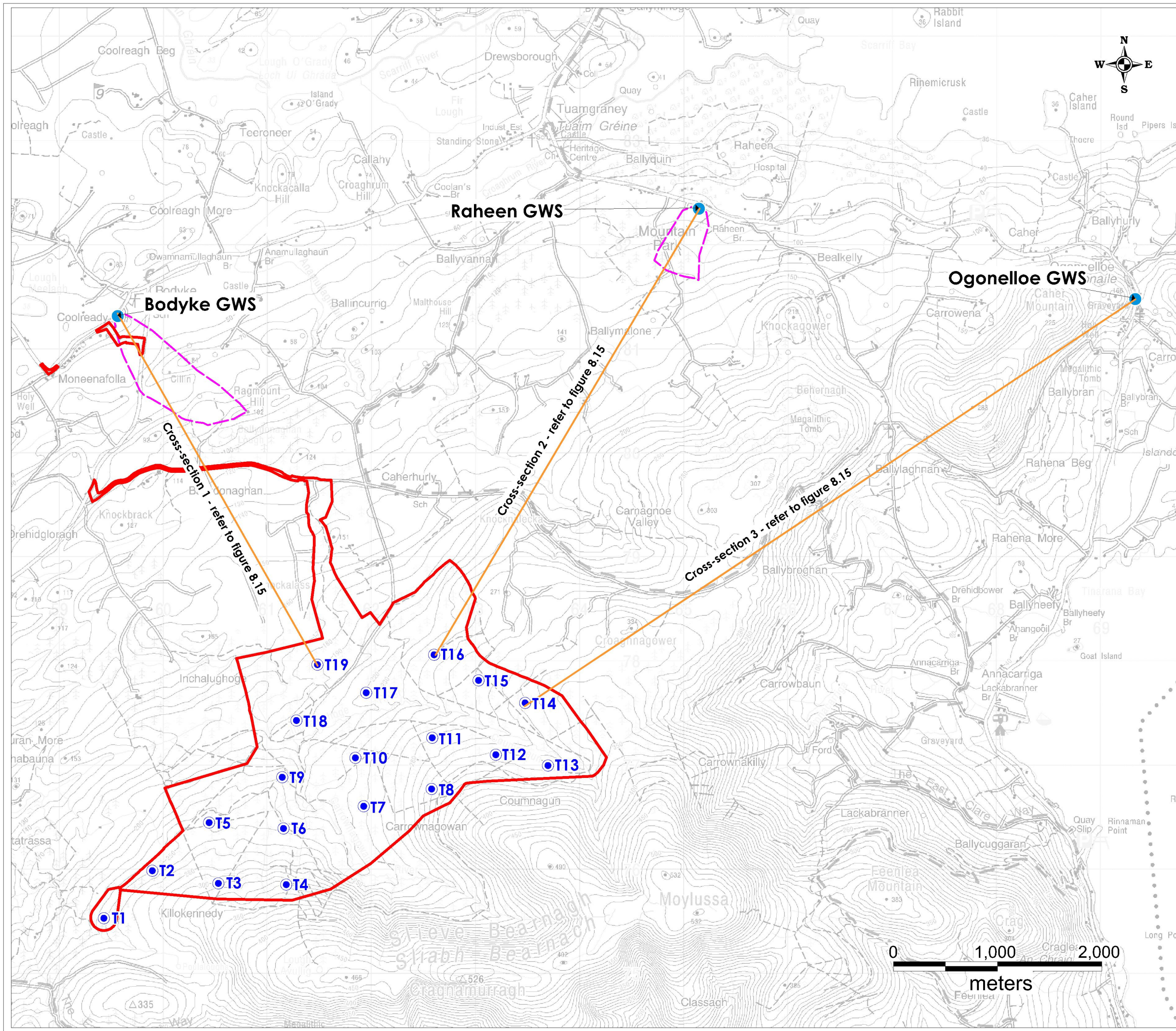


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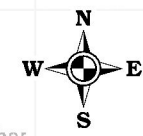
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Date   Description   Chkd   Signed	Title: <b>CSM Cross-Sections between Wind Farm site and Slieve Bernagh SAC</b>
Revisions	Figure No: <b>8.18</b>
 22 Lower Main St Dungarvan Co. Waterford Ireland tel: +353 (0) 58-44122 tel: +353 (0) 58-44244 email: info@hydroenvironmental.ie web: www.hydroenvironmental.ie	Drawing No: P1444-0-0320-A3-818-00A
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	Date: 13/03/2020   Checked By: MG





