

**Geotechnical & Geo-environmental Site
Investigation Report:**

Proposed Residential Development,
Former Infant School
Brodog Lane
Fishguard
SA65 9NR

Prepared For:
Ateb Group Limited

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terrafirma

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Proposed Residential Development, Former Infant School Site, Brodog Lane, Fishguard, SA65 9NR

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Executive Summary

Site Location	<i>The site is situated on Bardog lane in Fishguard SA65 9NR, centred on a National Grid Reference of 195590 237380. It occupies a plan area of approximately 0.7 hectares.</i>
Site History	<i>The site was field land until the school was established between 1965 and 1967. However, a quarry is indicated to have been present in the east of the site. Quarrying began 1888 and 1907. Given the quarry's small size no further quarrying appears to have occurred after this period. The quarry was infilled between 1973 and 1976.</i>
Ground Conditions	<i>Ground conditions on site generally comprise some made ground cover, which deepens towards the southeast corner of the site, overlaying in-situ clay and granular soils. Granular soils primarily comprise weathered bedrock and most excavations were therefore only very shallow.</i>
Radon	<i>Basic radon protection is required for new development.</i>
Ground Gas/Landfill Gas	<i>Gas protection measures will be required for the new development.</i>
Laboratory Chemical Testing and Proposed Remediation	<i>Quarry fill was found to be contaminated by lead and a fragment of asbestos containing material was identified. The old quarry sits beneath proposed Plots 6&7. Upon development the gardens of these plots and any adjacent landscaped areas should be capped with 600mm clean imported soils. A double no-dig barrier should be placed between the fill and capping.</i>
Foundation Solution	<p><i>Due to the presence of the quarry and soft backfill soils a mini-piled bored foundation solution will be required for Plots 6&7. It is anticipated that piles may be founded within the underlying bedrock, which may be expected between approximately 1.0m depth, and 2.6m depth within the quarry. For a 115mm diameter mini pile a safe working load of typically 150kN should be achievable. Floor slabs should be designed as suspended.</i></p> <p><i>For the new housing across the remainder of the site concrete strip or trench fill foundations, founded within the underlying granular deposits and/or weathered bedrock, or in-situ firm clay are recommended. Where foundations span across variable strata they should be designed as reinforced to ensure no differential settlement is experienced. Based upon the site investigation the depth to an in-situ founding horizon will be between 0.2m and 1.9m depth. The foundations must sit at least 200mm within the chosen founding horizon. An allowable bearing pressure of 150kN/m² may be used for design purposes for houses founded upon granular deposits. An allowable bearing pressure of 150kN/m² may be used for superficial clay deposits (TP1). The floor slabs may be designed as suspended.</i></p>

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SECTION 1 Introduction and Proposed Development

1.1 Introduction

A new residential development is proposed on the site of the former infant school, Brodog Lane, Fishguard. This is to comprise of residential buildings including bungalows, flats and 2 and 3 bedroom houses.

Roger Casey Associates is the Consulting Civil and Structural Engineer for the project.

Terra Firma (Wales) Limited has been commissioned to undertake a geo-environmental assessment and geotechnical investigation of the site.

The main objectives of the geoenvironmental assessment programme were to:

- Investigate the potential environmental liabilities at the site associated with any soil contamination
- Provide a summary of the environmental conditions at the site, together with any necessary further intrusive works and / or remediation works to render the site fit for its intended use

The main objectives of the geotechnical site investigation were to:

- Determine the type, strength and bearing characteristics of the shallow superficial and underlying solid geology
- Provide engineering foundation and floor slab recommendations for the development
- Provide recommendations with regard to any other geotechnical aspects pertaining to the development

In order to achieve the above objectives, Terra Firma (Wales) Limited carried out an assessment programme including a review of existing data, followed by a field investigation to collect geotechnical and environmental data from selected locations.

1.2 Limitations and Exceptions of Investigation

The GSA and GI were conducted and this report has been prepared for the sole internal reliance of Ateb Group Limited and its design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Terra Firma (Wales) Limited. If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill. The report represents the findings and opinions of experienced geo-environmental and geotechnical consultants. Terra Firma (Wales) Limited does not provide legal advice and the advice of lawyers may be required.

The subsurface geological profiles, any contamination and other plots are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

SECTION 2 Review of Existing Data

2.1 Physical Setting and Current Site Use

The site is situated on Brodog Lane in Fishguard, centred on a National Grid Reference of 195590 237380. It occupies a plan area of approximately 0.7 hectares.

A site location plan is provided in **Figure 2.1** below.

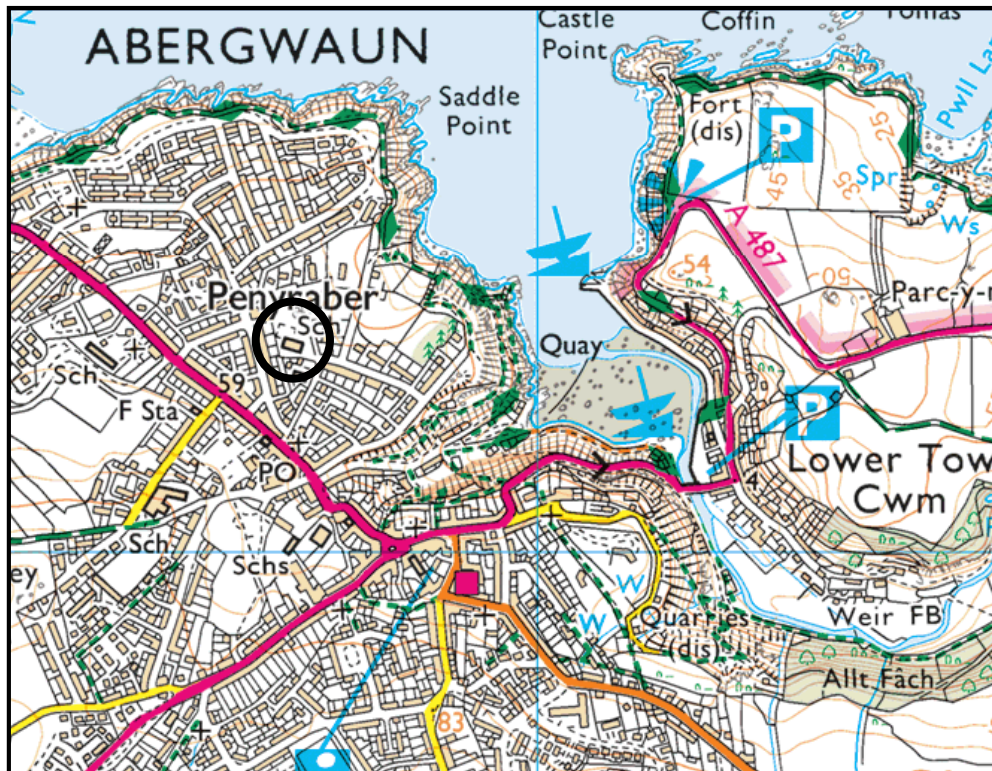


Figure 2.1: Site Location – OS Map OL35 North Pembrokeshire

The former infant school sits in the southern half of the site, with tarmac/asphalt parking and playground areas and soft landscaping.

The northern half of the site is open grassed land, which is raised above the adjacent playground.

The south-eastern corner of the site is defined by Brodog Lane and residential properties situate adjacent on all sides of the site. To the north east of the site is a social club, to the south east the Dyfed Powys Police station is situated in close proximity to the site entrance.

A site layout plan is found in **Drawing 01**.

An above-ground heating oil fuel tank sits adjacent to the rear of the school, as illustrated on **Drawing 01**. This is surrounded by a walled surround with concrete base.

2.2 Site History

The history of the site has been traced using historical Ordnance Survey maps from an Envirocheck Report obtained from Landmark Information Group. The Envirocheck Report is presented in **Annex A**. A summary of the history of the site is given below. Distances, where quoted, are approximate.

1888

At this time the site is field land with the north-section of the site denoted as long grass. From the eastern boundary an old quarry is present 55m from the site and a well is located 170m from the eastern boundary. A small quarry is situated 200m to the northwest. Quarries also situated 211m northeast and 200m southeast. Substantial residential housing is situated 200m from the south of the site.

1907

A small quarry now exists in the north-eastern quadrant of the site. Two residential buildings have been built close to the southeast corner of the site and Brodog terrace has been established 60m southwest. A Masonic Hall has been established adjacent to the western boundary of the site. The small quarry to the northwest appears to have been infilled and is now long grass. The old gravel pit is no longer indicated.

1937

No noticeable changes are shown upon the site. Additional residential properties have been constructed adjacent to the west on Brodog Terrace. Two residential buildings have been established 20m from the eastern boundary. The old quarry 55m from the eastern border is now greenfield. Further development at the Masonic Hall has occurred developing the building into a social club. Substantial residential development of terrace houses to the east and south of the site has occurred.

1953

There have been no noticeable changes on site. Additional residential buildings to the east and south east of the site have been constructed.

1965

There have been no noticeable changes on site. Further residential development has occurred adjacent to the west of the site on Brodog Terrace. Large residential Buildings adjacent to the east of the site have been constructed. Substantial residential development 60m northwest has occurred establishing the area Penyraber. The large quarry 200m southeast has been in-filled and appears to be a grassed hill.

1973

A school has now been established on site. The school building is situated in the south of the site. South of the site a police house has been constructed adjacent to the south boundary of the site. The quarry on the site is still visible. At a distance of 60m north of the site further substantial development of residential housing is visible.

1976

The primary school is now established as Fishguard County Primary Infants School. On site the quarry appears to have been infilled. The small building located in the central eastern area of the site has been demolished. Surrounding residential development has continued adjacent to the site. This includes the establishment of the police station and governmental offices adjacent to the south.

2.2 Site History (Continued)

1980

On site an extension to the school has been built on the northwest corner of the building. The tarmac play area / car park has been extended slightly. Adjacent to the north boundary of the site four new residential buildings have been constructed.

1994

There have been no notable changes to the site. Some minor residential development has occurred in the surrounding area.

2018

There have been no site changes since 1980.

2.3 Geological Setting

2.3.1 Geology

The 1:50000 scale geological map of the area (Sheet 210) shows the site to overlie the boundary of the Goodwick volcanic formation and the Strumble Head Volcanic Formation.

The Goodwick Volcanic Formation is likely to be present in the northern half of the site. This formation comprises of Rhyolite lavas and rhyolitic tuffs. This overlies the Strumble Head Volcanic formation that may be expected in the southern half of the site. The Strumble Head Volcanic Formation consists of Basaltic pillow lavas, spilitic breccias, ashes and intercalated sediments. Both bedrocks are Ordovician in age.

Superficial glacio-fluvial ice contact deposits are indicated to be present in the western part of the site, from the north-western corner to the centre then to the south-western corner of the site. This deposit may comprise of sand and gravel.

Given that the site was undeveloped until construction of the school little or no made ground may be anticipated to be present.

However, the former quarry on site is indicated on historical plans to have been infilled. Fill material may include waste/waste soils.

2.3.2 Coal Mining

The site lies outside the South Wales Coalfield. The site will not be affected by past mining.

2.3.3 Radon

The Envirocheck Report (**Annex A**) details that the site area is an intermediate probability radon area (5 to 10% of homes are estimated to be above the action level)

Basic radon protective measures are necessary in the construction of new dwellings or extensions.

2.4 Environmental Setting

The following sections have been compiled using the Envirocheck datasheet and maps which can be found in **Annex A**.

2.4.1 Hydrogeology and Hydrology

The underlying bedrock has been classed by the Environment Agency as a Secondary B Aquifer. Secondary B aquifers are described as predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering

The superficial alluvial deposits are classed as unproductive strata.

The nearest surface water feature is the coastline 144m east.

The River Gwaun, which flows in a northerly direction, converges with Fishguard Bay 500m to the east.

2.4.2 Groundwater

The Envirocheck Report confirms that the site does not situate within a groundwater source protection zone.

There are no groundwater abstraction points within 250m of the site.

No premises with consent to discharge waste waters are present within 250m of the site.

2.4.3 Flooding

The site is shown to be in an area with no visible flood risk. The site is however shown to lie just outside of an area that is shown to have Limited Potential for Groundwater Flooding to Occur. This area is situated 7m to the west of the site and described as marshland.

2.4.4 Waste

No historical landfills, local authority pollution prevention and control premises or licensed waste management facilities lie within 200m of the site.

There is potentially infilled land situated 59m northeast from the site, 201m north and 227m to the northeast. The date of mapping for these infills is 1975.

2.4.5 Pollution

No pollution incidents are detailed to have occurred within a 250m radial area around the site.

2.4.6 Sensitive Land Use

The site is situated within an environmentally sensitive area.

2.4.7 Contemporary Trades

No contemporary land use has occurred within the site boundaries. There are some active contemporary land uses within 100m of the site, these are listed below.

- 53m to the south an active dry cleaners is located at 6 Brodog Terrace.
- 89m southwest an inactive dry cleaners is located on Brodog Terrace.
- 90m southwest an active tyre dealer is located SA65 9NW.
- 73m south an inactive ceramic manufacturer's supplies and services is located at 1 Brodog Court, SA65 9NJ.
- 99m south of the site an inactive Toy, games and sporting manufacturer is located at 7 Brodog Court, SA65 9NF.
- 87m Southwest an inactive car dealer-used is located at 68 West Street SA65 9AD

Only one contemporary trade is listed within 100m of the site, which is the now inactive, which is Ironing Services at 72 Mill Road, 95m to the west.

SECTION 3 Preliminary Human Health and Environmental Risk Assessment

3.1 General

The contaminated land regime is set out in Part IIA of the Environmental Protection Act (EPA) 1990 and was introduced on the 1st April 2000 in England and 1st July 2001 in Wales. A similar regime was introduced in Scotland on 14th July 2000. Part IIA was introduced to achieve two aims:

- (1) The identification of contaminated land
- (2) The remediation of contaminated land that poses an unacceptable risk to human health and/or the environment

Under Part IIA the statutory definition of 'contaminated land' is: any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason of substances in, on, or under the land, that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) Pollution of controlled waters is being, or is likely to be, caused."

For land to be classified as 'Contaminated Land' there must be a 'pollutant linkage'.

For our definitions of pollution linkage and how we define risk please refer to **Annex B** which includes our classifications of consequence and probability and risk assessment matrix.

3.2 Preliminary Site Conceptual Model

The preceding sections enable a preliminary conceptual model of the site to be drawn up, to illustrate the likely ground conditions beneath the site together with a preliminary assessment of the nature of any underlying aquifers and groundwater movement. The preliminary site conceptual model is used as a model for the design and implementation of the site investigation, whereby areas of potential contamination can be targeted as well as investigating the site as a whole.

3.3 Potential Sources of Contamination and Gas

The potential contamination beneath the site, whether in the matrix of soil or any groundwater will be related to the sites past use and the history of the surrounding area.

The only site recorded occupation is by the school, which in itself presents no potential contamination. However, the above ground fuel tank that sits adjacent to the school does present a risk of contamination to the underlying ground through any spills or leaks.

The historical quarry on site is presumed to have been infilled. This is situated below proposed Plots 6 & 7. Any backfill materials are currently unknown and are therefore considered to be potentially contaminative.

Several quarries in the area appear to have been historically infilled. However, there is not deemed to be a risk to the site from associated ground gas given their small size, especially following installation of required basic protection measures in the new development.

3.4 Potential Receptors and Pollution Pathways

There are both human and hydrological receptors to be considered should any contamination be detected on site.

Construction workers will be excavating in soils and will be exposed via dermal contact with soils and dust, ingestion of soil /soil dust and inhalation of soil dust. Workers may also be exposed to asbestos fibres, if present in fill soils.

A residential end use is proposed. Once developed, future residents will potentially be at risk from any contamination from the same pathways as well as through consumption of site grown vegetables/fruit and intake of potable water, and inhalation of gas.

If any contamination is identified this may be leachable, enabling it to mobilise through perched groundwater within site soils and impact coastal waters or deeper groundwater.

A qualitative preliminary Human Health and Environmental Risk Assessment summarises the above and is detailed in the **Tables 3.1 and 3.2** on the following pages.

Table 3.1 - Qualitative Preliminary Human Health Risk Assessment

Potential Source	Pathway	Receptor During Construction	Level of Risk	Receptor Post Construction	Level of Risk
Quarry backfill Spilt/leaked fuel	Ingestion, inhalation and dermal contact with soil and soil dust	Construction Workers	Medium Risk	Future residents	Medium Risk
Quarry backfill Spilt/leaked fuel	Ingestion of home grown vegetables/fruit	N/A	N/A	Future residents	Medium Risk
Quarry backfill	Inhalation of asbestos fibres	Construction Workers	Medium Risk	Future residents	Medium Risk
Radon Gas	Inhalation <i>Accumulation of gas indoors in confined spaces- asphyxiation and explosion</i>	N/A	N/A	Future residents	Unacceptable Risk <i>BGS confirm basic Radon Protection required for new buildings</i>
Landfill Gas	Inhalation <i>Accumulation of gas indoors in confined spaces- asphyxiation and explosion</i>	N/A	N/A	Future residents	No Risk <i>No landfills in influencing distance of the site</i>
Ground Gas	Inhalation <i>Accumulation of gas indoors in confined spaces- asphyxiation and explosion</i>	N/A	N/A	Future residents	No Risk <i>Any local infilled quarries were small and basic radon protection will act to eliminate any negligible risks.</i>
Quarry backfill Spilt/leaked fuel	Ingestion of potable water <i>Absorption of contamination from made ground into potable water pipes</i>	N/A	N/A	Future Site Residents	Low Risk

Table 3.2 – Qualitative Preliminary Environmental Risk Assessment

Potential Source	Pathway	Receptor During Construction	Level of Risk	Receptor Post Construction	Level of Risk
Surface Water	Run-off	Site and Adjacent Sites Shallow/Perched Groundwater	Low	Site and Adjacent Sites Shallow/Perched Groundwater	Low
Accidental spillage	Run-off , digging foundations, moving contaminated soil, drainage misconnections, discharges to local surface waters or the ground, construction materials and/or exposed ground, wheel washings, oil or chemical spills	Site and Adjacent Sites	Low <i>On site procedures will ensure that all efforts are made to prevent accidental spillage</i>	N/A	N/A
Quarry backfill Spilt/leaked fuel	Leaching of contamination	Shallow/Perched Groundwater	Low Risk	Shallow/Perched Groundwater	Low Risk
Contaminated Groundwater Spilt/leaked fuel	Direct migration and Perched Groundwater migration	Underlying Secondary B Aquifer	Low Risk	Underlying Secondary B Aquifer	Low Risk
Contaminated Groundwater	Groundwater Migration	Coastline 144m east	Low Risk	Coastline 144m east	Low Risk

SECTION 4 Field Investigation

4.1 Site Works

A geo-technical and geo-environmental site investigation was carried out in August January 2018. This comprised ten trial pits, including two soakaway test holes (TP1 – TP8, SA1 & SA2).

The trial holes were excavated by JCB.

The fieldworks were supervised by Terra Firma (Wales) Limited and the trial pits were logged to the requirements of BS5930:2015.

The trial pit logs may be found in **Annex C**.

Exploratory locations are given on **Drawing 01**.

4.2 Ground Conditions

A summary of the ground conditions identified in the trial pits is given in **Table 4.1**.

Table 4.1 Summary of Ground Conditions – Southern Half of Site (TP1, TP7, TP8, SA1 & SA2)			
Depth (m)		Thickness (m)	Stratum
0.0	- 0.2/1.2	0.2/1.2	MADE GROUND: ASPHALT / Gravel SUB-BASE / Loose to medium dense brown SAND and GRAVEL and COBBLE / Soft dark red brown gravelly CLAY / Grey SAND and GRAVEL drain run backfill
1.2	- 2.8	-	Soft becoming soft to firm tan brown, orange brown and grey sandy silty gravelly CLAY / Firm brown, grey and orange brown sandy very gravelly CLAY (TP1)
0.7	- 1.2	0.5	Firm orange brown slightly sandy CLAY (SA1)
0.2/1.2	- 1.1/1.5	-	Medium dense becoming dense brown sandy slightly clayey GRAVEL and COBBLE of vesicular igneous rock (TP7, TP8, SA1 & SA2)

TP1 extended to 2.8m depth and did not encounter any granular deposits.

TP8 located was adjacent to the above ground fuel tank. Slight hydrocarbon odour was noted in the made ground (to 1.1m depth).

The granular deposits at the base of TP7, TP8 and SA2 comprised weathered bedrock, whereby the density became too great to excavate to further depth.

4.2 Ground Conditions (Continued)

Table 4.3 Summary of Ground Conditions – Northern Half of Site (TP2 – TP6)		
Depth (m)	Thickness (m)	Stratum
0.0 - 1.2	1.2	MADE GROUND: Soft dark red brown CLAY / Medium dense orange brown and brown SAND and GRAVEL, COBBLE and BOULDER (TP3)
0.0 - 0.5	0.5	Soft dark red brown sandy gravelly CLAY (TP4)
0.0 - 0.6	0.6	Loose to medium dense GRAVEL and COBBLE in soft red brown clay matrix (TP5)
0.0/1.2 - 0.8/1.2	-	Medium dense becoming dense brown/orange brown SAND and GRAVEL and COBBLE / Dense GRAVEL, COBBLE and BOULDER (weathered bedrock)

Within TP2 weathered bedrock comprising gravel, cobble and boulder in a soft red brown clay matrix was present from the surface to the maximum investigatable depth of 0.8m.

TP6 was excavated at the location of the historically infilled quarry. Made ground was found to extend here to 2.6m, at which the base of the quarry/probable bedrock was confirmed. Quarry backfill extended from surface level and comprised soft dark brown sandy gravelly cobbly clay with fragments of glass, china, metal, tile, pipe, brick and occasional asbestos containing material (chrysotile cement - see **Table 5.3**).

4.3 Water Strikes

No groundwater was encountered in the trial pits.

4.4 Stability and Obstructions

Trial holes were unstable due to the high quantity of cobbles and boulders in places.

4.5 Soil and Leachate Laboratory Chemical Testing

4.5.1 Soil Exploratory Strategy and Sampling Regime

During the intrusive investigation, small disturbed soil samples were collected. The sampling regime was conducted in accordance with BS5930: 1999 in order to satisfy the following criteria:

- Identify and confirm suspected sources of contamination
- Determine type and concentration of contamination
- Determine lateral and vertical spread of contaminants
- Ensure representation of the entire site
- Provide sufficient data to determine suitable remedial measures if necessary

4.5.1 Soil Exploratory Strategy and Sampling Regime (Continued)

The sample locations and depths are listed in the following table.

Table 4.3 Sample Locations and Depths		
Sample	Depth (m)	MCerts Sample Matrix Description
TP1	0.1	Dark brown very sandy CLAY including some rootlets
SA2	0.5	Brown gravelly very clayey SAND
TP2	0.4	Brown gravelly very clayey SAND including odd rootlets
TP3	0.6	Dark brown gravelly, very clayey SAND including odd rootlets
TP5	0.1	Dark brown very sandy CLAY including odd rootlets
TP6	0.6	Dark brown very sandy CLAY including odd rootlets
TP6	0.6	<i>(Suspect asbestos containing material)</i>
TP6	1.3	<i>(Suspect asbestos containing material)</i>
TP6	2.0	-
TP7	0.4	Brown gravelly very clayey SAND
TP8	0.3	Dark brown gravelly, very clayey SAND including some rootlets
TP8	1.0	-
TP8	1.5	-

4.5.2 Laboratory Analysis

4.5.2.1 Soils

The soil samples taken were despatched to the laboratories of Derwentside Environmental Testing Services Limited. The following chemical tests were undertaken:

Metals and Metalloids

Lead
Arsenic
Mercury
Chromium
Copper
Nickel
Zinc

In-Organics

Cyanide
Sulphate

Others

pH (acidity)
Organic Matter
Asbestos

Organic Chemicals

Phenol
Polycyclic Aromatic Hydrocarbons (PAHs)
Petroleum Hydrocarbons

The laboratory soil chemical test results are presented in **Annex D**.

4.5.2.1 Leachate

Leachate analysis for lead was performed. The laboratory soil chemical test results are presented in **Annex D**.

4.6 Soakaway Testing

During the site investigation two in-situ soakaway tests were performed, in SA1 and SA2.

The findings of this test are detailed in **Section 7.7**.

SECTION 5 Soil and Leachate Analytical Results

5.1 Soil Assessment Methodology

Comparison of the analytical results has been made with residential (including plant uptake) Suitable 4 Use Levels (S4ULs) provided by Land Quality Management Limited and the Chartered Institute of Environmental Health (CIEH). Where CIEH thresholds are not available reference has been made to Category 4 Screening Levels (C4SLs) or CLEA SGVs.

Sulphate results have been compared to British Research Establishment (BRE) guidelines as sulphate levels need only be considered for buried concrete risk assessment only, not human health related.

5.2 Soil Test Results

A summary of the chemical test results which include the regulatory soil guideline values used in the Tier 1 assessment are given in **Tables 5.1 to 5.4**.

Table 5.1 Summary of Soil Chemical Test Results Standard Suite					
Substance	SGV/GAC (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of Exceedences
			Minimum	Maximum	
Arsenic	37	CIEH	6.0	20	0
Cadmium	11	CIEH	<0.1	0.8	0
Chromium III	910	CIEH	25	79	0
Chromium VI	6	CIEH	<1.0	<1.0	0
Copper	2400	CIEH	24	120	0
Lead	200	C4SL	19	290	1
Mercury	40	CIEH	<0.05	0.57	0
Nickel	180	CIEH	15	33	0
Selenium	250	CIEH	<0.5	0.8	0
Zinc	3700	CIEH	72	440	0
Cyanide	8	CLEA	<0.1	1.0	0
Phenols	120	CIEH	<0.3	1.3	0
Sulphate	2400	BRE	200	1300	0
Organic Matter	-	-	0.4	11	-
pH	-	-	5.7	8.0	-
Total PAH	-	-	<0.1	2.8	See Table 5.2

Notes:

- A total of 8 samples were tested
- - no available guideline

5.2 Soil Test Results (Continued)

Samples were tested for speciated PAH testing.

Table 5.2 Summary of Soil Chemical Test Results Speciated Polyaromatic Hydrocarbons					
Substance	GAC (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of Exceedences
			Minimum	Maximum	
Naphthalene	2.3	CIEH	<0.03	<0.03	0
Acenaphthylene	170	CIEH	<0.03	<0.03	0
Acenaphthene	210	CIEH	<0.03	<0.03	0
Fluorene	170	CIEH	<0.03	<0.03	0
Phenanthrene	95	CIEH	<0.03	0.04	0
Anthracene	2400	CIEH	<0.03	0.05	0
Fluoranthene	280	CIEH	<0.03	0.63	0
Pyrene	620	CIEH	<0.03	0.53	0
Benzo(a)anthracene	7.2	CIEH	<0.03	0.26	0
Chrysene	15	CIEH	<0.03	0.33	0
Benzo(b)fluoranthene	2.6	CIEH	<0.03	0.31	0
Benzo(k)fluoranthene	77	CIEH	<0.03	0.12	0
Benzo(a)pyrene	2.2	CIEH	<0.03	0.14	0
Indeno(123cd)pyrene	27	CIEH	<0.03	0.09	0
Dibenzo(ah)anthracene	0.24	CIEH	<0.03	<0.03	0
Benzo(ghi)perylene	320	CIEH	<0.03	0.09	0

Notes:

- Thresholds based on 1.0% SOM
- 8 samples were tested for Speciated PAH

Asbestos testing was undertaken on samples of made ground. **Table 5.3** below summarises the findings:

Table 5.3 Summary of Soil Test Results Asbestos			
Location	Depth (m)	Type	Result
TP1	0.1	Soil	Asbestos not detected
TP3	0.6	Soil	
TP6	0.6	Soil	
TP6	2.0	Soil	
TP6	1.3	Suspect ACM	
TP6	0.6	Cement fragment	

5.2 Soil Test Results (Continued)

Four samples were tested for petroleum hydrocarbons, one from the quarry backfill found in TP6, and three from soils in TP8 that was excavated adjacent to the former above ground fuel tank.

Table 5.4 Summary of Soil Chemical Test Results Petroleum Hydrocarbons					
Substance	SGV/GAC (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of Exceedences
			Minimum	Maximum	
Aliphatic					
PH C5 – C6 Ali	42	CIEH	<0.01	<0.01	0
PH C6 – C8 Ali	100	CIEH	<0.01	<0.01	0
PH C8 – C10 Ali	27	CIEH	<0.01	<0.01	0
PH C10 – C12 Ali	130	CIEH	<1.5	6.5	0
PH C12 – C16 Ali	1100	CIEH	<1.2	64	0
PH C16 – C21 Ali	65000*	CIEH	<1.5	81	0
PH C21 – C35 Ali	65000*	CIEH	<3.4	32	0
Aromatic					
PH C5 – C7 Arom	70	CIEH	<0.01	<0.01	0
PH C7 – C8 Arom	130	CIEH	<0.01	<0.01	0
PH C8 – C10 Arom	34	CIEH	<0.01	<0.01	0
PH C10 – C12 Arom	74	CIEH	<0.9	<0.9	0
PH C12 – C16 Arom	140	CIEH	<0.5	22	0
PH C16 – C21 Arom	260	CIEH	<0.6	39	0
PH C21 – C35 Arom	1100	CIEH	<1.4	17	0

Notes:

- A total of 4 soil samples were tested
- CIEH Based on 1.0% SOM
- * CIEH for Ali C16 - 21 and C21 - C35 based on CIEH for EC >16 – 35

5.3 Leachate Assessment Methodology

One soil sample exhibited an elevated concentration of lead, taken from TP6 at 0.6m. This was quarry backfill material.

The result has been compared directly to the threshold for inland surface waters (annual average) provided by the UK Water Framework Directive (WFD) (2000/60/EC).

5.4 Leachate Test Results

Table 5.5 Summary of Leachate Chemical Test Results				
Substance	Threshold (ug/l)	Source	Measured Concentrations of Tested Substances (ug/l)	Number of Exceedences
			TP6	
Lead	1.2	WFD	1.3	1

SECTION 6 Quantitative Risk Assessment

6.1 Contaminants of Concern

6.1.1 Contaminants of Concern in Soil

Contaminants of concern are those that were found to exceed their residential threshold level.

Site soils were confirmed to be uncontaminated with the exception of the quarry backfill materials, which are confined to a small area of the site in the vicinity of proposed Plots 6 and 7.

A sample taken at 0.6m recorded a lead concentration of 290mg/kg, exceeding its threshold level of 210mg/kg. A fragment of chrysotile asbestos containing cement was also retrieved from this depth. The quarry fill extends from surface level to 2.6m depth.

6.1.2 Contaminants of Concern in Leachate

Lead was found to be leachable in one sample, the leachate concentration measuring 1.3ug/l, marginally exceeding the threshold level of 1.2ug/l.

6.2 Potential Receptors and Pathways

6.2.1 Human Receptors

Construction workers are considered to be at risk from quarry backfill materials via dermal contact with soils/soil dust, ingestion of soil/soil dust and inhalation of soil dust. Future site residents may also be at risk from contamination in backfill soils through these pathways, as well as through the potable water supply and consumption of site grown produce. Based on the inferred size and location of the former quarry from historical plans and the current proposed site layout residents of Plots 6 & 7 only should be affected.

