

PHASE 1 SITE INVESTIGATION & PRELIMINARY RISK ASSESSMENT

Lidl Great Britain Ltd
Aberystwyth Road, Cardigan

Client: Lidl Great Britain Ltd

Remada

www.remada.co.uk

941.01.01
January 2022



Executive Summary

Remada Ltd was commissioned by Lidl Great Britain Ltd ('the client') to undertake a Phase 1 Geoenvironmental Site Investigation for the proposed purchase of the site in Aberystwyth Road, Cardigan, Ceredigion. The objectives of this assessment were to present a preliminary conceptual site model to identify plausible pollutant linkages as a preliminary risk assessment and to provide recommendations for subsequent investigation work.

The existing site is to be purchased as an investment in the short term to be developed for commercial use in the future.

Site Setting

The existing site is occupied by a B&M store and garden centre and its associated car park. The site occupies a roughly rectangular plot of land to the north of the B4548/ Aberystwyth Road as indicated in **Figure 2**. The existing store's footprint is rectangular and is in the north of the site, to the west of the store there is a separate fenced off area for the garden centre which occupies the north-west and south-west sections of the site. The remainder of the site area forms the store's associated car park and soft landscaping.

Site History

The earliest available historical map dated 1888 records a small building and a water works within the site boundary. By 1965 a garage was constructed in the eastern zone of site and by 1980 a depot was constructed in the western zone. It is understood that the existing retail unit was constructed in 2007 as a Focus DIY and subsequently became occupied as B&M store in 2016.

The historical developments and redevelopments provide a legacy of potential soil and groundwater contamination.

Geology / Hydrogeology

Published geological maps record that the site is underlain by Devensian Till (Irish sea ice), a Secondary (Undifferentiated) Aquifer and the Dinas Island Formation, designated as a Secondary (B) Aquifer.

Recommendations

Environmental

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- Investigation of the lateral and vertical extent of made ground/fill beneath the proposed store extension;
- Collection of soil and groundwater samples from the areas identified above for contaminants of concern; and
- Ground gas monitoring.

Geotechnical

It is recommended that a ground investigation is undertaken to enable preliminary foundation design.



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Issue No	Date	Prepared By	Technical Review	Authorised
01	02-02-2022	C Whitehead	G Jones 	G Jones 



1. INTRODUCTION

Remada Ltd was commissioned by Lidl Great Britain Ltd ('the client') to undertake a Phase 1 Preliminary Risk Assessment for a the proposed purchase of the site in Aberystwyth Road, Cardigan, Ceredigion SA43 1NA at the location indicated in **Figure 1**.

1.1. Objectives

The objectives of this assessment are as follows:

- to develop a preliminary conceptual model of the site to identify plausible pollutant linkages; and
- to provide recommendations for subsequent investigation work.

1.2. Scope of Work

The scope of work comprised a:

- review of local geological, hydrogeological, ground stability, and environmental data and historical mapping pertaining to the site and surrounding area; and
- identification of potential sources, pathways, and receptors, and development of a preliminary conceptual site model.

The scope of work did not include a site reconnaissance visit.

1.3. Previous Reports

The following document was provided by the client for review:

Technical Due Diligence Report B&M, Aberystwyth Road, Cardigan, SA43 1NA March 2018, GVA.

1.4. Limitations

The comments given in this report and the opinions expressed are based on the information reviewed and observations during site work. However, there may be conditions pertaining to the site that have not been disclosed by this assessment and therefore could not be taken into account.



2. DESK STUDY

2.1. Description of Site

Site Description The existing site is occupied by a B&M store and garden centre and its associated car park. The site occupies a roughly rectangular plot of land to the north of the B4548/ Aberystwyth Road as indicated in **Figure 2**. The existing store's footprint is rectangular and is in the north of the site, to the west of the store there is a separate fenced off area for the garden centre which occupies the north-west and south-west sections of the site. The remainder of the site area forms the store's associated car park and soft landscaping.

The existing car park is formed from level bituminous surfacing with a kerb edge.

Area of Site 7500 m².

Site Elevation The topographic elevation of the site is 44m aOD (metres above ordnance datum).

National Grid Co-ordinates 218790, (E), 246840 (N)

2.2. Site Setting

The site is situated in a mixed commercial and residential area.

North: To the north of the site are detached and semi-detached residential properties

East: To the east are semi-detached and detached properties and beyond this is undeveloped agricultural land.

South: To the south of the site is Aberystwyth Road and beyond this is a Tesco store with associated car park and petrol filling station.

West: To the west of the site is a garden centre and beyond this is detached and semi-detached residential housing.

2.3. Site History

A summary of the historical land use of the site and surrounding area follows.

Map Date	Description of on-site activities
1888	The majority of the site was an undeveloped field which extended to the north, the east and west of the subject site area. In the south-east of the site there was a reservoir which has been labelled as (Cardigan Water Works). The southern boundary of the site was formed by an unnamed road which follows roughly the same alignment as the modern Aberystwyth Road and New Mill Road. At the western boundary there was a small (unlabelled) rectangular building.
1906	The Cardigan Water Works are now labelled as 'Cardigan Corporation Water Works'.
1938	Similar to above
1953	Similar to above



1965	The site now contains a rectangular building roughly in the centre which has been labelled as 'Garage'. In addition to this there are now two access roads in the south of the site connecting to, the now named, Aberystwyth Road. Furthermore, there are several smaller objects and building listed on the map associated with the garage. The reservoir in the east of the site is now labelled as 'Tank'. The small building in the west of the site is no longer shown. The western zone of the site remains undeveloped.
1977	The original garage structure appears to have been reconstructed or extended to the north and south, with the northern boundary of the site now partly consisting of the northern wall of the garage. The tank has now been relabelled as 'Reservoir (covered)'
1980	In the western zone of the site, which was previously undeveloped now contained an irregular shaped building which has been labelled as 'depot', to the south of this depot there is an access road to Aberystwyth Road.
1989	Similar to above
1991	Similar to above
1994	Similar to above
1995	Similar to above. There appears to be a canopy of the garage forecourt area.
2000	Similar to above
2022	The site as it appears today. The garage, reservoir and depot are no longer shown on the map and the building which contains the B&M store is present in the central zone.

Map Date	Description of off-site activities
1888	Immediately to the south of the site boundary there was a north-east to south-west orientated road of similar alignment to the present day Aberystwyth Road and New Mill Road. To the north, east, west and south beyond the road there were undeveloped, agricultural fields. Circa 20m to the north-west there was a small rectangular building located in the field with a small section of fenced off fields to its south.
1906	Similar to above
1938	To the south-west circa 50m there is a small unlabelled building which is located within an undeveloped field, adjacent to Aberystwyth Road. To the west circa 50m is a rectangular unlabelled building located in the adjacent field to the site, beyond this at circa 100m there is a similar building located in another agricultural field.
1953	The small building to the north-west of the site has been replaced by a larger building and several smaller outbuildings, none which are labelled on the maps. The building located to the south-west has been replaced by a slightly larger building which is also unlabelled.



1965	Six detached residential properties now exist fronting on to Aberystwyth Road 10-100m from the site. Buildings located to the north-west of the site are now incorporated into Brondesbury Park.
1977	To the south-west of the site circa 30m is a ring of stones labelled as 'Gorsedd Circle'. To the north-west circa 100m are a series of detached properties with associated gardens/yards which front onto Heol Helyg and Heol Derw.
1980	To the north of the site there is a housing development which has extended Heol Derw as well as two new roads called Heol Gollen (located circa 30m to the north of the site) and Heol-y-Wern which is circa 50m to the north-east, the development consists of detached and semi-detached residential properties with associated gardens/yards.
1989	Similar to above
1991	Heol-y-Wern has been extended southwards and to the east of the site, Additionally, the A487 now passes in a north-east to south-west direction circa 90m to the south of the site. Aberystwyth Road has been adapted by having a junction with the A487 being constructed.
1994	The eastern section of Aberystwyth Road after the junction onto the A487 is now labelled as 'Heol Felin Newydd/ New Mill Road'
1995	The detached properties to the south of the site have now been demolished and have been replaced by a large irregular shaped building with an access road to Aberystwyth Road and a large car park.
2000	Similar to above
2022	Similar to above

2.4. Proposed Site Use

It is understood that the site is to be purchased as a retail/commercial investment.

2.5. Environmental Setting

2.5.1. Made Ground and Superficial Geology

The British Geological Survey (BGS) 1:50,000 scale map Sheet 193 & Pt 210 (Cardigan and Dinas Island) does not made ground at the site. However, taking into consideration the site's historical and current uses and satellite imagery it is likely that made ground maybe encountered underlying the site.

Superficial deposits underlying the site are indicated to comprise Devensian Till (Irish Sea ice). The BGS describe Till as typically comprising 'unsorted and unstratified drift, generally overconsolidated, deposited directly by and underneath a glacier without subsequent reworking by water from the glacier. It consists of a heterogenous mixture of clay, sand, gravel, and boulders varying widely in size and shape (diamicton) '.

The superficial deposits are designated as secondary (undifferentiated) Strata (ref Envirocheck **Appendix B**).

2.5.2. Bedrock Geology

Bedrock directly underlying the site is formed of the Dinas Island Formation separated from the Nantmel Mudstones Formation by two broadly parallel fault lines situated a short distance the north and south of the



site. The BGS describes the Dinas Island Formation as 'Mudstone and sandstone. Stratified bedrock. Occurs onshore. Deposited during the Caradoc Series (Ordovician Period) (458.4-449 Ma BP)'.

It is designated as a Secondary (B) Aquifer (ref Envirocheck **Appendix B**).

2.5.3. Historical BGS Borehole Records

There are three historical BGS borehole records within a relevant distance of the site.

Within Foundation Engineering Ltd's Cardigan By-pass Borehole No. 5 (BGS ID: 253180) located circa 100m to the east of the site boundary in 1972 found made ground to a depth of 0.3m bgl which was followed by firm to stiff brown grey sandy silty clay with decayed vegetation and occasional boulders to a depth of 3m bgl where the trial pit was ended.

Within Foundation Engineering Ltd's Cardigan By-pass Borehole No. 15 BGS ID:(253194) located circa 100m to the south of the site silty topsoil was found to depth of 0.15m bgl which was followed by firm to stiff sandy gravelly clay to a depth of 3m bgl. This was underlain by stiff silty clay with gravel to a depth of 10.45m bgl.

Within Foundation Engineering Ltd's Cardigan By-pass borehole No. 21 (BGS ID: 253200) located circa 150m to the south of the site stiff brown mottled silty occasionally sandy clay was found to a depth of 3m bgl which was underlain by firm to stiff brown occasionally silty sandy clay with traces of small stones to a depth of 10m bgl

2.5.4. Groundwater Abstractions

There are no groundwater abstraction points within the search area (ref Envirocheck **Appendix B**).

2.5.5. Source Protection Zones

The site is not located within a Groundwater Source Protection Zone (ref Envirocheck **Appendix B**).

2.5.6. Surface Water Features and Abstractions

The nearest surface water feature is located 88m to the east of the site boundary (ref Envirocheck **Appendix B**).

2.5.7. Flooding Vulnerability

The site is located in an area with the limited potential for groundwater flooding to occur at the surface and there are no recorded surface water flood zones within the search area (ref Envirocheck **Appendix B**).

2.5.8. Ground Stability

The Envirocheck Report (**Appendix B**) provides the following information regarding ground stability and mining.