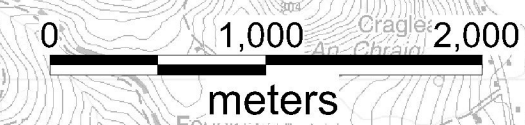
**Legend**

- Site Boundary
- Proposed Turbine Layout
- Public Water Supply Source
- Zone of Contribution



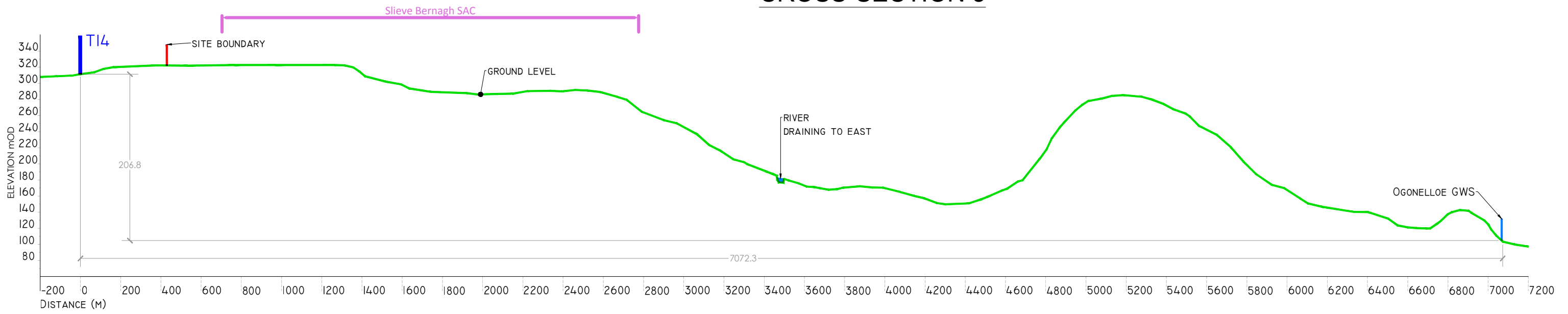
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Client: Malachy Walsh and Partners	
Job: Carrowmagowan, Co. Clare	
Title: Local Public Water Supply Sources Map	
Figure No: 8.19	
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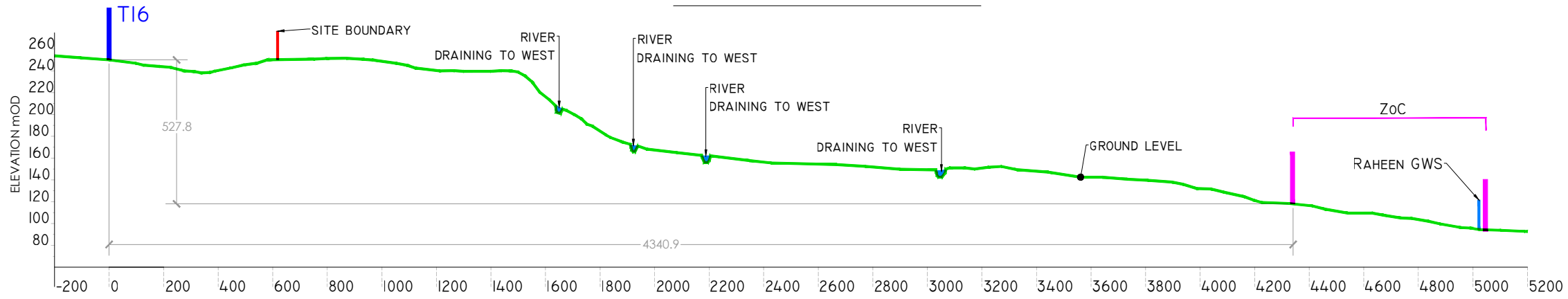