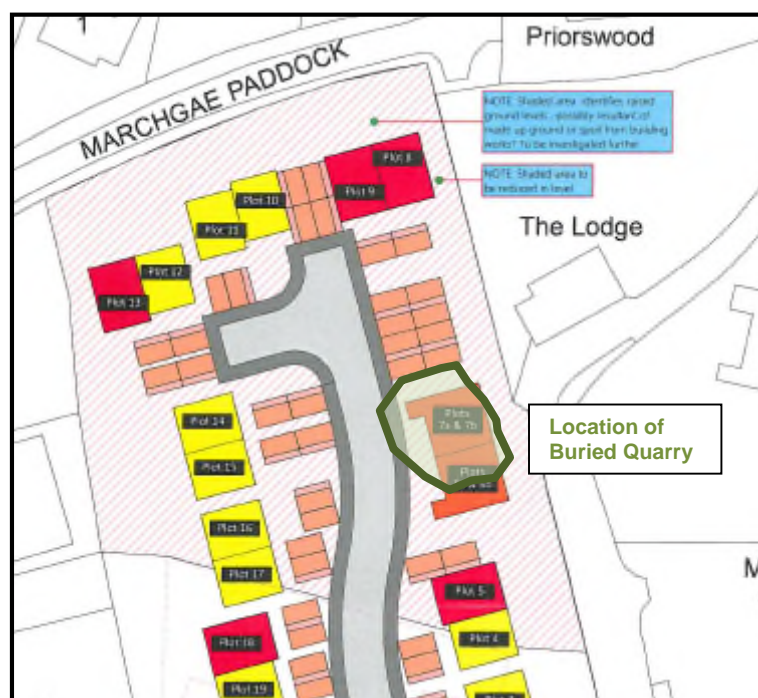


Figure 6.1: Buried Quarry Location

6.2.1 Human Receptors (Continued)

One fragment of ACM was found in the quarry backfill and no fibres were detected in two samples of the backfill soil, but there is considered to be potential for further unidentified asbestos fibres or asbestos containing materials.

There will be no risks to future site users from radon or ground gas following the installation of radon protection.

6.2.2 Aquatic Environment

The one leachate result for lead was minor, and will not present a risk to the aquatic environment, especially following any dilution and attenuation.

6.3 Mitigation and Remedial Measures

6.3.1 Human Health

As good practice, construction workers should adhere to good site management, COSHH, good standards of hygiene and appropriate health & safety on site, with personal protection equipment (PPE). Protection must take into account the risk from exposure to asbestos, such as and dust suppression.

Dust suppression will also ensure there are no risks to neighbouring site users from excavation of the quarry backfill.

In order to protect future site users it is recommended that the gardens of Plots 6 & 7, and any adjacent soft landscaped areas, are capped with 600mm clean imported material. A double no-dig barrier comprising a geogrid and geotextile layer should be laid at the base of the capping.

All imported soils should be validated as clean and suitable for use in accordance with 'Requirements for the Chemical testing of Imported Soils for Various End Uses and Validation Cover Systems'.

For proposed new supply water pipes, the UK Water Industry Research publication 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (Report 10/WM/03/21)' should be consulted.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties. Terra Firma (Wales) Ltd offer this service if required.

6.3.2 Aquatic Environment

No remedial measures are required.

During the construction period, there is a risk to the environment/adjacent sites from de-watering, digging foundations, moving contaminated soil, drainage misconnections, discharges to local surface waters or the ground, runoff from construction materials and/or exposed ground, wheel washings and oil or chemical spills.

The risk is considered to be negligible as any adverse effects will be easily preventable by due diligence to good construction practise and housekeeping in preventing surface runoff and the spillage of materials.

The basic measures that should be taken are as follows:

- Prepare a drainage plan and mark the manholes to prevent pollutants accidentally reaching the surface water sewers;
- Carry out any activities that could cause pollution in a designated, bunded area, away from rivers or boreholes. Where possible it should drain to the foul sewer;
- Use settlement ponds to remove silty water;
- Store all oils and chemicals in a fully bunded area to prevent leaks or spills;
- Get advice on whether you need an environmental permit and apply in good time

SECTION 7 Engineering Recommendations

7.1 Preparation of Site

The existing building should be demolished, and all foundations and concrete slabs and areas of hardstanding within the development area excavated out and removed.

An asbestos survey of the school building and removal of any asbestos containing materials should be carried out prior to demolition.

Contingencies should be made for the protection/diversion any underground/overhead services present beneath the site brought about as a result of the proposed works.

Allowances should be made for the excavation of any soft spots/areas and their replacement with well compacted imported granular materials.

Any reduced levels should be brought up to the required levels with suitable inert mainly granular materials. Department of Transport (DoT) type 2 sub base or similar should be used and should be compacted in layers to the requirements of the Specification for Highway works.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils and other materials destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties. Terra Firma (Wales) Ltd offer this service if required.

7.2 Foundation and Floor Slab Solution

7.2.1 Plots 6 & 7

It is recommended that some shallow excavations be made across the area of the former quarry to confirm its exact location.

Due to the presence of the quarry and soft backfill soils a mini-piled bored foundation solution will be required for Plots 6&7. It is anticipated that piles may be socketed within the underlying bedrock, which may be expected between approximately 1.0m depth, and 2.6m depth within the quarry. The entire new building should be piled to prevent any effects from differential settlement.

Piles can therefore be expected to be approximately 4m and 5.5m in length. However variations in the quoted lengths should be expected.

For a 115mm diameter steel mini pile a safe working load of typically 150kN should be achievable.

The above estimated working loads, type and length of piles should be confirmed by a specialist piling contractor. It may also be prudent to drive a number of test piles at selected locations.

During the piling operations a rigorous check should be kept on vibrations. Should these vibrations exceed permissible levels then measures should be taken to reduce levels to acceptable levels. Should such vibrations exceed acceptable limits and they cannot be reduced then consideration should also be given to a bored pile solution.

Floor slabs should be designed as suspended.

7.2.2 Remainder of Site

For the new housing across the remainder of the site concrete strip or trench fill foundations, founded within the underlying granular deposits and/or weathered bedrock, or in-situ firm clay (as seen in TP1) are recommended.

Where foundations span across variable strata they should be designed as reinforced to ensure no differential settlement is experienced.

Based upon the site investigation the depth to an in-situ founding horizon will be between 0.2m and 1.9m depth.

The foundations must sit at least 200mm within the chosen founding horizon. In order to avoid damage from possible frost heave and/or thermal shrinkage the foundations should be a minimum depth below the finished ground level of 0.9m. Alternatively, the non-frost susceptible materials should extend down to the above quoted depths.

An allowable bearing pressure of 150kN/m² may be used for design purposes for houses founded upon granular deposits. An allowable bearing pressure of 150kN/m² may also be used for superficial clay deposits (TP1).

For the given foundation solution and bearing pressure, maximum total settlements of 30mm should result with differential movements of the superstructure not exceeding 1:750.

The floor slabs may be designed as suspended.

Allowances should be made for the removal of any 'soft spots' and their replacement with well-compacted granular materials. Department of Transport (DoT) Type 2 materials or similar could be used and should be compacted in layers to the specification for Highway Works.

All foundation formations should be inspected by a suitably qualified Engineer before being concreted.

7.3 Soil Property Testing

7.3.1 Plasticity Testing

During the investigation a sample of the in-situ clay in SA1 was taken and submitted for plasticity testing (**Annex F**). In line with the NHBC (Chapter 4.2), the modified plasticity index for the sample was calculated.

Table 7.1 Plasticity Test Results				
Sample	Depth (mbgl)	Plasticity Index (%)	Modified Plasticity Index (%)	Volume Change Potential
SA1	1.1	8	6.8	Low

The National House Building Council (NHBC) Chapter 4.2 gives guidelines as to the appropriate depth of foundation based on the type of tree, distance of the foundation from the tree and the plasticity index of the in-situ materials.

7.4 Excavations and Formations

Shallow excavations may require special breaker attachments for shallow weathered bedrock.

Shallow perched water flows are not expected. Any water inflows together with rainwater infiltration should be dealt with by conventional pumping techniques.

The sides of any excavations deeper than 1.0m, or shallower if unstable, should be supported by planking and strutting or other proprietary means.

The sub-formations/formations are likely to be susceptible to loosening, softening and deterioration by exposure to weather (rain, frost and drying conditions), the action of water (flood water or removal of groundwater) and site traffic.

Formations should never be left unprotected and continuously exposed to rain causing degradation, or left exposed/uncovered overnight, unless permitted by a qualified engineer.

Construction plant and other vehicular traffic should not be operated on unprotected formations.

As a minimum the formation/excavation surfaces must be protected by blinding concrete immediately after exposure.

Allowances should be made for the removal of soft spots/areas and their replacement with well compacted granular materials.

Allowances should also be made for special precautions to prevent formation deterioration in addition to the above.

7.5 Protection of Buried Concrete

Levels of total sulphate within the in-situ materials measured between 200mg/kg to 1300mg/kg and the pH varied between 5.7 and 8.0.

When these results are compared with Tables C1 and C2 of BRE Digest 1:2005, they indicate that all buried concrete should most likely as a minimum conform to Class AC-1 for natural soils and AC-2z for made ground.

7.6 Access and Car Parking Areas

For car parking and road areas, formations within the in-situ soils a CBR value of 1-3% may be used for design purposes.

Allowances should be made for the removal of any 'soft spots/areas' and their replacement with well-compacted granular materials as previously described.

Please note that the Local Council / Highways Authority may require in-situ CBR testing to be undertaken before a road is adopted.

7.7 Storm Drainage

Two in-situ soakaway tests were performed, SA1 and SA2. Test locations are shown on **Drawing 01**.

SA1 was performed in sand, gravel and cobble deposits that lie below 1.2m depth. Test results are as follows:

Fill 1 1.94×10^{-5} m/s
Fill 2 1.51×10^{-5} m/s

SA2 was performed in sandy gravel and cobble deposits. Test results are as follows:

Fill 1 1.24×10^{-4} m/s
Fill 2 1.04×10^{-4} m/s
Fill 3 9.08×10^{-5} m/s

Based on these results a soakaway drainage solution may be viable for the new development, depending on the depth of installation. Shallow bedrock is present across the majority of the site and SA2 could not be excavated to greater depth due the density of weathered bedrock deposits. Ground permeability may be different at greater depth within less weathered bedrock.

Test calculation sheets may be found in **Annex F**.

ANNEX A
Envirocheck Report

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

152109713_1_1

Customer Reference:

14542

National Grid Reference:

195590, 237380

Slice:

A

Site Area (Ha):

0.71

Search Buffer (m):

1000

Site Details:

, Ysgol Glannau Gwaun (Infant Site

Ysgol Glannau Gwaun (Infant Site

Sladeway

Fishguard

SA65 9NY

Client Details:

Ms R Liley

Terra Firma (Wales) Ltd

5 Deryn Court

Wharfdale Road

Pentwyn

Cardiff

CF23 7HB

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Hazardous Substances	-
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Industrial Land Use	25
Sensitive Land Use	32
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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			20	6
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7				1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 7		Yes		
Pollution Incidents to Controlled Waters	pg 8			3	15
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 11				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 11				1
Substantiated Pollution Incident Register	pg 11			1	
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability	pg 12	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 12	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 12		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 12		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 12			1	56

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Waste					
BGS Recorded Landfill Sites					
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Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 19	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 19		3		5
Potentially Infilled Land (Water)	pg 19				5
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
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Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 20	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 20	Yes	Yes		
BGS Recorded Mineral Sites	pg 20		3		12
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 23	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 23	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 24		Yes	n/a	n/a
Radon Potential - Radon Affected Areas	pg 24	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures	pg 24	Yes	n/a	n/a	n/a
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Points of Interest - Manufacturing and Production	pg 29				6
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Underground Electrical Cables					

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Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas	pg 32	1		1	
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks	pg 32			1	
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest	pg 32		1		
Special Areas of Conservation	pg 32		1		
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	7	1	195550 237383
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	190	1	195400 237550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	261	1	195350 237600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NE (NW)	455	1	195150 237650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	466	1	195100 237550
1	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Crude Sewage Effluent From Dcww, Crude Sewage From Dcww, Pantycelyn, Fishguard, Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0063301 Permit Version: 1 Effective Date: 21st September 1987 Issued Date: 21st September 1987 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Controlled Sea Environment: Receiving Water: Coastal Waters Cardigan Bay Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	339	2	195340 237700
2	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Ogorf Martha S.D.P. Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0043802 Permit Version: 1 Effective Date: 22nd October 1987 Issued Date: 22nd October 1987 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Coastal Waters 85m From Cliff Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	364	2	195390 237760
2	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Ogorf Martha . . . Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0111301 Permit Version: 1 Effective Date: 13th December 1991 Issued Date: 13th December 1991 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge: Controlled Sea Environment: Receiving Water: Sea Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	379	2	195420 237790

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire</p> <p>Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 5 Effective Date: 28th April 2010 Issued Date: 28th March 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Controlled Sea Environment: Receiving Water: Coastal W/Rs Fishguard Harbour Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A18SW (NW)	388	2	195420 237800
2	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire</p> <p>Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 5 Effective Date: 28th April 2010 Issued Date: 28th March 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Controlled Sea Environment: Receiving Water: Coastal W/Rs Fishguard Harbour Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A18SW (NW)	388	2	195420 237800
2	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire</p> <p>Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 4 Effective Date: 27th March 2009 Issued Date: 27th March 2009 Revocation Date: 27th April 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Controlled Sea Environment: Receiving Water: Coastal W/Rs Fishguard Harbour Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A18SW (NW)	388	2	195420 237800
2	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire</p> <p>Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 3 Effective Date: 26th March 2009 Issued Date: 31st March 2005 Revocation Date: 26th March 2009 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Controlled Sea Environment: Receiving Water: Coastal W/Rs Fishguard Harbour Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A18SW (NW)	388	2	195420 237800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 2 Effective Date: 1st October 1996 Issued Date: 9th September 1996 Revocation Date: 30th March 2009 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Coastal Waters Of Fishguard Ha Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A18SW (NW)	388	2	195420 237800
3	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Ogof Martha Treatment Plant Pontcel, Pontcelyn Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0232403 Permit Version: 1 Effective Date: 19th October 1994 Issued Date: 19th October 1994 Revocation Date: 31st March 2006 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Coastal Waters Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A18SW (N)	370	2	195570 237820
3	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0232401 Permit Version: 1 Effective Date: 27th May 1994 Issued Date: 27th May 1994 Revocation Date: 30th September 1996 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Coastal Waters Of Fishguard Ha Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A18SW (N)	370	2	195570 237820
3	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Ogof Martha Treatment Plant Pontcel, Pontcelyn Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0232402 Permit Version: 1 Effective Date: 26th May 1994 Issued Date: 26th May 1994 Revocation Date: 31st March 2006 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Fishguard Bay Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A18SW (N)	370	2	195570 237820

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Slade Stw Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: Bp0151703 Permit Version: 1 Effective Date: 6th April 1990 Issued Date: 6th April 1990 Revocation Date: 3rd November 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Fishguard Harbour Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m</p>	A14SW (SE)	391	2	196000 237200
5	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Slade Ps Slade Way Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0151701 Permit Version: 3 Effective Date: 1st October 1996 Issued Date: 9th September 1996 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Controlled Sea Environment: Receiving Water: Coastal Waters Of Fishguard Ha Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A13NE (NE)	393	2	195920 237680
6	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Fishguard Slade Sea Dis . . Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0115201 Permit Version: 1 Effective Date: 13th December 1991 Issued Date: 13th December 1991 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Fishguard Harbour Sea Status: Consent expired Positional Accuracy: Located by supplier to within 10m</p>	A14SW (E)	448	2	196080 237320
6	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Fishguard Slade Sea Dis . . Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: Bn0054401 Permit Version: 1 Effective Date: 1st January 1901 Issued Date: 1st January 1901 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Gwaun Status: Consent expired Positional Accuracy: Located by supplier to within 10m</p>	A14SW (E)	448	2	196080 237320

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Slade Stw Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: BP0151703 Permit Version: 2 Effective Date: 4th November 1993 Issued Date: 4th November 1993 Revocation Date: 31st March 2006 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Fishguard Harbour Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A14SW (E)	469	2	196100 237300
6	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Slade Stw Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: BP0151702 Permit Version: 2 Effective Date: 1st October 1993 Issued Date: 1st October 1993 Revocation Date: 31st March 2006 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Fishguard Harbour Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A14SW (E)	469	2	196100 237300
6	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Slade Stw Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: Bp0151702 Permit Version: 1 Effective Date: 6th April 1990 Issued Date: 6th April 1990 Revocation Date: 30th September 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Fishguard Harbour Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SW (E)	469	2	196100 237300
7	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Slade Ps Slade Way Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0151701 Permit Version: 2 Effective Date: 1st October 1993 Issued Date: 1st October 1993 Revocation Date: 30th September 1996 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Coastal Waters Of Fishguard Ha Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NW (NE)	470	2	196000 237700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Slade Ps Slade Way Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0151701 Permit Version: 1 Effective Date: 6th April 1990 Issued Date: 6th April 1990 Revocation Date: 30th September 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Coastal Waters Of Fishguard Ha Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NW (NE)	470	2	196000 237700
8	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Undefined Or Other Location: Lower Fishguard Ps Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bn0054403 Permit Version: 1 Effective Date: 1st January 1901 Issued Date: 1st January 1901 Revocation Date: 6th April 1990 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Gwaun Status: Consent expired Positional Accuracy: Located by supplier to within 10m</p>	A14SE (E)	644	2	196270 237240
9	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Moor (Parrog) Ps Fishguard Harbour, Fishguard Harbour Fishguard Authority: Natural Resources Wales Catchment Area: Goodwick Brook Reference: BP0261101 Permit Version: 1 Effective Date: 15th August 1996 Issued Date: 15th August 1996 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Goodwick Brook Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m</p>	A12NE (W)	657	2	194930 237650
10	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Lower Town Fishguard P.S. . . Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0111401 Permit Version: 1 Effective Date: 13th December 1991 Issued Date: 13th December 1991 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Harbour Fishguard Status: Consent expired Positional Accuracy: Located by supplier to within 10m</p>	A14SE (E)	675	2	196270 237110

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Fishguard Lower Town Ps Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: BP0151801 Permit Version: 2 Effective Date: 1st October 1993 Issued Date: 1st October 1993 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Lower Town Harbour, Fishguard Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m</p>	A14SE (E)	707	2	196300 237100
10	<p>Discharge Consents</p> <p>Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Fishguard Lower Town Ps Authority: Natural Resources Wales Catchment Area: Afon Gwaun Reference: Bp0151801 Permit Version: 1 Effective Date: 6th April 1990 Issued Date: 6th April 1990 Revocation Date: 30th September 1993 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Lower Town Harbour, Fishguard Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SE (E)	707	2	196300 237100
11	<p>Discharge Consents</p> <p>Operator: Gittins J F Property Type: Undefined Or Other Location: Seaway Windyhall Fishgurad Dyfed Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bn0088401 Permit Version: 1 Effective Date: 4th July 1973 Issued Date: 4th July 1973 Revocation Date: 7th July 1994 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: To Land Near Goodwick Brook Status: Consent expired Positional Accuracy: Located by supplier to within 100m</p>	A12NW (W)	769	2	194800 237600
12	<p>Prosecutions Relating to Controlled Waters</p> <p>Location: Goodwick Brook (tributary of), Goodwick Brook (tributary of), FISHGUARD, Dyfed, SA65 9PR Prosecution Text: Ea Ref Sm35/01jr. Charged For Polluting The Watercourse With Silt And Sediment Originating From The Site At He Fishguard Western By-Pass. Prosecution Act: Wra91 S85 Hearing Date: 31st January 2001 Verdict: Guilty Fine: 1500 Cost: 1000 Positional Accuracy: Manually positioned within the geographical locality</p>	A7SE (SW)	888	4	195053 236608
13	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Murco Service Station (Fishguard) Location: Pendre Filling Station, High Street, FISHGUARD, Dyfed, SA65 9AT Authority: Pembrokeshire County Council, Environmental Health Department Permit Reference: EP/15/1.2 Dated: 15th March 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A8NW (SW)	654	3	195315 236727
	<p>Nearest Surface Water Feature</p>	A13NE (E)	144	-	195757 237430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Outfall From, Slade Foul Sewage, Sewage Pumping Station Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Sea At Fishguard Bay; Overflow Incident Date: 20th March 1998 Incident Reference: 35153 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Poor Management Control Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13NE (E)	276	4	195900 237400
15	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: Fishguard Bay, FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 5th December 1991 Incident Reference: 3647 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (N)	362	4	195500 237800
16	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Moored In Lower Dock Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Accidental Spillage/Leakage Incident Date: 9th August 1996 Incident Reference: 29375 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	473	4	196100 237400
17	Pollution Incidents to Controlled Waters Property Type: Building Sites Location: Boat Park, Lower Town, FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Not Supplied Incident Date: 20th March 1996 Incident Reference: 27622 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	569	4	196200 237300
17	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Off Boat Park, Lower Prio, FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Coal Solids Note: Not Supplied Incident Date: 20th March 1996 Incident Reference: 27622 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	569	4	196200 237295
18	Pollution Incidents to Controlled Waters Property Type: Road (Lost Load) Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Accidental Spillage/Leakage Incident Date: 22nd February 1992 Incident Reference: 4516 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	613	4	196200 237100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Behind Hotel Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Natural Causes Incident Date: 9th April 1995 Incident Reference: 23164 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Natural Causes Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	672	4	194900 237600
20	Pollution Incidents to Controlled Waters Property Type: Boats/Ships Location: Lower Town, FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Accidental Spillage/Leakage Incident Date: 16th May 1995 Incident Reference: 24101 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leachate Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	681	4	196300 237200
21	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Plasglyn Mill, Lower Fishguard Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Vegetation/Cuttings Note: Afon Gwaun Incident Date: 30th July 1997 Incident Reference: 33243 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	744	4	196300 237000
22	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Breakwater, GOODWICK Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Goodwick Brook At Moor; Natural Occurrence Incident Date: 31st March 1998 Incident Reference: 35128 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Natural Causes Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	769	4	194800 237600
23	Pollution Incidents to Controlled Waters Property Type: Not Given Location: FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Heavy Fuel Oil Note: Accidental Spillage/Leakage Incident Date: 18th December 1996 Incident Reference: 30679 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A14SE (E)	779	4	196400 237200
24	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Goodwick Beach Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Goodwick Beach; Natural Occurrence Incident Date: 4th June 1997 Incident Reference: 32445 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	783	4	195006 237996

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Goodwick Beach Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Not Supplied Incident Date: 4th June 1997 Incident Reference: 32445 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Natural Causes Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	786	4	195001 237996
24	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Goodwick Beach, GOODWICK Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 30th August 1991 Incident Reference: 822 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	790	4	195001 238001
25	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Right Hand Side Of Breakwater Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Parrog Beach At Goodwick; Leakage Incident Date: 6th November 1997 Incident Reference: 34026 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Mechanical/Electrical Plant Failure Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	800	4	194900 237900
26	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Up Stream Of, FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 7th August 1991 Incident Reference: 717 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	879	4	196400 236900
27	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Deliberate Act Incident Date: 22nd January 1996 Incident Reference: 27201 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	968	4	196500 236900
28	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Other Location: Scout Hut Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Deliberate Act Incident Date: 11th July 1995 Incident Reference: 24910 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	970	4	194700 237900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Gwaun GQA Grade: River Quality A Reach: Br.Lwr Town - Cilrhedyn Estimated Distance (km): 5.6 Flow Rate: Flow less than 0.62 cumecs Flow Type: River Year: 2000	A14SW (E)	633	4	196260 237253
29	River Quality Chemistry Sampling Points Name: Gwaun Reach: Bridge Lower Town To Cilrhedyn Estimated Distance: 5.60 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A14SW (E)	641	4	196242 237133
30	Substantiated Pollution Incident Register Authority: Natural Resources Wales Incident Date: 23rd June 2006 Incident Reference: 410013 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Other Atmospheric Pollutant Or Effect	A8NE (SE)	379	2	195866 237025

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 34 Pembroke Scale: 1:100,000	A13SE (E)	0	4	195593 237383
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13SE (E)	0	1	195593 237383
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	213	2	195803 237519
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	213	2	195803 237519
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
31	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 339.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lampit Bach Catchment Name: Nevern and Tributaries Primacy: 1	A14NW (E)	412	5	196028 237450
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 73.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NE (NW)	601	5	194997 237668
33	OS Water Network Lines Watercourse Form: Tidal river Watercourse Length: 147.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lampit Bach Catchment Name: Nevern and Tributaries Primacy: 1	A14SE (E)	642	5	196267 237232
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 85.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NE (W)	660	5	194928 237653
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 177.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NE (W)	660	5	194928 237651

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	663	5	195446 236677
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NW (SE)	669	5	196112 236858
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 175.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A14SE (SE)	682	5	196270 237091
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Gwaun Catchment Name: Nevern and Tributaries Primacy: 1	A14SE (SE)	682	5	196270 237091
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NW (SE)	693	5	196155 236871
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 30.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Gwaun Catchment Name: Nevern and Tributaries Primacy: 1	A14SE (SE)	704	5	196284 237065
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A14SE (SE)	704	5	196284 237065
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NW (SE)	707	5	196193 236894
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NW (SE)	717	5	196173 236855

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NW (SE)	719	5	196248 236955
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A14SE (SE)	720	5	196296 237052
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 129.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A14SE (SE)	722	5	196299 237056
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 121.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Gwaun Catchment Name: Nevern and Tributaries Primacy: 1	A9NE (SE)	723	5	196293 237037
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 76.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NW (SE)	733	5	196211 236875
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 311.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (NW)	736	5	194866 237704
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (NW)	736	5	194866 237704
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NE (SE)	764	5	196272 236909
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 732.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	764	5	194811 237623

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	764	5	194811 237623
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	774	5	194801 237629
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	775	5	195458 236561
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 108.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Gwaun Catchment Name: Nevern and Tributaries Primacy: 1	A9NE (SE)	813	5	196341 236930
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	822	5	195483 236511
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	827	5	195486 236506
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	831	5	194746 237640
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	833	5	194744 237641
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NE (SE)	839	5	196391 236971

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A9NE (SE)	839	5	196391 236971
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 183.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A9NE (SE)	844	5	196402 236983
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 98.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	849	5	195495 236482
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 108.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	849	5	195495 236482
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	849	5	194728 237645
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	849	5	194728 237645
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	865	5	194712 237647
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	865	5	194712 237645
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 79.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	908	5	194667 237644

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 121.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	909	5	194668 237650
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 286.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A9NE (SE)	919	5	196436 236881
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Gwaun Catchment Name: Nevern and Tributaries Primacy: 1	A9NE (SE)	919	5	196436 236881
75	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 3.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A8SW (S)	941	5	195510 236386
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	942	5	194617 237558
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 86.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A12NW (W)	962	5	194591 237494
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	962	5	194591 237494
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 83.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11NE (W)	975	5	194577 237465
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11NE (W)	975	5	194577 237465

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11NE (W)	980	5	194571 237444
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17SW (NW)	988	5	194651 237842
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17SW (NW)	988	5	194651 237842
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 175.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17SW (NW)	989	5	194648 237839
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17SW (NW)	990	5	194660 237867
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 80.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7NW (SW)	998	5	194718 236814
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7SW (SW)	998	5	194845 236645

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	Historical Landfill Sites Licence Holder: Preseli Pembrokeshire District Council Location: Goodwick Name: Wern Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14380 First Input Date: 31st December 1940 Last Input Date: 31st December 1974 Specified Waste Type: Deposited Waste included Inert, Industrial, Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6845/0086 BGS Ref: Not Supplied Other Ref: Not Supplied	A17SW (NW)	949	2	194719 237891
	Local Authority Landfill Coverage Name: Pembrokeshire County Council - Has supplied landfill data		0	3	195593 237383
89	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A13NE (NE)	59	-	195667 237433
90	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A13NW (N)	201	-	195513 237635
91	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A13NE (NE)	227	-	195750 237622
92	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A9NW (SE)	636	-	196202 237045
93	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A8SE (S)	797	-	195790 236540
94	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A9NE (SE)	866	-	196285 236755
95	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A9SW (SE)	880	-	196160 236619
96	Potentially Infilled Land (Non-Water) Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A9SW (SE)	979	-	196266 236577
97	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18NW (N)	710	-	195314 238105
98	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SW (NW)	828	-	194784 237746
99	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A17SW (NW)	963	-	194692 237870
100	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A17SW (W)	974	-	194627 237742
101	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A17SW (NW)	985	-	194666 237866

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Unnamed Extrusive Rocks, Ordovician	A13SE (E)	0	1	195593 237383
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (E)	0	1	195593 237383
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: no data Cadmium Concentration: <1.8 mg/kg Chromium Concentration: no data Lead Concentration: <100 mg/kg Nickel Concentration: no data	A13NE (NE)	138	1	195740 237491
102	BGS Recorded Mineral Sites Site Name: Windyhall Farm Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89314 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	54	1	195658 237447
103	BGS Recorded Mineral Sites Site Name: Ogof Martha Location: Goodwick, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89005 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A13NW (N)	185	1	195506 237616
104	BGS Recorded Mineral Sites Site Name: Ogof Martha Location: Goodwick, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89004 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Silurian Geology: Skomer Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	209	1	195747 237600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
105	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Blair Athol Location: Coastguard Station, Fishguard, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89342 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Llandeilo Rocks (Undifferentiated) Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m</p>	A12NE (W)	535	1	195027 237542
106	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Tower Hill Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89316 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A9NW (SE)	629	1	196195 237048
107	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Tower Hill Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89315 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A14SW (SE)	638	1	196228 237103
108	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bigney Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89341 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	714	1	195050 236842
109	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Windy Hill Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 74383 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Slate Positional Accuracy: Located by supplier to within 10m</p>	A12NW (W)	754	1	194798 237400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Blaen-Y-Delyn Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89343 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A9NE (SE)	757	1	196289 236951
111	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Fishguard Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89327 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A8SE (S)	790	1	195777 236544
112	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bryn-Teg Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89344 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A9NE (SE)	871	1	196295 236760
113	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Pen-Groes Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89345 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A9SW (SE)	877	1	196162 236625
114	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Blaen-Y-Delyn Quarries Location: Allt Fach, Fishguard, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89317 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A9NE (SE)	889	1	196383 236850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	BGS Recorded Mineral Sites Site Name: Drim Wood Location: The Drim, Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89313 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A12SW (W)	942	1	194616 237322
116	BGS Recorded Mineral Sites Site Name: Fishguard Location: Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89323 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Didymograptus Bifidus Beds And Didymograptus Murchisoni Beds (Undifferentiated) Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	970	1	196256 236581
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	195606 237360
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	85	1	195669 237245
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	204	1	195566 237652
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	225	1	195825 237211
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	228	1	195731 237117
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	195555 237362

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	228	1	195731 237117
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (5 to 10% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383
	Radon Potential - Radon Protection Measures Protection Measure: Basic radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	1	195593 237383

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	Contemporary Trade Directory Entries Name: A Caths Laundry Service Ltd Location: 6, Brodog Terrace, Fishguard, SA65 9NW Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (S)	53	-	195560 237277
117	Contemporary Trade Directory Entries Name: Dyfed Cleaning Services Ltd Location: Brodog Terrace, Fishguard, Dyfed, SA65 9NW Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	89	-	195527 237251
117	Contemporary Trade Directory Entries Name: Fishguard Tyre & Exhaust Centre Location: Fishguard, SA65 9NW Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (SW)	90	-	195527 237251
117	Contemporary Trade Directory Entries Name: Mason Phillips Electrical Services Location: West Street, Fishguard, Dyfed, SA65 9NG Classification: Electrical goods - servicing & repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	113	-	195559 237216
117	Contemporary Trade Directory Entries Name: Spraytex Protective Wallcoatings Location: 79, West Street, Fishguard, Dyfed, SA65 9NJ Classification: Spraying - Paint & Coatings Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	122	-	195495 237234
118	Contemporary Trade Directory Entries Name: Unique Expressions Location: 1, Brodog Court, Fishguard, Dyfed, SA65 9NF Classification: Ceramic Manufacturers, Supplies & Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	73	-	195580 237255
118	Contemporary Trade Directory Entries Name: Primrose Location: 7, Brodog Court, Fishguard, Dyfed, SA65 9NF Classification: Toys, Games & Sporting Goods - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	99	-	195583 237229
119	Contemporary Trade Directory Entries Name: Supa Car Sales Location: 68, West Street, Fishguard, Dyfed, SA65 9NL Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	87	-	195493 237293
120	Contemporary Trade Directory Entries Name: Jenkins Motors Location: West St Car Park, Fishguard, Dyfed, SA65 9AD Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13SW (S)	180	-	195536 237152
121	Contemporary Trade Directory Entries Name: Precious Metal Art Location: West Street, Fishguard, Dyfed, SA65 9AE Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (S)	229	-	195671 237095
121	Contemporary Trade Directory Entries Name: Colourwise Paint Supplies Location: 17a, West Street, Fishguard, Dyfed, SA65 9AL Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (S)	253	-	195639 237067
122	Contemporary Trade Directory Entries Name: Fishguard Motors Ltd Location: 30, Clive Road, Fishguard, Dyfed, SA65 9DB Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	245	-	195387 237168