Shrinking / Swelling of Clay	The site is within an area of very low hazard from shrinking or swelling of clays. An area of low hazard exists 149m to the south of the site.
Rock Solubility	There is a no hazard rating from rock solubility at the site.
Compressible Ground	There is a very no hazard rating from compressible ground. 150m to the south of the site there is an area of moderate hazard
Collapsible Deposits	There is a very low hazard rating from collapsible rocks.
Running Sand	There is a very low hazard rating for running sands.



2.5.9. Radon

The property is in a Higher Probability Radon Area (10 to 30% of homes are estimated to be at or above the Action Level). Full radon protective measures are necessary in the construction of new dwellings or extensions (ref Envirocheck **Appendix B**).

2.5.10. Environmentally Sensitive Site Designations

The nearest environmentally sensitive zone is 428m to the north-west and is an ancient woodland (ref Envirocheck **Appendix B**).

2.6. Industrial Land Use

There are three (3 No.) contemporary trade directory entries locations within the site boundaries, all of which are labelled as inactive. The first is listed as Electrical Goods Sales, manufacturers and Wholesalers located in the north of the site. Another located within the site is for Car Dealers in the north of the site. The other is for a petrol filling station (PFS) located within the site area. (ref Envirocheck **Appendix B**). Envirocheck report **Appendix B** Reference No 17 relates to a Tesco PFS which would appear to be erroneous as online aerial imagery and mapping indicates that the Tesco PFS is situated to the south of Aberystwyth Road and within Tesco's land area. Reference No 141 relates to an inactive car dealers (Lloyd Motors(Nissan)) at the site location.

There are three fuel station entries within 500m of the study site. The nearest is located 72m to the south-west on Aberystwyth Road and is recorded as being open.

2.7. Environmental Permits, Incidents & Registers

There is one permitted process entry within 250m of the study site. This is a Local Authority Pollution Prevention and Control (LAPPC) permit for Tesco Stores Ltd, located within the site boundary and the date it became active is unlisted. This entry appears to be erroneous as Envirocheck **Appendix B** lists both Lloyd Motors and Tesco as reference No 141.

There are no recorded pollution incident entries within 250m of the site. (ref Envirocheck **Appendix B**).

2.8. Landfill & Waste Sites

There are no licensed waste facilities, one registered landfill site, no waste transfer stations and no waste treatment facility within the search area (ref Envirocheck **Appendix B**).



3. REGULATORY CORRESPONDENCE

3.1. Petroleum Officer Correspondence

A request for a petroleum officer's report was on 21st January 2022. The Petroleum Officer provided the responses at **Appendix C** which stated:

'I can confirm that the site was formerly used as a petrol filling station between 1962 and 2006. There were six fuel tanks on site. The site was subject of a planning application in 2005.

Planning Application A050561 - Demolition of existing buildings and erection of a non-retail (Class A1), bulky goods retail warehouse, outdoor garden Centre, Land at Lloyd Motors and WESLEC, Aberystwyth Road, Cardigan.

A condition of planning required the submission of a remediation strategy to be agreed with the local planning authority and a validation certificate to be submitted on completion of the remediation works. I attach for your information a copy of correspondence from the Contaminated Land Officer relating to the remediation of the site; however, unfortunately I have not got a copy of the validation report as indicated. This may well be retained in planning archive.'

3.2. Planning Authority Correspondence

A request for the Validation Report was made to the Local Authority who provided the following response:

'The file you refer to A050561 is a historic file held in archives and as staff are continuing working from home, therefore cannot access the file, and therefore unfortunately cannot fulfil your request at this time'.

The correspondence is presented at **Appendix D**.



4. PRELIMINARY RISK ASSESSMENT

4.1. Introduction

A Preliminary Risk Assessment (PRA) has been completed for the site. This PRA identifies the potential sources, pathways, and receptors for the site, in order to assess the potential risks posed by identified potential sources to human health and / or controlled waters receptors. When required, the viability of the Source-Pathway-Receptor pollutant linkage must be evaluated further to determine whether an actual risk is present.

4.2. Potential Sources

On-site Historical

- Water Works
 - Covered reservoir
 - tank
- Garage / Petrol Filling Station
- Depot

On-site Current

- Operation B&M store and car parking

Off-site Historical

- Residential land use
- Residential land use

Off-site Current

- Petrol filling station

4.3. Potential Contaminants of Concern (PCOCs)

- Metals
- Asbestos (associated with demolition and redevelopment of the existing site).
- Total petroleum hydrocarbons (TPH)
- Polycyclic aromatic hydrocarbons (PAH).
- BTEX/MTBE
- Degreasing solvents
- Ground gases (carbon dioxide and methane)

4.4. Potential Receptors

Human Health

- On-site B&M store staff.
- Construction workers.
- On-site general public and visiting staff (such as contractors, including those conducting excavation works).
- Neighbouring residents

Controlled Waters

- Secondary (Undifferentiated) Aquifer in Superficial Deposits



- Secondary (B) Aquifer in bedrock.

4.5. Preliminary Conceptual Model

The Preliminary Conceptual Site Model of the site has been prepared and illustrates the potentially active pollutant linkages. A pollutant linkage is present only when a source, pathway and receptor exist together.

- A **source** is a substance that has potential to cause harm or adversely affect human health, water resources or the wider environment.
- A **pathway** is the route or means by which a source of contamination can migrate resulting in exposure to a receptor.
- A **receptor** is something that could be adversely affected by a contaminant such as human health, an ecological system, animals or crops, buildings or controlled waters.

The Preliminary Conceptual Site Model is presented in **Table 1** below.



Potential Source Areas	Potential Contaminant of Concern	Pathways	Potential Receptor	Exposure Route (Human unless otherwise stated)	Potential Identified Linkage (unmitigated)	Findings of Ground investigation	Risk (Un-mitigated)	Proposed Remediation (Mitigation) Measures	Residual Risk Estimation
On-site Sources Water Works Covered reservoir tank Garage Depot Operational B&M store and car parking Off-site Sources Petrol filling station	Asbestos / Metals As, Be, Cd, Cu, Cr (VI), Cr (III) Hg, Ni, Se, Va, Zn, Boron, TPH /PAH / BTEX/ MTBE / VOCs/sVOCs	Disturbance due to construction plant causing direct contact, dusts, vapours. Direct Contact with occupants of the proposed development Inhalation of fibres / vapours / gases by occupants of proposed development Permeation of water supply pipework Leachate	Occupants of the development / building fabric Adjacent residents during construction Secondary (undifferentiated) Aquifer & secondary (B) aquifer	Direct Soil Ingestion	Yes	To be assessed (TBA)	Potential risk	(To be assessed (TBA)	(To be assessed (TBA)
				Indoor Dust ingestion	Yes	As above	Potential risk	TBA	TBA
				Skin Contact with Soils	Yes	As above	Potential risk	TBA	TBA
				Skin Contact with Dust	Yes	As above	Potential risk	TBA	TBA
				Inhalation of Outdoor Dust	Yes	As above	Potential risk	TBA	TBA
				Inhalation of Outdoor Vapours	Yes	As above	Potential risk	TBA	TBA
				Inhalation of Indoor Vapours	Yes	As above	Potential risk	TBA	TBA
				Inhalation of ground gas	Yes	As above	Potential risk	TBA	TBA
				Inhalation of radon gas	Yes	N/A	Higher probability radon area	Full radon protective measures are necessary	Negligible
				Ingestion via permeated water supply pipework	Yes	As above	Potential risk	TBA	TBA
				Direct contact with Secondary (undifferentiated) Aquifer in Superficial Deposits	Yes	As above	Potential risk	TBA	TBA
				In-direct contact with Secondary (B) Aquifer in bedrock	Yes	As above	Potential risk	TBA	TBA

Table 1: Preliminary Conceptual Site Model

Direct contact with subsurface soil and/or groundwater during redevelopment works are not assessed as part of the CSM. It is considered that risks to workers will be managed as part of any the redevelopment works at the site through the application of health and safety procedures, where required.



5. CONCLUSIONS & RECOMMENDATIONS

5.1. Conclusions

It is understood that the site is to be purchased as a retail/commercial investment.

The earliest available historical map dated 1888 records a small building and a water works within the site boundary. By 1965 a garage was constructed in the eastern zone of site and by 1980 a depot was constructed in the western zone. It is understood that the existing retail unit was constructed in 2007 as a Focus DIY and subsequently became occupied as B&M store in 2016.

The historical developments and redevelopments provide a legacy of potential soil and groundwater contamination.

Published geological maps record that the site is underlain by Devensian Till, a Secondary (Undifferentiated) Aquifer Dinas Sand Formation designated as a Secondary (B) Aquifer.

5.2. Recommendations

Environmental

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- Investigation of the lateral and vertical extent of made ground/fill beneath the proposed store extension;
- Collection of soil and groundwater samples from the areas identified above for contaminants of concern; and
- Ground gas monitoring.

Geotechnical

It is recommended that a ground investigation is undertaken to enable preliminary foundation design.



REFERENCES & GUIDANCE

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STUDY LIMITATIONS

IMPORTANT. This section should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1. This report has been prepared by Remada, Ltd with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with (the 'Client'). Remada does not accept responsibility for any matters outside the agreed scope.

2. This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing.

3. Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Remada is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have published, more stringent objectives. Further work may be required by these parties.

4. All work carried out in preparing this report has used, and is based on, Remada's professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice pending changes in legislation, of which Remada is aware, have been considered. Following delivery of the report Remada has no obligation to advise the Client or any other party of such changes or their repercussions.

5. This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report.

6. Whilst this report and the opinions made are to the best of Remada's belief, Remada cannot guarantee the accuracy or completeness of any information provided by third parties.

7. This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have received.

8. This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of changes in the condition of the site since the time of the investigation.

9. The content of this report represents the professional opinion of experienced environmental consultants. Remada does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10. Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the site have not been investigated.

11. If below ground intrusive investigations have been conducted as part of the scope, service tracing for safe location of exploratory holes has been carried out. The location of underground services shown on any drawing in this report has been determined by visual observations and electromagnetic techniques. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on site.

12. Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues.