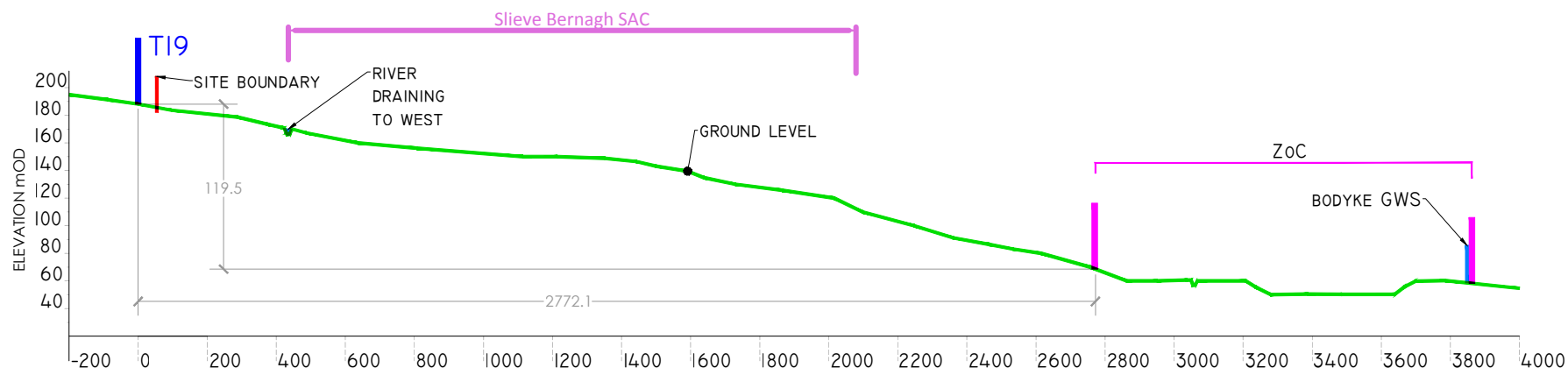
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### CROSS-SECTION 2