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
123	<p>Contemporary Trade Directory Entries</p> <p>Name: K C Motors Location: Unit 7, West Street, Fishguard, Dyfed, SA65 9AL Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NW (S)	279	-	195581 237046
124	<p>Contemporary Trade Directory Entries</p> <p>Name: The Decorating Centre Location: 1, Main Street, Fishguard, Dyfed, SA65 9HG Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A13SE (SE)	335	-	195829 237052
124	<p>Contemporary Trade Directory Entries</p> <p>Name: Bistro Products Location: 7, Main Street, Fishguard, Dyfed, SA65 9HG Classification: Food Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	358	-	195856 237044
125	<p>Contemporary Trade Directory Entries</p> <p>Name: Pembrokeshire Press Location: Castle House, Market Square, Fishguard, Dyfed, SA65 9HA Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (SE)	363	-	195767 236985
126	<p>Contemporary Trade Directory Entries</p> <p>Name: Pampered Pets Location: 12, High Street, Fishguard, Dyfed, SA65 9AR Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (S)	368	-	195704 236961
126	<p>Contemporary Trade Directory Entries</p> <p>Name: Robintree Location: Parc y Shwt, Fishguard, Dyfed, SA65 9AP Classification: Cabinet Makers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NE (S)	403	-	195720 236928
127	<p>Contemporary Trade Directory Entries</p> <p>Name: Evans & Williams Transport Ltd Location: Pentower, Tower Hill, Fishguard, SA65 9LA Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SW (SE)	481	-	196054 237097
128	<p>Contemporary Trade Directory Entries</p> <p>Name: Hottipass Service Station Location: Hottipass Street, Fishguard, Dyfed, SA65 9LJ Classification: Car Dealers - Used Status: Active Positional Accuracy: Automatically positioned to the address</p>	A9NW (SE)	587	-	195973 236846
129	<p>Contemporary Trade Directory Entries</p> <p>Name: Texaco Location: The High Street, Fishguard, Dyfed, SA65 9AT Classification: Petrol Filling Stations Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A8NW (SW)	650	-	195317 236730
129	<p>Contemporary Trade Directory Entries</p> <p>Name: Pendre Service Station Location: High St, Fishguard, Dyfed, SA65 9AT Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A8NW (S)	656	-	195342 236714
130	<p>Contemporary Trade Directory Entries</p> <p>Name: Renewable Heat Centre Ltd Location: Unit 1, Feidr Castell, Fishguard, Dyfed, SA65 9BB Classification: Heating Equipment - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	673	-	195389 236680
130	<p>Contemporary Trade Directory Entries</p> <p>Name: Orion Lighting Location: Unit 4, Feidr Castell, Fishguard, Dyfed, SA65 9BB Classification: Lighting Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	699	-	195371 236659

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	<p>Contemporary Trade Directory Entries</p> <p>Name: Spraytex Protective Wallcoatings Location: Feidr Castell, Fishguard, Dyfed, SA65 9BB Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address</p>	A8SW (S)	727	-	195393 236623
131	<p>Contemporary Trade Directory Entries</p> <p>Name: Tailored Furniture 4u Location: 17, Tlysfan, Fishguard, SA65 9HS Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (S)	803	-	195819 236540
132	<p>Contemporary Trade Directory Entries</p> <p>Name: Preseli Gold Sausage Co Ltd Location: Unit 7, Feidr Castell, Fishguard, SA65 9BB Classification: Sausage Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	814	-	195413 236530
132	<p>Contemporary Trade Directory Entries</p> <p>Name: Lawrences Coachworks Location: Unit 6, Feidr Castell, FISHGUARD, Dyfed, SA65 9BB Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	863	-	195401 236483
133	<p>Contemporary Trade Directory Entries</p> <p>Name: Warm-Nation.Com Location: Unit 1, Feidr Castell, Fishguard, SA65 9BB Classification: Heating Equipment - Sales & Service Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	819	-	195359 236537
134	<p>Contemporary Trade Directory Entries</p> <p>Name: B & J Upvc Products Location: Unit 8, Feidr Castell, Fishguard, Dyfed, SA65 9BB Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	834	-	195429 236507
134	<p>Contemporary Trade Directory Entries</p> <p>Name: Catering Supplies & Equipment Location: 10a, Feidr Castell, Fishguard, Dyfed, SA65 9BB Classification: Catering Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	848	-	195483 236485
134	<p>Contemporary Trade Directory Entries</p> <p>Name: Top Of Town Motors Location: Unit 9, Feidr Castell, Fishguard, SA65 9BB Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	854	-	195463 236481
134	<p>Contemporary Trade Directory Entries</p> <p>Name: G M Moss Repairs Ltd Location: Unit 6a, Feidr Castell, Fishguard, SA65 9BB Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	872	-	195437 236467
134	<p>Contemporary Trade Directory Entries</p> <p>Name: Evans Tyres Location: Unit 6a, Feidr Castell, Fishguard, Dyfed, SA65 9BB Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	875	-	195442 236463
135	<p>Contemporary Trade Directory Entries</p> <p>Name: Malcolm Williams Esq Location: Brynawel, 22, Heol Caradog, FISHGUARD, Dyfed, SA65 9AY Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A9SW (SE)	979	-	196219 236540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
136	Fuel Station Entries Name: Fishguard Service Station Location: The High Street, Fishguard, Pembrokeshire, SA65 9AT Brand: Texaco Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A8NW (SW)	648	-	195318 236732
137	Points of Interest - Commercial Services Name: M M C Motor Cycles Location: 3 Brodog Terrace, Fishguard, SA65 9NW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	61	6	195521 237296
137	Points of Interest - Commercial Services Name: Fishguard Tyre & Exhaust Centre Location: Brodog Terrace, Fishguard, SA65 9NW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	90	6	195527 237251
138	Points of Interest - Commercial Services Name: Jenkins Motors Location: West St Car Park, Fishguard, Dyfed, SA65 9AD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	194	6	195481 237157
139	Points of Interest - Commercial Services Name: Dylan Thomas International Location: 62 High Street, Fishguard, SA65 9AR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NW (S)	480	6	195543 236848
140	Points of Interest - Commercial Services Name: Evans & Williams Transport Ltd Location: Pentower, Tower Hill, Fishguard, SA65 9LA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (SE)	481	6	196054 237097
141	Points of Interest - Commercial Services Name: Hottipass Service Station Stn Location: Hottipass Street, Fishguard, SA65 9LJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	587	6	195973 236846
142	Points of Interest - Commercial Services Name: Fishguard Service Station Location: The, High Street, Fishguard, SA65 9AT Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NW (SW)	648	6	195318 236732
142	Points of Interest - Commercial Services Name: Car Wash Location: The High Street, Fishguard, Pembrokeshire, SA65 9AT Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NW (SW)	648	6	195318 236732
143	Points of Interest - Commercial Services Name: Top of Town Motors Ltd Location: 8 Anthorn, Penwallis, Fishguard, SA65 9HR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	838	6	195924 236536
144	Points of Interest - Commercial Services Name: Top of Town Motors Location: Unit 9, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	854	6	195463 236481
144	Points of Interest - Commercial Services Name: Top of Town Motors Location: Unit 9, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	854	6	195463 236481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
144	Points of Interest - Commercial Services Name: Lawrences Coachworks Location: Unit 6, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	863	6	195401 236483
144	Points of Interest - Commercial Services Name: Pembrokeshire Auto Glaze Location: Unit 6, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	863	6	195401 236483
144	Points of Interest - Commercial Services Name: Lawrences Coachworks Location: Unit 6, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	863	6	195401 236483
144	Points of Interest - Commercial Services Name: Pembrokeshire Auto Glaze Location: Unit 6, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	863	6	195401 236483
144	Points of Interest - Commercial Services Name: G M Moss Repairs Ltd Location: Unit 6a, Feidr Castell, Fishguard, SA65 9BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	875	6	195441 236463
145	Points of Interest - Commercial Services Name: Malcolm Williams Esq Location: Brynawel 22, Heol Caradog, Fishguard, SA65 9AY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9SW (SE)	979	6	196219 236540
146	Points of Interest - Manufacturing and Production Name: Pistyll Hotch Quarry (Disused) Location: SA65 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14SW (SE)	583	6	196174 237116
147	Points of Interest - Manufacturing and Production Name: Pistyll Hotch Quarry (Disused) Location: SA65 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A9NW (SE)	715	6	196254 236974
147	Points of Interest - Manufacturing and Production Name: Pistyll Hotch Quarry (Disused) Location: SA65 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A9NE (SE)	723	6	196279 237006
147	Points of Interest - Manufacturing and Production Name: Quarries (Disused) Location: SA65 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A9NE (SE)	736	6	196278 236974
148	Points of Interest - Manufacturing and Production Name: Feidr Castell Business Park Location: SA65 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	853	6	195335 236509
149	Points of Interest - Manufacturing and Production Name: Workshop Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	929	6	196477 236944

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
150	Points of Interest - Public Infrastructure Name: Dyfed-Powys Constabulary Location: Fishguard Police Station, Brodog Lane, Fishguard, SA65 9NR Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A13SE (S)	29	6	195608 237297
150	Points of Interest - Public Infrastructure Name: Fishguard Police Station Location: Police Station, Brodog Lane, Fishguard, SA65 9NR Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A13SE (S)	29	6	195608 237297
151	Points of Interest - Public Infrastructure Name: Fishguard Fire Station Location: Clive Road, Fishguard, SA65 9DA Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A13SW (SW)	163	6	195437 237238
152	Points of Interest - Public Infrastructure Name: Hottipass Service Station Station Location: Hottipass Street, Fishguard, SA65 9LJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	587	6	195973 236846
153	Points of Interest - Public Infrastructure Name: Fishguard Service Station Location: The High Street, Fishguard, Pembrokeshire, SA65 9AT Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8NW (SW)	648	6	195318 236732
153	Points of Interest - Public Infrastructure Name: Fishguard Murco Service Station Location: High Street, Fishguard, SA65 9AT Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8NW (S)	650	6	195321 236729
153	Points of Interest - Public Infrastructure Name: Pendre Service Station Location: High Street, Fishguard, SA65 9AT Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8NW (SW)	651	6	195320 236728
154	Points of Interest - Public Infrastructure Name: Chapel of Rest Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	671	6	195428 236673
155	Points of Interest - Public Infrastructure Name: Cemetery Location: SA65 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	816	6	195257 236576
155	Points of Interest - Public Infrastructure Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	838	6	195226 236565
155	Points of Interest - Public Infrastructure Name: Cemetery Location: SA65 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	841	6	195225 236562
156	Points of Interest - Public Infrastructure Name: Sluice Location: SA65 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	836	6	196394 236985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
157	Points of Interest - Recreational and Environmental Name: Playground Location: Coronation Road, SA65 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13SW (S)	251	6	195533 237080
157	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	274	6	195483 237069
158	Points of Interest - Recreational and Environmental Name: Playground Location: Quay Street, SA65 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14SE (E)	690	6	196302 237167
158	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	692	6	196305 237169
159	Points of Interest - Recreational and Environmental Name: Playground Location: The Parrog, SA64 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A17SW (NW)	888	6	194798 237905
159	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	897	6	194794 237916

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
160	Ancient Woodland Name: Not Supplied Reference: 1718 Area(m ²): 9065.96 Type: Restored Ancient Woodland Site	A12SW (W)	931	2	194631 237292
161	Environmentally Sensitive Areas Name: Preseli (decommissioned) Multiple Areas: Y Total Area (m2): 1187932672 Source: The National Assembly for Wales, GI Services (Department of Planning & Countryside)	A13SE (E)	0	7	195593 237383
162	Environmentally Sensitive Areas Name: Preseli (decommissioned) Multiple Areas: Y Total Area (m2): 82.812 Source: The National Assembly for Wales, GI Services (Department of Planning & Countryside)	A18SE (N)	349	7	195746 237769
163	National Parks Name: Pembrokeshire Coast Multiple Area: Y Area (m2): 228875491.76 Source: Natural Resources Wales Status: Fully Designated - designated as a National Park Designation Date: 31st December 1951	A14NW (E)	460	2	196077 237450
164	Sites of Special Scientific Interest Name: Creigiau Abergwaun (Fishguard Cliffs) Multiple Areas: Y Total Area (m2): 72656.74 Source: Natural Resources Wales Reference: 57632wta Designation Details: Geological Designation Date: 1st January 1954 Date Type: Notified	A13NE (NE)	156	2	195745 237511
165	Special Areas of Conservation Name: West Wales Marine / Gorllewin Cymru Forol Multiple Areas: Y Total Area (m2): 7377173871.75 Source: Natural Resources Wales Reference: UK0030397 Status: Candidate	A13NE (NE)	234	2	195821 237531

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Pembrokeshire County Council - Public Protection Division	December 2015	Annual Rolling Update
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 August 2017	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - Welsh Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - Welsh Region Natural Resources Wales	October 2017 October 2017	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Pembrokeshire County Council - Environmental Health Department	December 2015	Annual Rolling Update
Local Authority Pollution Prevention and Controls Pembrokeshire County Council - Environmental Health Department	November 2015	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Pembrokeshire County Council - Environmental Health Department	December 2015	Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	September 2017	
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	As notified As notified
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	As notified As notified
Registered Radioactive Substances Natural Resources Wales Environment Agency - Welsh Region	January 2015 January 2015	As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency Wales - South West Area Natural Resources Wales	October 2017 October 2017	Quarterly Quarterly
Water Abstractions Environment Agency - Welsh Region Natural Resources Wales	October 2017 October 2017	Quarterly Quarterly
Water Industry Act Referrals Environment Agency - Welsh Region Natural Resources Wales	October 2017 October 2017	Quarterly Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones Natural Resources Wales	November 2016	As notified
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	November 2017	Quarterly
Flooding from Rivers or Sea without Defences Natural Resources Wales	November 2017	Quarterly
Areas Benefiting from Flood Defences Natural Resources Wales	November 2017	Quarterly
Flood Water Storage Areas Natural Resources Wales	November 2017	Quarterly
Flood Defences Natural Resources Wales	November 2017	Quarterly
OS Water Network Lines Ordnance Survey	October 2017	6 Weekly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	October 2013	As notified
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	October 2013	As notified
Surface Water Suitability Natural Resources Wales	October 2013	As notified
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Natural Resources Wales	July 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South West Area Natural Resources Wales	October 2017 October 2017	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency Wales - South West Area Natural Resources Wales	October 2017 October 2017	Quarterly Quarterly
Local Authority Landfill Coverage Pembrokeshire County Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites Pembrokeshire County Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	September 2017	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department	February 2016 October 2015	Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Pembrokeshire Coast National Park Authority - Development Control Pembrokeshire County Council - Planning Department	February 2016 October 2015	Annual Rolling Update Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2017	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	November 2017	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2017	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Points of Interest - Commercial Services PointX	December 2017	Quarterly
Points of Interest - Education and Health PointX	December 2017	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2017	Quarterly
Points of Interest - Public Infrastructure PointX	December 2017	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2017	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	October 2017	Bi-Annually
Areas of Outstanding Natural Beauty Natural Resources Wales	August 2017	Bi-Annually
Environmentally Sensitive Areas The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Pembrokeshire County Council	August 2017	Bi-Annually
Marine Nature Reserves Natural Resources Wales	August 2017	Bi-Annually
National Nature Reserves Natural Resources Wales	August 2017	Bi-Annually
National Parks Natural Resources Wales	August 2017	Annually
Nitrate Vulnerable Zones Natural Resources Wales The National Assembly for Wales - GI Services (Department of Planning & Countryside)	July 2017 October 2005	Bi-Annually
Ramsar Sites Natural Resources Wales	August 2017	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	August 2017	Bi-Annually
Special Areas of Conservation Natural Resources Wales	August 2017	Bi-Annually
Special Protection Areas Natural Resources Wales	August 2017	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	Pembrokeshire County Council - Environmental Health Department Public Protection Division, Pembrokeshire County Council, County Hall, Haverfordwest, Pembrokeshire, SA61 1TP	Telephone: 01437 764551 Fax: 01437 775838 Website: www.pembrokeshire.gov.uk
4	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
7	The National Assembly for Wales - GI Services (Department of Planning & Countryside) Yr Hen Ysgol Gymraeg, Alexandria Road, Aberystwyth, Ceredigion, SY23 1LD	Telephone: 02920 825111 Website: www.wales.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

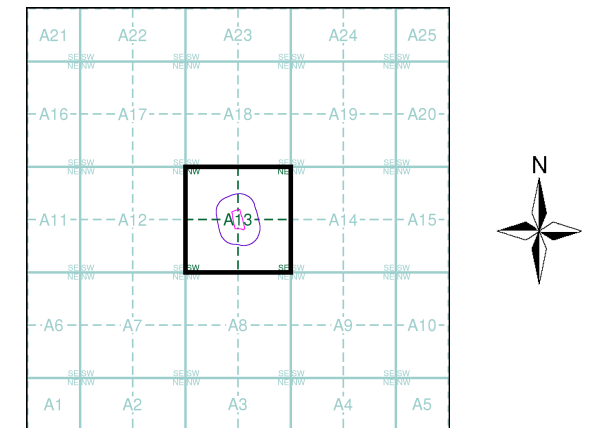
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Pembrokeshire	1:2,500	1889	2
Pembrokeshire	1:2,500	1907	3
Pembrokeshire	1:2,500	1937	4
Ordnance Survey Plan	1:2,500	1965	5
Supply of Unpublished Survey Information	1:2,500	1973	6
Ordnance Survey Plan	1:2,500	1976	7
Additional SIMs	1:2,500	1992	8
Large-Scale National Grid Data	1:2,500	1994	9
Historical Aerial Photography	1:2,500	2003	10

Historical Map - Segment A13



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 100

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY)



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Pembrokeshire

Published 1889

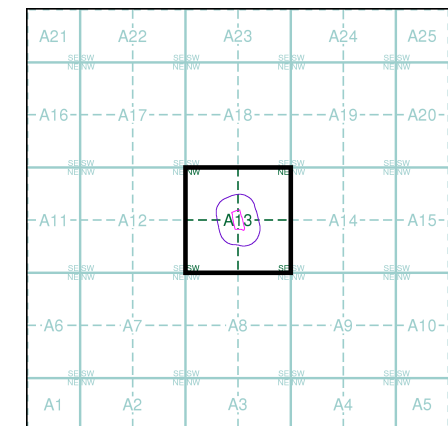
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

004_15 1889 1:2,500	004_16 1889 1:2,500
009_03 1889 1:2,500	009_04 1889 1:2,500

Historical Map - Segment A13



Order Details

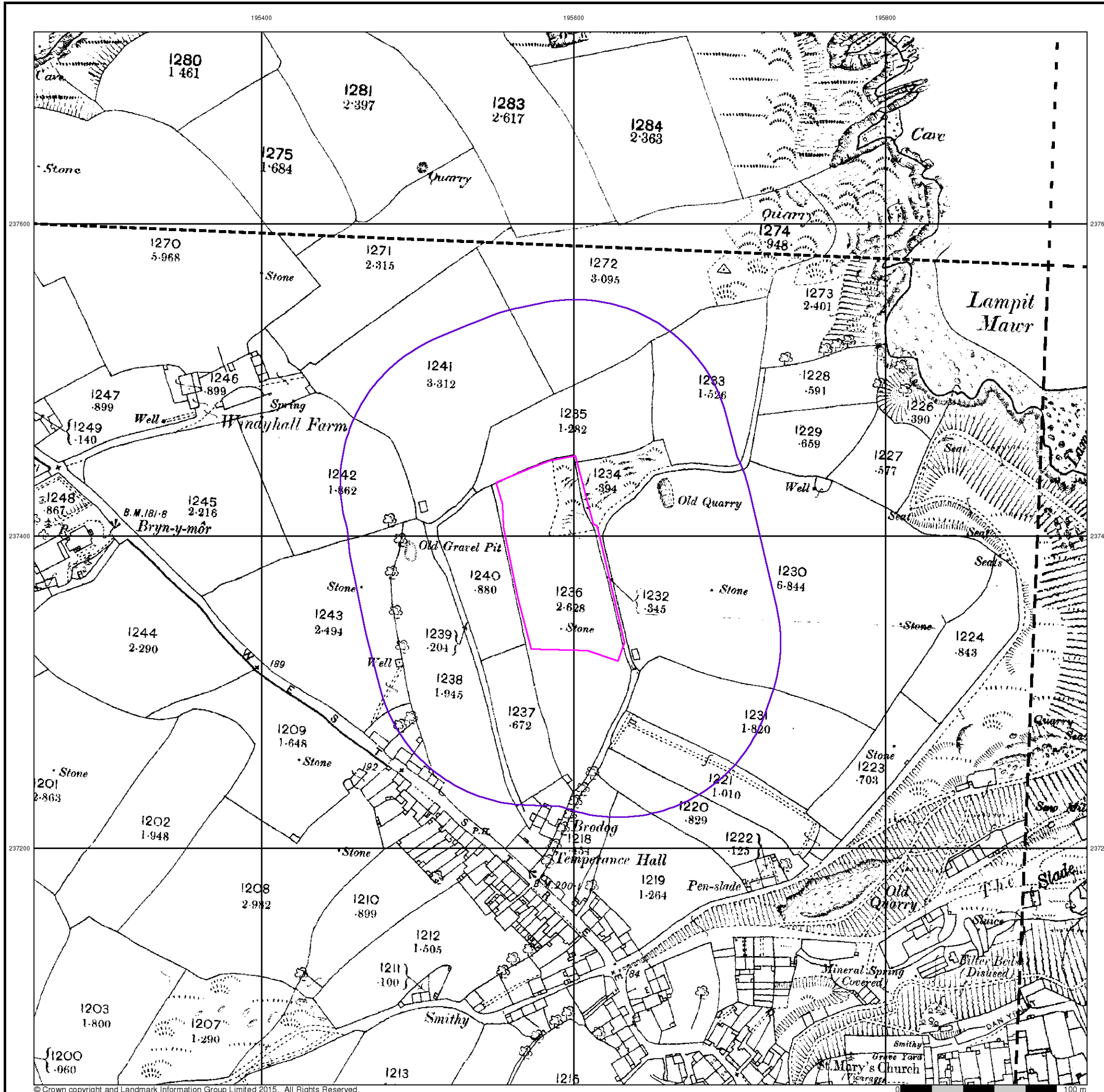
Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 100

Site Details

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 (Infant Site, Sladeway, Fishguard, SA65 9NY



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Pembrokeshire

Published 1907

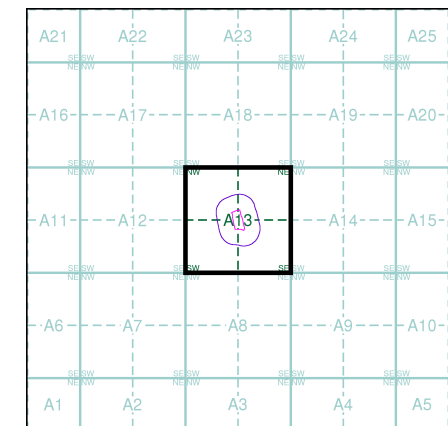
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

004_15 1907 1:2,500	004_16 1907 1:2,500
009_03 1907 1:2,500	009_04 1907 1:2,500

Historical Map - Segment A13



Order Details

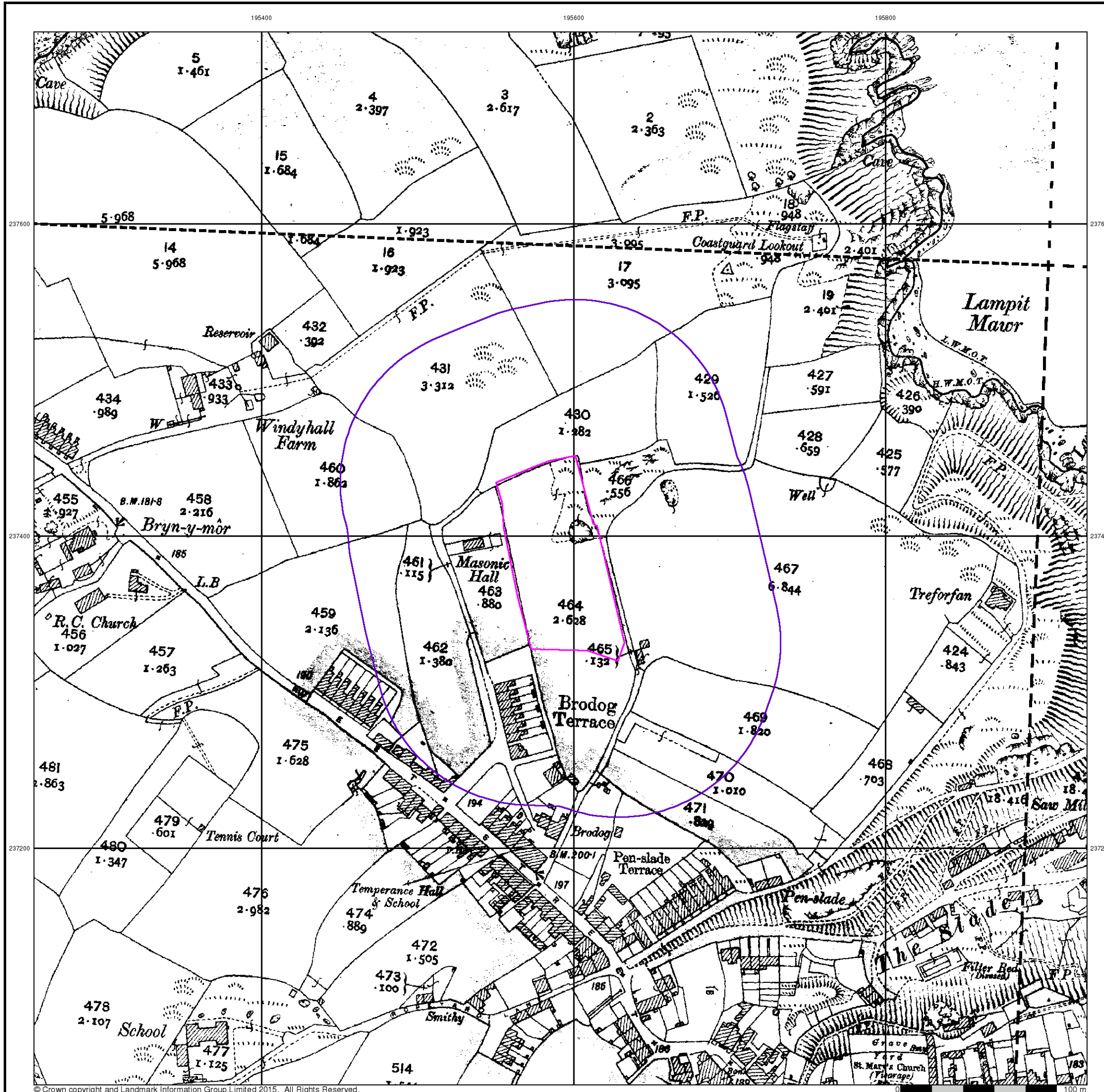
Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 100

Site Details

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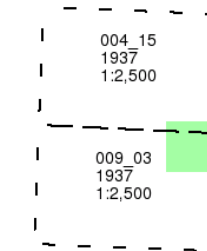
Pembrokeshire

Published 1937

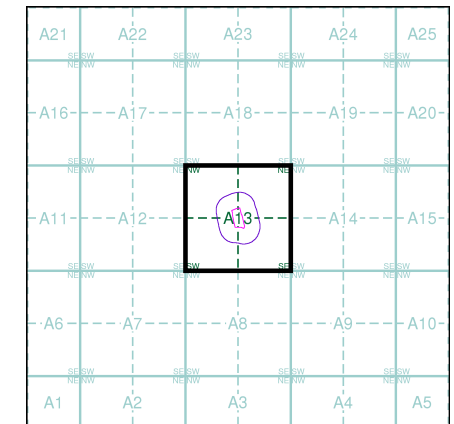
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

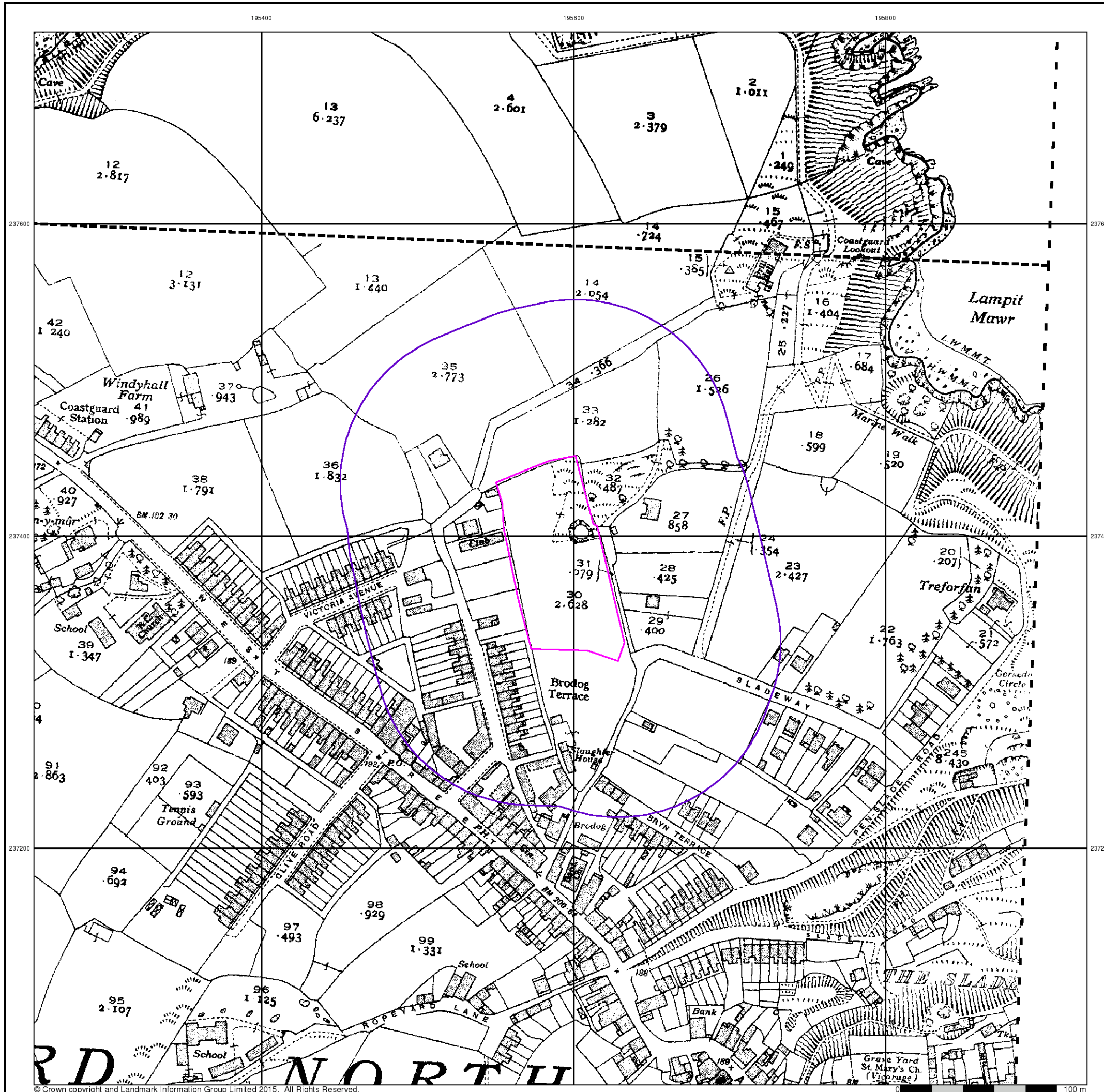
Order Number: 152109713_1_1
Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
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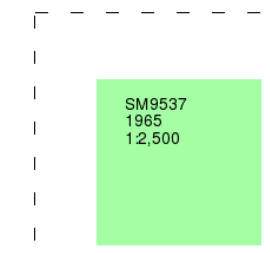
Ordnance Survey Plan

