



## Phase I Geo-Environmental Risk Assessment

Womens Institute, High Newton-by-the-Sea

September 2023

Mr J Sutherland

Reference: 230907.R001

# Phase I Geo- Environmental Risk Assessment

**Womens Institute, High  
Newton-by-the-Sea**

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We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

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## EXECUTIVE SUMMARY

### SCOPE

<b><i>Purpose of the Report</i></b>	This report has been prepared for the purpose of assis associated with potential contamination issues at the site which is required as pa the planning application for the redevelopment of the site. It will also examine the physical ground conditions at the site to identify potential geo-environmenta development constraints.
<b>SITE INFORMATION</b>	
<b><i>Grid Reference</i></b>	423700, 625200
<b><i>Future Site End-use</i></b>	It is understood that it is proposed to demolish the existing building on site and construct 2 No. residential properties, likely with associated landscaped gardens.
<b><i>Current Site Status</i></b>	The site comprises a rectangular shaped area of land, dominated by a property, with the exception of areas of undeveloped rough vegetation around the boundaries. The building is currently utilised for storage of predominantly, furniture. No issues of environmental significance were noted associated with the current use of the site.
<b><i>History</i></b>	The historical assessment has identified the site has comprised undeveloped likel agricultural land from earliest mapping dated 1866 until prior to 1923 when a b was denoted on site, with the site shown in its current layout. Surrounding features of note include a smithy which was present from 1866 until 1
<b><i>Geology</i></b>	According to published BGS data the site is not recorded as being underlain by Ground. However, when considering the developed nature of the site, the pi of some Made Ground of an unknown origin and nature should be assumed. The superficial deposits are recorded as comprising Devensian Till, with solid depos underlying the site recorded as the Stainmore Formation.
<b><i>Hydrogeology</i></b>	The superficial and solid geological deposits are classified as a Second: Undifferentiated and Sec ondary A Aquifer re spectively. The subject site is not situated within a groundwater Source Protection Zone and there are no potable groundwater abstraction licences recorded within 1km of the subject site. According to t Envirocheck Report, there is the potential for groundwater flooding to oc surface of the site.
<b><i>Hydrology</i></b>	There are no significant sensitive watercourses located migration distance of the site. According to the Environment Agency's website subject site is located within Flood Zone 1 and is therefore outside the a significant risk of flooding from rivers and sea. According to the Envirocheck potential for surface water flooding, is low. In addition, there are no surface v abstraction licences recorded within 1km of the subject site.
<b><i>Ecology</i></b>	According to the Envirocheck Report, the subject site is located within an Area o Outstanding Natural Beauty.
<b><i>Environmental Sensitivity</i></b>	As a result of the above, the site is considered to be of Low to Moderate environmenta sensitivity.
<b><i>Unexploded Ordnance</i></b>	Following a review of a Zetica Unexploded Bomb Risk Map for the area in which site is located, it appears that the site is located in an area with a Low risk.
<b><i>Previous Reports</i></b>	No previous reports were subject to review during the compilation of this report
<b><i>Regulatory Consultation</i></b>	A review of Northumberland County Council's online Planning Portal has not identified any planning applications for the subject site. In addition, no environmentally pertinere information relating to the subject site was available for review. We understand the site is not currently listed as Part 2A Contaminated Land under the EPA 1990 and it is unlike that the site would be investigated under the Contaminated Land Regii supported by information presented within the Envirocheck report, which indicates that there are no Contaminated Land Register Entries and Notices recorded on within 1km of the subject site. From a review of available information, it is the opinion of Roberts Environment there is an absence of significant source-pathway-receptor pollutant linkages. As such it is unlikely the site would fall within the definition of Contaminated Land under Part IIA of the EPA 1990.

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## RISK ASSESSMENT (POTENTIAL POLLUTANT LINKAGES)

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<i>Hazard Identification</i>	<i>Source</i>	No potentially significant or pervasive sources of contamination have been identified at the subject site. No significant ground gas sources have been identified within a plausible migration distance of the subject site.
	<i>Pathway</i>	<p>Direct contact (with humans, foundations/services and plant roots), inhalation of dusts and/or fibres.</p> <p>Lateral migration of contamination to adjacent areas, direct contact and inhalation of potentially harmful concentrations of contaminants.</p> <p>Migration of mobile contaminants into Controlled Waters.</p> <p>Lateral migration of ground gas/vapours on site and to adjacent areas.</p>
	<i>Receptor</i>	<p>Site users and potential visitors and trespassers;</p> <p>Future construction workers and structures;</p> <p>Future site residents/users;</p> <p>Future site properties;</p> <p>Adjacent site residents/users;</p> <p>Adjacent properties;</p> <p>Planting within landscaped areas;</p> <p>Controlled Waters.</p>

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## CONCLUSIONS

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<i>Risk Estimation</i>	<p>Based on the information obtained during the desk study it is concluded that the environmental risk arising from the ground conditions at the subject site when taken into account the site's <u>current status and usage</u> is <b>Low</b>.</p> <p>When considering the <u>proposed redevelopment of the site for a residential end-use</u>, it is concluded that the potential environmental risk arising from the ground conditions at the subject site would be <b>Low</b>.</p> <p>Based on the above, it is the opinion of Roberts Environmental, that <b>no issues have been identified to preclude the future redevelopment of the site</b>. However, recommendations have been provided to address residual uncertainty and to allow for a refinement of the preliminary site conceptual model detailed in the report.</p>
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<i>Recommendation:</i>	<p>As part of the proposed redevelopment, we recommend that the client undertake the following action:</p> <p style="padding-left: 40px;">On receipt of final development plans and on completion of demolition of the existing structure on site, an intrusive investigation would be prudent to confirm the absence of an unacceptable risk to Human Health, Groundwater and Controlled Waters, and to inform foundation design.</p> <p style="padding-left: 40px;">In line with Northumberland County Council's policy regarding developments within the Northumbrian Coalfield, it is likely that ground gas protective measures to Characteristic Situation 2 standard as a minimum would be expected to be installed in any habitable dwellings erected/developed. Ground gas monitoring should be undertaken at the site to better characterise the risk.</p> <p style="padding-left: 40px;">In the event that further works are carried out that involve the disturbance or demolition of the building or parts of the building, a refurbishment/demolition asbestos survey should be carried out and the information provided to the contractors undertaking the work.</p> <p style="padding-left: 40px;">Prior to the commencement of any redevelopment works, the client shall conduct a suitable and sufficient risk assessment and as a minimum ground gas monitoring for future construction/ground workers should be provided with and made use of appropriate PPE.</p>
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# 1. Instructions