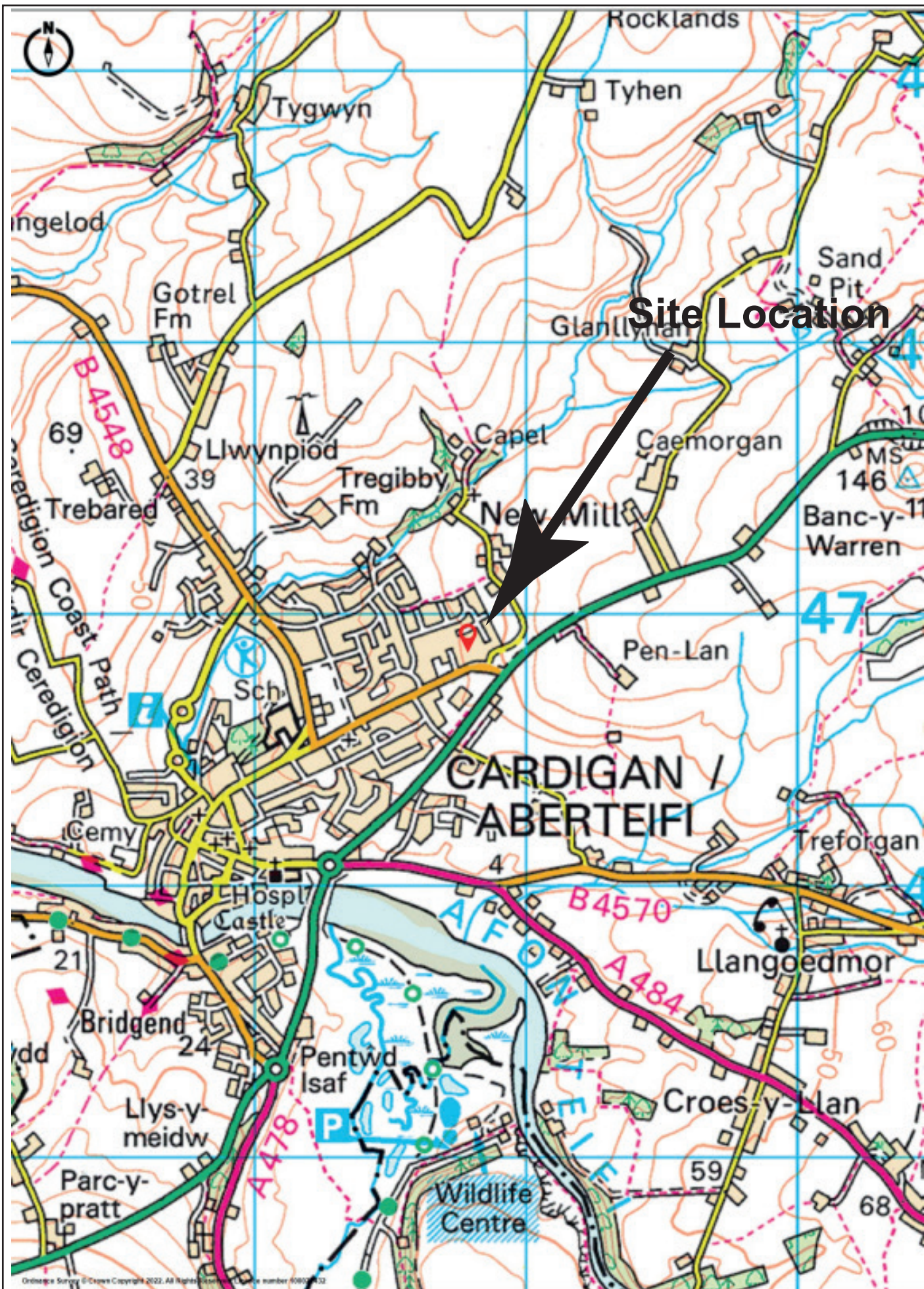
13. Unless otherwise stated, samples from the site (soil, groundwater, building fabric or other samples) have NOT been analysed or assessed for waste classification purposes.



FIGURES

Figure 1 Site Location Plan

Figure 2 Existing Site Layout



Notes	 Ordnance Survey Crown Copyright 2022. All rights reserved. Licence number 100022432. Plotted Scale - 1:25000. Paper Size - A4	Project Title	Scale	Drawn	Size
		Aberystwyth Road, Cardigan	as shown	CW	A4
		Drawing Title	Date	Job No.	Drawing / Rev No.
		Site Location Plan	02.02.22	941	Fig1
Client					
Lidl Great Britain Ltd					



Legend

Notes

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Plotted Scale - 1:1000, Paper Size - A4

Project Title
Farnworth

Drawing Title
Figure 2: Existing Layout

Client
Lidl Great Britain Ltd 

Scale	Drawn	Size
as shown	CW	A4
Date	Job No.	Drawing /Rev No
02.02.22	941.01	01

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APPENDIX A

1:2500 & 1:10000 Scale Historical Mapping

Ordinance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information

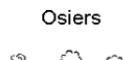
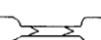
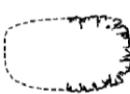







	Quarry		Gravel Pit		Sand Pit
	Clay Pit		Shingle		Refuse Heap
	Sloping Masonry		Flat Rock		
	Marsh		Reeds		Osiers
	Rough Pasture		Furze		Wood
	Mixed Wood		Brushwood		Orchard
	Fir		Ford		Stepping Stones
	Ferry		Waterfall		Lock

Diagram illustrating three types of crossings:

- Railway crossing River or Canal**
- Road over single stream**
- Road over River or Canal**

<i>B.P.B.S.</i>	Boundary Post or Stone	<i>P.C.B.</i>	Police Call Box
<i>B.R.</i>	Bridle Road	<i>P.</i>	Pump
<i>E.P.</i>	Electricity Pylon	<i>S.P.</i>	Signal Post
<i>F.B.</i>	Foot Bridge	<i>Sl.</i>	Sluice
<i>F.P.</i>	Foot Path	<i>Sp.</i>	Spring
<i>G.P.</i>	Guide Post or Board	<i>T.C.B.</i>	Telephone Call Box
<i>M.S.</i>	Mile Stone	<i>Tr.</i>	Trough
<i>M.P.M.R.</i>	Mooring Post or Ring	<i>W.</i>	Well

	or		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)

	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

Slopes		Top	
	Cliff		Rock
	Boulders		Scree
	Positioned Boulder		Non-Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Coniferous Tree (surveyed)
	Orchard Tree		Coniferous Trees (not surveyed)
	Scrub		Bracken
	Coppice, Osier		Reeds
	Marsh, Saltings		Rough Ground
	Heath		Culvert

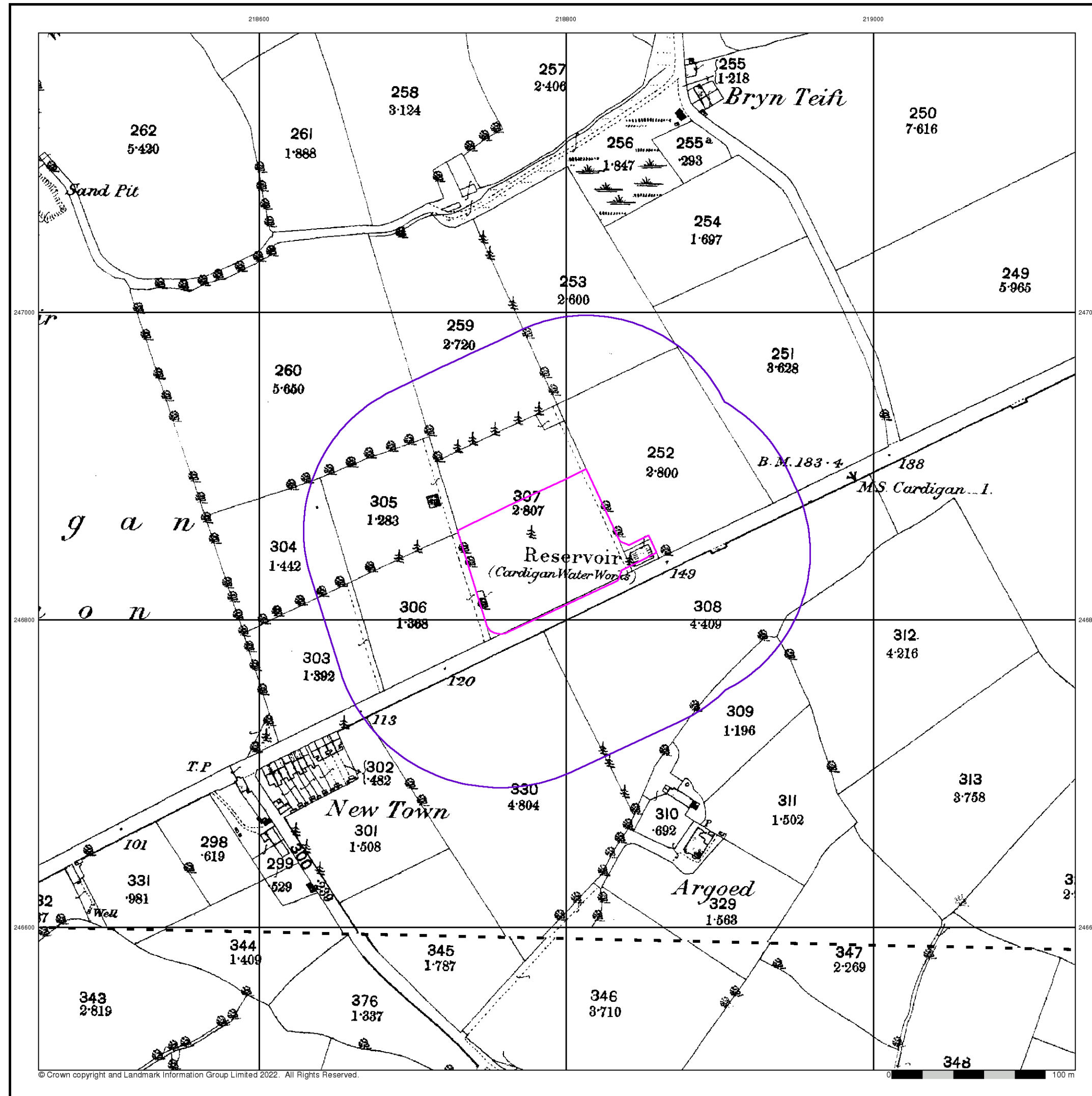
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cem'y	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El 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

Mapping Type	Scale	Date	Pg
Cardiganshire	1:2,500	1888 - 1890	2
Cardiganshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1965 - 1976	4
Ordnance Survey Plan	1:2,500	1977	5
Additional SIMs	1:2,500	1980 - 1992	6
Additional SIMs	1:2,500	1989	7
Additional SIMs	1:2,500	1991	8
Additional SIMs	1:2,500	1994	9
Large-Scale National Grid Data	1:2,500	1995	10



B & M Bargains, Aberystwyth Road, CARDIGAN, SA43 1NA

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



Cardiganshire

Published 1888 - 1890

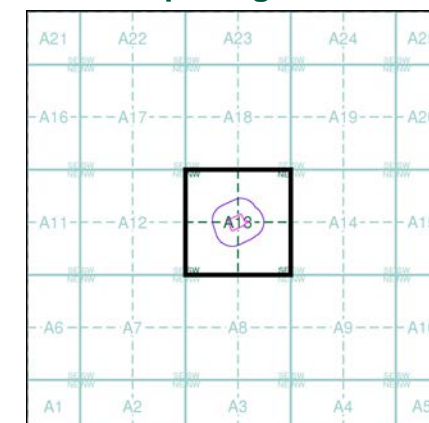
Source map scale - 1:2,500

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)

038_01
1888
1:2,500
038_05
1890
1:2,500

Historical Map - Segment A13



Order Details

Order Number: 290048455_1_1
Customer Ref: 941.01
National Grid Reference: 218790, 246840
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