Published 1965

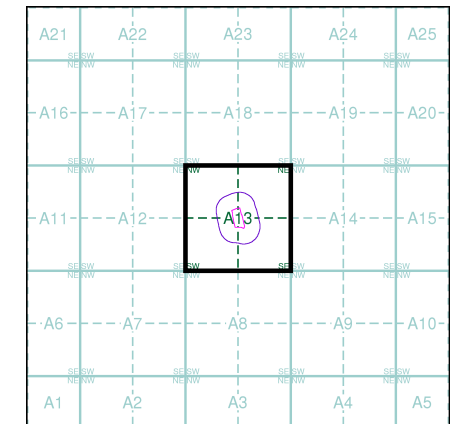
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

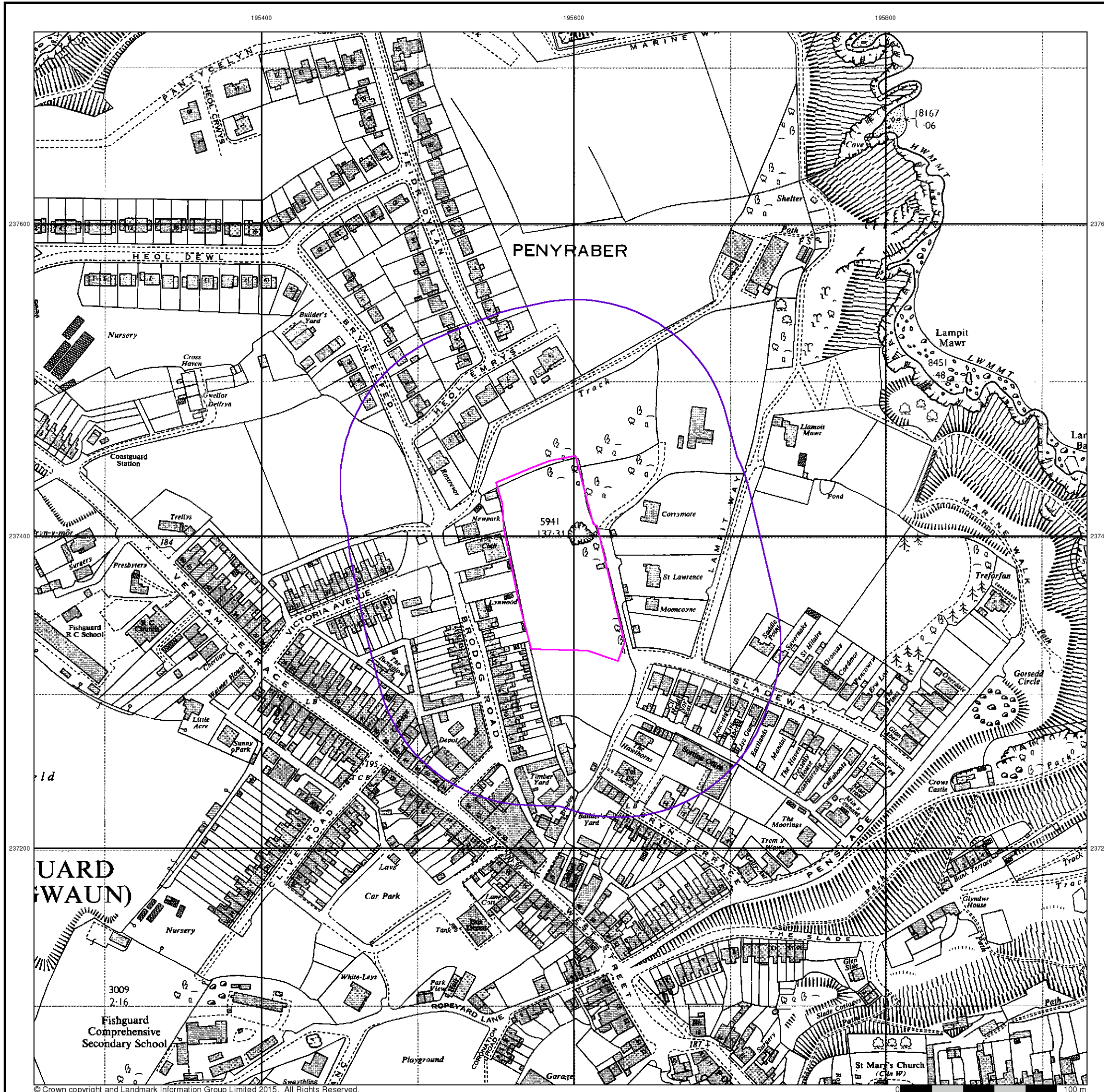
Order Number: 152109713_1_1
Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
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Site Details

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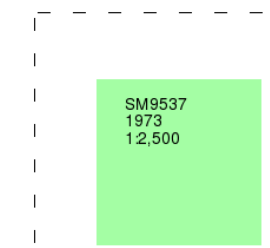
Supply of Unpublished Survey Information

Published 1973

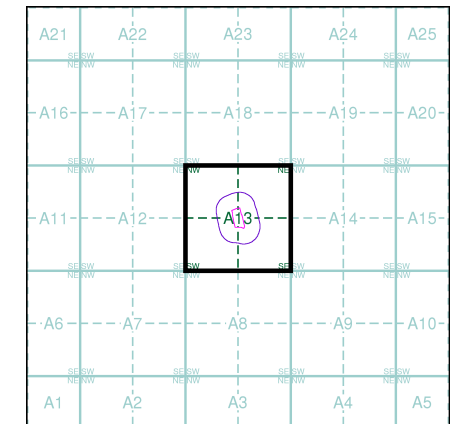
Source map scale - 1:2,500

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 152109713_1_1
Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 100

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY

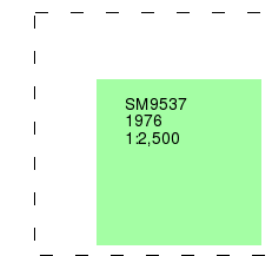


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Fax: 0844 844 9951
Web: www.envirocheck.co.uk

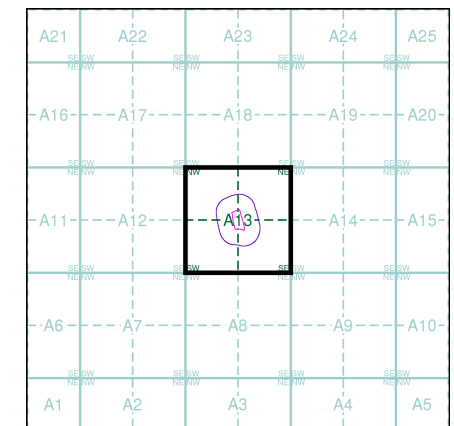


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 100

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY





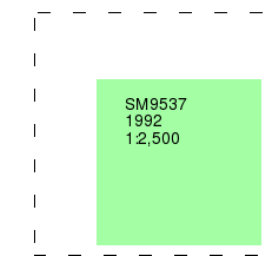
Additional SIMs

Published 1992

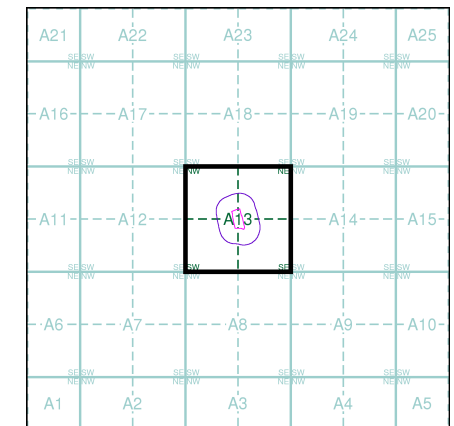
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 152109713_1_1
Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 100

Site Details

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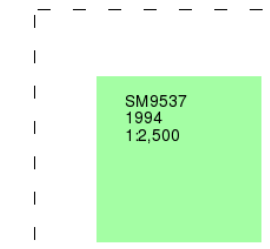
Large-Scale National Grid Data

Published 1994

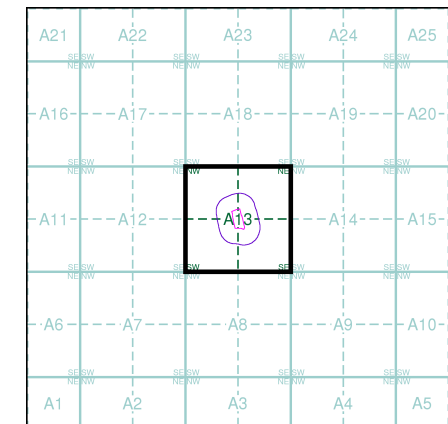
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 152109713_1_1
Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 100

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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195400

195600

195800

237600

237600

237400

237400

237200

237200



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0 100 m

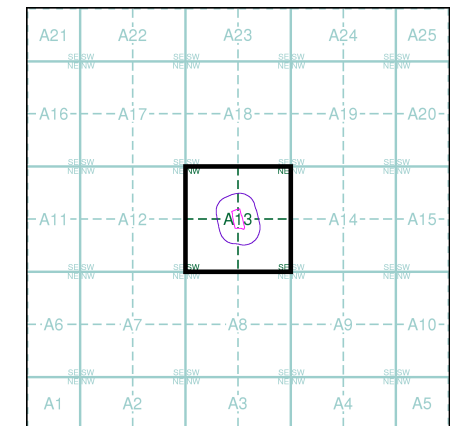


Historical Aerial Photography

Published 2003

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 100

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun
 (Infant Site, Sladeway, Fishguard, SA65 9NY)



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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	-285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Coppice		Heath
	Rough Grassland		Marsh
	Reeds		Saltings
	Building		Glasshouse
	Sloping Masonry		Pylon
	Electricity Transmission Line		Pole
	Cutting		Embankment
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		
	Administrative County, County Borough or County of City		
	Municipal Borough, Urban or Rural District, Burgh or District Council		
	Borough, Burgh or County Constituency Shown only when not coincident with other boundaries		
	Civil Parish Shown alternately when coincidence of boundaries occurs		
	BP, BS Boundary Post or Stone		Pol Sta Police Station
	Ch Church		PO Post Office
	CH Club House		PC Public Convenience
	F E Sta Fire Engine Station		PH Public House
	FB Foot Bridge		SB Signal Box
	Fn Fountain		Spr Spring
	GP Guide Post		TCB Telephone Call Box
	MP Mile Post		TCP Telephone Call Post
	MS Mile Stone		W Well

1:10,000 Raster Mapping

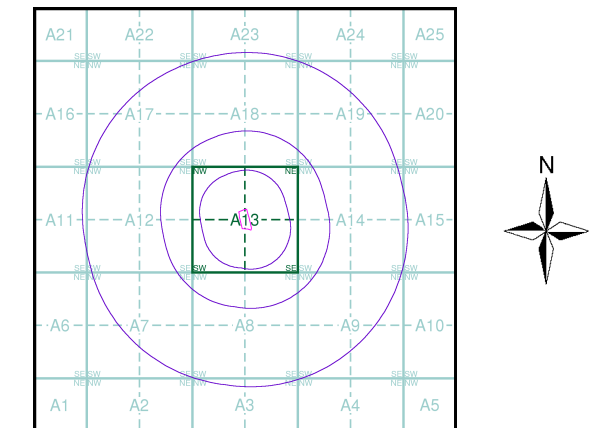
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	MHW(S) Mean high water (springs)		MLW(S) Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Pembrokeshire	1:10,560	1888	2
Pembrokeshire	1:10,560	1908	3
Pembrokeshire	1:10,560	1938	4
Pembrokeshire	1:10,560	1953	5
Ordnance Survey Plan	1:10,000	1964	6
Ordnance Survey Plan	1:10,000	1964	7
Ordnance Survey Plan	1:10,000	1975 - 1977	8
10K Raster Mapping	1:10,000	2000	9
10K Raster Mapping	1:10,000	2006	10
VectorMap Local	1:10,000	2017	11

Historical Map - Slice A



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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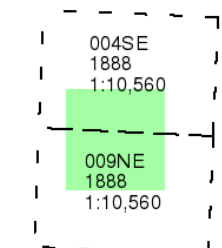
Pembrokeshire

Published 1888

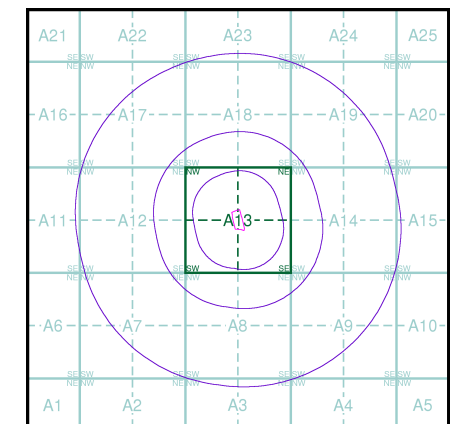
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

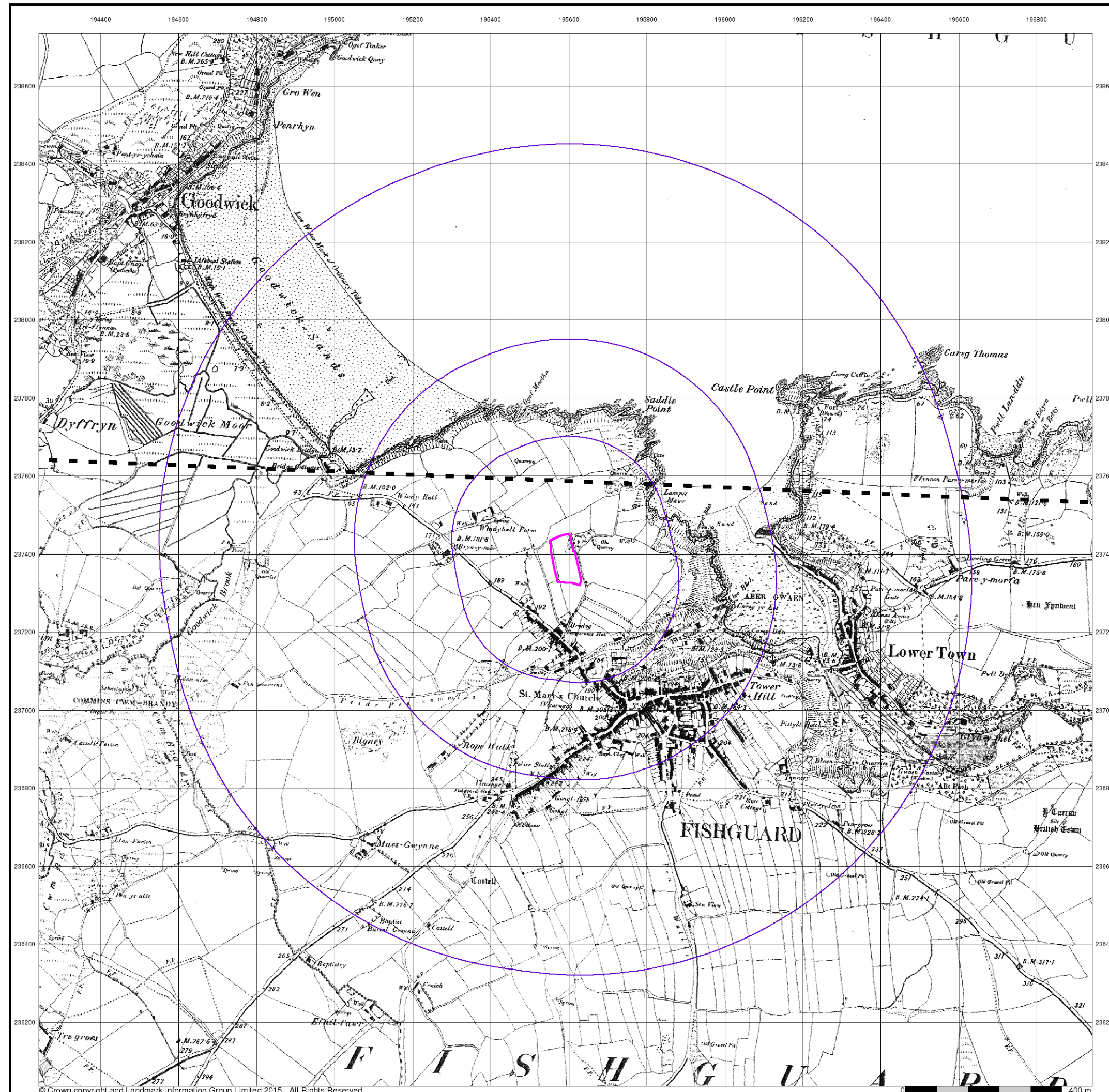
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Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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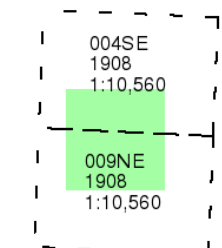
Pembrokeshire

Published 1908

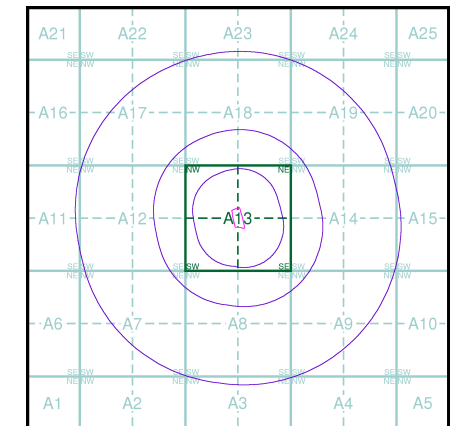
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

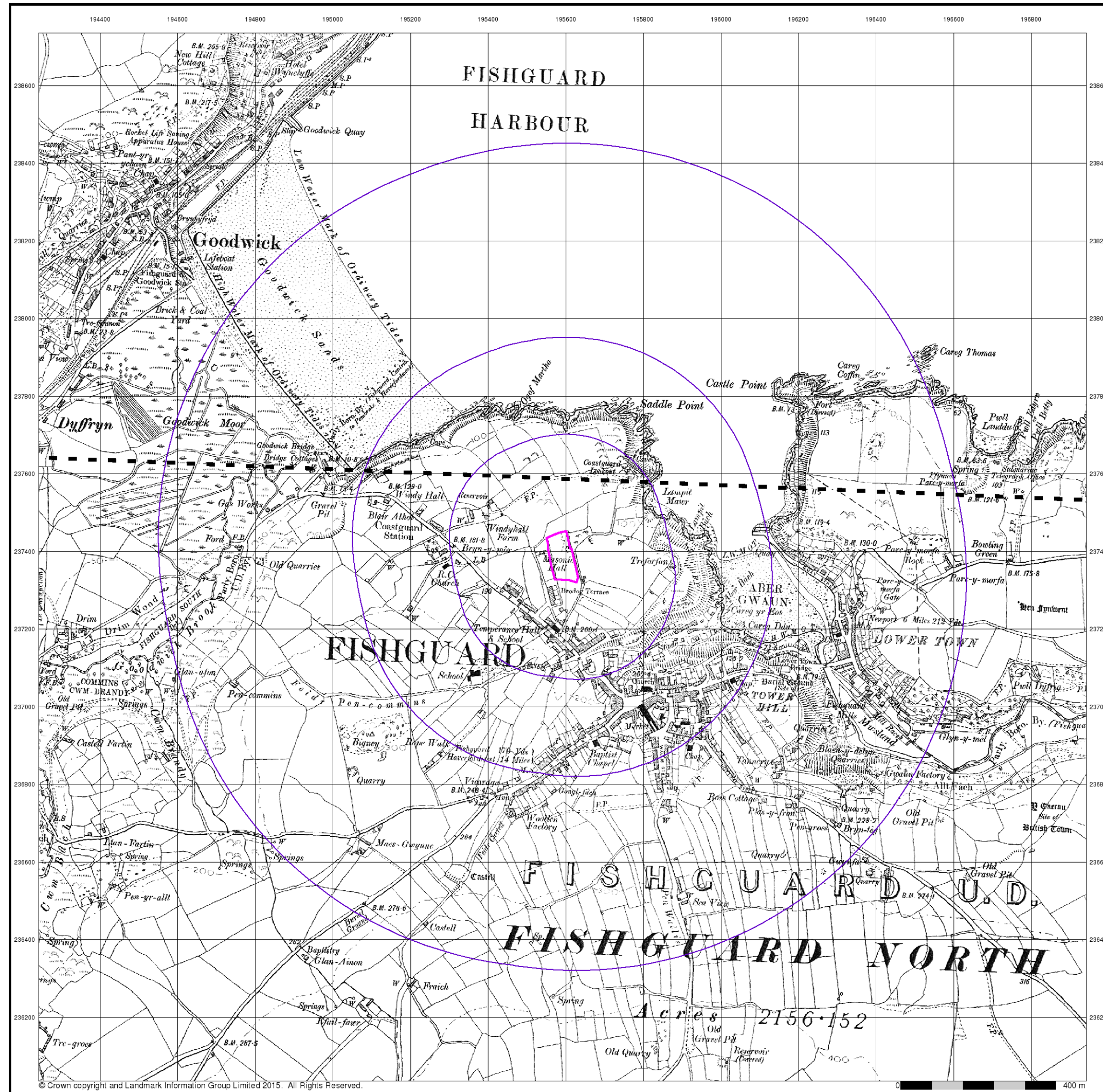
Order Number: 152109713_1_1
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National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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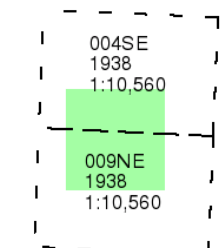
Pembrokeshire

Published 1938

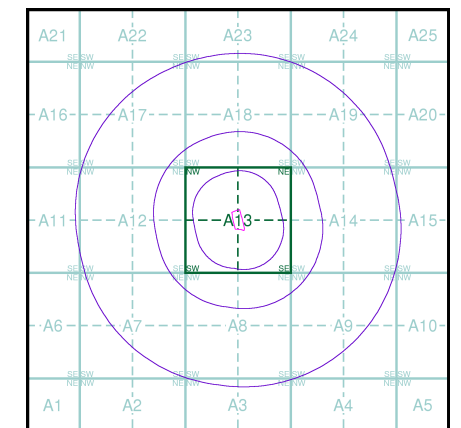
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

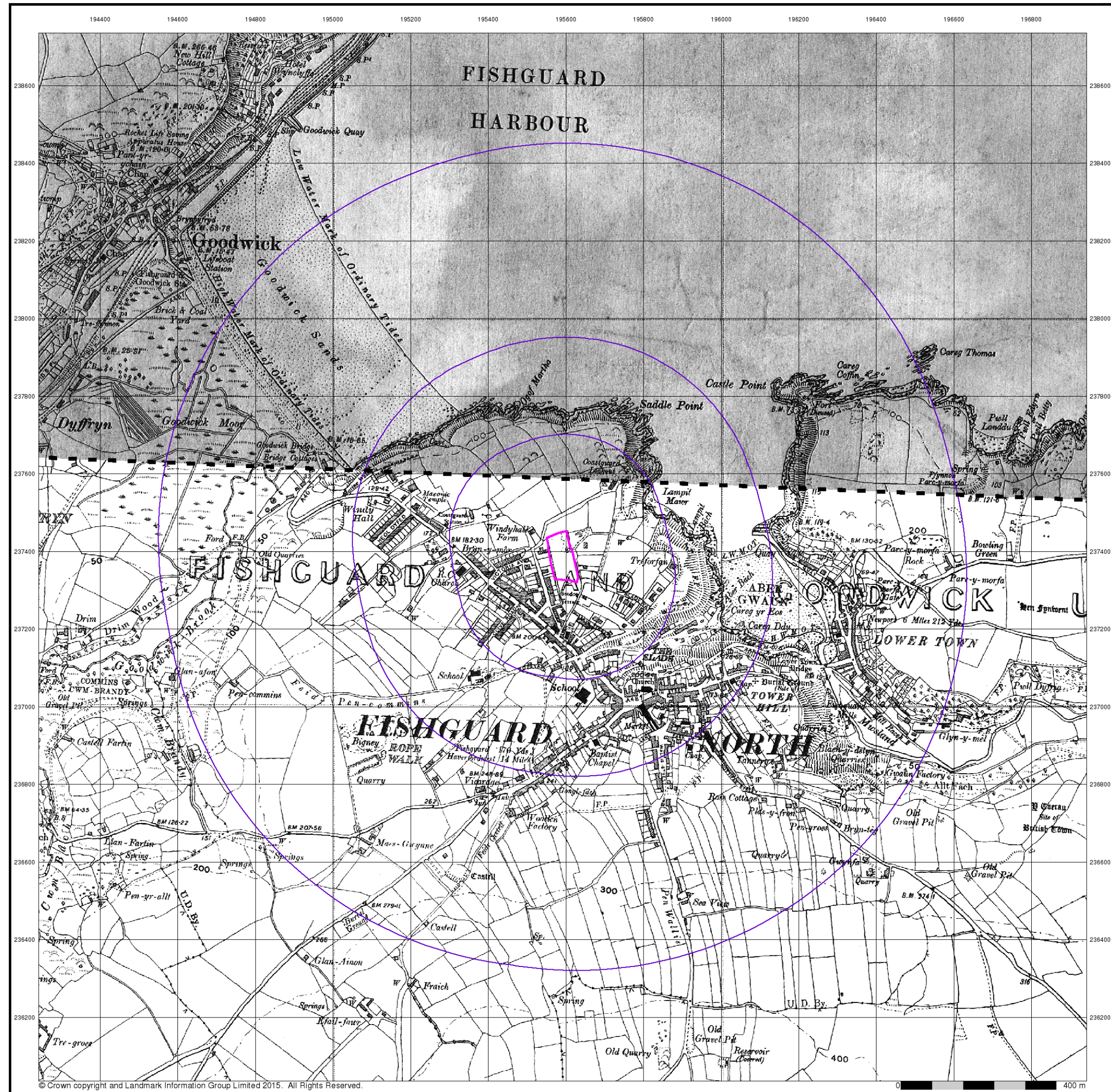
Order Number: 152109713_1_1
Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

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Pembrokeshire

Published 1953

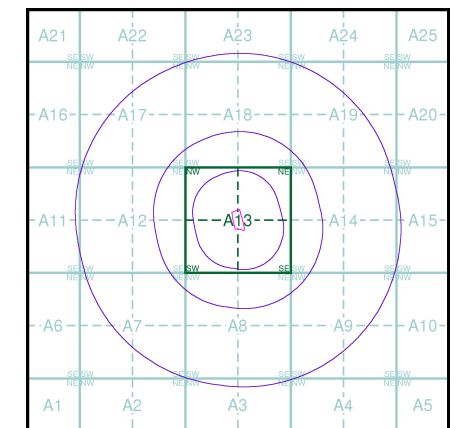
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

004SE
1953
1:10,560
009NE
1953
1:10,560

Historical Map - Slice A



Order Details

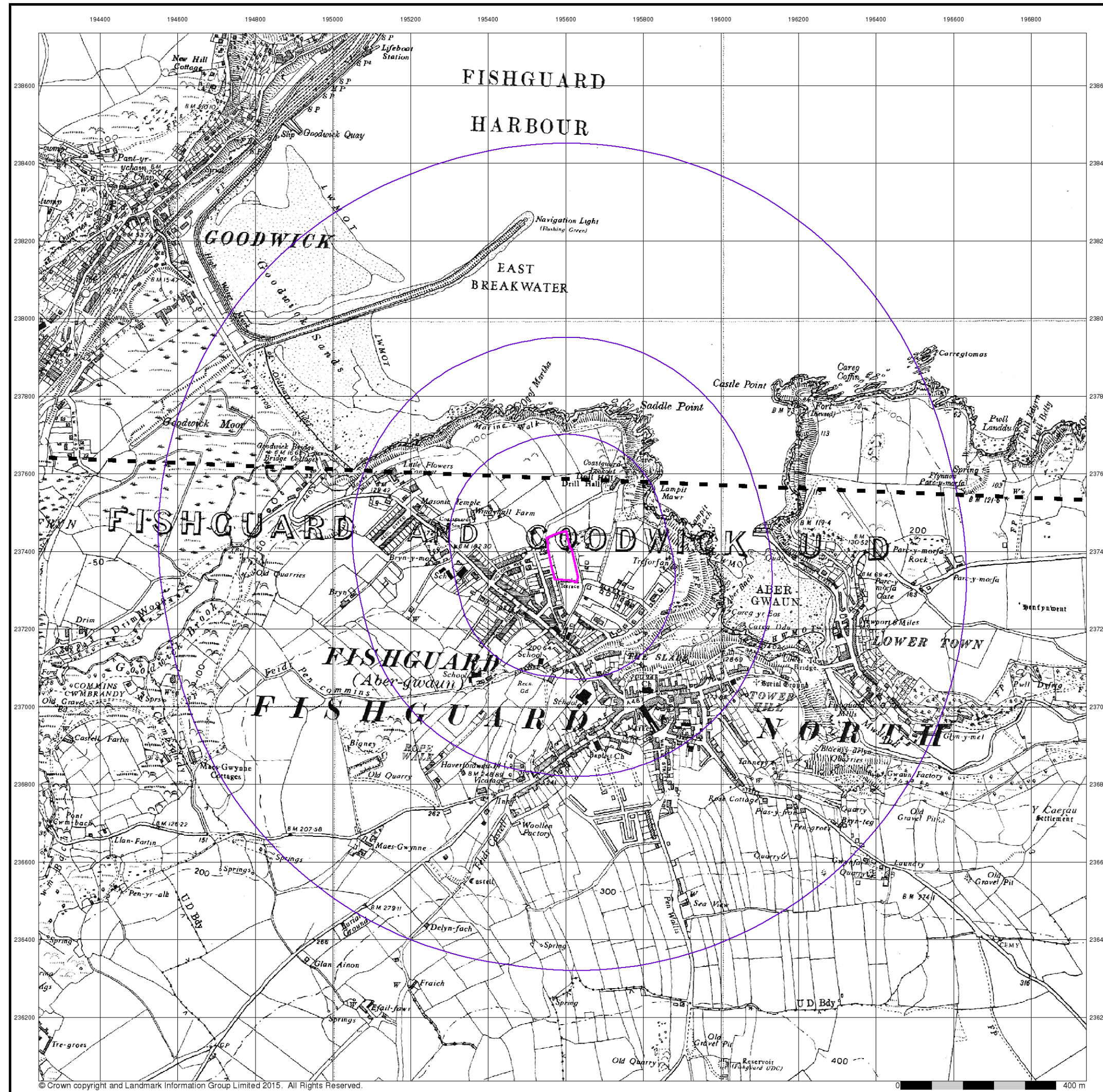
Order Number: 152109713_1_1
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 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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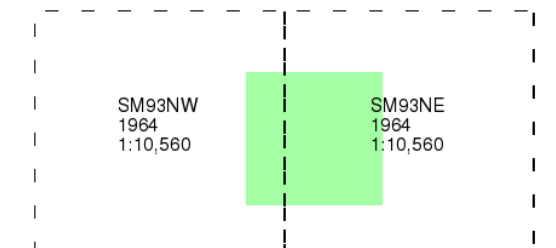
Ordnance Survey Plan

