

Water Framework Directive Groundwater Monitoring Programme

Site Information

Belgooly



Belgooly is a borehole used as a public supply. The abstraction rate is 140 m³/d.



Cork

August 2011

SITE INFORMATION					
Site Name:	Belgooly		County:	Cork	
RBD:	SWRBD		EU Reporting Code:	---	
Easting:	166330		GWB Name:	Bandon_1	
Northing:	53630		GWB Code:	IE_SW_G_014	
Site Use:	Drinking Water (PWS)		Drinking Water Code:	0500PUB2203	
Hydrometric Area:	20		Water Level Monitoring Network:	Level	Flow
Townland:	LACKENACUMEEN			N	N
Ownership:	Cork County Council				
Water Quality Monitoring Network:	Surveillance		Operational (Point)		Operational (Diffuse)
	N		N		N
Site Comments:	---				

SITE DIRECTIONS	
Location and Access Information:	Located 300 m west of Belgooly directly west of the River Stick.
Additional Comments:	---

WELL INFORMATION					
Monitoring Point Type:	BH	Abstraction Rate (m³/d):	140	Ground Elevation (m OD):	8
Borehole Log Available:	---	Total Drilled Depth (m bgl):	---	Depth to Bedrock (m bgl):	---
Top of Casing (m agl):	---	Upper Casing Diameter (mm):	---	Lower Casing Diameter (mm):	---
Final Borehole Depth (m):	---	Upper Casing Bottom Depth (m bgl) :	---	Lower Casing Bottom Depth (m bgl):	---
Screen Interval (m bgl):	---	Screen Type (PVC,Steel,other):	---	Screen Slot Size (mm):	---
Grout Type (cement,bentonite):	---	Grouted above (m bgl):	---	Grout Volume Injected (m³):	---
Gravel Pack Interval (m bgl):	---	Gravel Pack Volume (m³):	---	Open Hole Interval (m bgl):	---
Potential Yield (m³/day):	---	Comments on Monitoring Site:	---		
Specific Capacity (m³/d/m):	---				
Static Water Level (m bgl):	---				
Scheme Name:	Belgooly Pws	Number of Abstraction Points in the Scheme:	2	Source Report Available	N
Source Report Info:	---				
Scheme Summary:	The scheme consists of two boreholes but only one borehole is in use. The other borehole was stopped in November 2009 due to contamination issues from flooding. The water is chlorinated.				

HYDROGEOLOGY								
GEOLOGY	Soil:	Alluviums (AlluvMIN)					Subsoil Permeability:	Moderate
	Subsoil:	Alluvium (A)						
	Bedrock:	Dinantian Mudstones and Sandstones (Cork Group)						
HYDROGEOLOGY	Aquifer Category:	LI	Vulnerability at Monitoring site:	High		Flow Regime:	Poorly productive	
ZONE OF CONTRIBUTION	Estimated ZOC Size (km ²):	0.26	ZOC Delineated By:	OCM (DC)		Recharge Estimate (mm/yr):	200	
	ZOC Delineation Comments:	The ZOC was delineated based on the abstraction rate, topography and recharge. The entire hydrogeological catchment was used to the delineate the ZOC delineation process.						
Groundwater Vulnerability within ZOC (% area):	Extreme (X)	Extreme (E)	High	Moderate	Low	High to Low	Unclassified	
	2.32	85	12.68	0	0	0	0	
HYDROCHEMISTRY								
Hydrochemical Signature:	Ca-HCO3		Additional Water Chemistry Information:	---				
Alkalinity (mg/l HCO3):	Average:	Range:		---				
	---	---						
Hardness (mg/l CaCO3):	Average:	Range:		---				
	---	---						
Conductivity (uS/cm):	Average:	Range:		---				
	714	639-832						
Monitoring Record Period:	From:	To:	---					
	2004	2005						
RISK ASSESSMENT								
Pressure (e.g., Nitrates, Phosphates, Abstractions):	---		Typical Contaminants:	---				
Risk Category:	At risk, high confidence		GWB Status:	Good				
Impact Potential within ZOC (% area):	Extreme:	High:	Moderate:	Low:	Negligible:			
	0.00	100.00	0.00	0.00	0.00			
OTHER INFORMATION								



Well Head



Well Head



Pump House

Data Summary Sheet - July 2011

Disclaimer: The data in this document are based on the best available information and understanding at time of writing. Neither the Environmental Protection Agency, nor the individual bodies supplying data for this document and accompanying maps will be responsible for any loss or damage from the use or interpretation of these data.