B & M Bargains, Aberystwyth Road, CARDIGAN, SA43 1NA

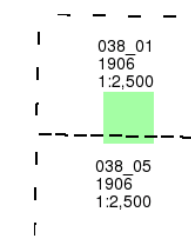
Cardiganshire

Published 1906

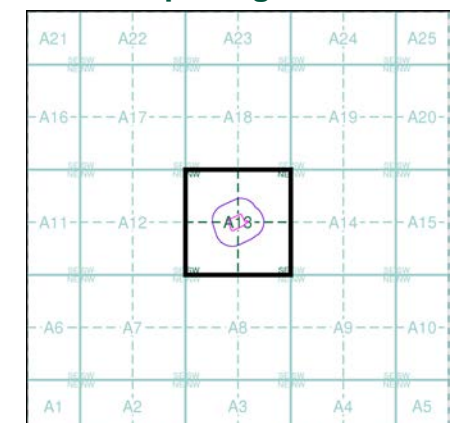
Source map scale - 1:2,500

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

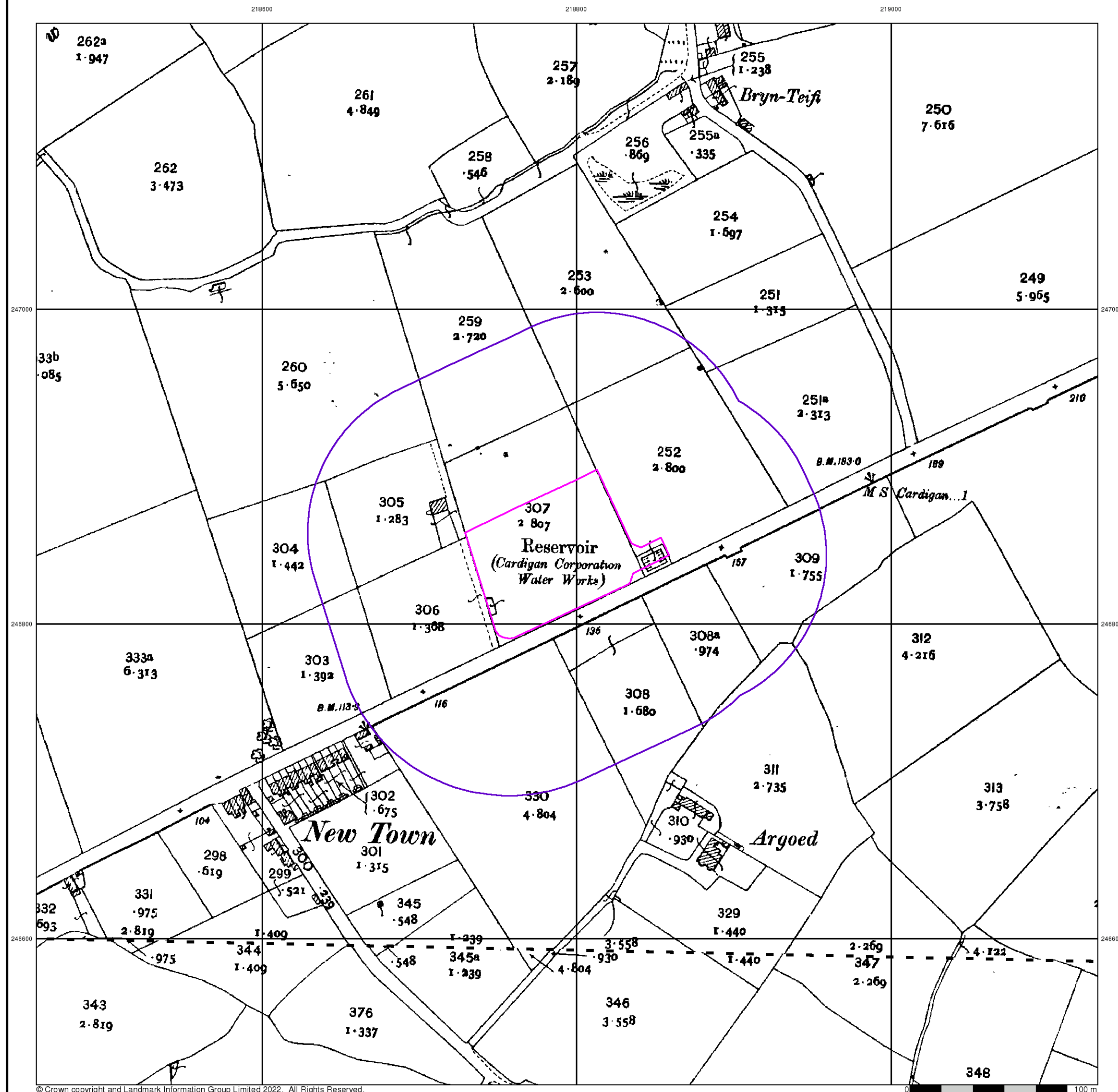


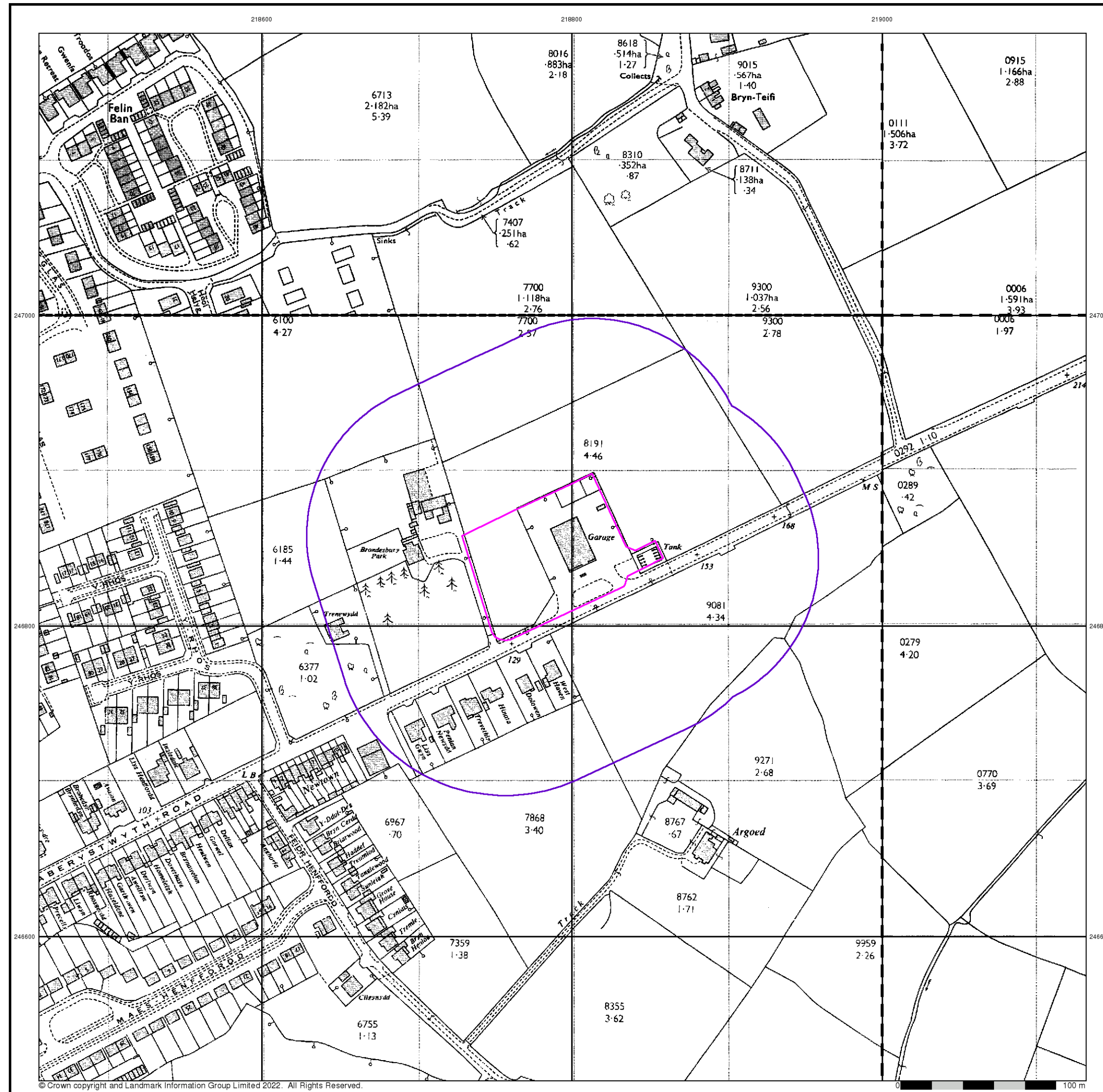
Order Details

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Site Details

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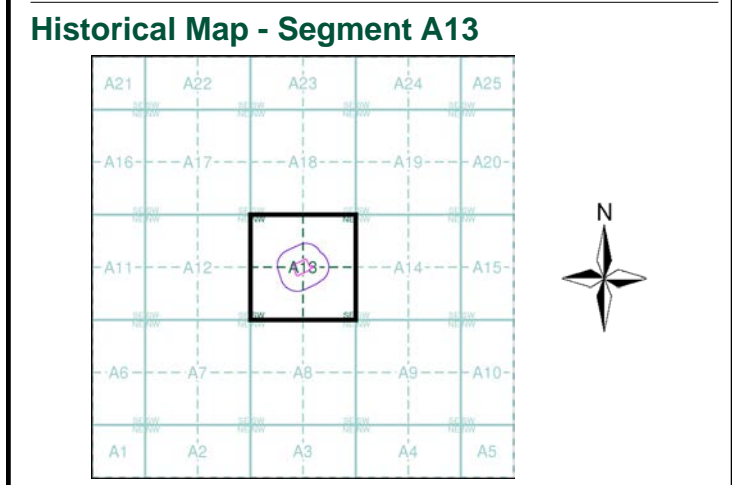
Ordnance Survey Plan

Published 1965 - 1976
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)

SN1847 1976 1:2,500	SN1947 1976 1:2,500
SN1846 1965 1:2,500	SN1946 1965 1:2,500



Order Details

Order Number: 290048455_1_1
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Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