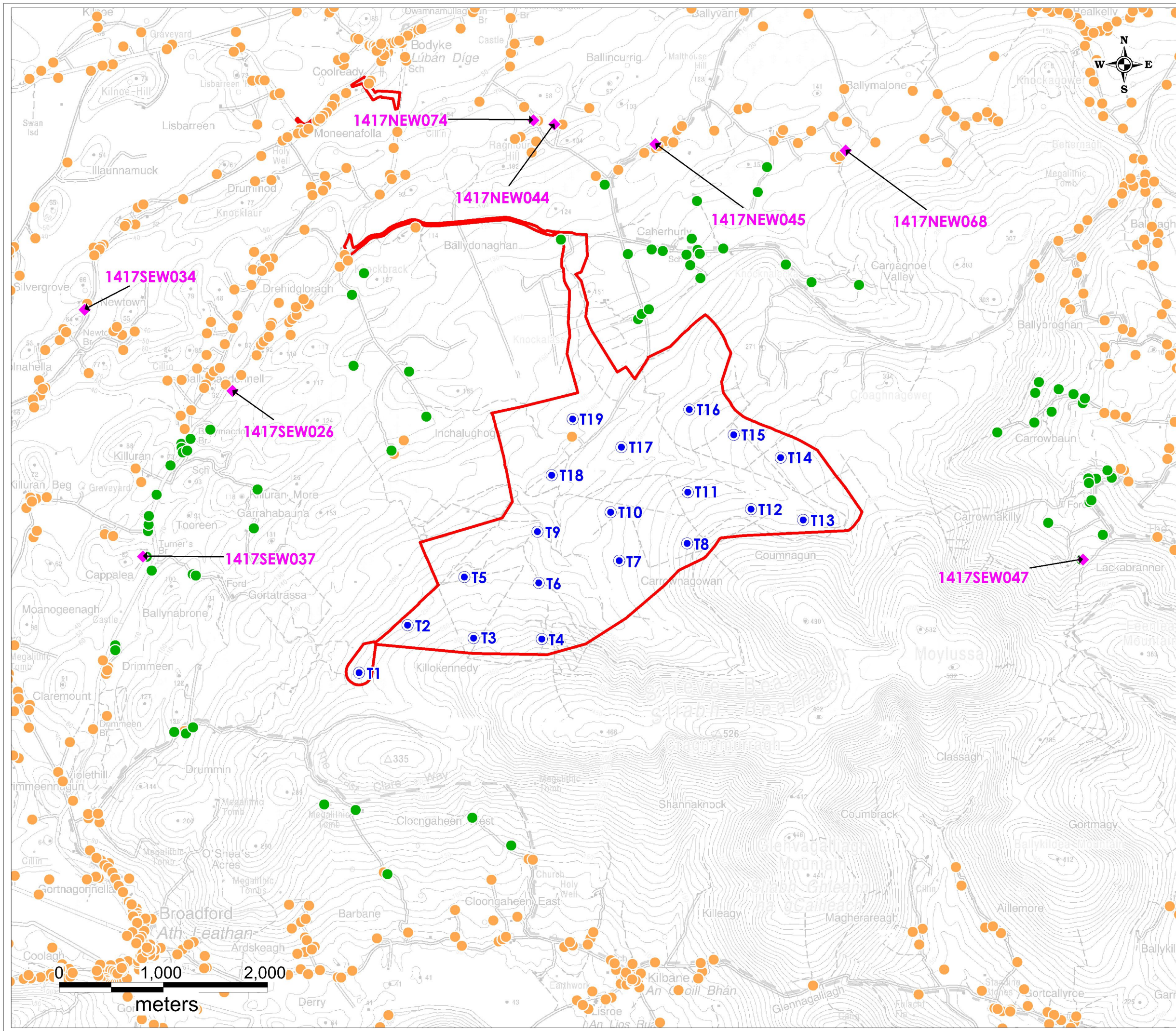


### CROSS-SECTION 1




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	Job: <b>CARROWNAGOWAN, CO. CLARE</b>
Date   Description   Chkd   Signed	Title: <b>Cross-Sections towards Local Public Water Supply Sources</b>
Revisions	Figure No.: <b>8.20</b>
 <b>HYDRO ENVIRONMENTAL SERVICES</b> 22 Lower Main St Dungarvan Co. Waterford Ireland tel: +353 (0) 58-44122 tel: +353 (0) 58-44244 email: info@hydroenvironmental.ie web: www.hydroenvironmental.ie	Drawing No: P1444-0-0320-A3-820-00A