Published 1964

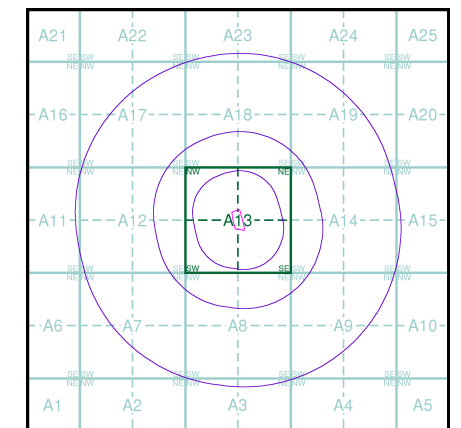
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

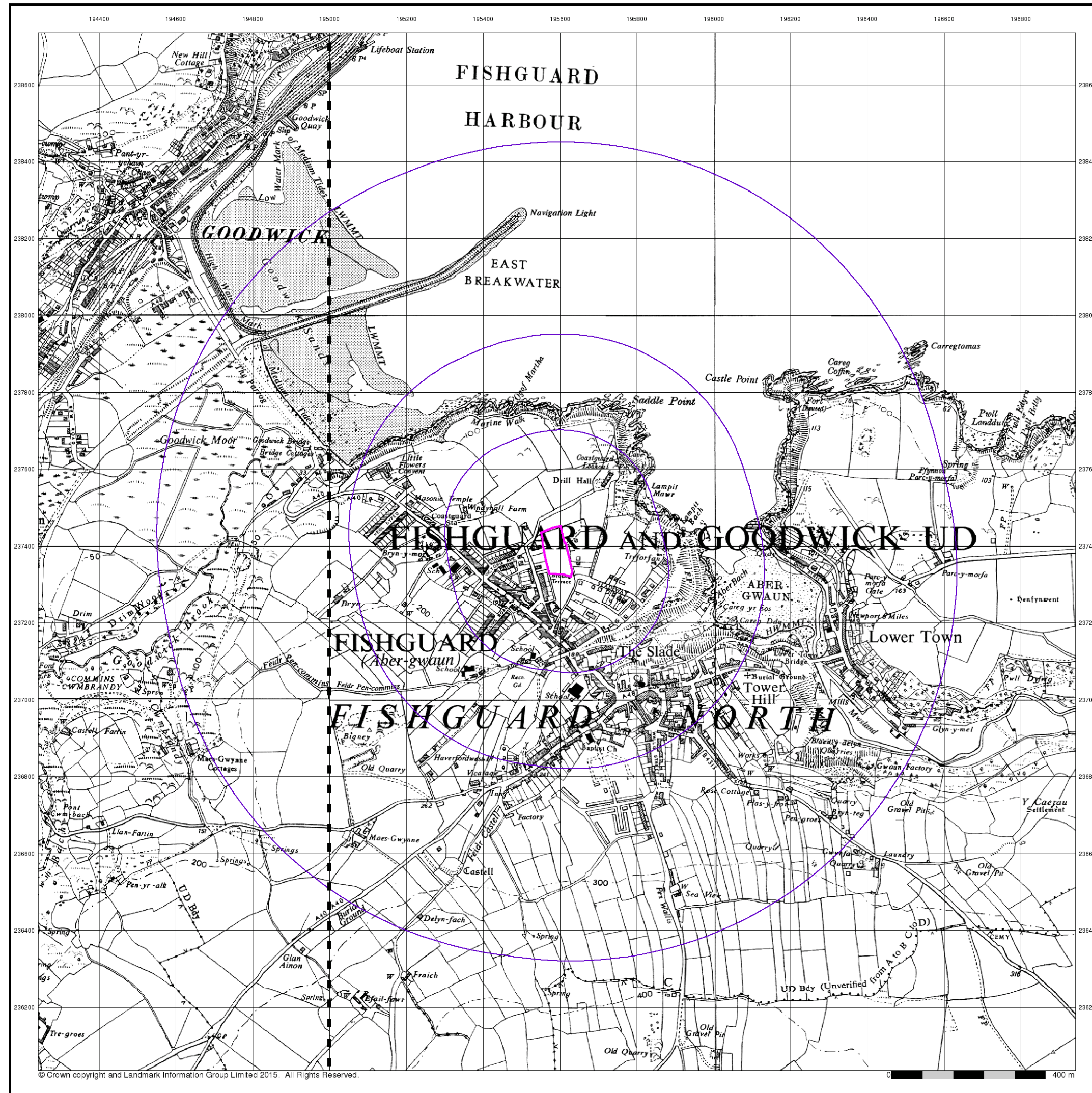
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Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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194400 194600 194800 195000 195200 195400 195600 195800 196000 196200 196400 196600 196800



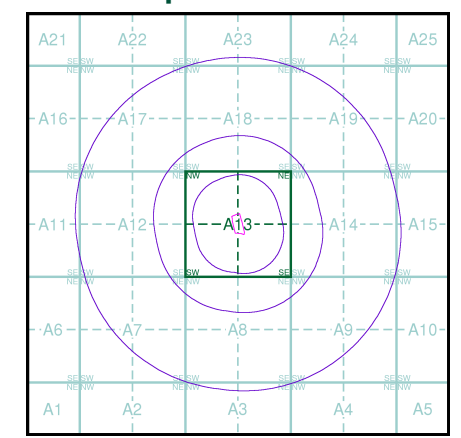
Ordnance Survey Plan
Published 1964
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SM93NE
 1964
 1:10,560

Historical Map - Slice A



Order Details

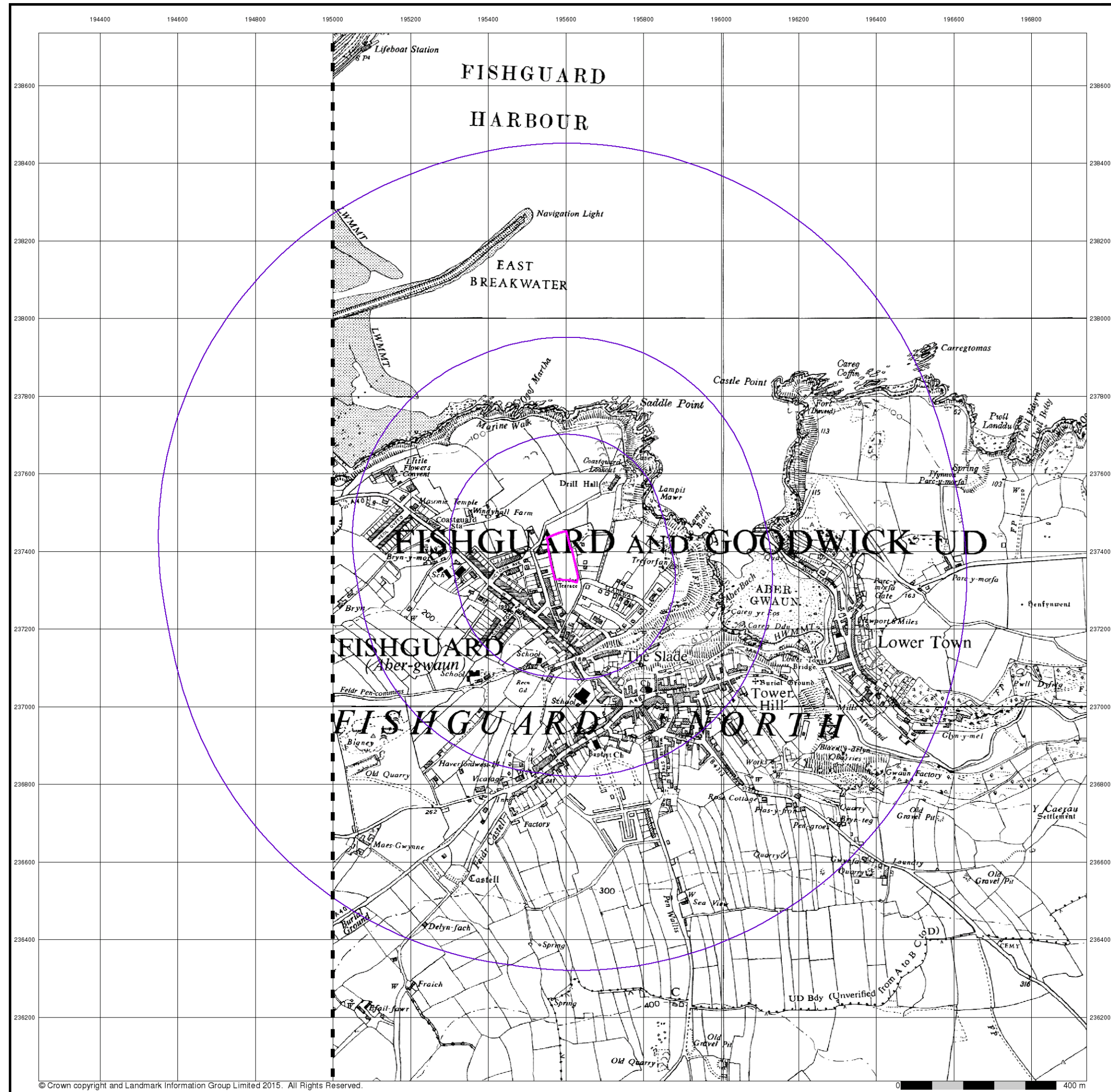
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 Search Buffer (m): 1000

Site Details

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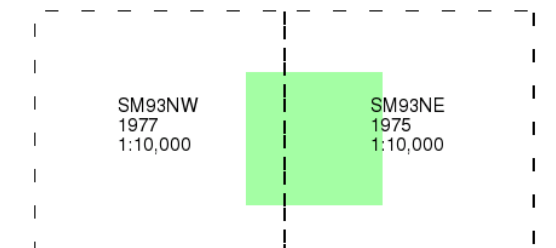
Ordnance Survey Plan

Published 1975 - 1977

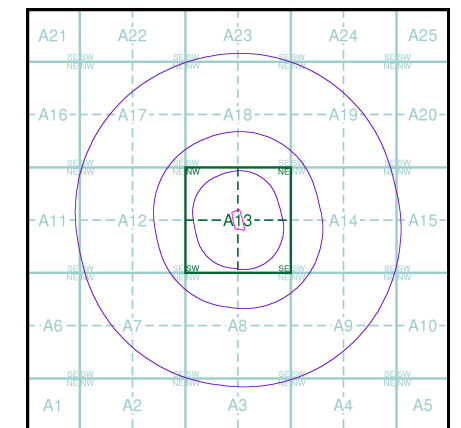
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

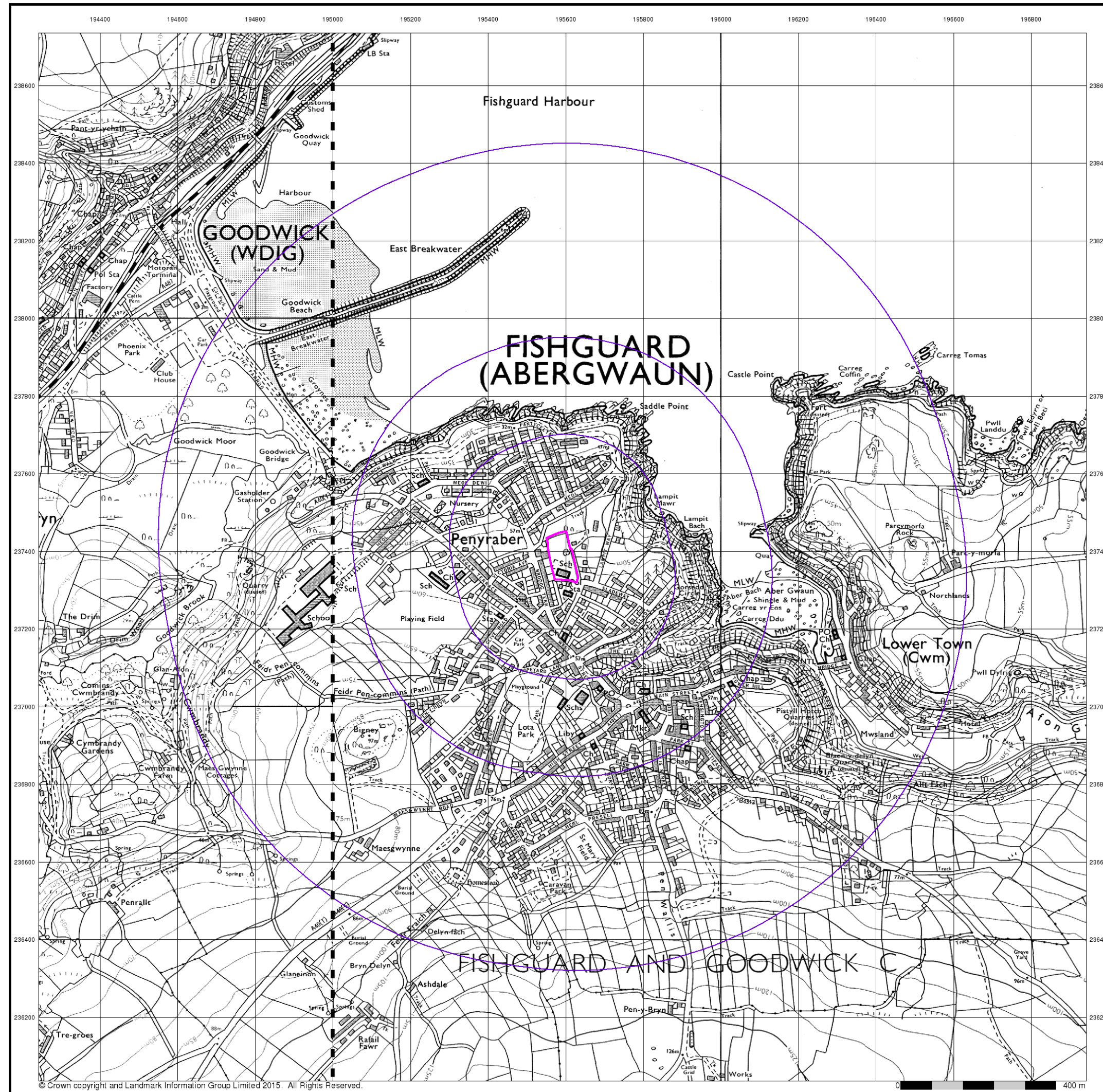
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Customer Ref: 14542
National Grid Reference: 195590, 237380
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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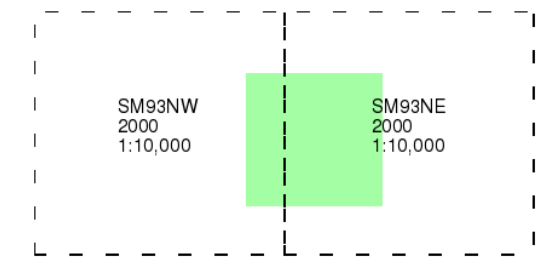
10k Raster Mapping

Published 2000

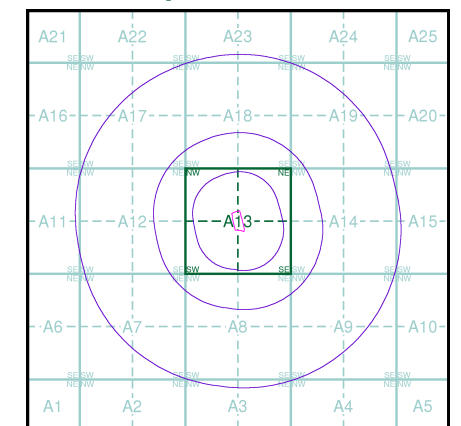
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

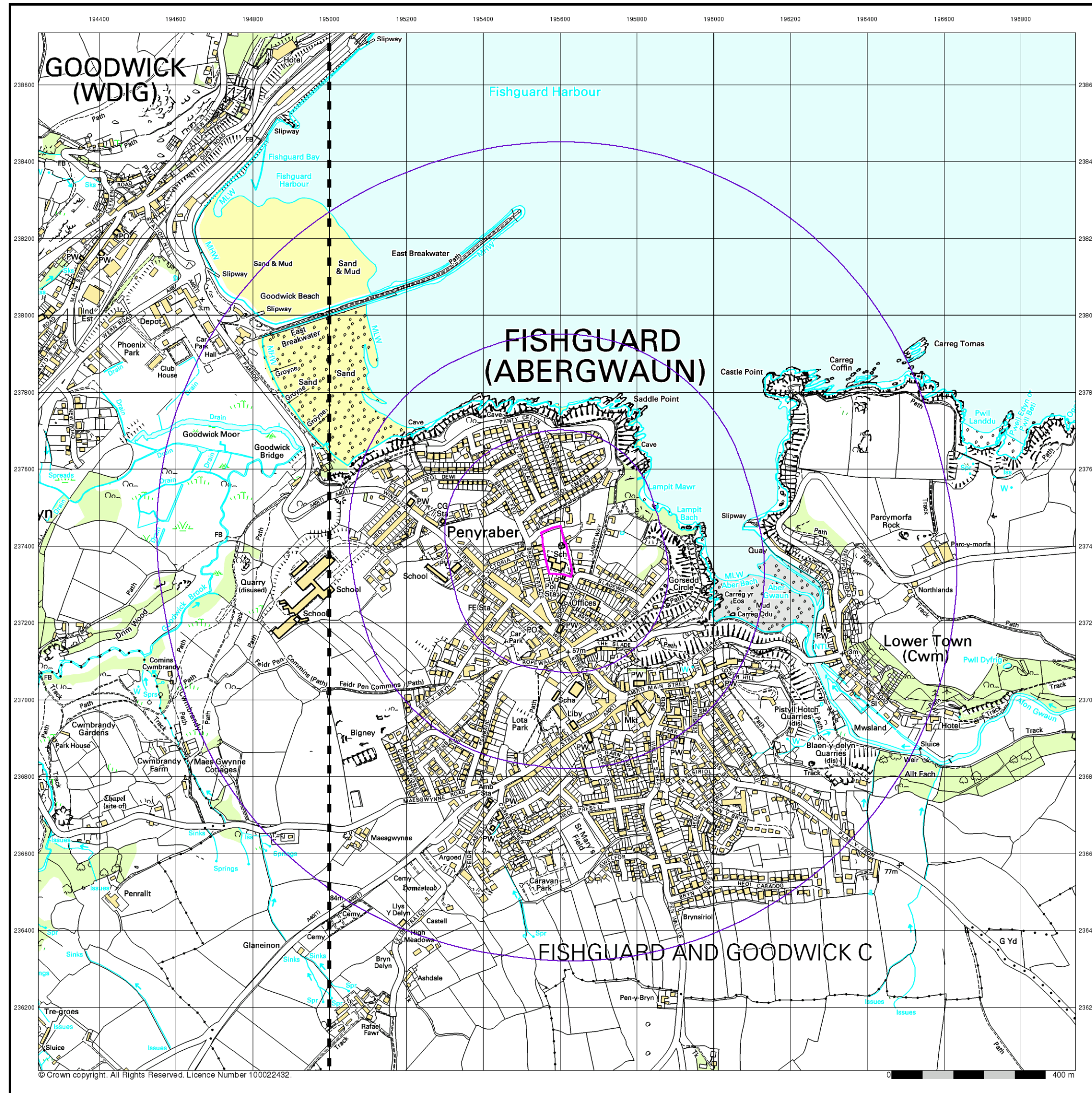
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Site Details

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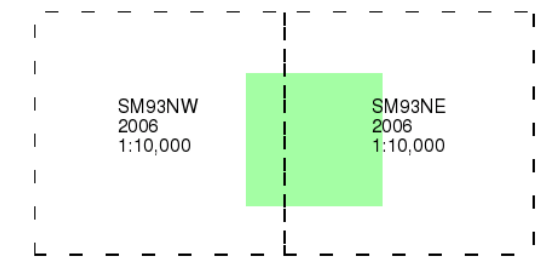
10k Raster Mapping

Published 2006

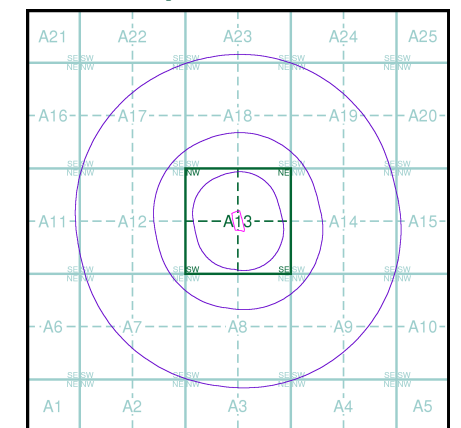
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

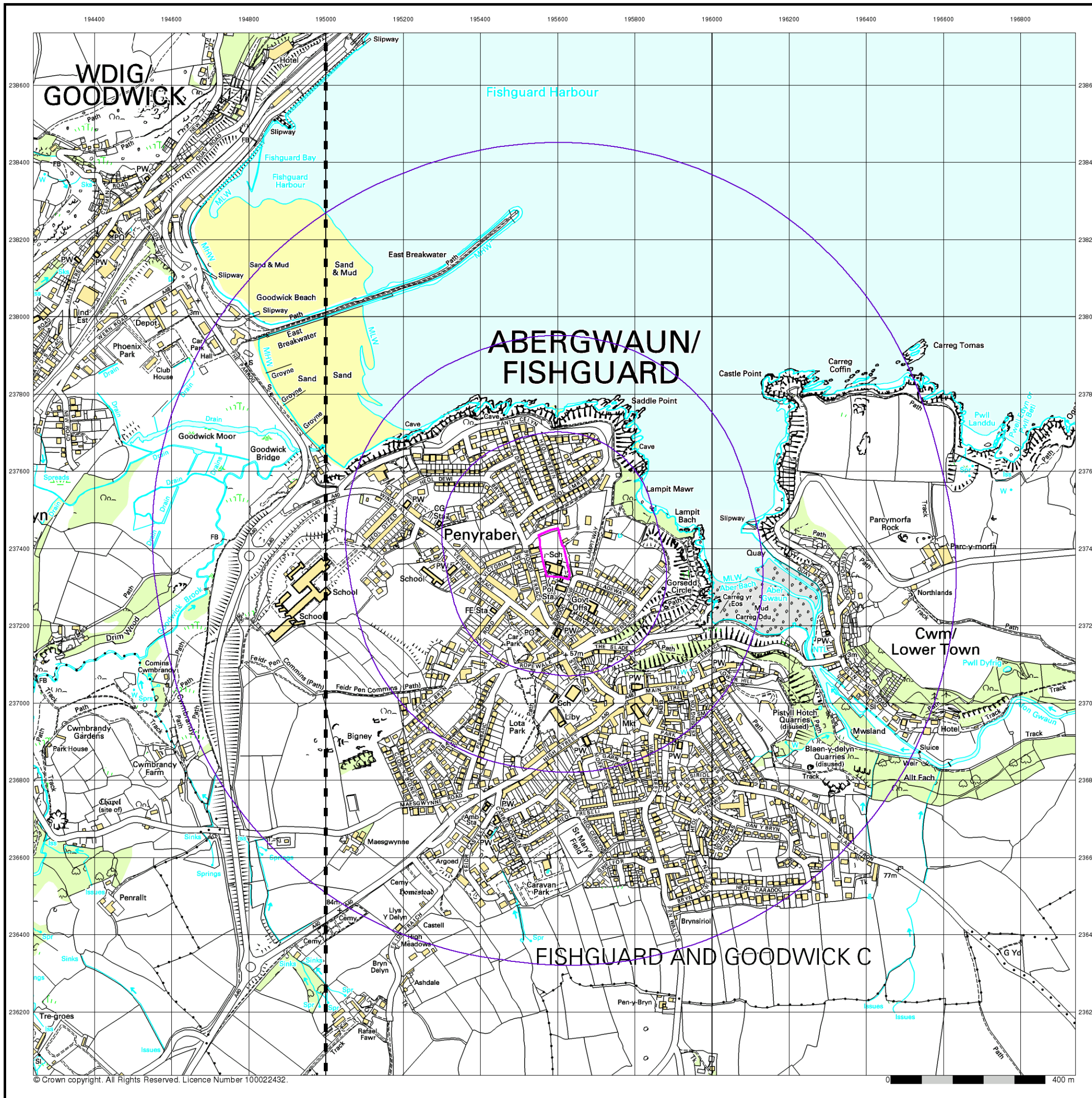
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Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

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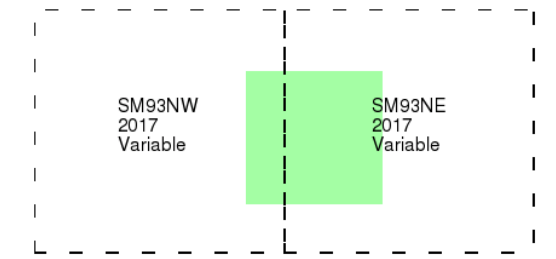
VectorMap Local

Published 2017

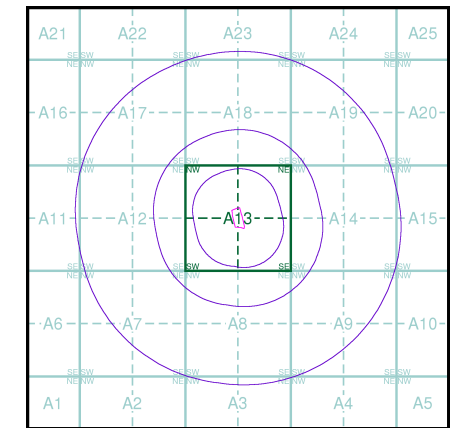
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

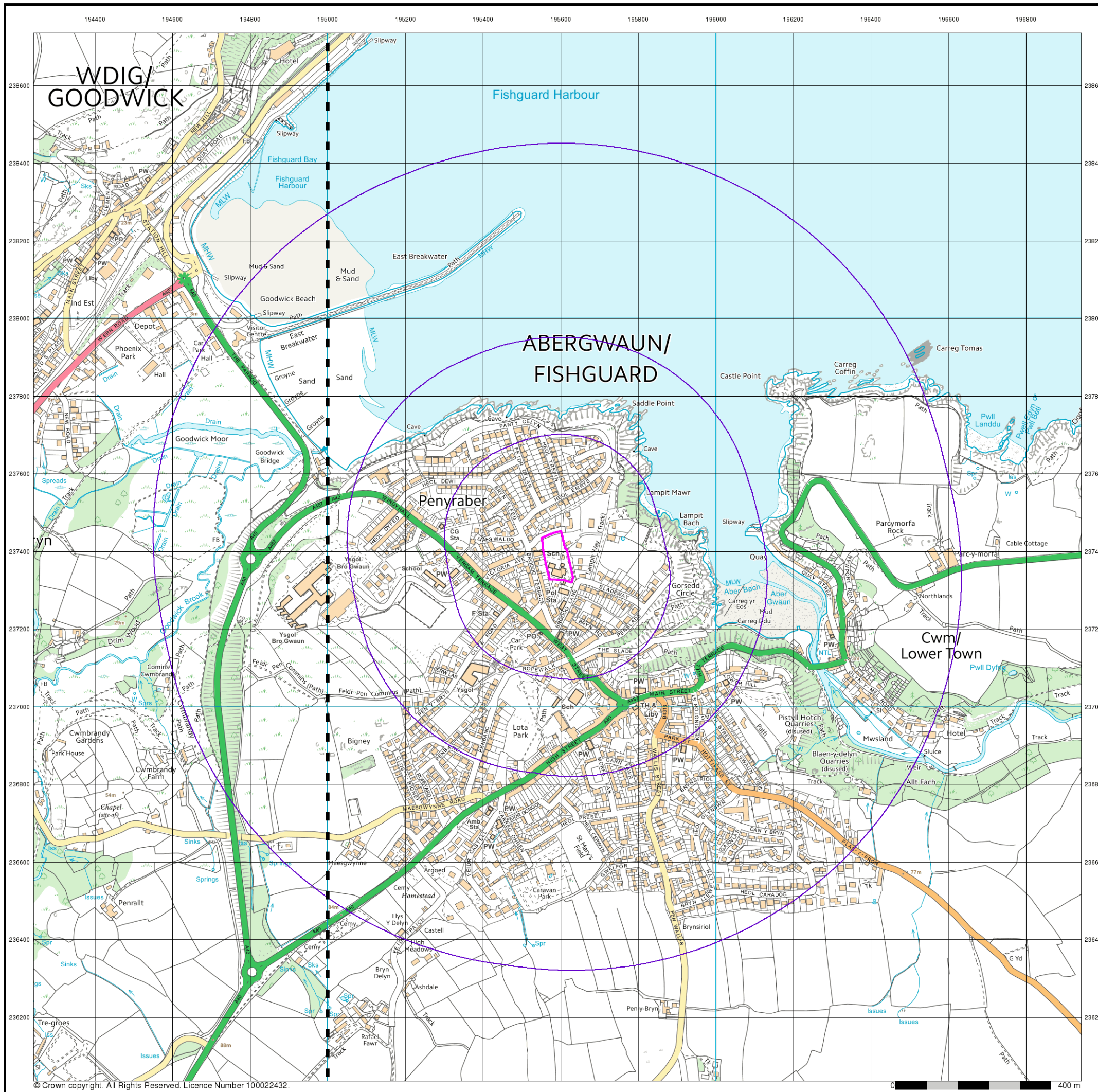
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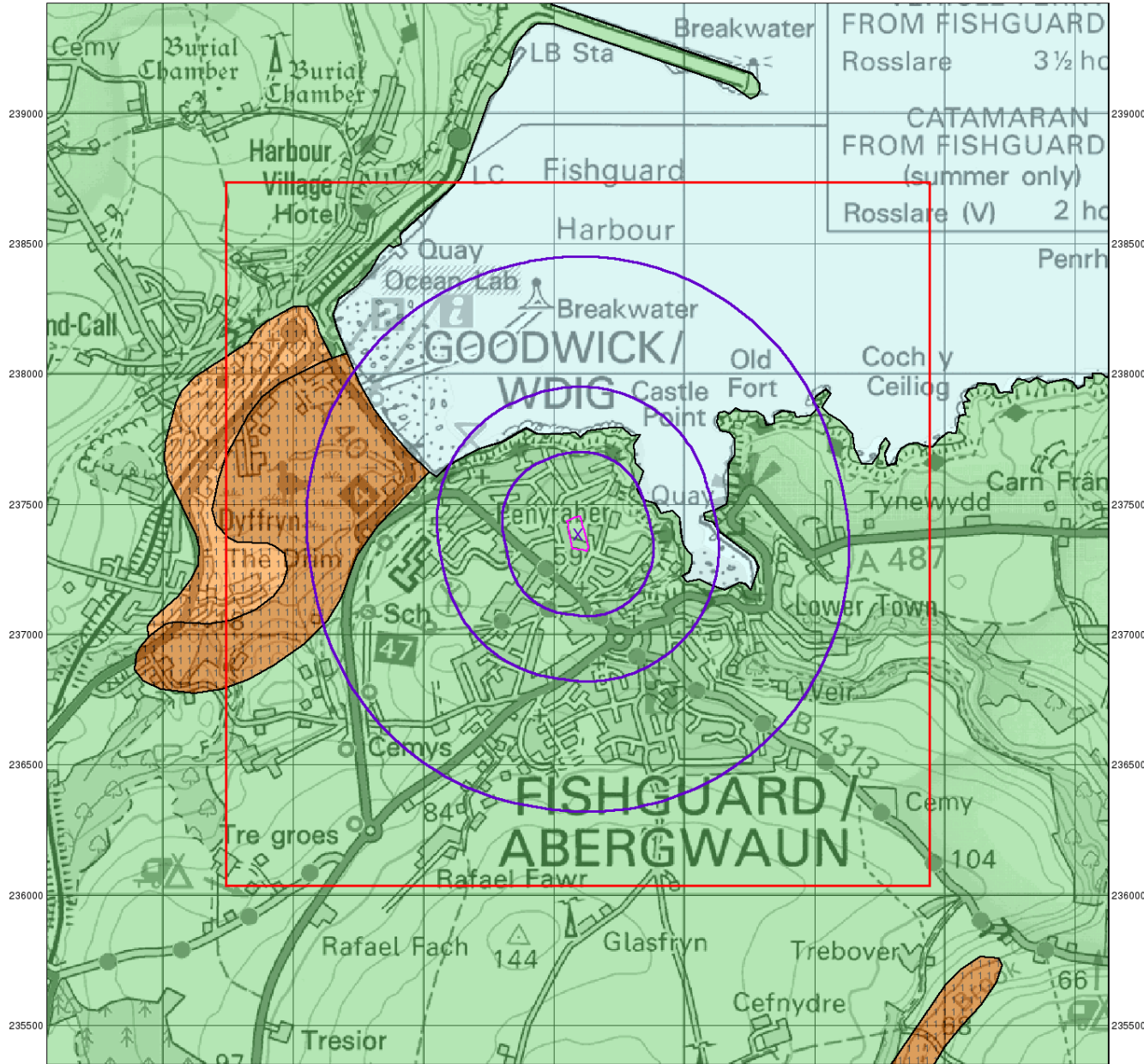
, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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194000 194500 195000 195500 196000 196500 197000 197500