B & M Bargains, Aberystwyth Road, CARDIGAN, SA43 1NA

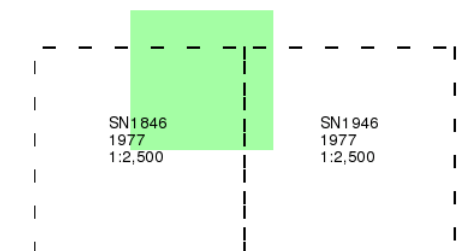
Ordnance Survey Plan

Published 1977

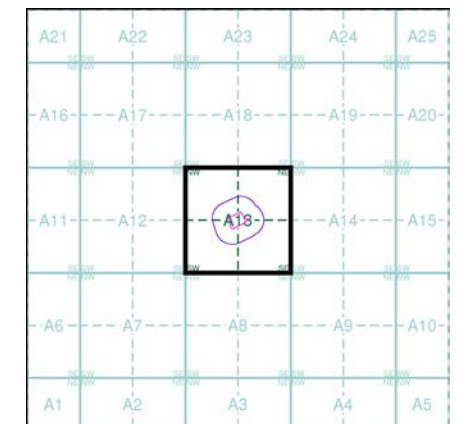
Source map scale - 1:2,500

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

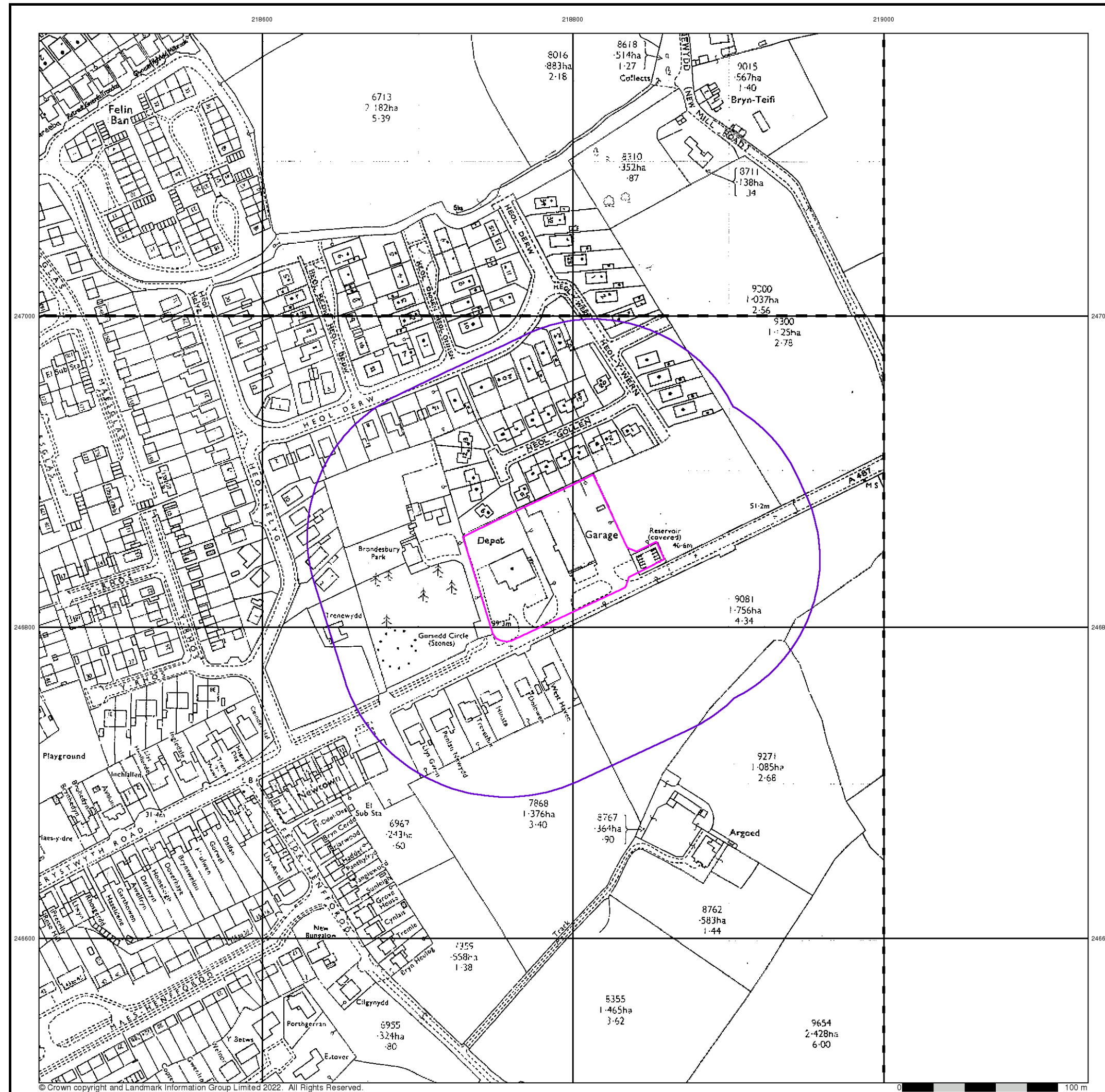


Order Details

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Additional SIMs

Published 1980 - 1992

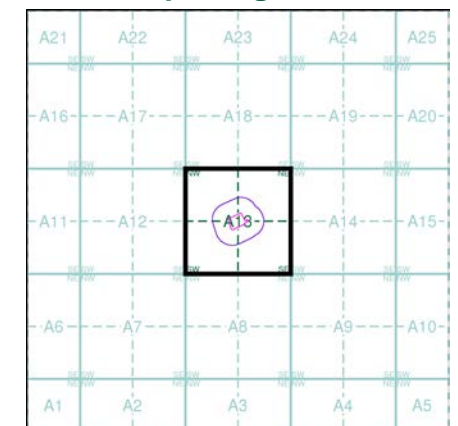
Source map scale - 1:2,500

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)

SN1847	1992	1:2,500
SN1846	1980	1:2,500

Historical Map - Segment A13



Order Details

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Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

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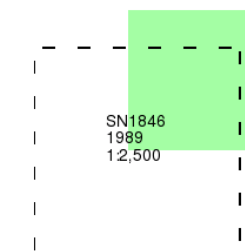
Additional SIMs

Published 1989

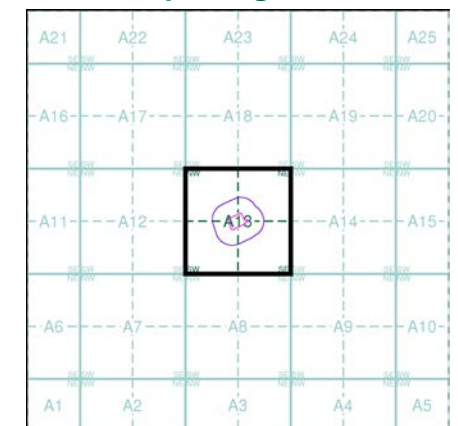
Source map scale - 1:2,500

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

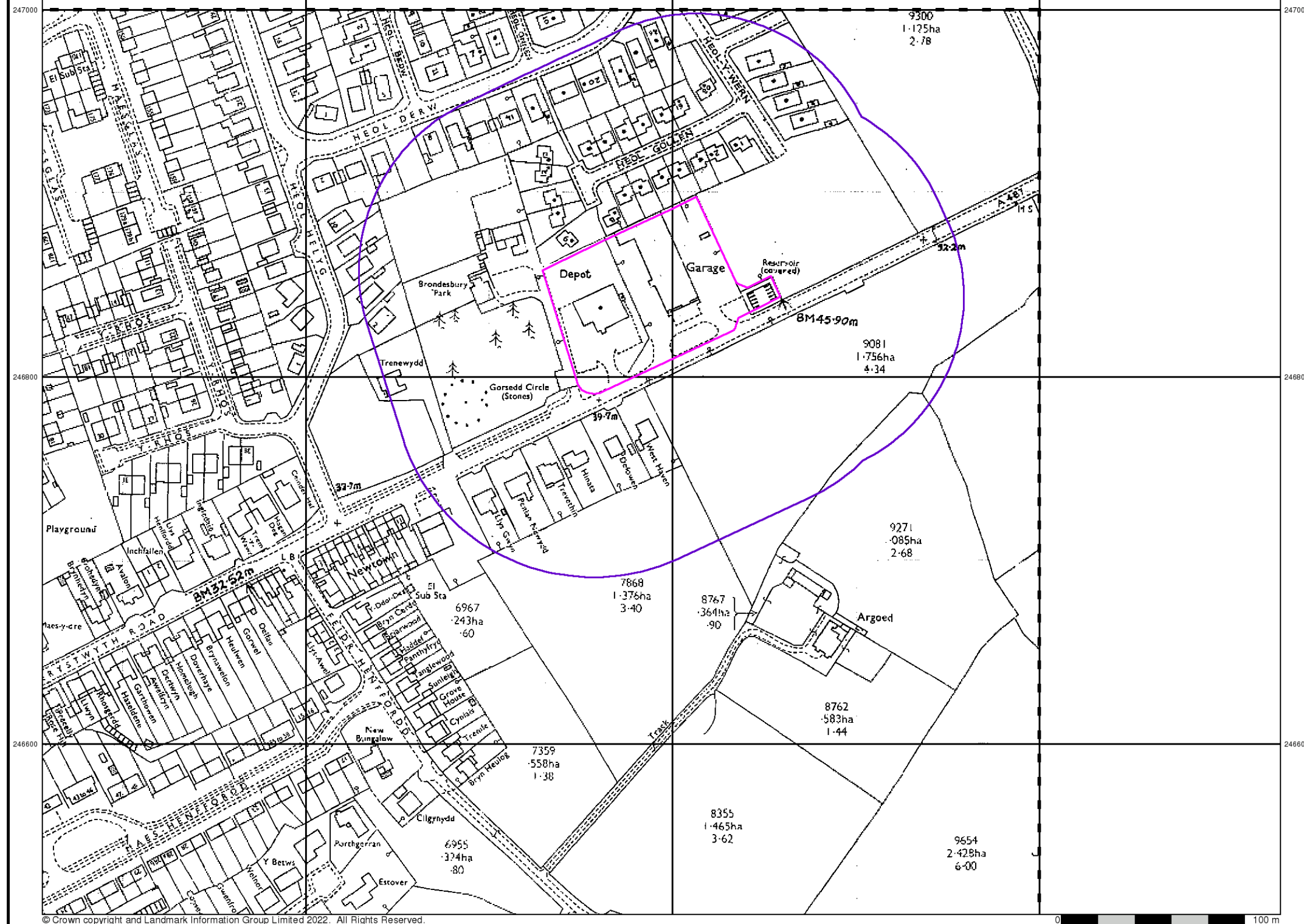


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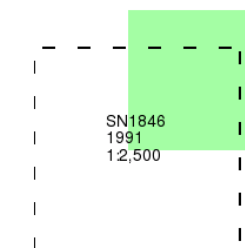
Additional SIMs

Published 1991

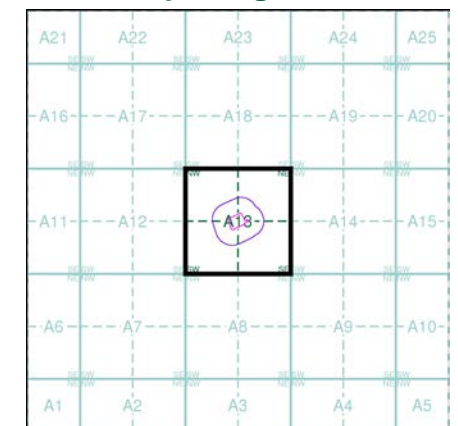
Source map scale - 1:2,500

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



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Site Details

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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
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	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
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

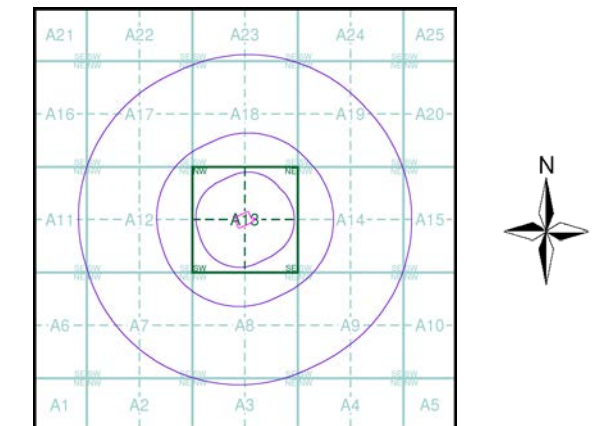
1:10,000 Raster Mapping

	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
	Mean high water (springs)		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
Cardiganshire	1:10,560	1889	3
Cardiganshire	1:10,560	1906 - 1907	4
Pembrokeshire	1:10,560	1907	5
Cardiganshire	1:10,560	1938 - 1953	6
Pembrokeshire	1:10,560	1953	7
Cardiganshire	1:10,560	1953	8
Ordnance Survey Plan	1:10,000	1963	9
Ordnance Survey Plan	1:10,000	1980 - 1984	10
Ordnance Survey Plan	1:10,000	1993	11
10K Raster Mapping	1:10,000	2000	12
Street View	Variable		13