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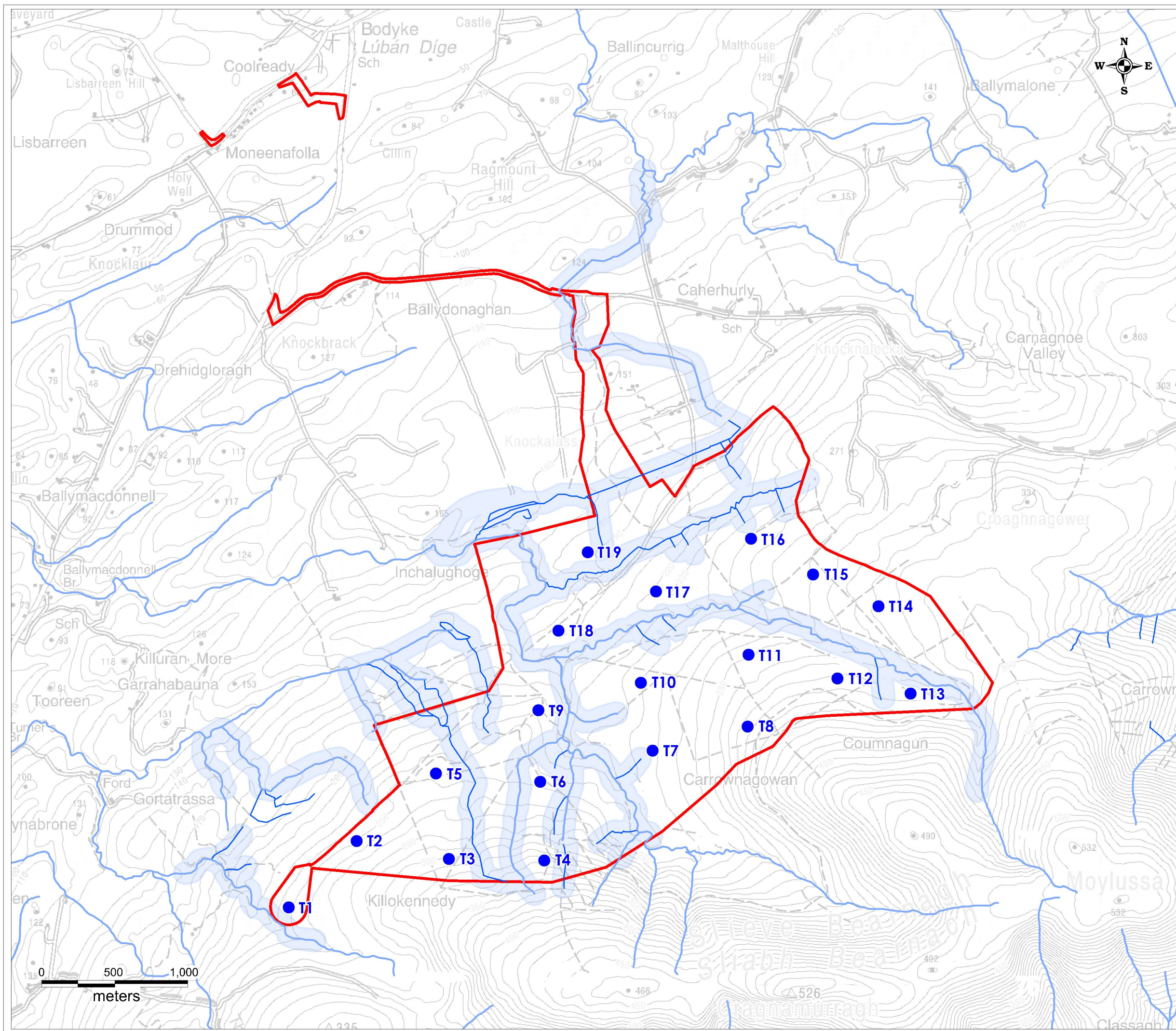
**Legend**

-  Site Boundary
-  Proposed Turbine Layout
-  GSI Mapped Wells (<50m accuracy)
-  House Locations (Used in Study)
-  House Locations

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Client: Malachy Walsh and Partners	
Job: Carrowmagowan, Co. Clare	
Title: Local Private Water Supply Map	
Figure No: 8.21	
Drawing No: P1444-0-0320-A3-821-A0	
Sheet Size: A3	Project No: P1444-0
Scale: 1:35,000	Drawn By: GD
Date: 13/03/2020	Checked By: MG