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0 1 km



Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

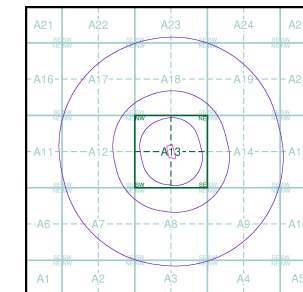
Agency and Hydrological

Geological Classes

- | | | |
|---|--|-----------------------|
| Major Aquifer (Highly Permeable) | | High (H) 1, 2, 3, U |
| | | Intermediate (I) 1, 2 |
| | | Low |
| Minor Aquifer (Variably Permeable) | | High (H) 1, 2, 3, U |
| | | Intermediate (I) 1, 2 |
| | | Low |
| Non Aquifer (Negligibly Permeable) | | |
| Water or Sea | | |
| Drift Deposit | | |

Soil Classes

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

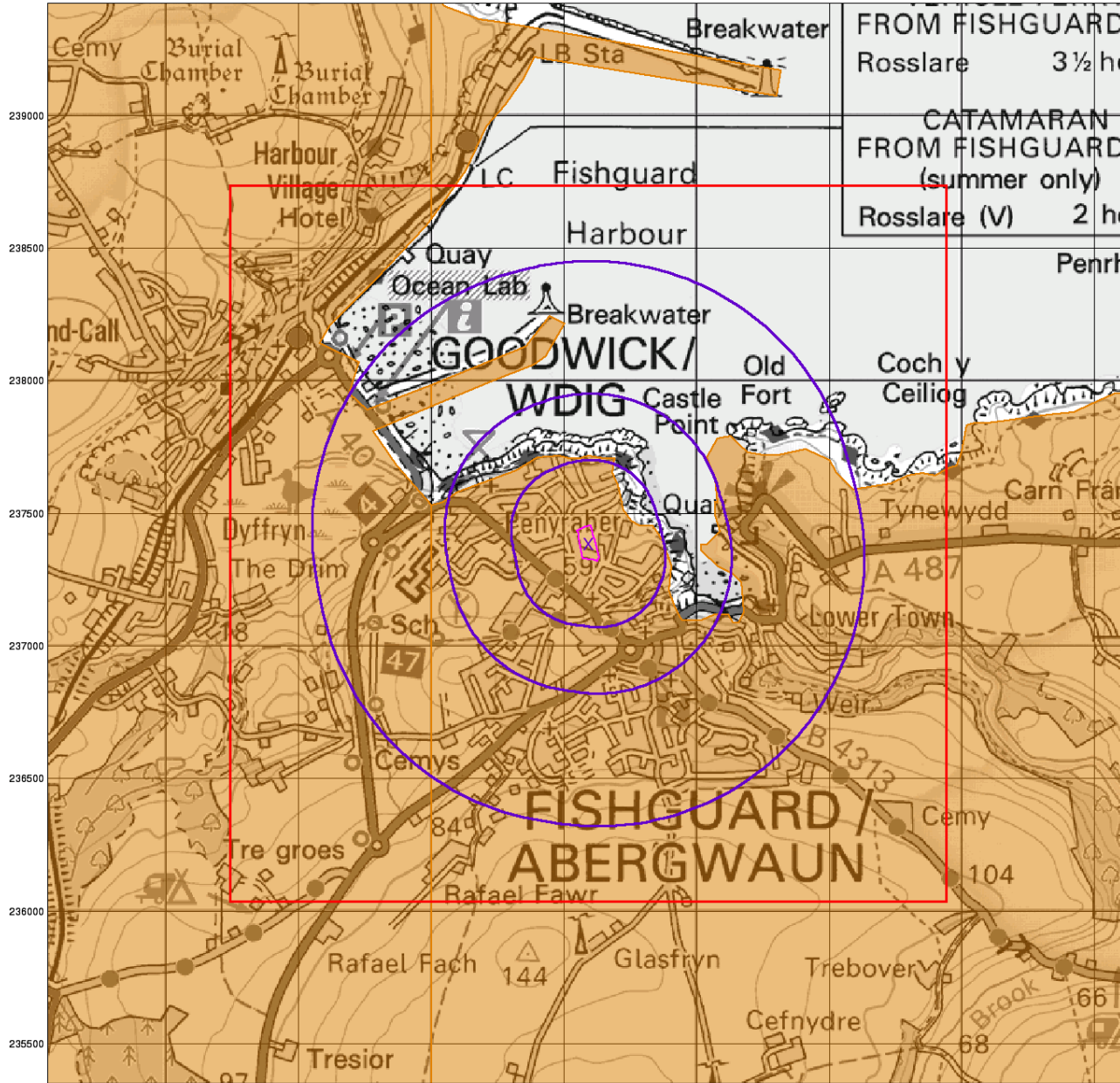
Site Details

Ysgol Glannau Gwaun (Infant Site), Ysgol Glannau Gwaun (Infant Site), Sladeway, Fishguard, SA65 9NY



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0 1 km



Bedrock Aquifer Designation

General

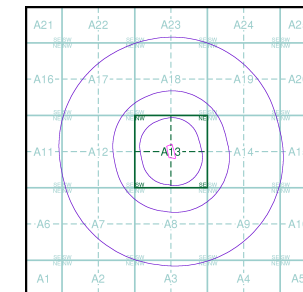
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

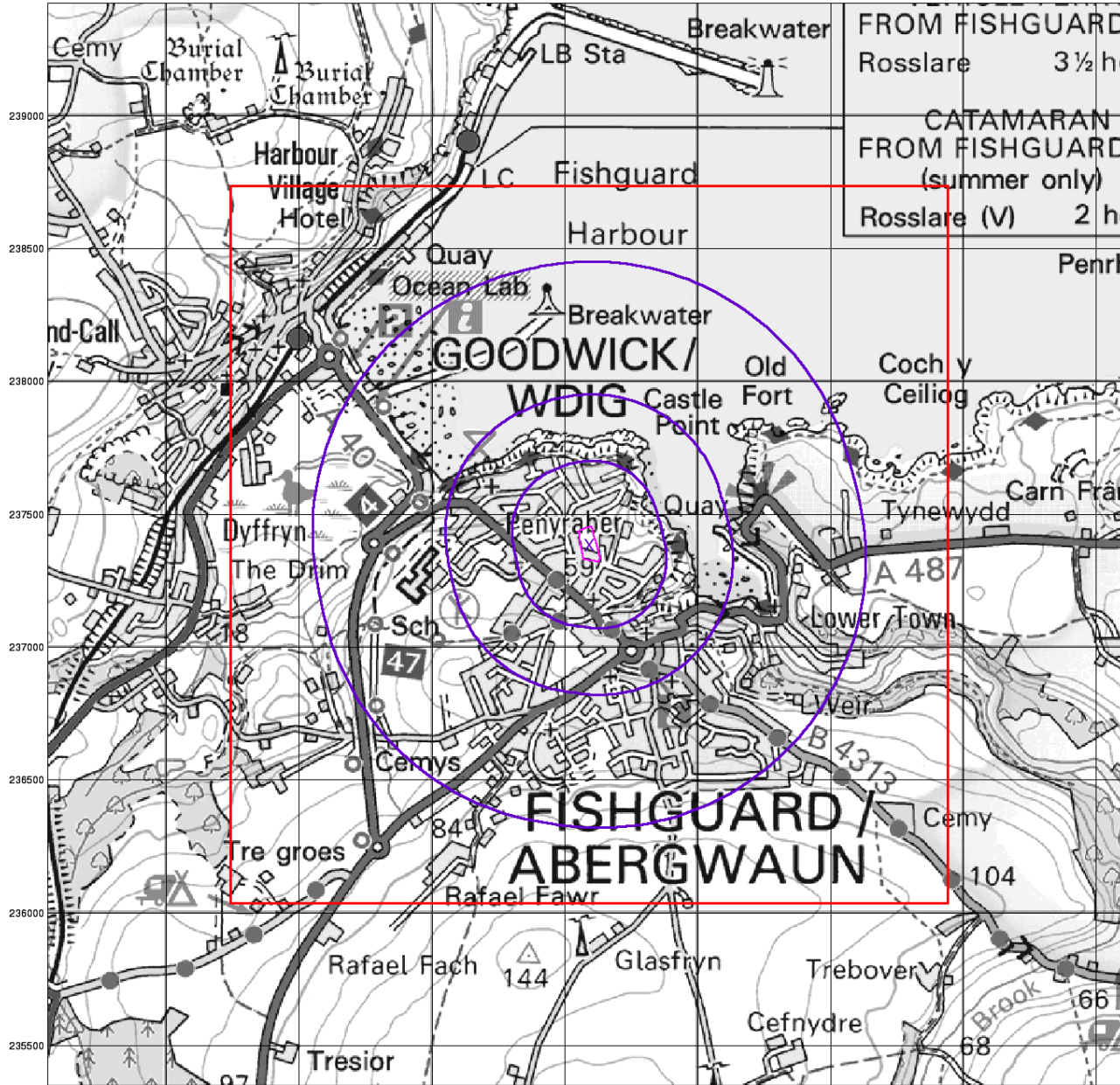
Site Details

Ysgol Glannau Gwaun (Infant Site), Ysgol Glannau Gwaun (Infant Site), Sladeway, Fishguard, SA65 9NY



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

194000 194500 195000 195500 196000 196500 197000 197500



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0 1 km



Superficial Aquifer Designation

General

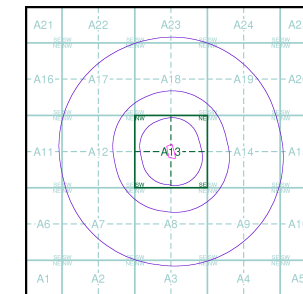
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

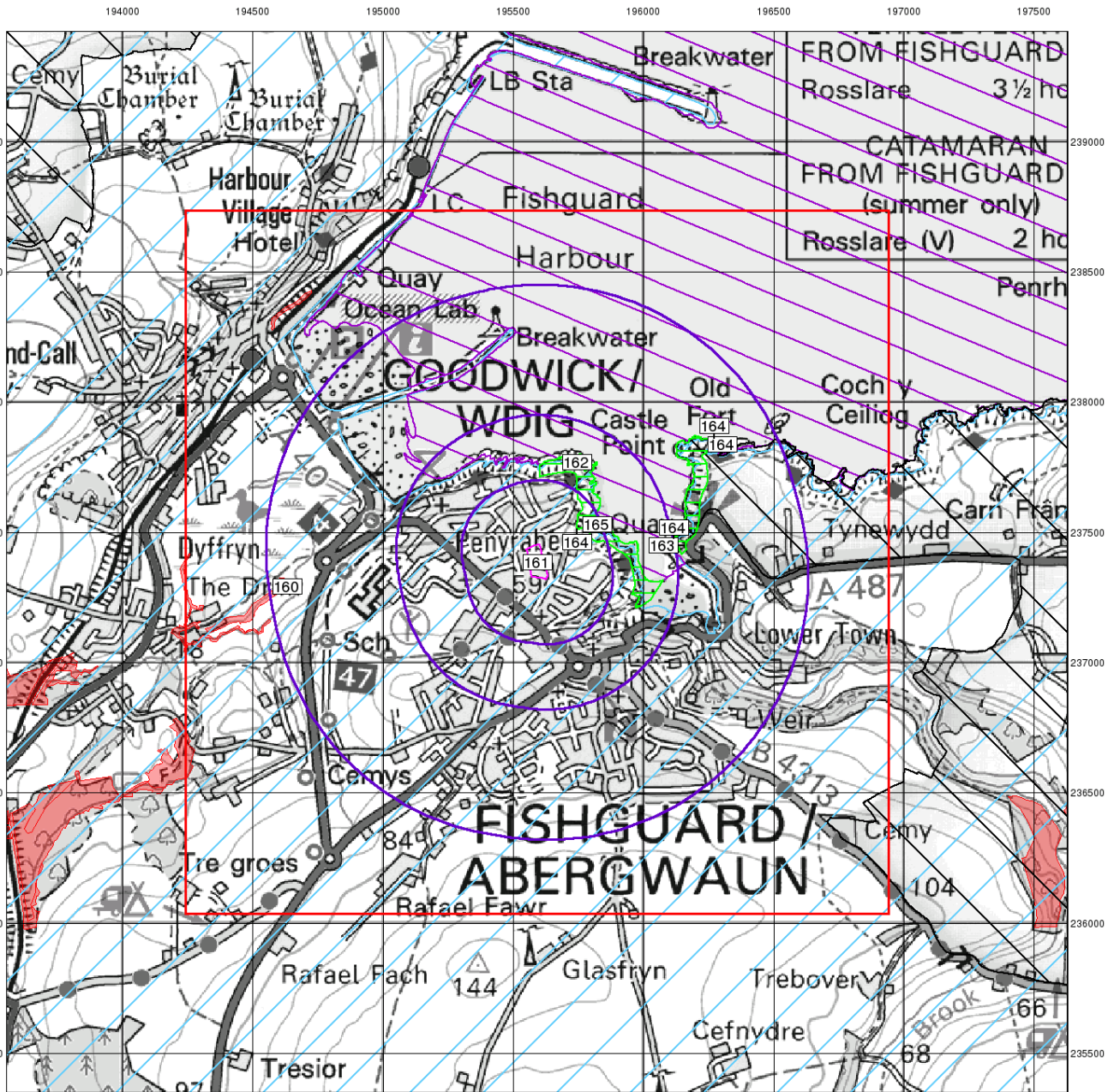
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 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

Ysgol Glannau Gwaun (Infant Site), Ysgol Glannau Gwaun (Infant Site), Sladeway, Fishguard, SA65 9NY



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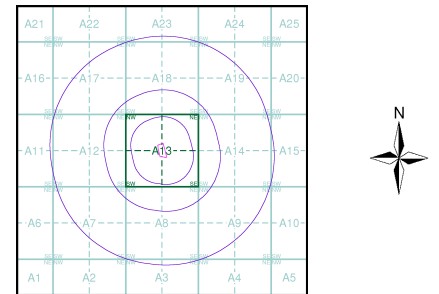
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Sensitive Land Uses

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Slice
 - Map ID
- Sensitive Land Uses**
- Ancient Woodland
 - Area of Adopted Green Belt
 - Area of Unadopted Green Belt
 - Area of Outstanding Natural Beauty
 - Environmentally Sensitive Area
 - Forest Park
 - Local Nature Reserve
 - Marine Nature Reserve
 - National Nature Reserve
 - National Park
 - Nitrate Sensitive Area
 - Nitrate Vulnerable Zone
 - Ramsar Site
 - Site of Special Scientific Interest
 - Special Area of Conservation
 - Special Protection Area
 - World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

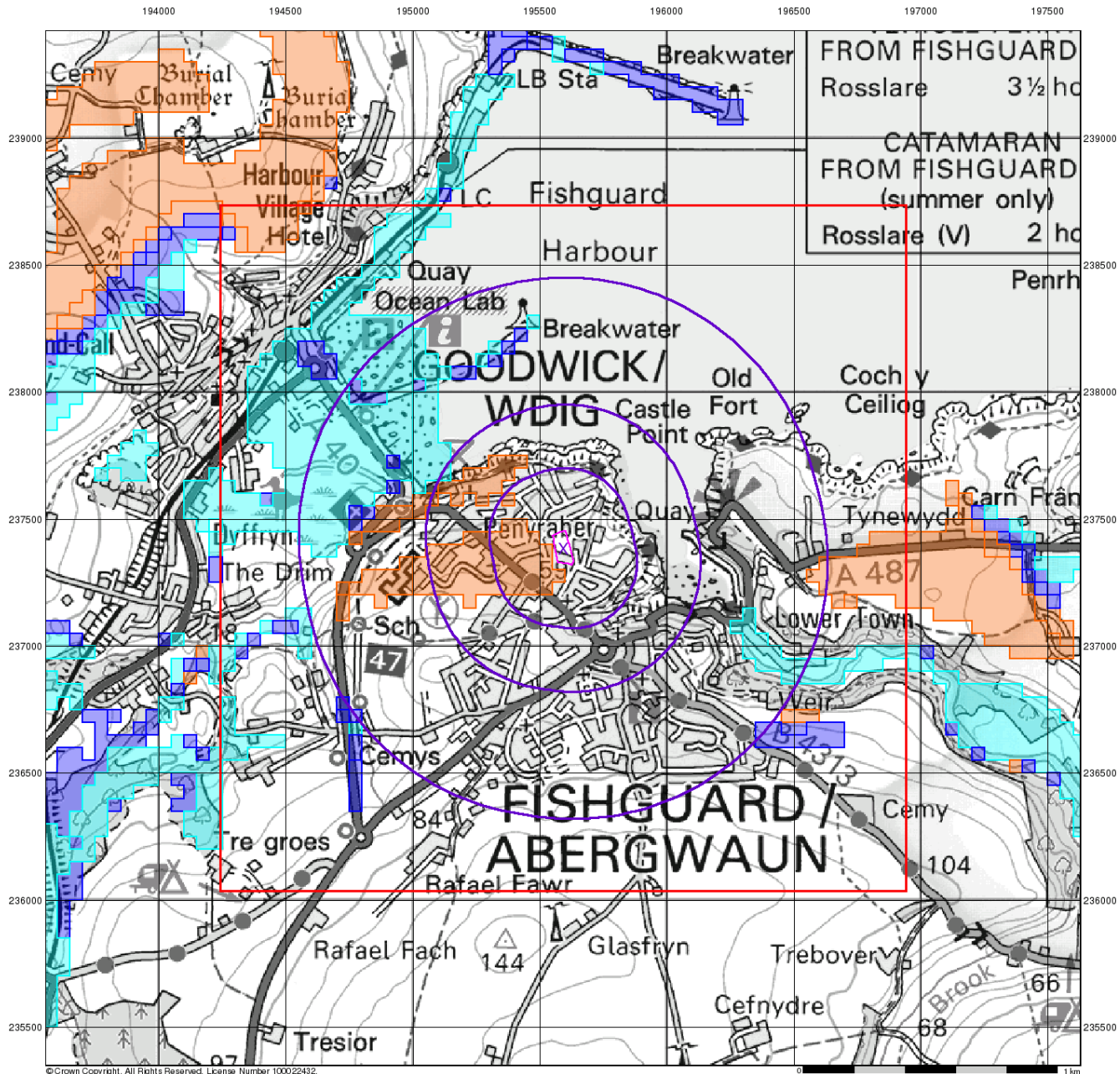
Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

Ysgol Glannau Gwaun (Infant Site), Ysgol Glannau Gwaun (Infant Site), Sladeway, Fishguard, SA65 9NY



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BGS Flood GFS Data

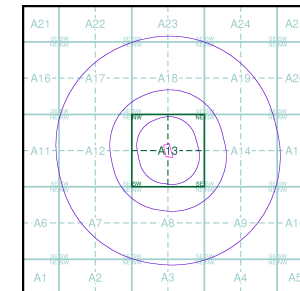
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

Ysgol Glannau Gwaun (Infant Site), Ysgol Glannau Gwaun (Infant Site), Sladeway, Fishguard, SA65 9NY

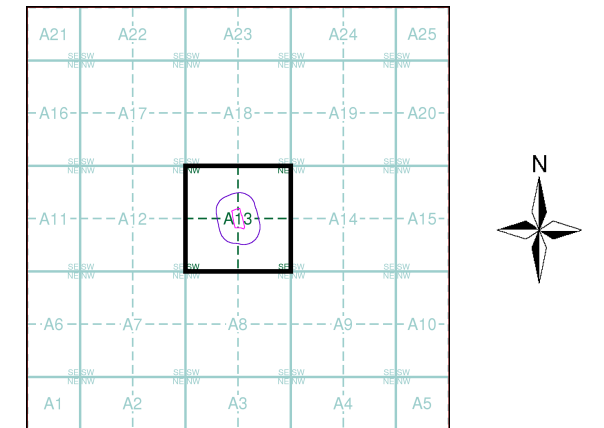


Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

General

- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13

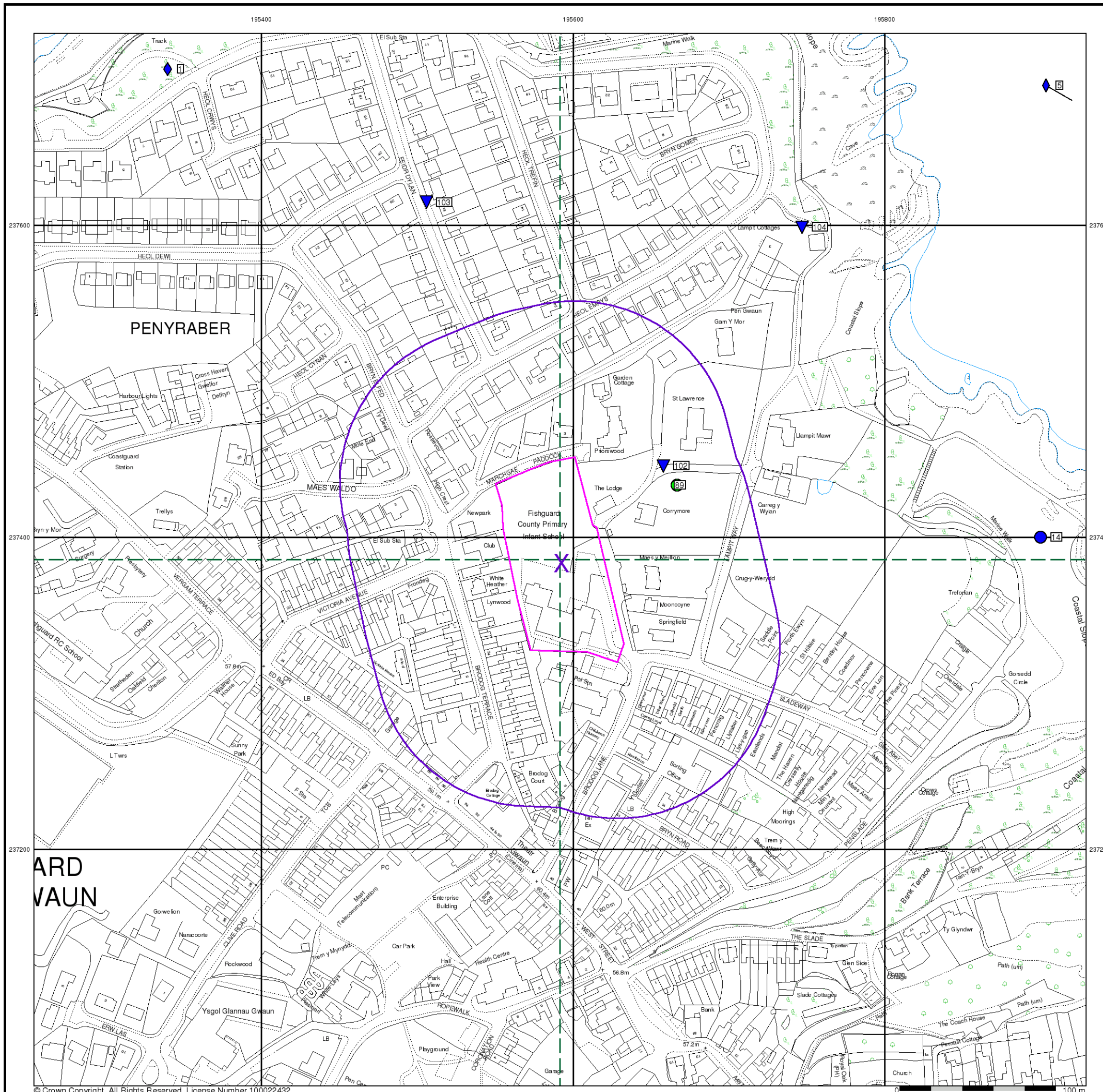


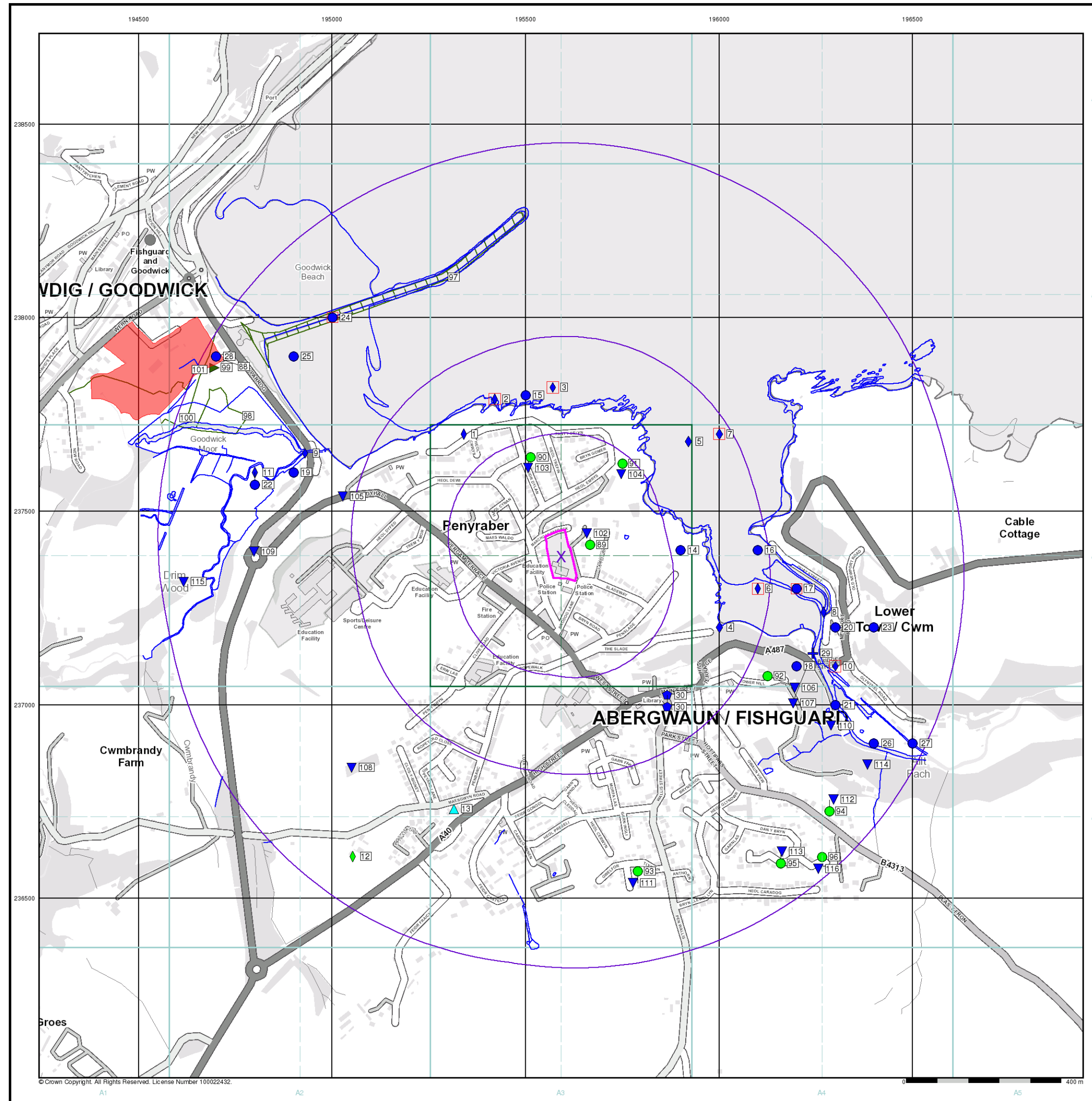
Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Plot Buffer (m): 100

Site Details

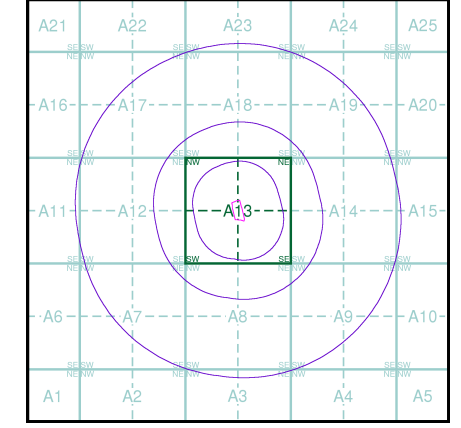
, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY)





- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
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 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY)

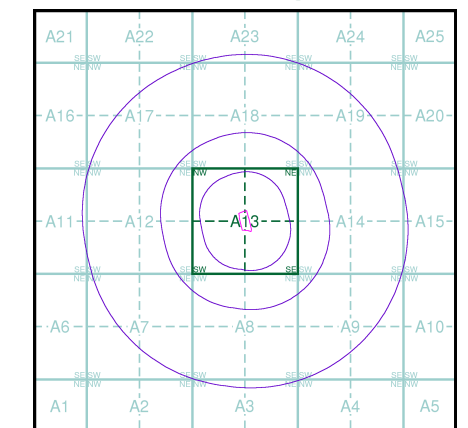
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A