Historical Map - Slice A

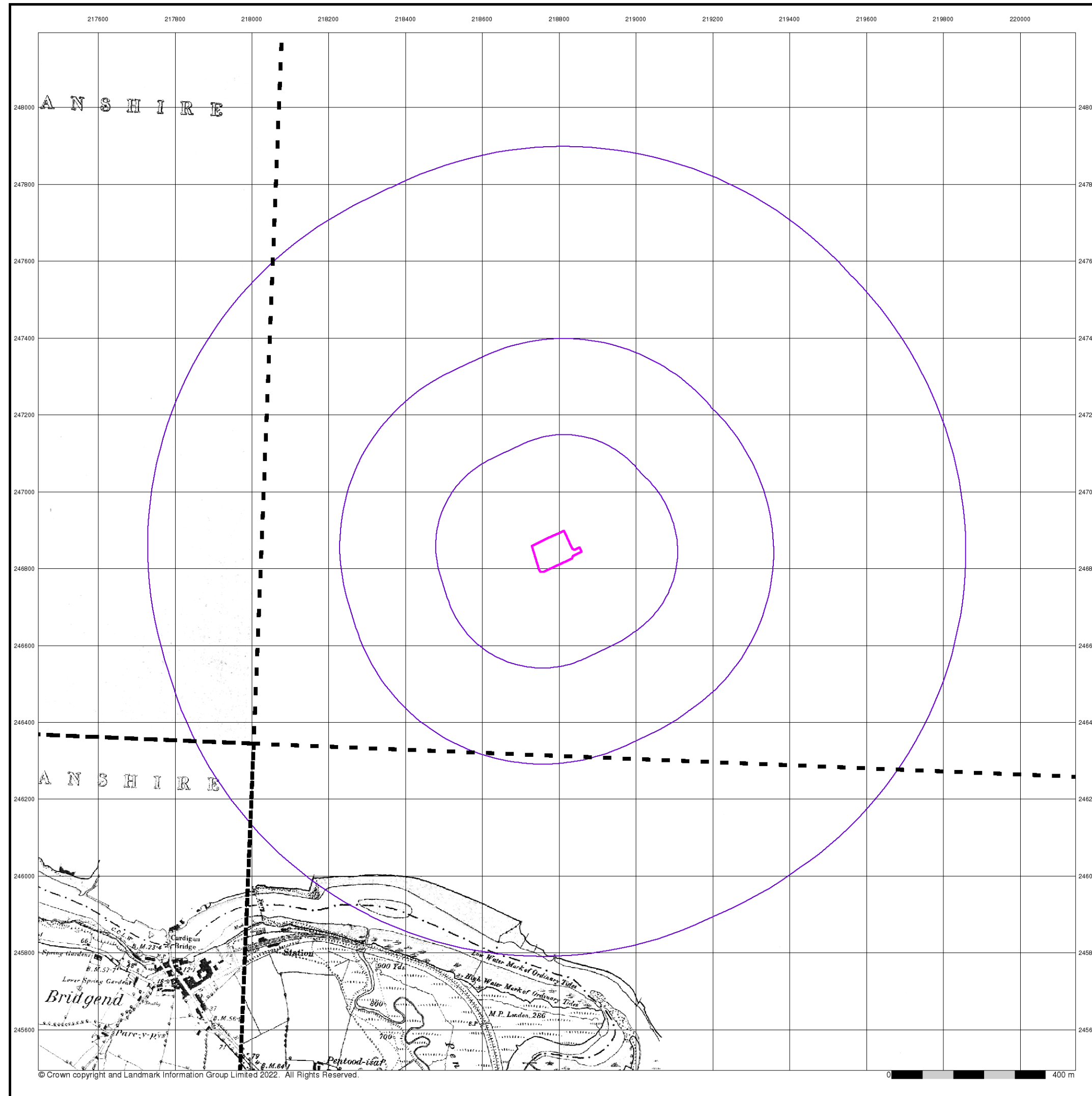


Order Details

Order Number: 290048455_1_1
Customer Ref: 941.01
National Grid Reference: 218790, 246840
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

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0 400 m

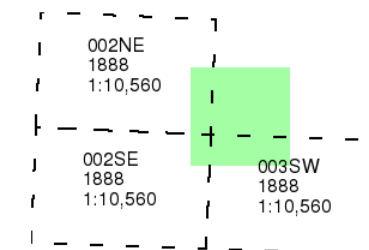
Pembrokeshire

Published 1888

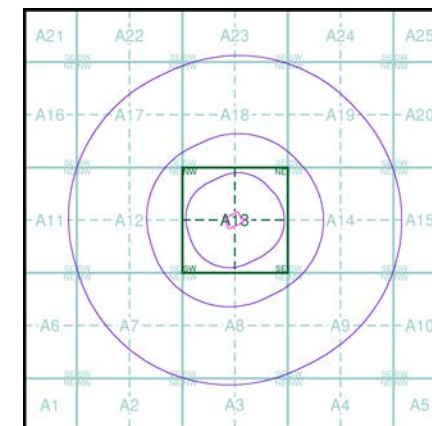
Source map scale - 1:10,560

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

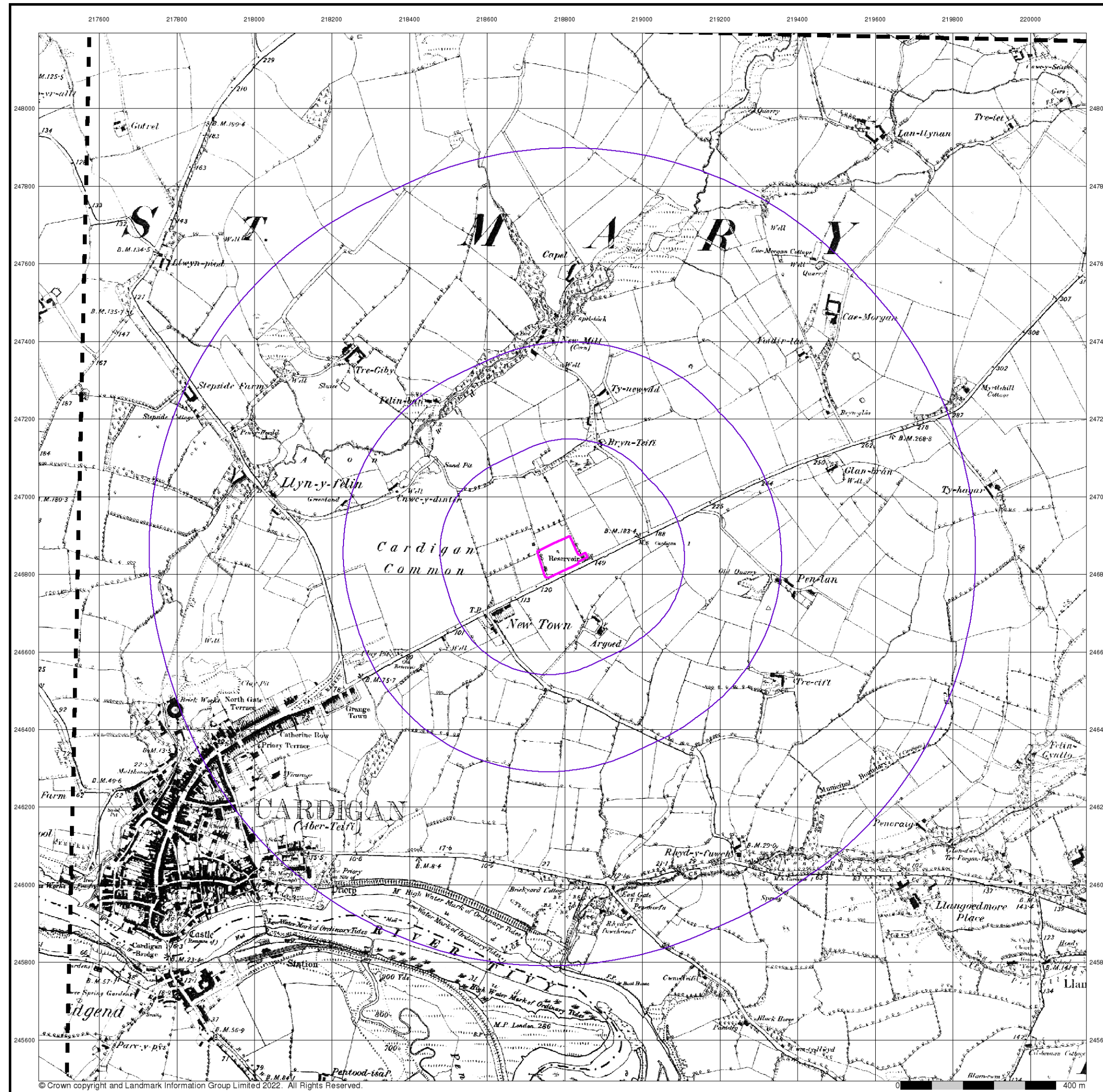


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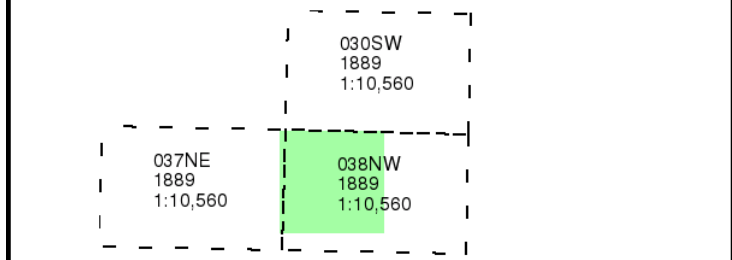
Cardiganshire

Published 1889

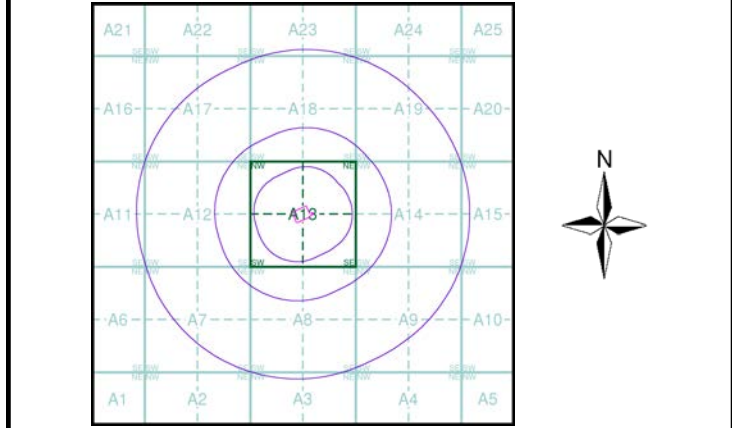
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A