Rock Unit Geology Map: GSI, 2009

Aquifer Type Map: GSI, 2009

Groundwater Vulnerability Map: GSI, 2009

Soils & Subsoils Type: Teagasc, 2007

Recharge Map: GSI, 2009

Impact Potential Map: EPA, 2009

Risk Assessment Map: EPA WFD Risk Assessment, 2006

Groundwater Body Status: EPA WFD Status Assessment, 2008

Water Quality Data: EPA WFD Monitoring, 2008

Groundwater Threshold Values

Groundwater threshold values for selected parameters:

Nitrate - General Chemical Test/ Drinking Water Test (37.5 mg/l NO₃)

Ammonium - Drinking Water Test (0.175 mg/l N) / Surface Water Test (0.065 mg/l N)

Molybdate Reactive Phosphorus (MRP) - Surface Water Test (0.035 mg/l P)

Chloride -Saline/Intrusive Test (24 mg/l) / Drinking Water Test (175 mg/l Cl)

Electrical Conductivity -Saline/Intrusive Test (800 µS/cm) / Drinking Water Test (1,875 µS/cm)

Further information on groundwater threshold values is contained in the Groundwater Regulations (S.I. No.9 of 2010).

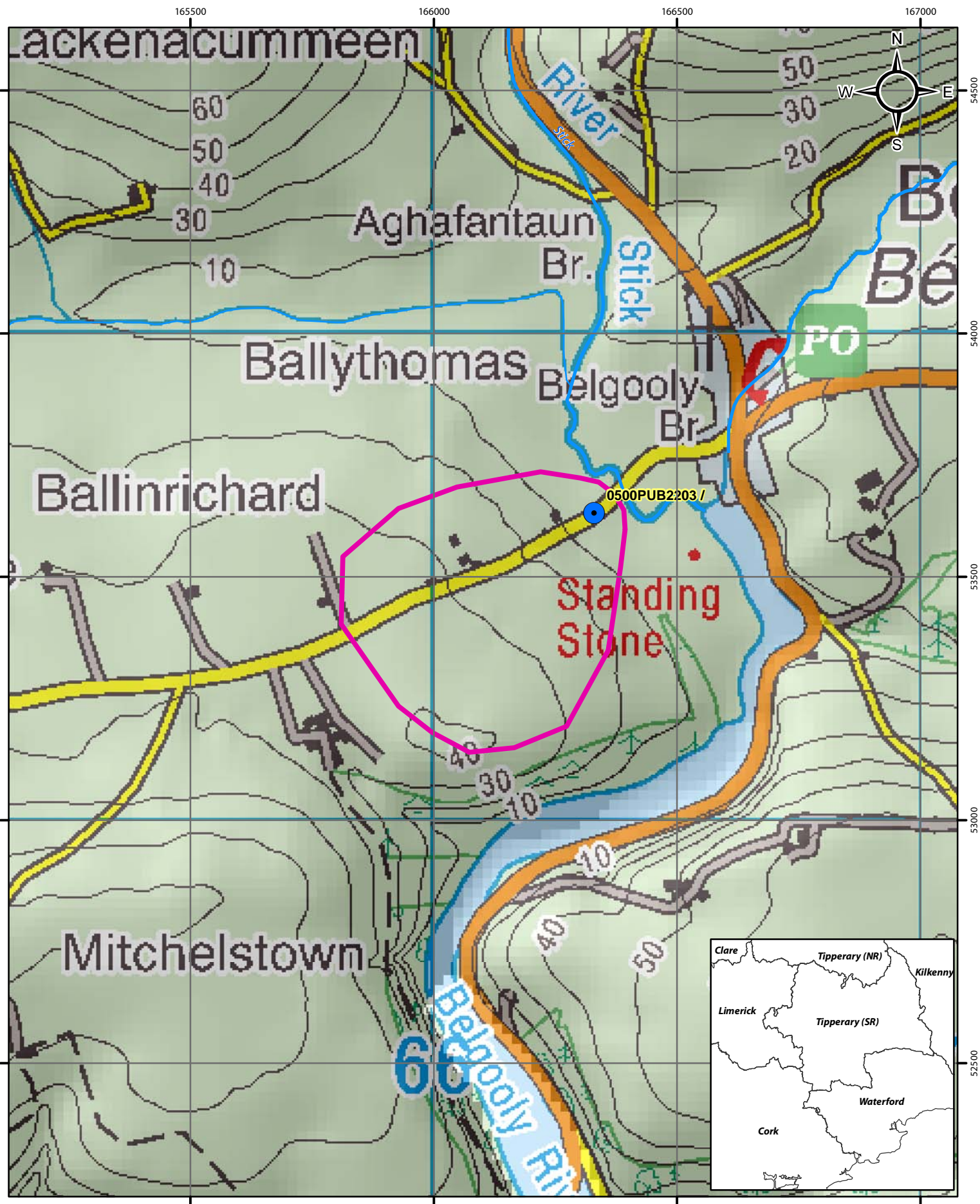
General Downgradient Distances

General Downgradient Distances (XL) applied to boreholes sourced in bedrock aquifers are constrained to estimate approximate limits based on data at the GSI. In some cases they may be higher or lower depending on local conditions.

Rk, Rkd, Lk	225 m
Lm	150 m
Ll, Pl	60 m

It is assumed that groundwater downgradient of a spring cannot flow back up to the spring, however a precautionary 30m buffer is generally applied which allows for instances where pumping under dry weather periods may induce a drawdown or where the ground may be sloping toward the spring from the downgradient side.

Version 0:	Prepared by		Date:	
Version 1:	Prepared by	OCM (DC)	Date:	Feb 2011
Version 2:	Prepared by		Date:	
Version 3:	Prepared by		Date:	
Version 4:	Prepared by		Date:	