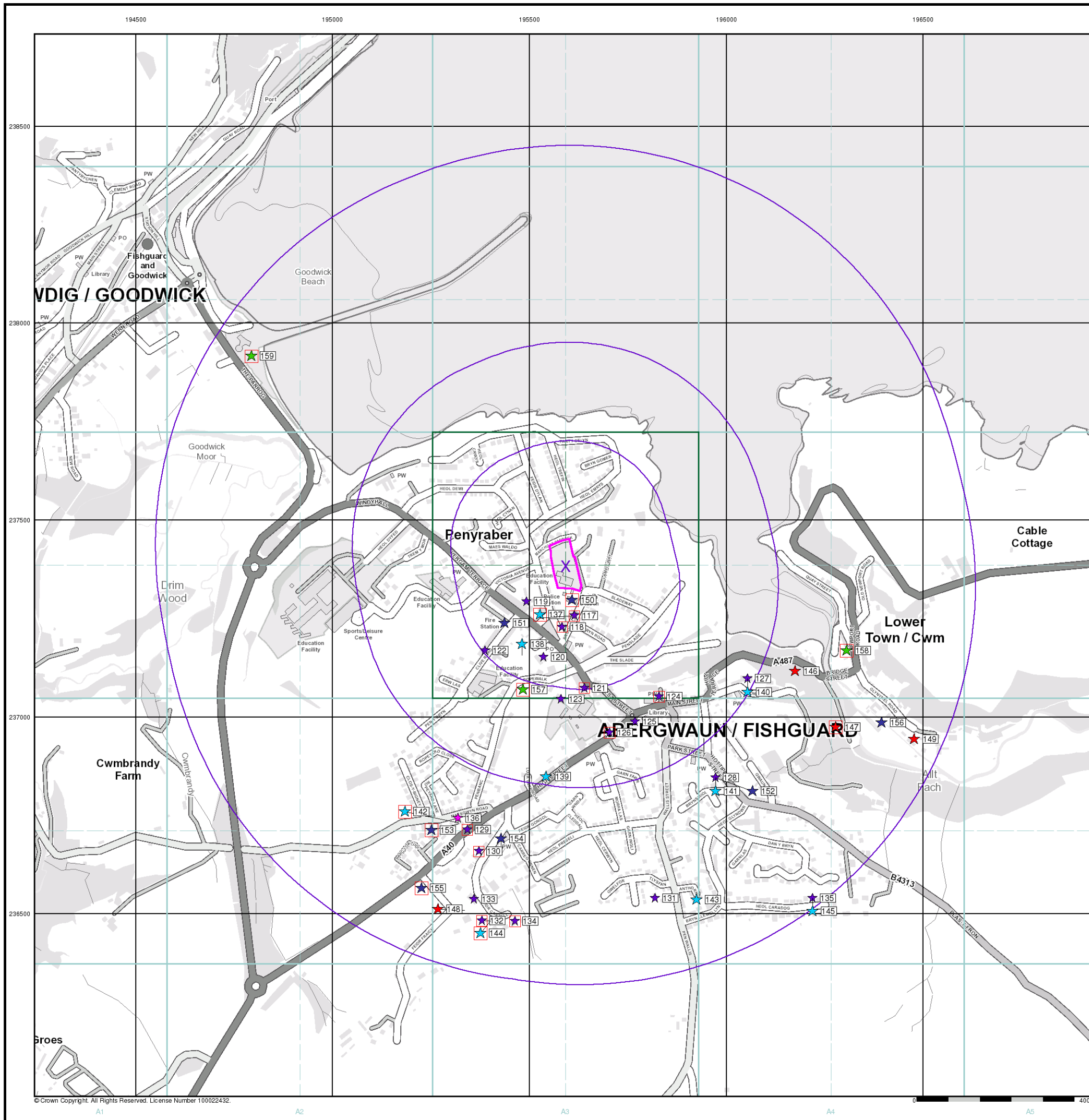


Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000




Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY








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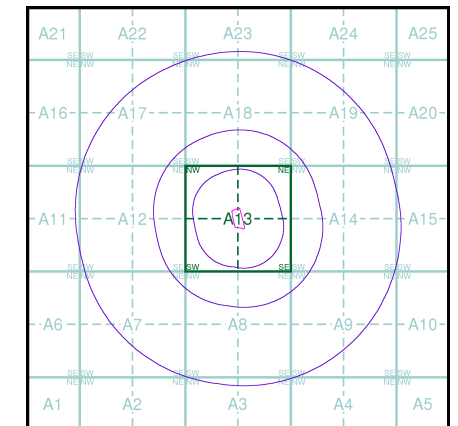
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Agency and Hydrological (Flood)

-  Extreme Flooding from Rivers or Sea without Defences (Zone 2)
-  Flooding from Rivers or Sea without Defences (Zone 3)
-  Area Benefiting from Flood Defence
-  Flood Water Storage Areas
-  Flood Defence

Flood Map - Slice A

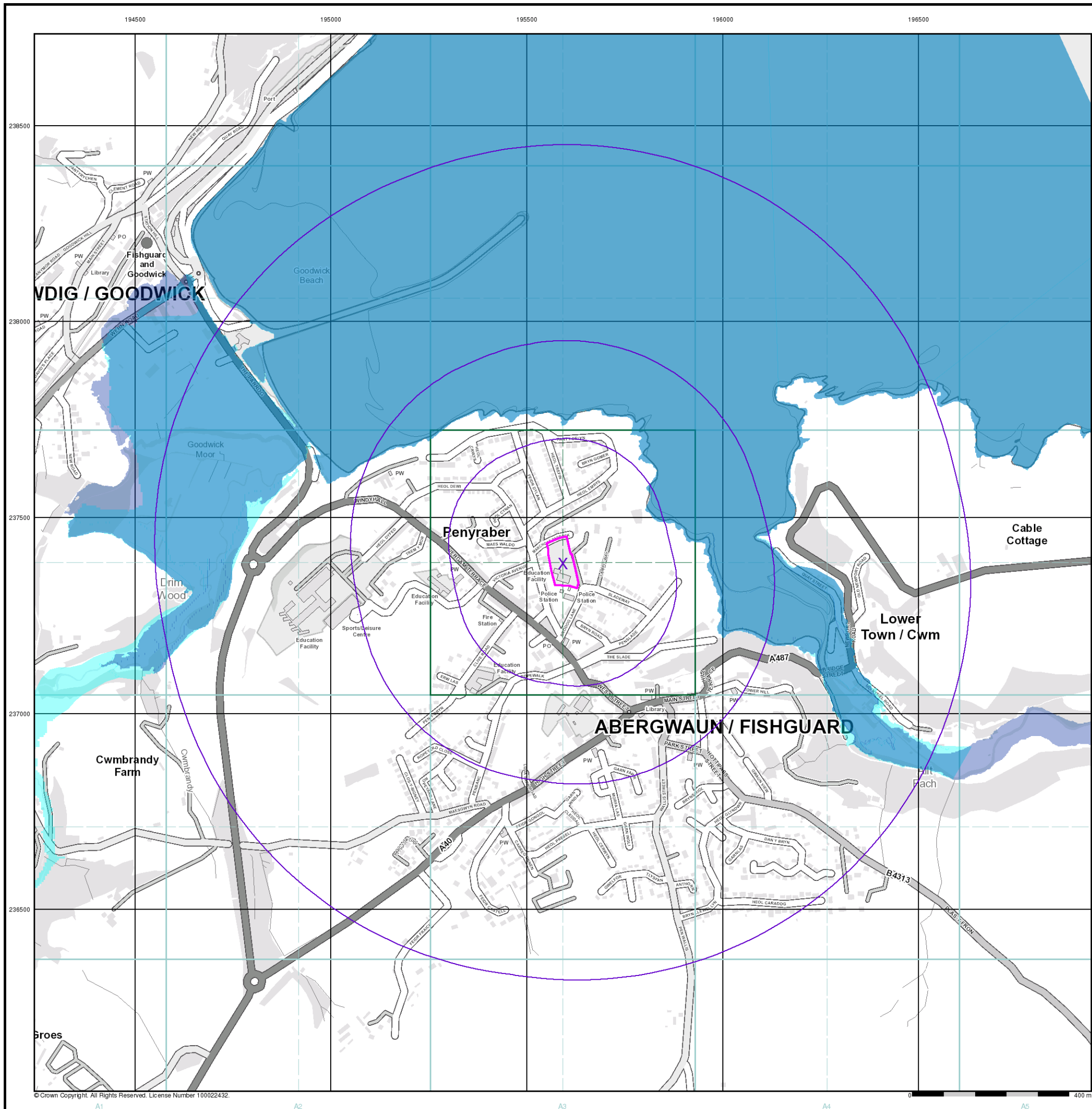


Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000






Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY








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General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID
-  Several of Type at Location

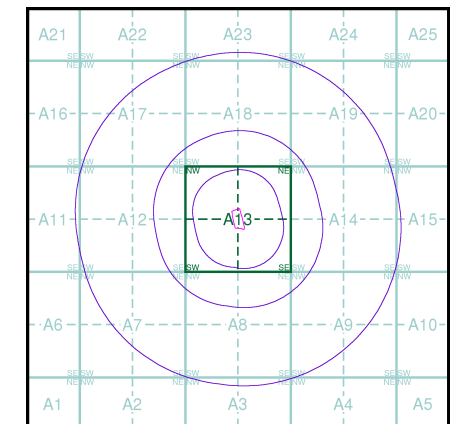
Agency and Hydrological (Boreholes)

-  BGS Borehole Depth 0 - 10m
-  BGS Borehole Depth 10 - 30m
-  BGS Borehole Depth 30m +
-  Confidential
-  Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

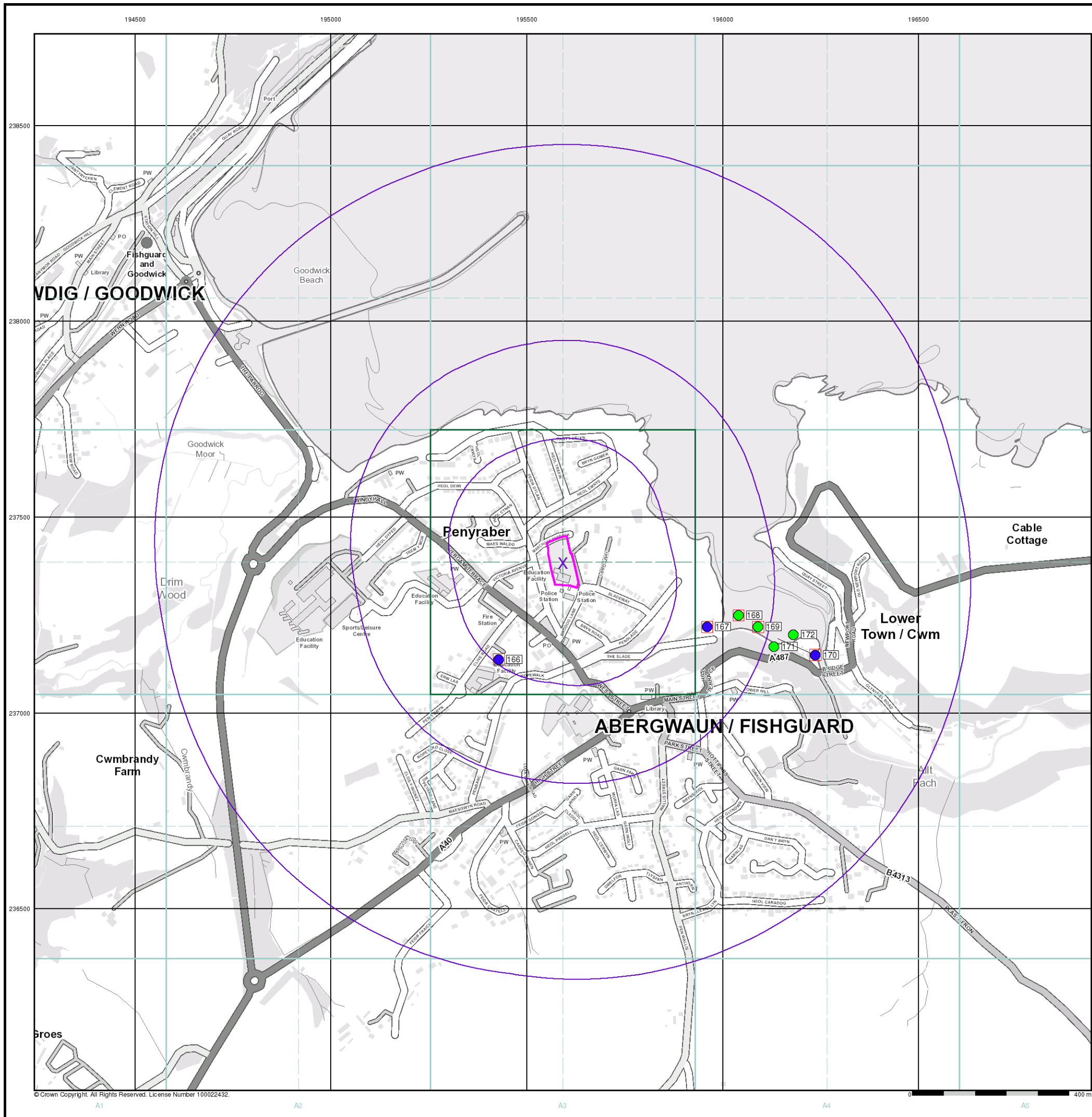


Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000



Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY














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General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

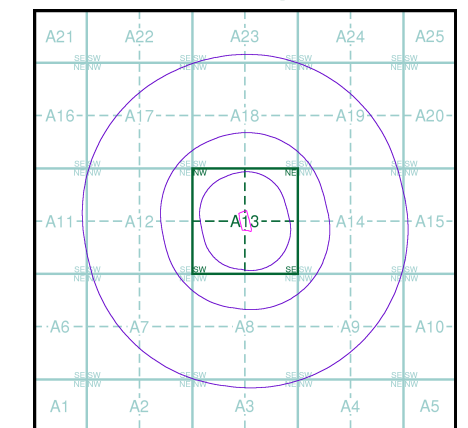
OS Water Network Data

- | | |
|--|---|
|  Canal |  Drain |
|  Reservoir |  Other |
|  Foreshire |  Lake |
|  Marsh |  Transfer |
|  Tidal River |  Lock Or Flight Of Locks |
|  Inland River |  Sea |

Contours (height in meters)

- Standard Contour   Mean Low Water
- Master Contour   Mean High Water
- Spot Height *167.3

OS Water Network Map - Slice A

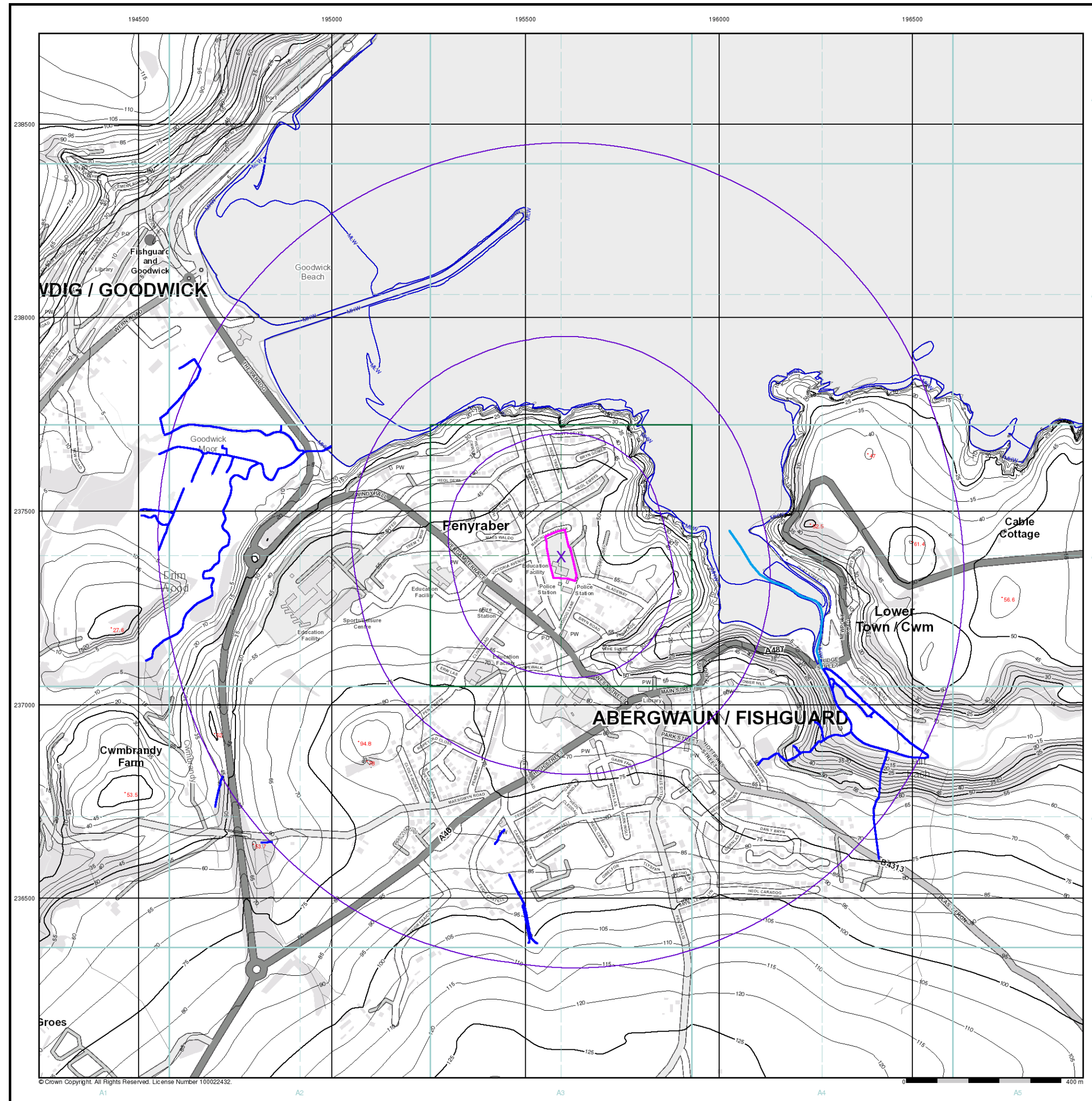


Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000



Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

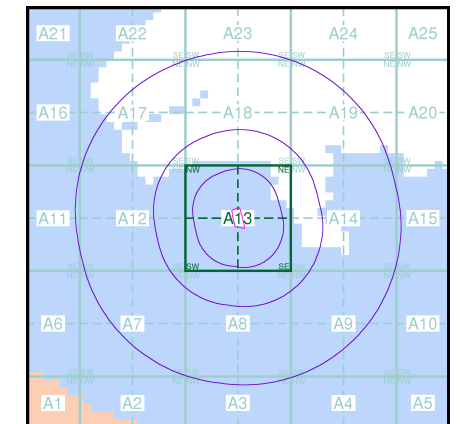
Risk of Flooding from Surface Water

-  High - 30 Year Return
-  Medium - 100 Year Return
-  Low - 1000 Year Return

Suitability

- See the suitability map below
-  National to county
 -  County to town
 -  Town to street
 -  Street to parcels of land
 -  Property

EANRW Suitability Map - Slice A

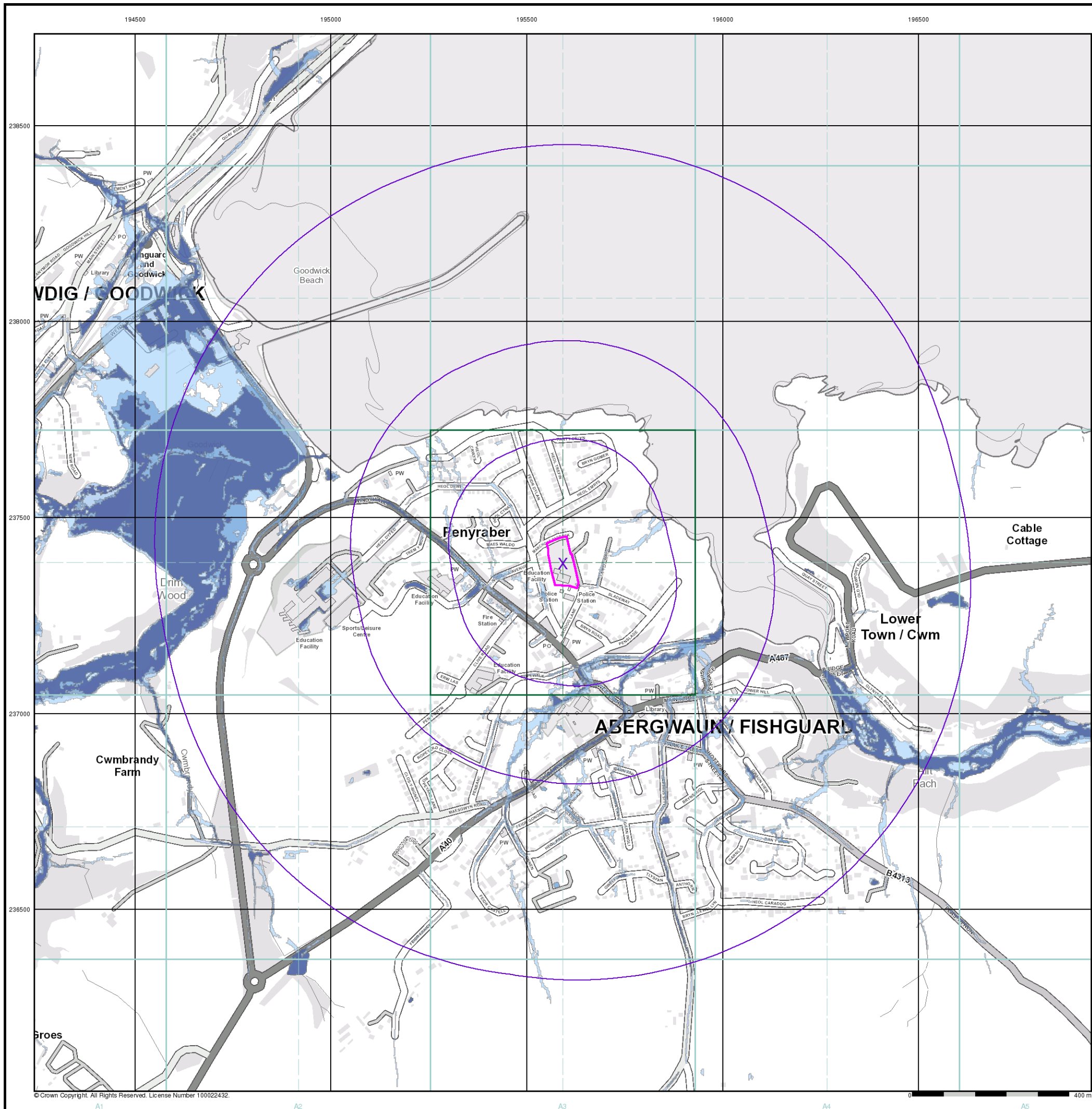


Order Details

Order Number: 152109713_1_1
 Customer Ref: 14542
 National Grid Reference: 195590, 237380
 Slice: A
 Site Area (Ha): 0.71
 Search Buffer (m): 1000

Site Details

, Ysgol Glannau Gwaun (Infant Site, Ysgol Glannau Gwaun (Infant Site, Sladeway, Fishguard, SA65 9NY



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ANNEX B
Risk Assessment Definitions

Risk Assessment Definitions

Environmental risk assessment evaluates the risk to receptors via an analysis of the 'source-pathway-receptor' linkage.

- (1) A **CONTAMINANT** (hazard) - a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters
- (2) A **RECEPTOR** (target) - something which could be adversely affected by a contaminant
- (3) A **PATHWAY** - a route or means which either allows the contaminant to cause significant harm to that receptor, or that there is a significant possibility of such harm being caused to the receptor, or that pollution of controlled waters is being or likely to be caused.

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is given by the Guidelines for Environmental Risk Assessment and Management (DEFRA *et al*, 2000):

'Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.

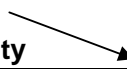
A 'Hazard' is defined as 'a property or situation that in particular circumstances could lead to harm'.

The classification of consequences and probability and determining the risk category are defined in the following sections.

Table 1 Classification of Consequence	
Classification	Definition
Severe	<ul style="list-style-type: none"> • Short term (acute) risk to human health likely to result in significant harm • Short term risk to controlled waters • Catastrophic damage to buildings/structures • Short term risk to an ecosystem or organism within the particular ecosystem
Medium	<ul style="list-style-type: none"> • Chronic damage to human health (long term risk) • Pollution of a sensitive water resource • A significant change in an ecosystem or organism within the ecosystem
Mild	<ul style="list-style-type: none"> • Pollution of non-sensitive water resources • Significant damage to buildings/structures
Negligible	<ul style="list-style-type: none"> • Harm (not necessarily significant) which may result in financial loss • Non permanent health effects to humans (easily prevented by PPE for example) • Easily repairable effects of structural (building) damage

Table 2 Classification of Probability	
Classification	Definition
High	<ul style="list-style-type: none"> • There is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term. • Evidence of harm to the receptor
Medium	<ul style="list-style-type: none"> • There is a complete pollution linkage which means that it is probable that an event will occur • The event is not inevitable but possible in short term and likely in the long term
Low	<ul style="list-style-type: none"> • There is a complete pollution linkage and circumstances are possible under which an event could occur • It is not certain that an event will occur in the long term, and it is less likely to occur in the short term
Negligible	<ul style="list-style-type: none"> • There is a complete pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term

By comparing the consequences of a risk and the probability of the risk of a pollution linkage, the likely risk category can be determined as shown in **Table 3** below.

Table 3 Risk Assessment Matrix					
Increasing acceptability 		Consequence			
		Severe	Medium	Mild	Negligible
Probability	High	High	High	Medium / Low	Near zero
	Medium	High	Medium	Low	Near zero
	Low	High / medium	Medium / Low	Low	Near zero
	Negligible	High / medium / Low	Medium / Low	Low	Near zero

High Risk

There is a high probability that severe harm could risk a receptor, or there is evidence that a receptor is being harmed. The risk if realised is likely to result in liability, and urgent investigation or remediation will be required.

Medium Risk

It is probable that harm will arise to a receptor. However it is relatively unlikely that such harm would be severe, or if harm does occur the harm is likely to be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

Low Risk

It is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

Near Zero Risk

There is a very low risk of harm to the receptor. In the event of harm being realised the harm is

**ANNEX C
Trial Pit Logs**



Trial Pit Log

Trialpit No

TP1

Sheet 1 of 1

Project Name: Brodog Lane	Project No. 14542	Co-ords: - Level:	Date 18/01/2018
---------------------------	-------------------	----------------------	-----------------

Location: Fishguard	Dimensions (m): Depth 2.80	<div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div>	Scale 1:25 Logged RH
Client: Wales and West Housing Association			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Soft dark red brown slightly gravelly CLAY. Fine roots. MADE GROUND: Loose to medium dense brown SAND and fine to coarse angular to sub-angular GRAVEL and COBBLE. Rare fine brick fragments.	1
				1.20			Soft becoming soft to firm tan brown, orange brown and grey slightly sandy silty gravelly CLAY. Gravel is fine to coarse angular to sub-rounded of quartz and sandstone	2
				1.90			Firm brown, grey and orange brown sandy very gravelly cobbly CLAY	3
				2.80			End of pit at 2.80 m	4
								5

Remarks:

Stability:



Trial Pit Log

Trialpit No

TP2

Sheet 1 of 1

Project Name: Brodog Lane

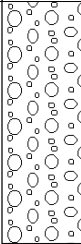
Project No.
14542Co-ords: -
Level:Date
18/01/2018

Location: Fishguard

Dimensions
(m):Scale
1:25

Client: Wales and West Housing Association

Depth
0.80Logged
RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.80			Very dense angular GRAVEL, COBBLE and BOULDER of sandstone in soft red brown clay matrix (Weathered Bedrock)
							End of pit at 0.80 m

1

2

3

4

5

Remarks:

Stability:



Trial Pit Log

Trialpit No

TP3

Sheet 1 of 1

Project Name: Brodog Lane Project No. 14542 Co-ords: - Date 18/01/2018
 Level:

Location: Fishguard Dimensions (m): Scale 1:25

Client: Wales and West Housing Association Depth 2.20 Logged RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			MADE GROUND: Soft dark red brown CLAY. Occasional red tile fragment.
				1.20			MADE GROUND: Medium dense orange brown and brown slightly clayey SAND and fine to coarse angular GRAVEL, COBBLE and small BOULDER
				2.20			Medium dense becoming dense brown SAND and fine to coarse angular GRAVEL and COBBLE of sandstone (Weathered Bedrock)
							End of pit at 2.20 m

Remarks:

Stability:



Trial Pit Log

Trialpit No

TP4

Sheet 1 of 1

Project Name: Brodog Lane

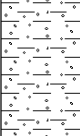
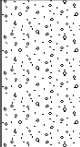
Project No.
14542Co-ords: -
Level:Date
18/01/2018

Location: Fishguard

Dimensions
(m):Scale
1:25

Client: Wales and West Housing Association

Depth
1.00Logged
RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.50			Soft dark red brown sandy gravelly CLAY
				1.00			Medium dense orange brown clayey SAND and fine to coarse angular GRAVEL and COBBLE
							End of pit at 1.00 m

1
2
3
4
5

Remarks:

Stability:



Trial Pit Log

Trialpit No

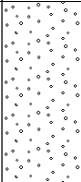

TP5

Sheet 1 of 1

Project Name: Brodog Lane Project No. 14542 Co-ords: - Date 18/01/2018
 Level: Level:

Location: Fishguard Dimensions (m): Scale 1:25

Client: Wales and West Housing Association Depth 0.80 Logged RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.60			Loose to medium dense fine to coarse angular GRAVEL and COBBLE in soft red brown clay matrix
				0.80			Dense angular GRAVEL, COBBLE and BOULDER of sandstone in soft red brown clay matrix (Weathered Bedrock)
							----- End of pit at 0.80 m



Remarks:

Stability:



Trial Pit Log

Trialpit No

TP6

Sheet 1 of 1

Project Name: Brodog Lane

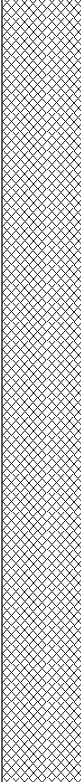
Project No.
14542Co-ords: -
Level:Date
18/01/2018

Location: Fishguard

Dimensions (m):

Depth
2.60Scale
1:25Logged
RH

Client: Wales and West Housing Association

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				2.60			MADE GROUND: Soft dark brown sandy gravelly cobbly CLAY. Fragments of glass, china, metal, tile, ceramic pipe, brick and glass bottles. Occasional fragment of ACM.
							PROBABLE BEDROCK AT 2.6m DEPTH End of pit at 2.60 m

1

2

3

4

5

Remarks:

Stability:



Trial Pit Log

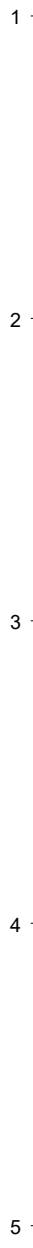
Trialpit No
TP7
Sheet 1 of 1

Project Name: Brodog Lane Project No. 14542 Co-ords: -
Level: 18/01/2018

Location: Fishguard Dimensions (m): Scale 1:25

Client: Wales and West Housing Association Depth 1.40 Logged RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10		Asphalt	
				0.30		MADE GROUND: Grey fine to medium angular GRAVEL SUB-BASE	
				1.40		Medium dense becoming dense brown sandy slightly clayey fine to coarse angular GRAVEL and COBBLE of vesicular igneous rock	
						End of pit at 1.40 m	



Remarks:

Stability:



Trial Pit Log

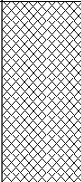
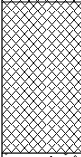
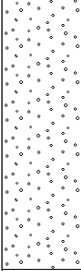
Trialpit No

TP8

Sheet 1 of 1

Project Name: Brodog Lane Project No. 14542 Co-ords: -
 Level: Date 18/01/2018

Location: Fishguard Dimensions (m): Scale 1:25
 Client: Wales and West Housing Association Depth 2.00 Logged RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.60			MADE GROUND: Soft dark brown gravelly CLAY. Fine to medium roots. Rare glass fragment.
				1.10			MADE GROUND: Loose dark grey sandy fine to coarse angular GRAVEL and COBBLE (service run). Slightly hydrocarbon odour.
				2.00			Medium dense becoming dense brown sandy slightly clayey fine to coarse angular GRAVEL and COBBLE of vesicular igneous rock
							----- End of pit at 2.00 m -----



Remarks:

Stability:



Trial Pit Log

Trialpit No




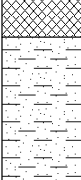
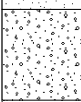
SA1

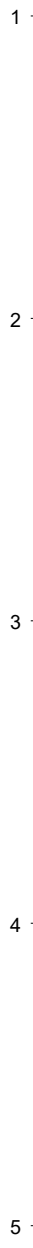
Sheet 1 of 1

Project Name: Brodog Lane Project No. 14542 Co-ords: -
 Level: Date 18/01/2018

Location: Fishguard Dimensions (m): Scale 1:25

Client: Wales and West Housing Association Depth 1.50 Logged RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Soft dark red brown slightly gravelly CLAY. Fine roots.
				0.40			MADE GROUND: Soft orange brown CLAY
				0.70			MADE GROUND: Grey SAND and fine GRAVEL (backfill around drain run)
				1.20			Firm orange brown slightly sandy CLAY
				1.50			Medium dense brown clayey SAND and fine to coarse angular to sub-rounded GRAVEL and COBBLE
							End of pit at 1.50 m



Remarks:

Stability:



Trial Pit Log

Trialpit No



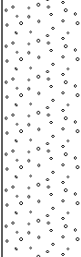
SA2

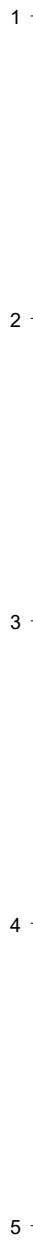
Sheet 1 of 1

Project Name: Brodog Lane Project No. 14542 Co-ords: -
 Level: Date 18/01/2018

Location: Fishguard Dimensions (m): Scale 1:25

Client: Wales and West Housing Association Depth 1.10 Logged RH

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			Asphalt
				0.20			MADE GROUND: Red brown fine to medium angular GRAVEL SUB-BASE
							Medium dense brown sandy slightly clayey fine to coarse angular GRAVEL and COBBLE of vesicular igneous rock
				1.10			End of pit at 1.10 m



Remarks:

Stability:

ANNEX D
Laboratory Soil and Leachate Chemical
Test Results



DETS

Certificate of Analysis

Certificate Number 18-01519-1

31-Jan-18

Client Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Our Reference 18-01519-1

Client Reference 14542RH

Order No 14542RH

Contract Title Fishguard

Description 11 Soil samples, 1 Leachate sample, 2 Misc samples.