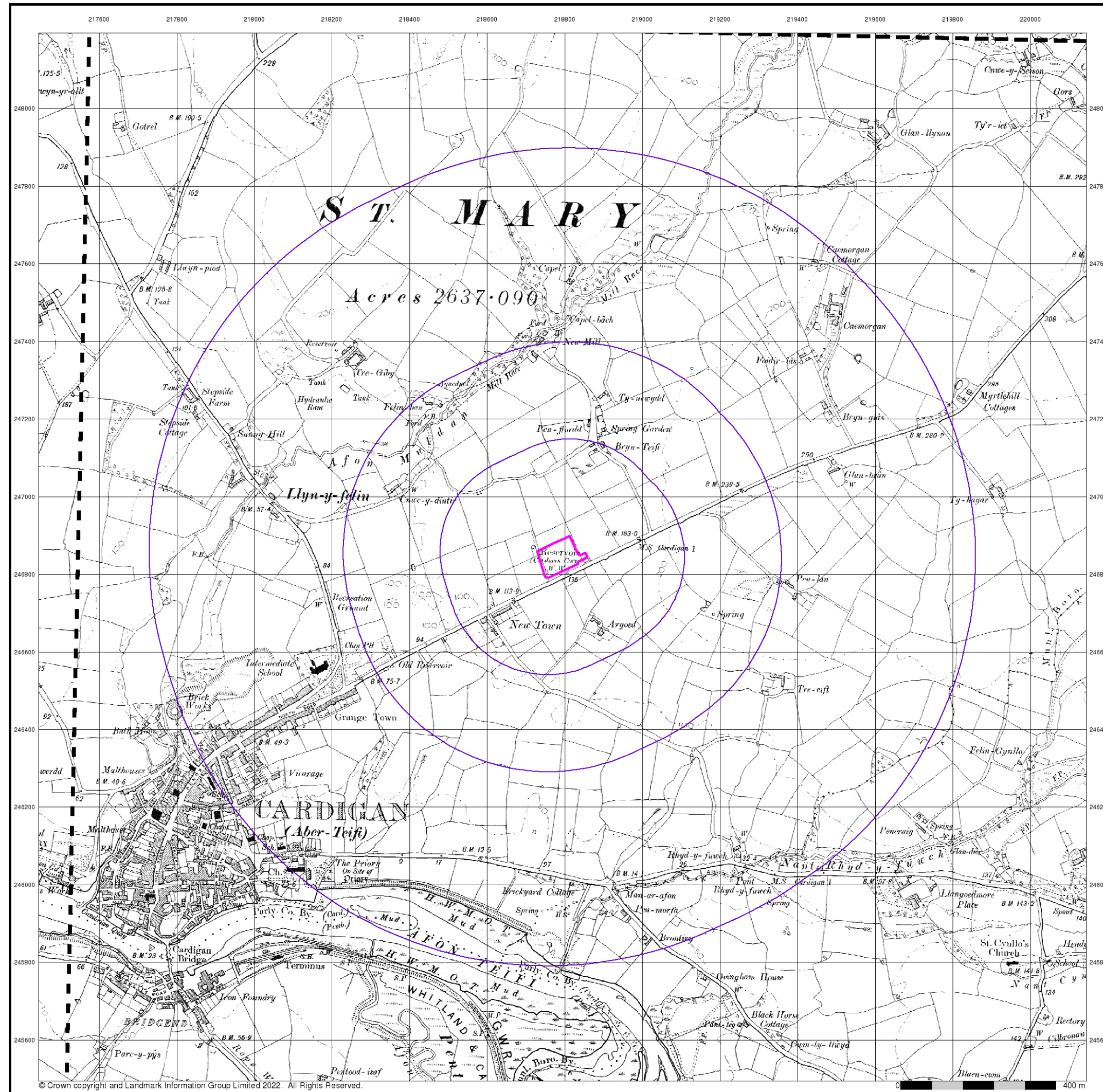


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Slice: A
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Site Details

B & M Bargains, Aberystwyth Road, CARDIGAN, SA43 1NA



Cardiganshire

Published 1906 - 1907

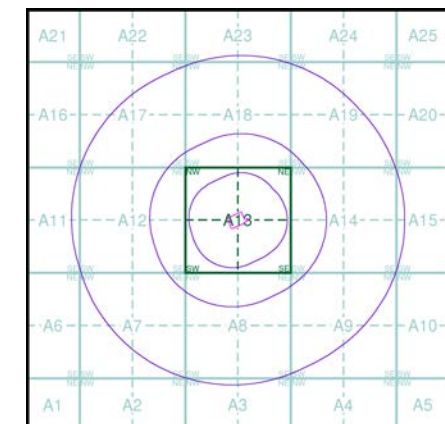
Source map scale - 1:10,560

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)

030SW 1906 1:10,560	038NW 1906 1:10,560
037NE 1907 1:10,560	

Historical Map - Slice A

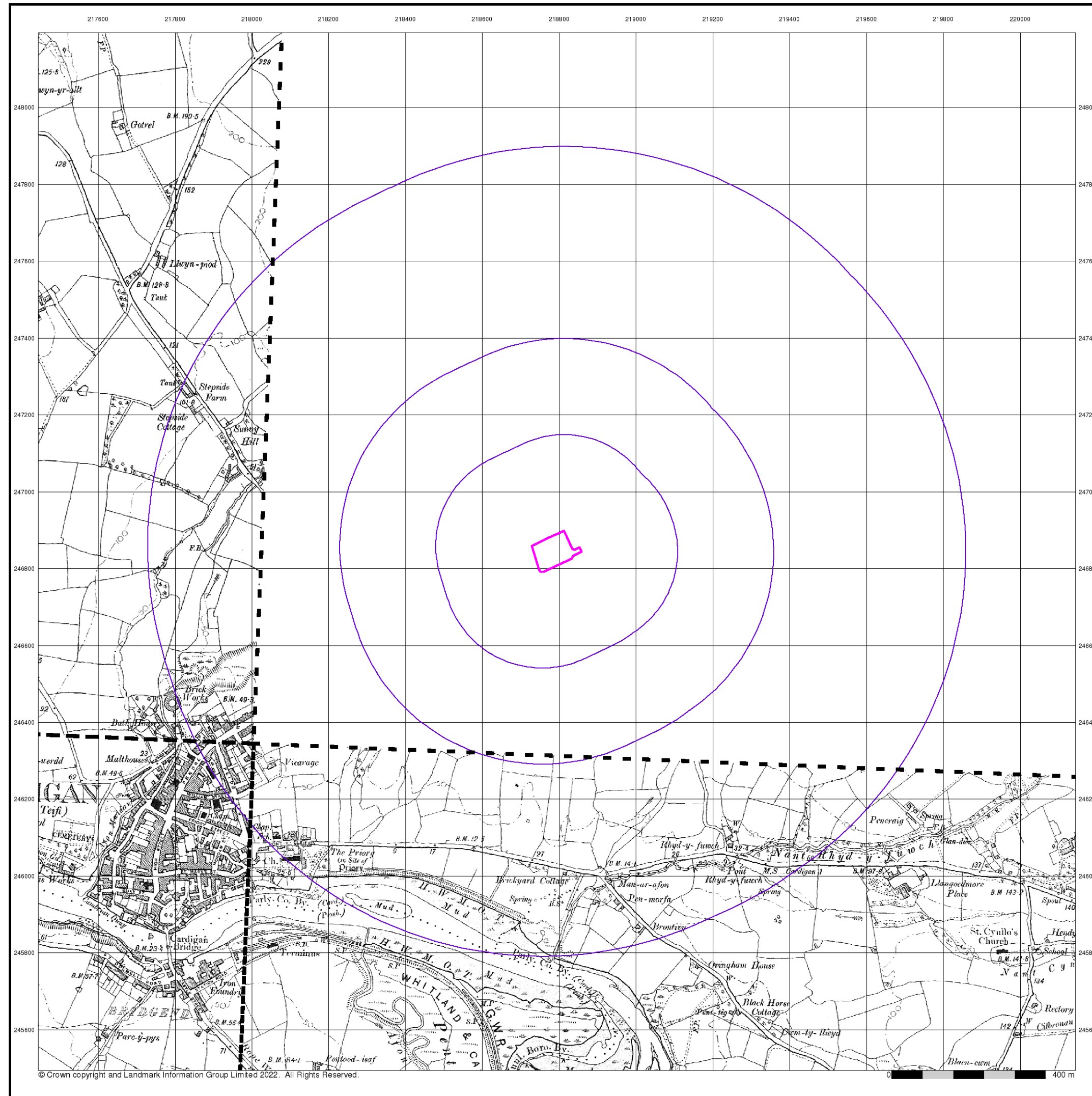


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Pembrokeshire

Published 1907

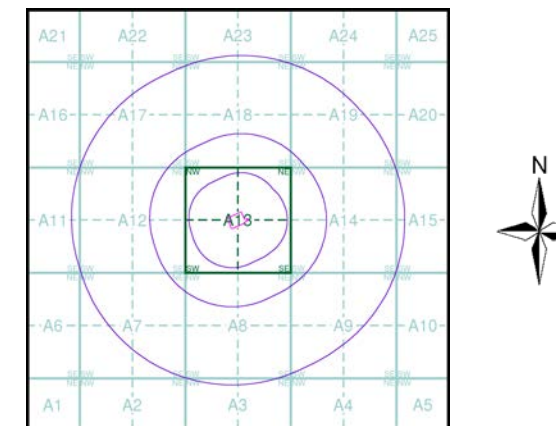
Source map scale - 1:10,560

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)

002NE 1907 1:10,560	003SW 1907 1:10,560
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Historical Map - Slice A



Order Details

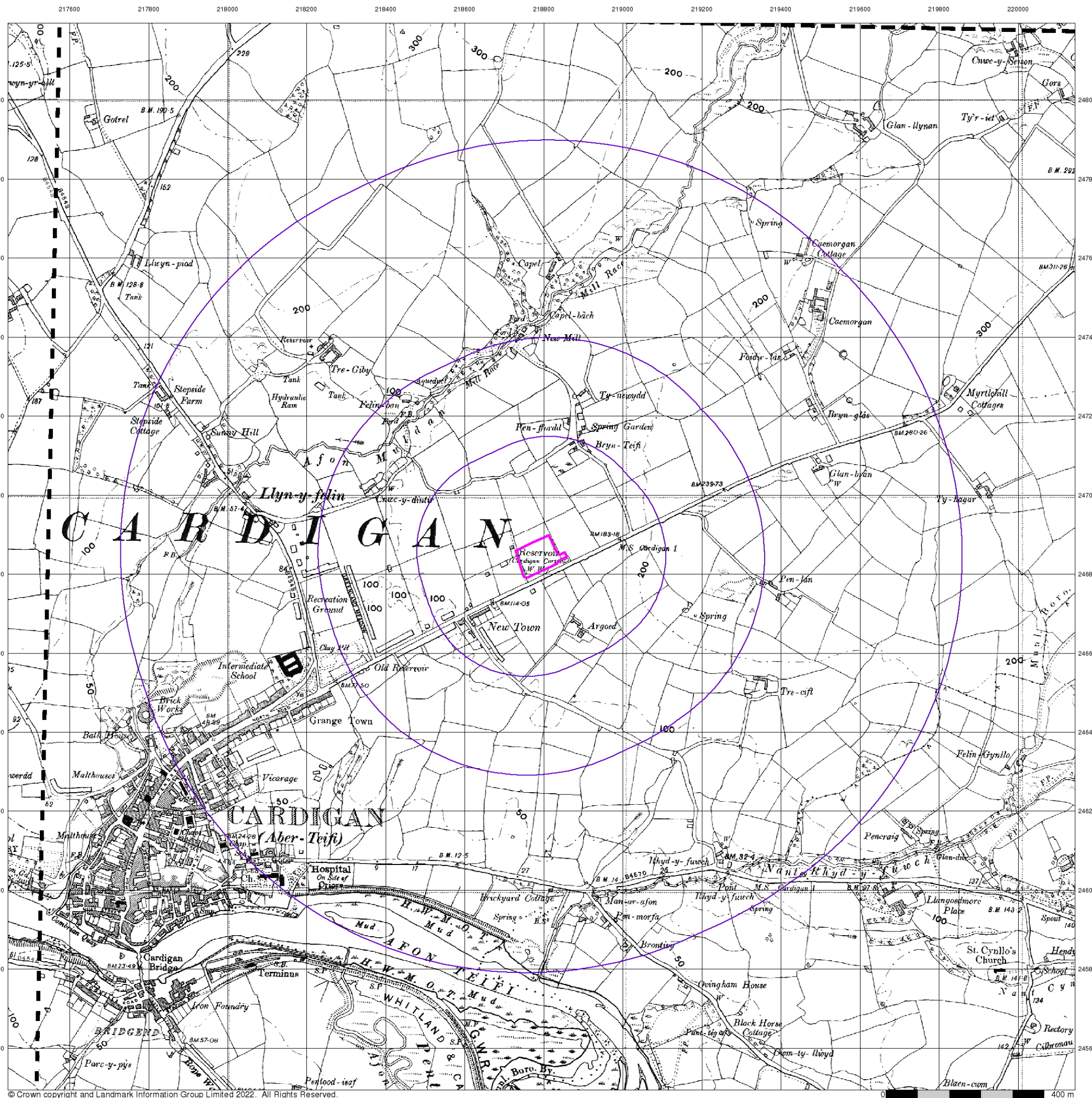
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National Grid Reference: 218790, 246840
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