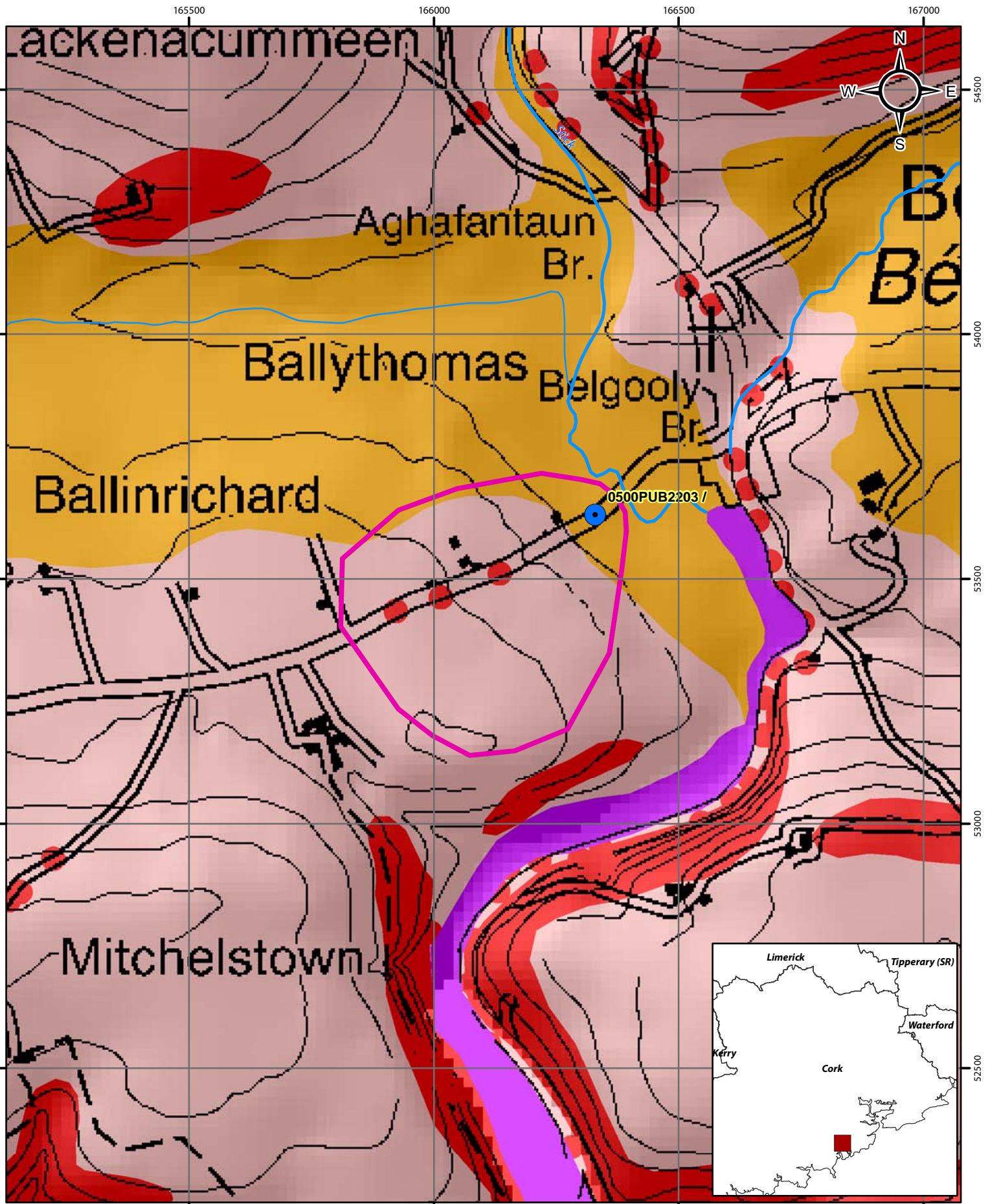


Location Map for Belgooly

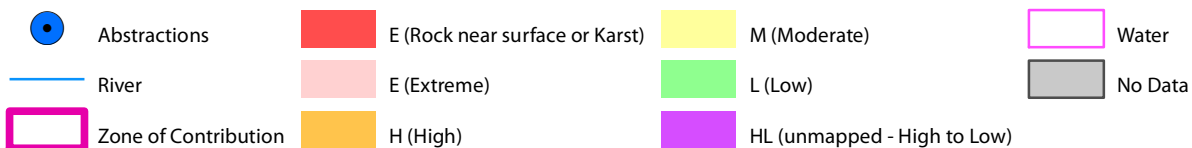
- Abstractions
- River
- Zone of Contribution

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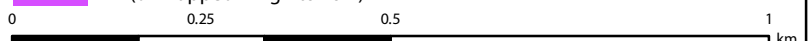
0 0.25 0.5 1 km