Date Received 20-Jan-18

Date Started 20-Jan-18

Date Completed 31-Jan-18

Test Procedures Identified by prefix DETSn (details on request).

Notes This report supersedes 18-01519. Extra testing

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Adam Fenwick
Contracts Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 18-01519-1

Client Ref 14542RH

Contract Title Fishguard

Sample ID	Depth	Lab No	Completed	Matrix Description
TP1	0.1	1286880	29/01/2018	Dark brown very sandy CLAY including some rootlets
SA2	0.5	1286881	29/01/2018	Brown gravelly, very clayey SAND
TP2	0.4	1286882	29/01/2018	Brown gravelly, very clayey SAND including odd rootlets
TP3	0.6	1286883	29/01/2018	Dark brown gravelly, very clayey SAND including odd rootlets
TP5	0.1	1286884	29/01/2018	Dark brown gravelly, very sandy CLAY including odd rootlets
TP6	0.6	1286885	29/01/2018	Dark brown gravelly, very sandy CLAY including odd rootlets
TP7	0.4	1286889	29/01/2018	Brown gravelly, very clayey SAND
TP8	0.3	1286890	29/01/2018	Dark brown gravelly very sandy CLAY including some rootlets

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 18-01519-1

Client Ref 14542RH

Contract Title Fishguard

Lab No	1286880	1286881	1286882	1286883	1286884	1286885	1286888
Sample ID	TP1	SA2	TP2	TP3	TP5	TP6	TP6
Depth	0.10	0.50	0.40	0.60	0.10	0.60	2.00
Other ID							
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	18/01/18	18/01/18	18/01/18	18/01/18	18/01/18	18/01/18	18/01/18
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	10	8.0	7.9	7.1	8.3	20
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	< 0.1	< 0.1	0.2	0.8
Chromium	DETSC 2301#	0.15	mg/kg	25	79	39	27	64	36
Chromium III	DETSC 2301*	0.15	mg/kg	25	79	39	27	64	36
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	44	44	24	24	37	120
Lead	DETSC 2301#	0.3	mg/kg	180	12	35	19	29	290
Mercury	DETSC 2325#	0.05	mg/kg	0.42	< 0.05	0.28	< 0.05	0.57	0.47
Nickel	DETSC 2301#	1	mg/kg	17	17	16	15	21	33
Selenium	DETSC 2301#	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5	< 0.5	0.8
Zinc	DETSC 2301#	1	mg/kg	110	77	78	86	100	440
Inorganics									
pH	DETSC 2008#			6.3	7.7	5.7	6.4	5.8	7.0
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.7	< 0.1	0.6	0.2	0.5	1.0
Organic matter	DETSC 2002#	0.1	%	10	0.5	4.5	1.9	3.4	11
Sulphate as SO ₄ , Total	DETSC 2321#	0.01	%	0.13	0.06	0.07	0.05	0.06	0.09
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg						< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg						< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg						< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg						< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg						< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg						< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg						< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg						< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg						< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg						< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg						< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg						< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg						< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg						3.5
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg						19
Aromatic C5-C35	DETSC 3072*	10	mg/kg						23
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg						23
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.23
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.05



Summary of Chemical Analysis Soil/Misc Samples

Our Ref 18-01519-1
Client Ref 14542RH
Contract Title Fishguard

Lab No	1286880	1286881	1286882	1286883	1286884	1286885	1286888
Sample ID	TP1	SA2	TP2	TP3	TP5	TP6	TP6
Depth	0.10	0.50	0.40	0.60	0.10	0.60	2.00
Other ID							
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	18/01/18	18/01/18	18/01/18	18/01/18	18/01/18	18/01/18	18/01/18
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03	0.05	< 0.03	0.06	0.63
Pyrene	DETSC 3303#	0.03	mg/kg	0.06	< 0.03	0.03	< 0.03	0.05	0.53
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03	< 0.03	< 0.03	< 0.03	0.26
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.33
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.31
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.12
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.14
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.09
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.09
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.18	< 0.10	< 0.10	< 0.10	0.10	2.8
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	1.3	< 0.3	0.4	< 0.3	< 0.3	0.5

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 18-01519-1

Client Ref 14542RH

Contract Title Fishguard

Lab No	1286889	1286890	1286891	1286892
Sample ID	TP7	TP8	TP8	TP8
Depth	0.40	0.30	1.00	1.50
Other ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	18/01/18	18/01/18	18/01/18	18/01/18
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	6.0	13		
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.2		
Chromium	DETSC 2301#	0.15	mg/kg	76	47		
Chromium III	DETSC 2301*	0.15	mg/kg	76	47		
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0		
Copper	DETSC 2301#	0.2	mg/kg	35	40		
Lead	DETSC 2301#	0.3	mg/kg	10	74		
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.19		
Nickel	DETSC 2301#	1	mg/kg	16	22		
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5		
Zinc	DETSC 2301#	1	mg/kg	72	110		
Inorganics							
pH	DETSC 2008#			8.0	6.7		
Cyanide, Total	DETSC 2130#	0.1	mg/kg	< 0.1	0.5		
Organic matter	DETSC 2002#	0.1	%	0.4	6.9		
Sulphate as SO ₄ , Total	DETSC 2321#	0.01	%	0.02	0.08		
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		2.7	6.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		19	64	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		30	81	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		15	32	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		67	180	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		6.2	22	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		15	39	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		5.9	17	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg		27	79	< 10
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg		94	260	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04		
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		



Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 18-01519-1
 Client Ref 14542RH
 Contract Title Fishguard

Lab No	1286889	1286890	1286891	1286892
Sample ID	TP7	TP8	TP8	TP8
Depth	0.40	0.30	1.00	1.50
Other ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	18/01/18	18/01/18	18/01/18	18/01/18
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	0.11		
Pyrene	DETSC 3303#	0.03	mg/kg	0.03	0.10		
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05		
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.05		
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07		
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	0.42		
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.5		

Summary of Chemical Analysis

Leachate Samples

Our Ref 18-01519-1
 Client Ref 14542RH
 Contract Title Fishguard

Lab No	1290383
Sample ID	TP6
Depth	0.60
Other ID	
Sample Type	LEACHATE
Sampling Date	18/01/18
Sampling Time	n/s

Test	Method	LOD	Units
Preparation			
NRA Leachate Preparation	DETS 036*		Y
Metals			
Lead, Dissolved	DETSC 2306	0.09	ug/l 1.3

Summary of Asbestos Analysis

Soil Samples

Our Ref 18-01519-1

Client Ref 14542RH

Contract Title Fishguard

Lab No	Sample ID	Sample Location	Material Type*	Result	Comment*	Analyst
1286880	TP1 0.10		SOIL	NAD	none	Michael Kay
1286883	TP3 0.60		SOIL	NAD	none	Michael Kay
1286885	TP6 0.60		SOIL	NAD	none	Michael Kay
1286886	TP6 0.60		Cement	Chrysotile	none	Michael Kay
1286887	TP6 1.30		Board	NAD	none	Michael Kay
1286888	TP6 2.00		SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 18-01519-1
 Client Ref 14542RH
 Contract Fishguard

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1286880	TP1 0.10 SOIL	18/01/18	GJ 250ml, PT 1L		
1286881	SA2 0.50 SOIL	18/01/18	GJ 250ml, PT 1L		
1286882	TP2 0.40 SOIL	18/01/18	GJ 250ml, PT 1L		
1286883	TP3 0.60 SOIL	18/01/18	GJ 250ml, PT 1L		
1286884	TP5 0.10 SOIL	18/01/18	GJ 250ml, PT 1L		
1286885	TP6 0.60 SOIL	18/01/18	GJ 250ml x2, PT 1L		
1286886	TP6 0.60 MISC	18/01/18	PT 1L		
1286887	TP6 1.30 MISC	18/01/18	PT 1L		
1286888	TP6 2.00 SOIL	18/01/18	PT 1L		Aliphatics/Aromatics, BTEX
1286889	TP7 0.40 SOIL	18/01/18	GJ 250ml, PT 1L		
1286890	TP8 0.30 SOIL	18/01/18	GJ 250ml x2, PT 1L		
1286891	TP8 1.00 SOIL	18/01/18	GJ 250ml		
1286892	TP8 1.50 SOIL	18/01/18	GJ 250ml		
1290383	TP6 0.60 LEACHATE	18/01/18	GJ 250ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

ANNEX E
Plasticity Test Results



Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 37958

Client Ref: **144542RH**

Report Date: **30-01-2018**

Client PO: **14542**

Client **Terrafirma Wales Ltd**
5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HB

Contract Title: **Fishguard**
For the attention of: **Ruth Howells**

Date Received: **22-01-2018**
Date Commenced: **22-01-2018**
Date Completed: **30-01-2018**

Test Description	Qty
Moisture Content BS 1377 : Part 2 : 3.2 - * UKAS	1
4 Point Liquid & Plastic Limit (LL/PL) BS 1377 Part 2 : 4.3 & 5.3 - * UKAS	1
Disposal of Samples on Project	1

Notes: Observations and Interpretations are outside the UKAS Accreditation
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

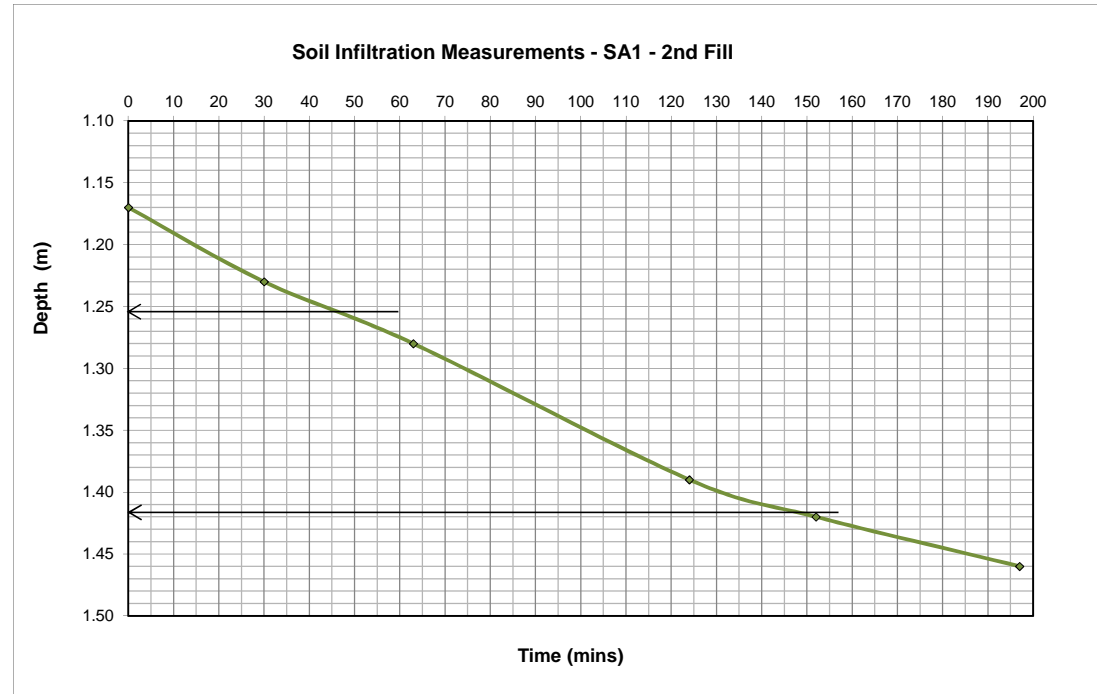
Alex Wynn (Associate Director) - Ben Sharp (Contracts Manager) - Emma Sharp (Office Manager)
Paul Evans (Quality/Technical Manager) - Richard John (Advanced Testing Manager) - Sean Penn (Administrative Assistant)
Vaughan Edwards (Managing Director) - Wayne Honey (Administrative/Quality Assistant)

ANNEX F
Soakaway Test Results

Site Name: Fishguard
 Number: 14542
 Date Undertaken: 18.01.2018
 Test No.: SA1 - 2nd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	1.17	0
	1.23	30
	1.28	63
	1.39	124
	1.42	152
(effective depth - 0%)	1.46	197

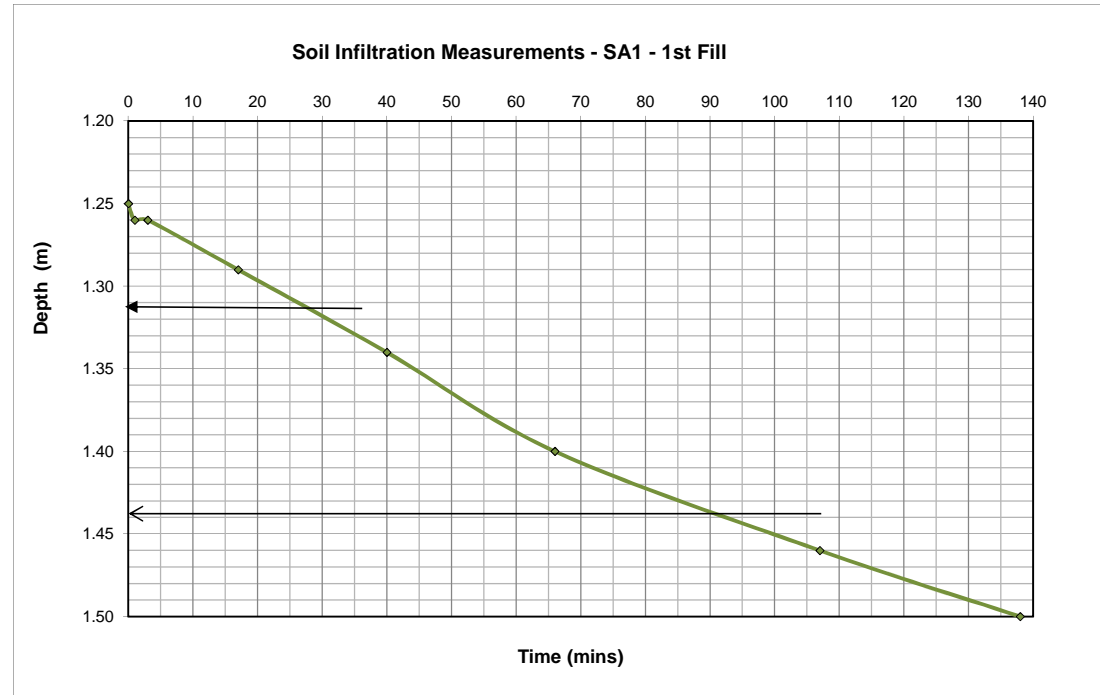
Length of Trial Pit (m)	1.70	
Width of Trial Pit (m)	0.50	
Depth of Trial Pit (m)	1.50	
Effective Storage Depth (m)	0.33	
Vp25	1.2525	
Vp75	1.4175	
Vp75-25	0.140	
Outflow (%)	88	
50% effective depth (m)	0.165	
Mean Surface area ap50 (m2)	1.576	
Time for 25% Outflow (tp25)	45	From Graph
Time for 75% Outflow (tp75)	143	From Graph
tp75 - 25	98	
Soil Infiltration Rate (m/s)	1.51345E-05	



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365- September 1991'
 This worksheet can be used to determine soil infiltration rates from trial pit field measurements
 Worksheet options are identified by a green background

Site Name: Fishguard
 Number: 14542
 Date Undertaken: 18.01.2018
 Test No.: SA1- 1st Fill

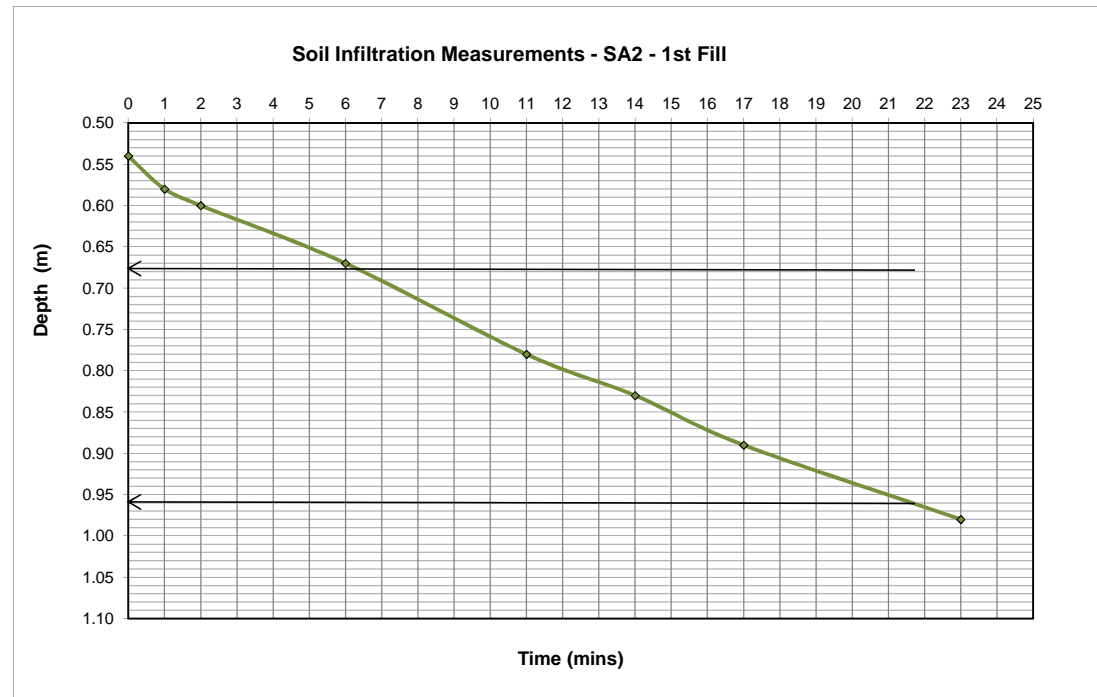
	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	1.25	0
	1.26	1
	1.26	3
	1.29	17
	1.34	40
	1.40	66
	1.46	107
(effective depth - 0%)	1.50	138
Length of Trial Pit (m)	1.70	
Width of Trial Pit (m)	0.50	
Depth of Trial Pit (m)	1.50	
Effective Storage Depth (m)	0.25	
Vp25	1.3125	
Vp75	1.4375	
Vp75-25	0.106	
Outflow (%)	100	
50% effective depth (m)	0.125	
Mean Surface area ap50 (m2)	1.400	
Time for 25% Outflow (tp25)	27	From Graph
Time for 75% Outflow (tp75)	92	From Graph
tp75 - 25	65	
Soil Infiltration Rate (m/s)	1.94597E-05	



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365- September 1991'
 This worksheet can be used to determine soil infiltration rates from trial pit field measurements
 Worksheet options are identified by a green background

Site Name: Fishguard
 Number: 14542
 Date Undertaken: 18.01.2018
 Test No.: SA2 - 1st Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.54	0
	0.58	1
	0.60	2
	0.67	6
	0.78	11
	0.83	14
	0.89	17
(effective depth - 0%)	0.98	23
Length of Trial Pit (m)	1.50	
Width of Trial Pit (m)	0.50	
Depth of Trial Pit (m)	1.10	
Effective Storage Depth (m)	0.56	
Vp25	0.6800	
Vp75	0.9600	
Vp75-25	0.210	
Outflow (%)	79	
50% effective depth (m)	0.280	
Mean Surface area ap50 (m2)	1.870	
Time for 25% Outflow (tp25)	6.5	From Graph
Time for 75% Outflow (tp75)	21.5	From Graph
tp75 - 25	15	
Soil Infiltration Rate (m/s)	0.000124777	



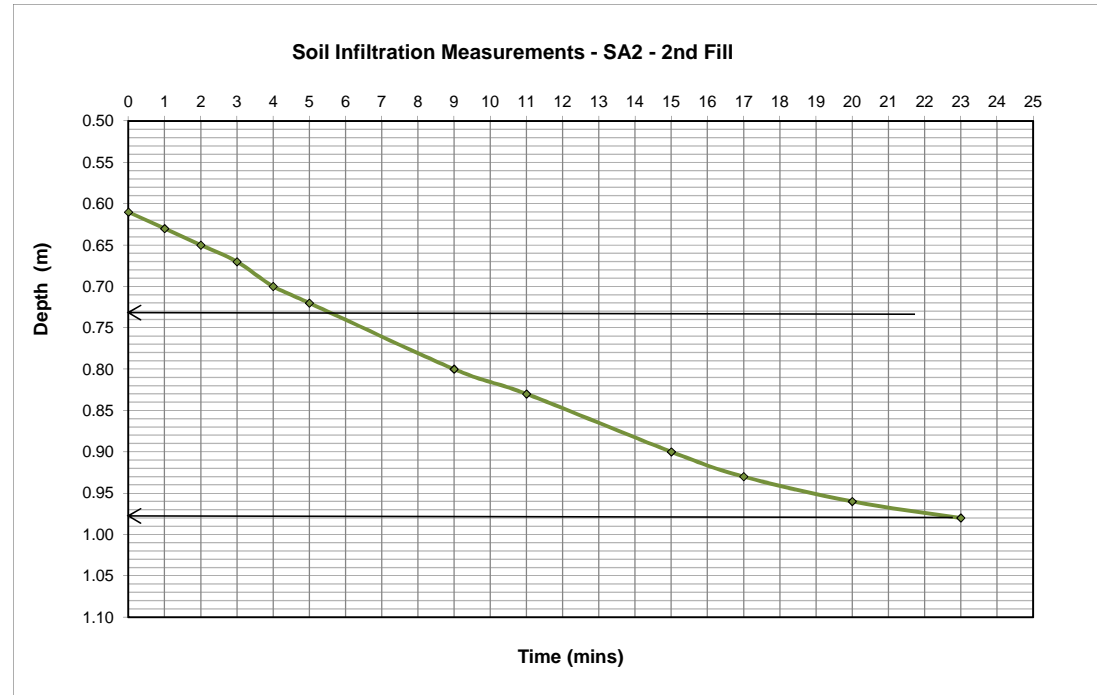
Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365- September 1991'
 This worksheet can be used to determine soil infiltration rates from trial pit field measurements
 Worksheet options are identified by a green background

Site Name: Fishguard
 Number: 14542
 Date Undertaken: 18.01.2018
 Test No.: SA2 - 2nd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.61	0
	0.63	1
	0.65	2
	0.67	3
	0.70	4
	0.72	5
	0.80	9
	0.83	11
	0.90	15
	0.93	17
	0.96	20
(effective depth - 0%)	0.98	23

Length of Trial Pit (m)	1.50
Width of Trial Pit (m)	0.50
Depth of Trial Pit (m)	1.10
Effective Storage Depth (m)	0.49
Vp25	0.7325
Vp75	0.9775
Vp75-25	0.184
Outflow (%)	76
50% effective depth (m)	0.245
Mean Surface area ap50 (m2)	1.730

Time for 25% Outflow (tp25)	5.5	From Graph
Time for 75% Outflow (tp75)	22.5	From Graph
tp75 - 25	17	
Soil Infiltration Rate (m/s)	0.000104131	



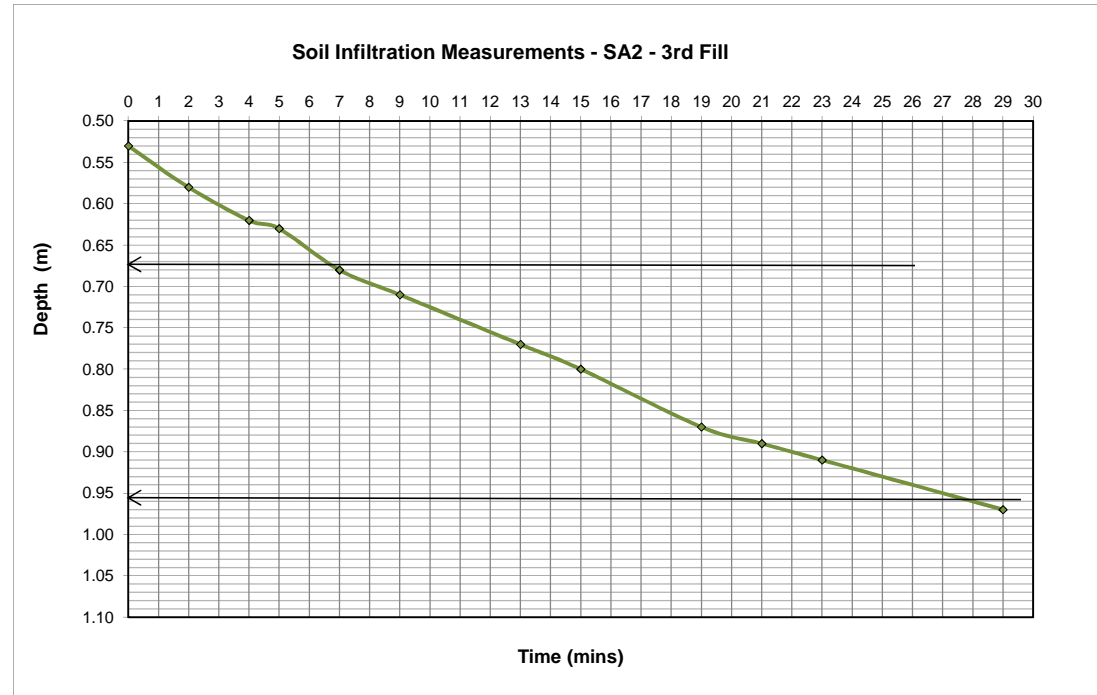
Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365- September 1991'
 This worksheet can be used to determine soil infiltration rates from trial pit field measurements
 Worksheet options are identified by a green background

Site Name: Fishguard
 Number: 14542
 Date Undertaken: 18.01.2018
 Test No.: SA2 - 3rd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.53	0
	0.58	2
	0.62	4
	0.63	5
	0.68	7
	0.71	9
	0.77	13
	0.80	15
	0.87	19
	0.89	21
	0.91	23
(effective depth - 0%)	0.97	29

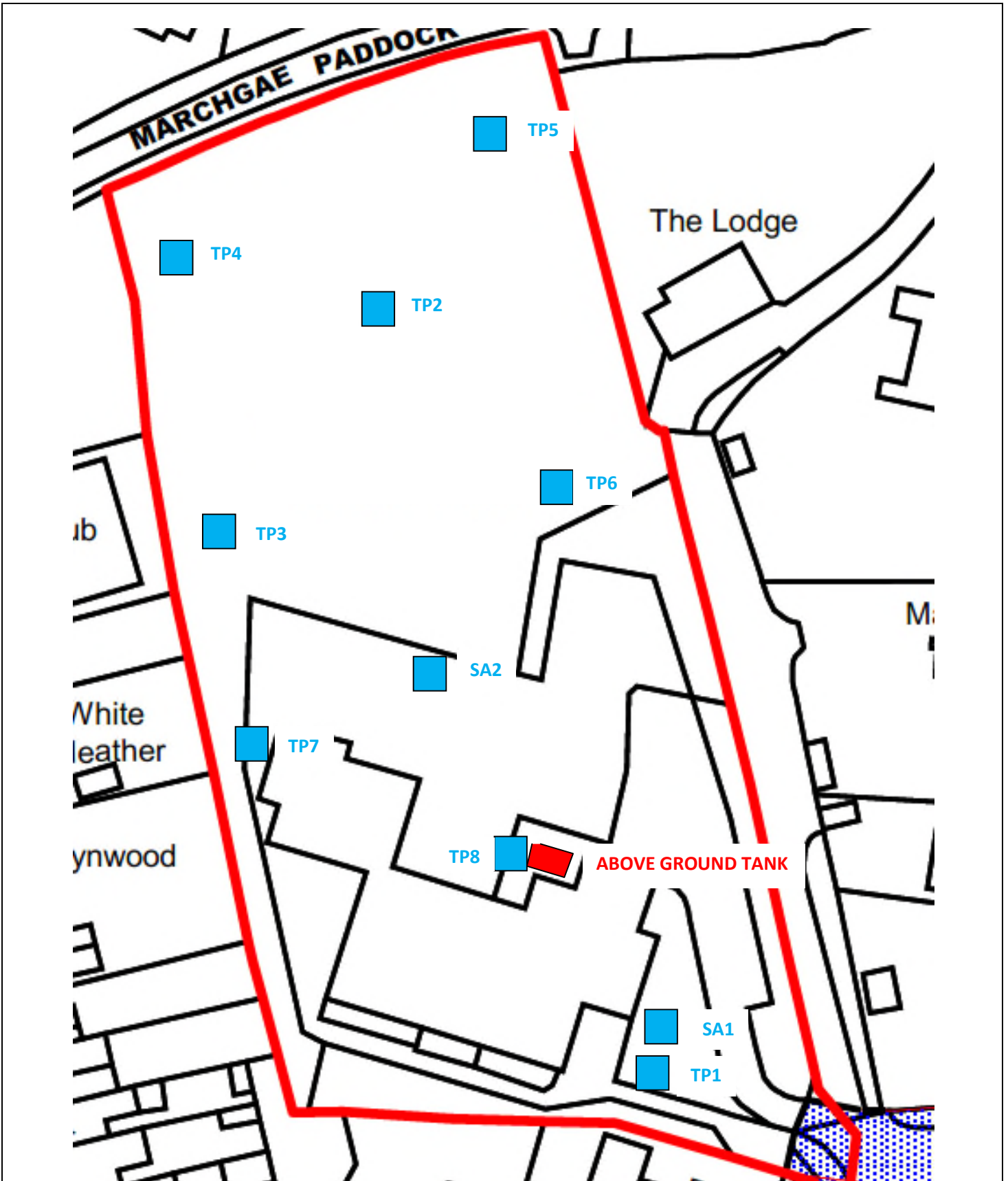
Length of Trial Pit (m)	1.50
Width of Trial Pit (m)	0.50
Depth of Trial Pit (m)	1.10
Effective Storage Depth (m)	0.57
Vp25	0.6725
Vp75	0.9575
Vp75-25	0.214
Outflow (%)	77
50% effective depth (m)	0.285
Mean Surface area ap50 (m2)	1.890


Time for 25% Outflow (tp25)	6.75	From Graph
Time for 75% Outflow (tp75)	27.5	From Graph
tp75 - 25	20.75	
Soil Infiltration Rate (m/s)	9.08395E-05	



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365- September 1991'
 This worksheet can be used to determine soil infiltration rates from trial pit field measurements
 Worksheet options are identified by a green background

DRAWINGS



Drawing Number 01	Drawing Title SITE LAYOUT	Job Number 14542	Job Title FISHGUARD	
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