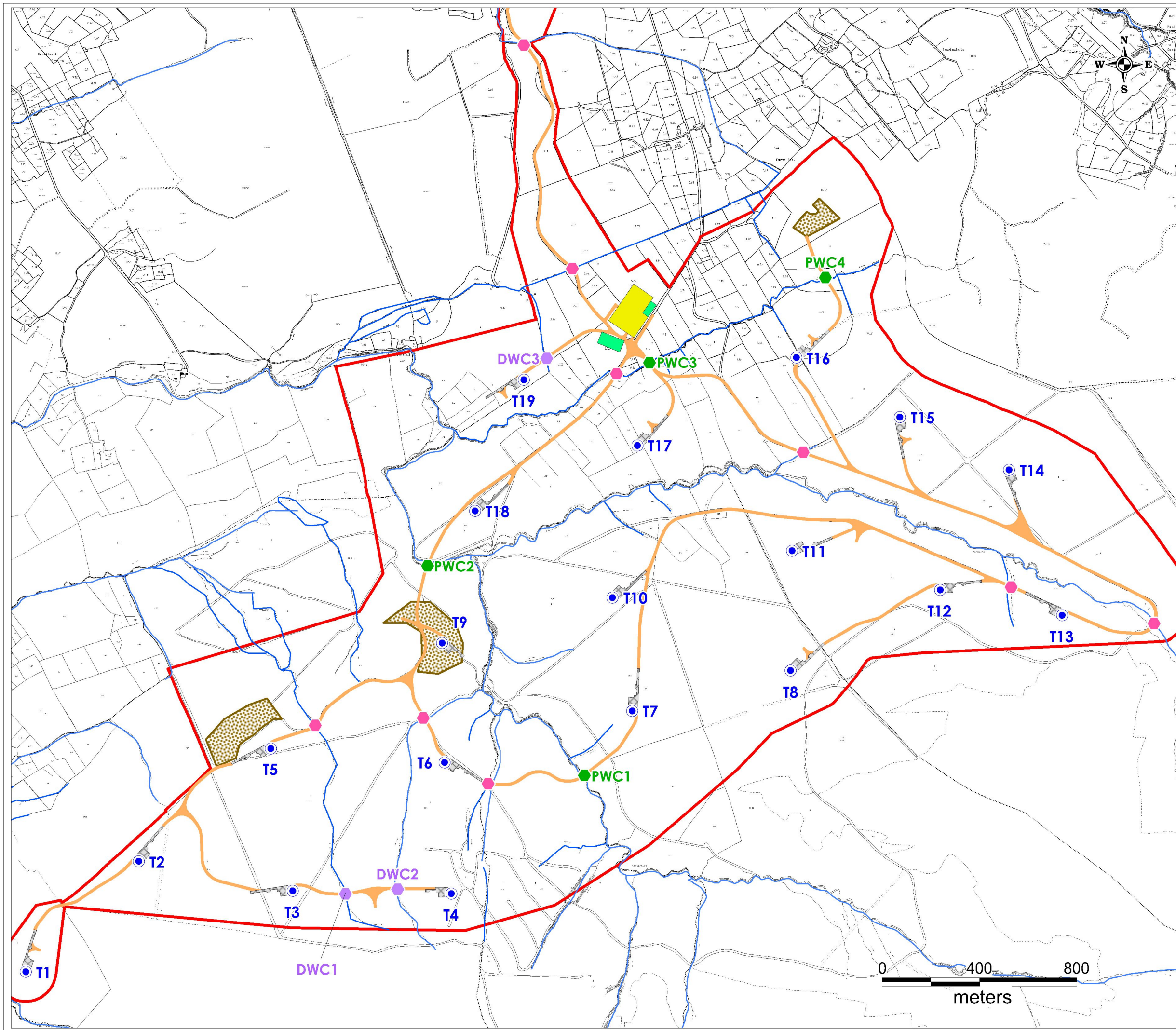


- Legend**
- Site Boundary
  - Proposed Turbine Layout
  - Rivers
  - 75m River Buffer

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Client: Malachy Walsh and Partners	
Job: Carrowmagowan WF, Co. Clare	
Title: Hydrological Constraints 75m Buffer Map	
Figure No: 8.22	
Drawing No: P1444-0-0320-A3-822-0A	
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Date: 13/03/2020	Checked By: MG