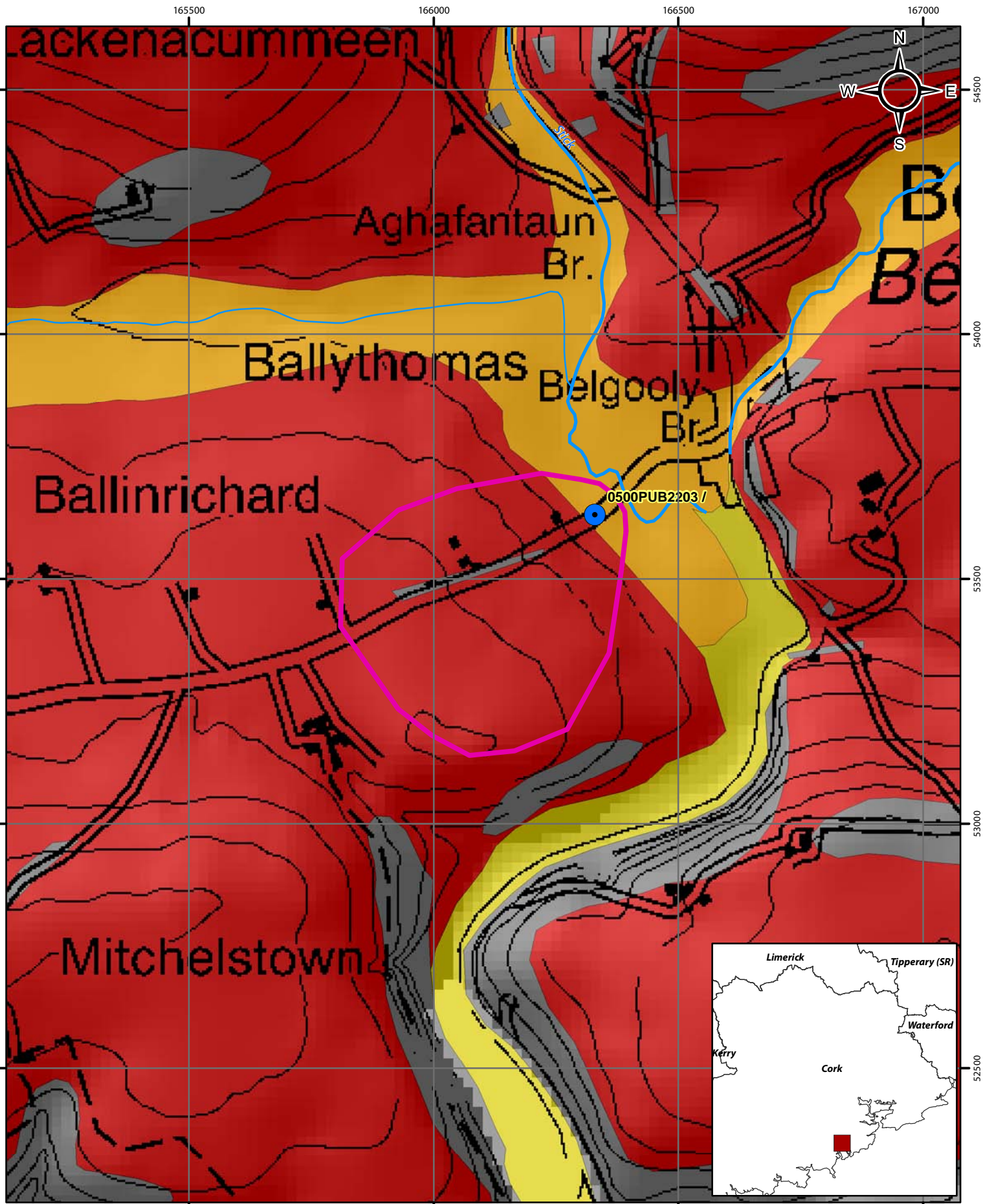


Groundwater Vulnerability Map for Belgooly










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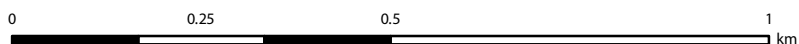