B & M Bargains, Aberystwyth Road, CARDIGAN, SA43 1NA

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Cardiganshire

Published 1938 - 1953

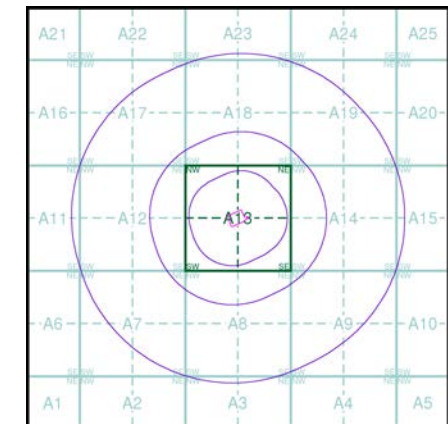
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. 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)

037NE 1938 1:10,560	038NW 1938 1:10,560
030SW 1953 1:10,560	

Historical Map - Slice A

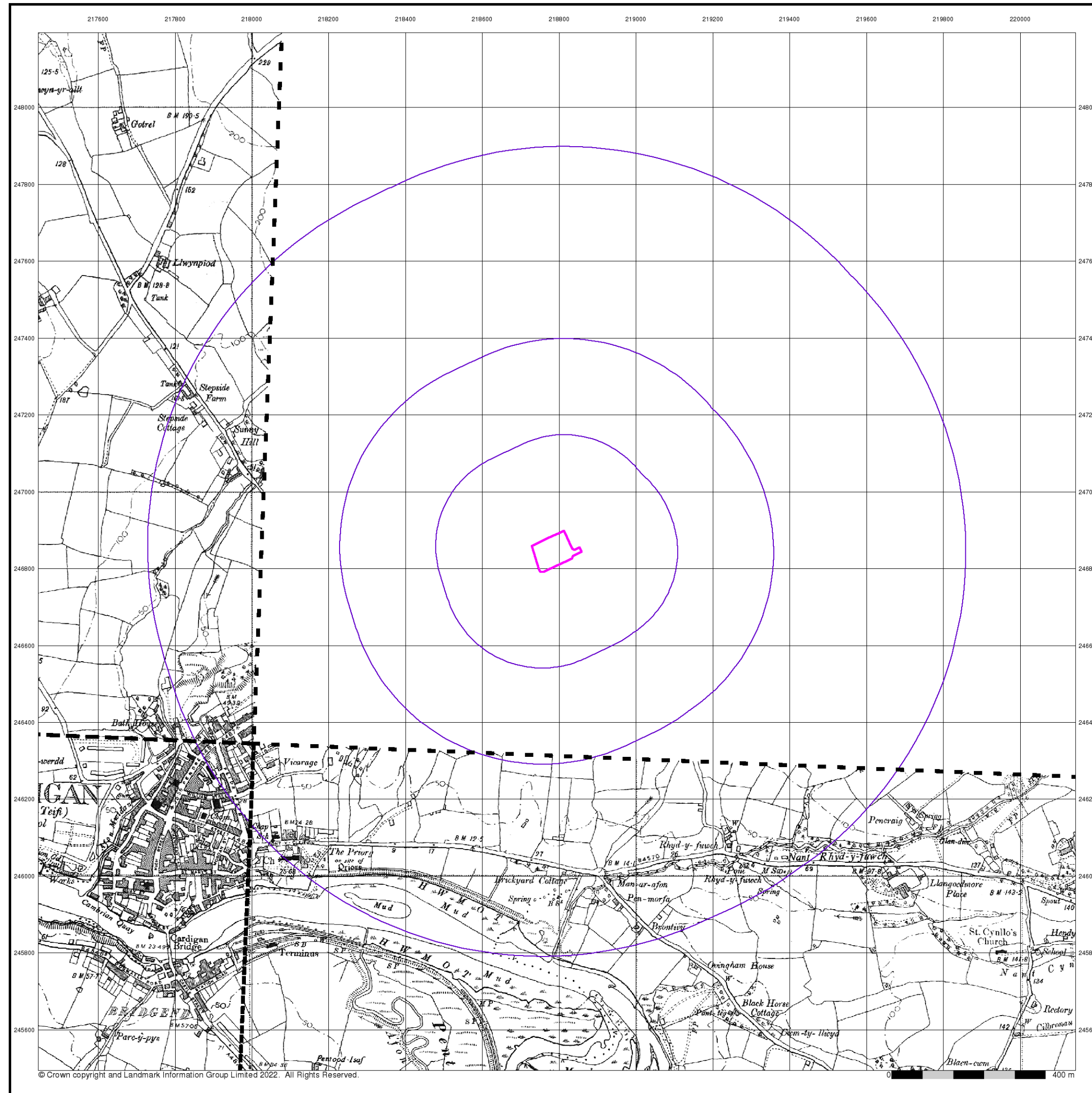


Order Details

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Site Area (Ha): 0.75
Search Buffer (m): 1000

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Pembrokeshire

Published 1953

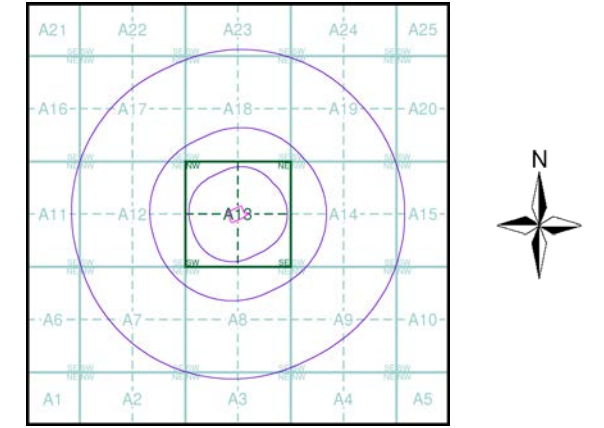
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. 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)

002NE 1953 1:10,560	002SE 1953 1:10,560	003SW 1953 1:10,560
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Historical Map - Slice A

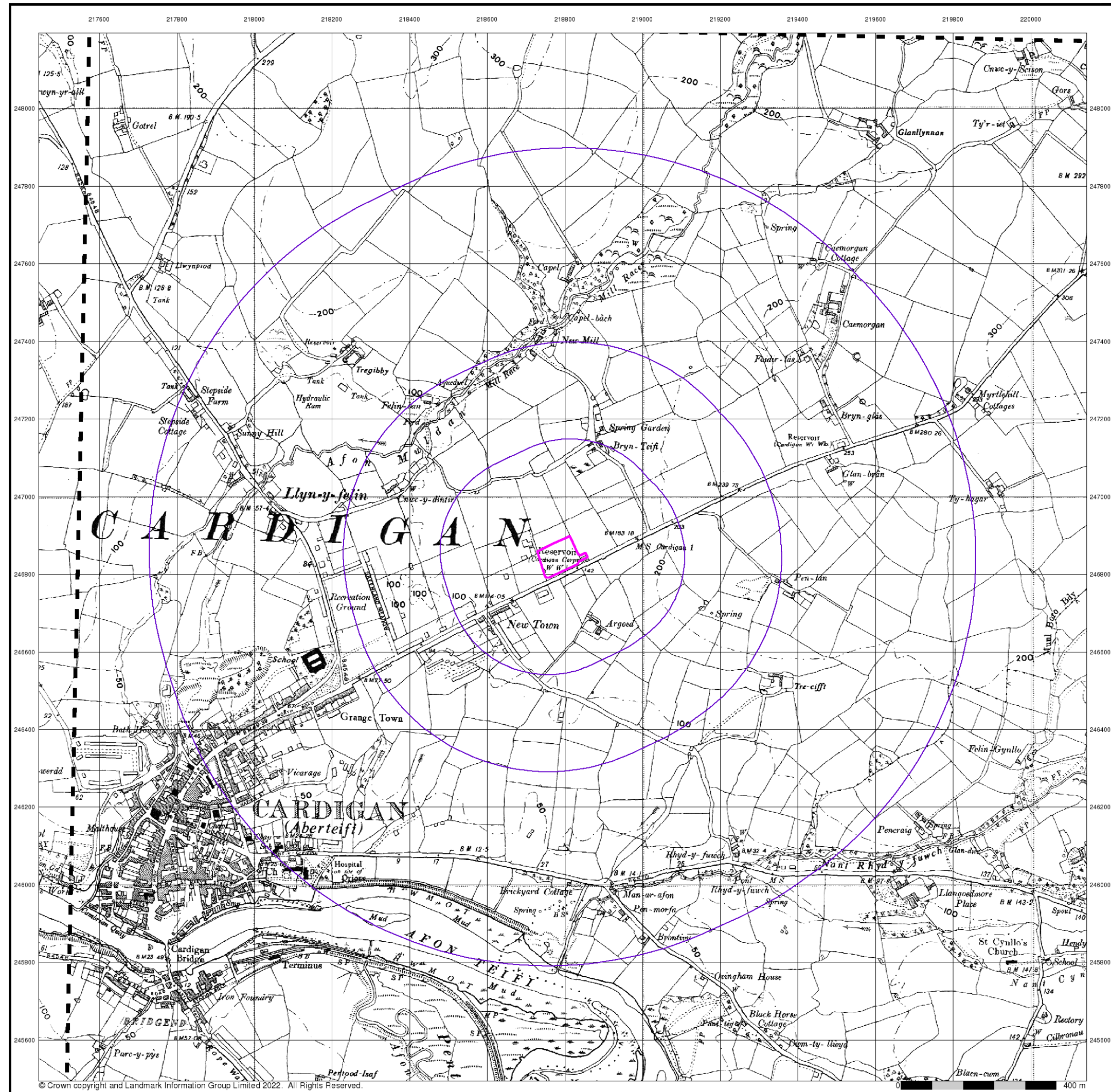


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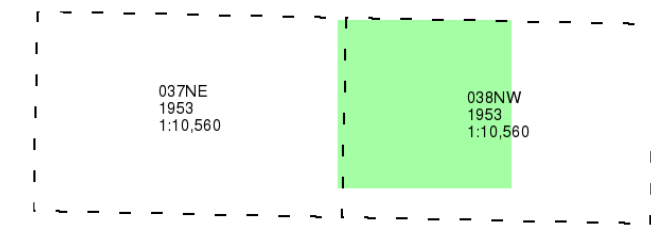
Cardiganshire

Published 1953

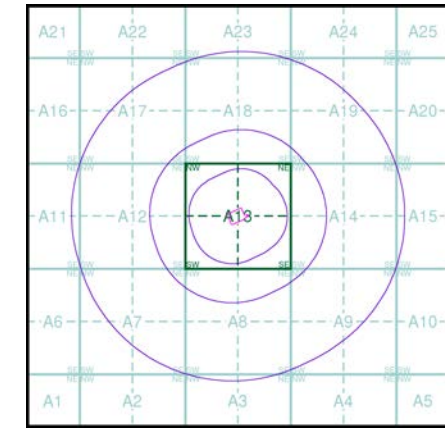
Source map scale - 1:10,560

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.

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