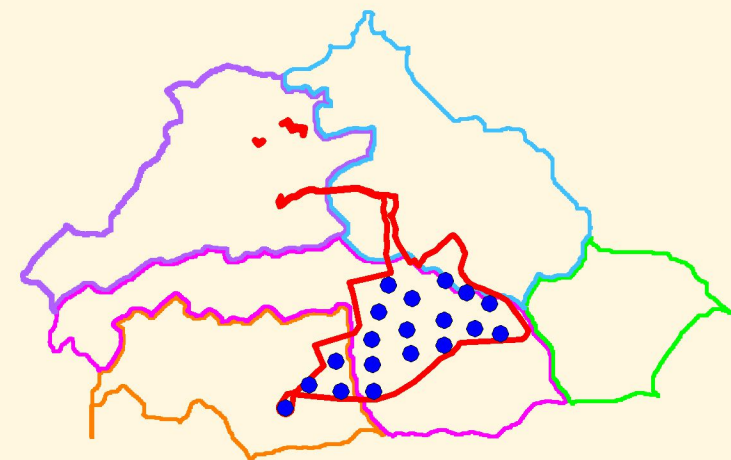
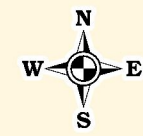


- Legend**
- Site Boundary
  - Proposed Turbine Layout
  - New Clear Span Watercourse Crossings (PWC)
  - New Piped Culvert Crossings (DWC)
  - Existing Piped Culvert Widenings
  - Proposed Substation
  - Proposed Borrow Pit
  - Proposed Hardstand
  - Temporary Construction Compound
  - Proposed Access Road
  - Rivers/Streams