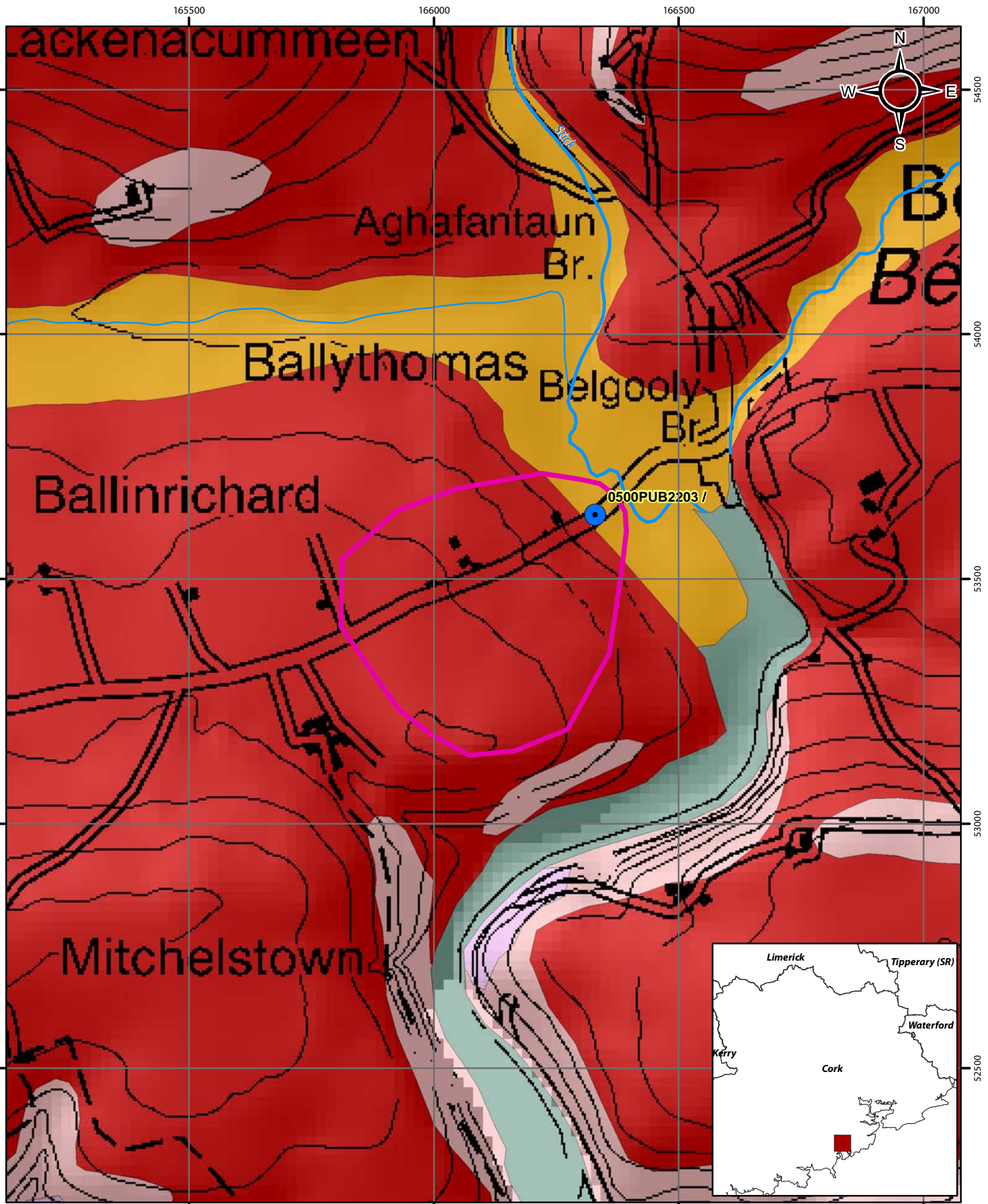


Subsoils Map for Belgooly

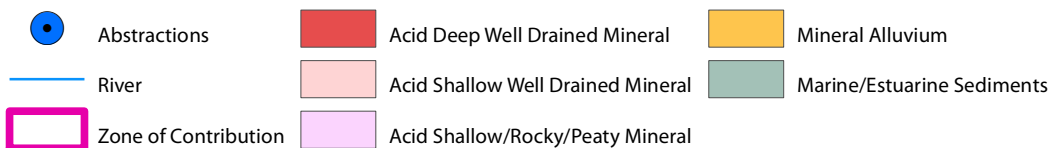
-  Abstractions
-  River
-  Zone of Contribution
-  Alluvium
-  Bedrock outcrop or subcrop
-  Estuarine silts and clays
-  Till derived from Devonian and Carboniferous sandstones and shales

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Soils Map for Belgooly



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