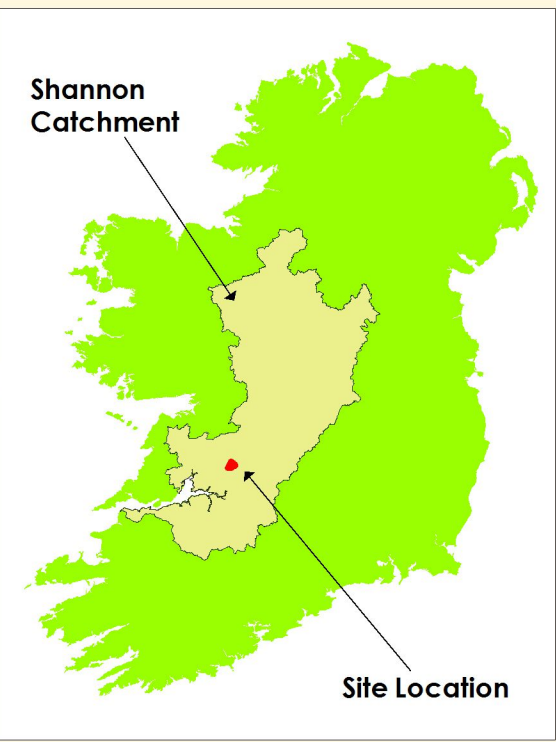
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Client: Malachy Walsh and Partners	
Job: Carrownagowan WF, Co. Clare	
Title: Existing and Proposed stream/river crossings Map (Wind Farm)	
Figure No: 8.23	
Drawing No: P1444-0-0620-A3-823-0A	
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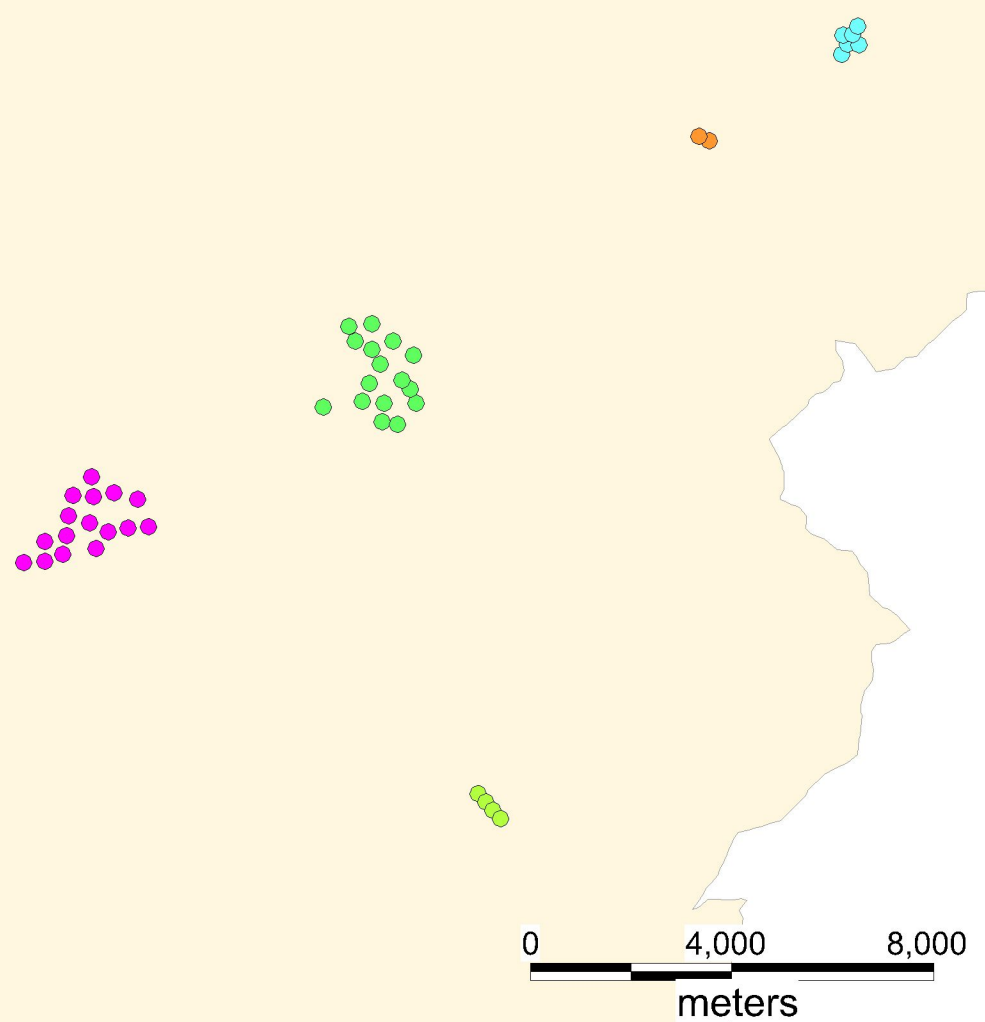




### Shannon Catchment



- Legend**
- Site Boundary
  - Carrownagowan WF (Proposed)
  - Bunkimalta WF
  - Castlewaller WF
  - Curraghgraique WF
  - Knockastanna WF
  - Templeberry Knockmeale WF
  - Vistakon WF
- Regional Catchment**
- Shannon Catchment
- Local Catchments**
- SH\_Bunratty\_OCallaghansmillTRIB\_1OHarasLough
  - SH\_ShannonLower\_Annacarigga\_1Main
  - SH\_ShannonLower\_Annacarigga\_1Main
  - SH\_ShannonLower\_Annacarigga\_1Main
  - SH\_Graney\_Anamullaghaun\_1



	<b>HYDRO ENVIRONMENTAL SERVICES</b>
22 Lower Main St Dungarvan Co. Waterford Ireland	tel: +353 (0)58 44122 fax: +353 (0)58 44244 email: info@hydroenvironmental.ie web: www.hydroenvironmental.ie

Client: Malachy Walsh and Partners	
Job: Carrownagowan WF, Co. Clare	
Title: Nearby Developments Map	
Figure No: 8.25	
Drawing No: P1444-0-0620-A3-824-0A	
Sheet Size: A3	Project No: P1444-0
Scale: 1:170,000	Drawn By: GD
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