On 8 September 2023, George F White on behalf of Mr J Sutherland (“**the Client**”) instructed Roberts Environmental Limited (“**REL**”) to undertake a Phase I Geo-Environmental Risk Assessment (“**the Services**”) of Womens Institute, Newton by-the-Sea, NE66 3EA (“**the Property**”). Part of the Services included the production of this document (“**the Report**”).

Our approach is compliant with the National Planning Policy Framework, but in the absence of further detailed guidance we have continued to maintain an approach in accordance with Planning Policy Statement 23: Annex 2, “Development on Land Affected by Contamination”, (Office of the Deputy Prime Minister, 2004) for robustness. Further reference will be made to the YALPAG Technical Guidance for Developers, Landowners and Consultants for Development on Land Affected by Contamination. Therefore, we have provided this desk-based assessment of the likelihood of the presence of land contamination, its nature and potential risk to the proposed development, and what further measures are required to ensure the site is ‘suitable for use’. This report is provided as supporting environmental information to the planning application.

The Services have been carried out in accordance with the Proposal dated 8 September 2023 and REL’s Terms and Conditions of Engagement, (together “**the Agreement**”) as accepted by the Client on 8 September 2023.

## The Report

The Report has been prepared in accordance with the Agreement and is subject to all terms contained therein. The Report is addressed to and is for the sole use and reliance of the Client. REL accepts no liability for:

- (a) any use of or reliance upon the Report by the Client other than in accordance with the Agreement; and
- (b) any use of or reliance upon the Report by any third party who is not a party to the Agreement.

The Report, unless otherwise stated, is based upon:

- 1. information provided by the Client;
- 2. database information obtained from regulatory bodies, including but not limited to:
  - a. The Environmental Agency;
  - b. The Local Authority;
- 3. the Envirocheck Report (316761438\_1\_1) purchased from Landmark;
- 4. a site inspection undertaken by an REL Engineer on 13 September 2023.

Where appropriate copies of these reports are contained in **Appendix II**.

## 2. Location

The subject site is located adjacent east of an unnamed road within High Newton-by-the-Sea. The B1339 is located 1.5km to the south-west of the site and the A1 is located 9.50km to the west of the site. Site Location and Layout plans are provided below.



Figure 1: Site Location Plan (location shown in red is indicative only)

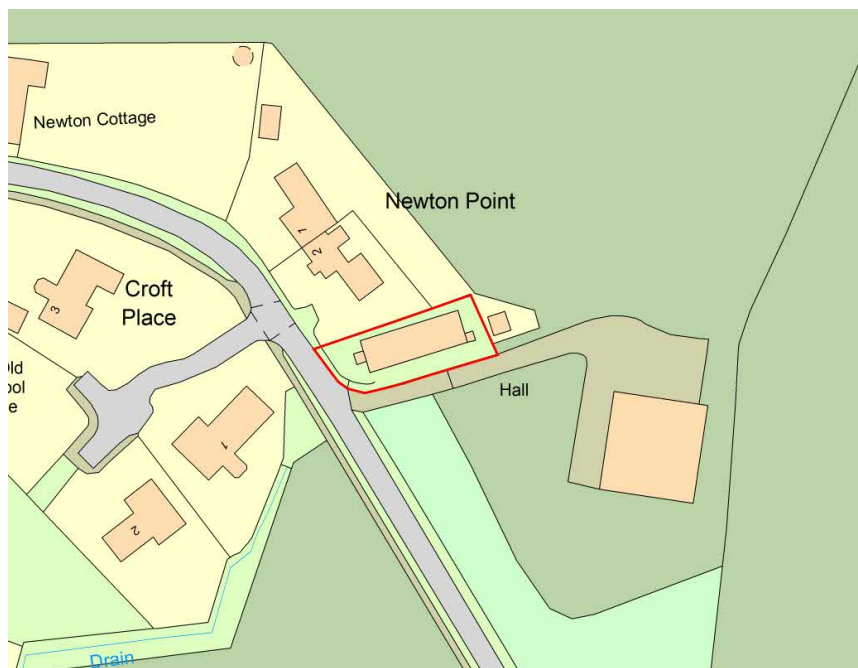


Figure 2: Site Layout Plan with boundaries shown in red (boundaries are indicative only)




### 3. Description

The following table provides a summary of site conditions.

**Table 1: Site Description**

<b>Issue</b>	<b>Description</b>
<b>Site Name</b>	Womens Institue
<b>Address</b>	Newton Point, Newton by-the-Sea, NE66 3EA
<b>National Grid Reference</b>	423700, 625200
<b>Site Areas</b>	0.05 hectares
<b>Tenure</b>	Unknown
<b>Occupancy</b>	Vacant
<b>Site Description and Activities</b>	<p>The site comprises a rectangular shaped area of land dominated by a vacant property, with the exception of undeveloped rough vegetation around the boundary. The building is currently utilised for storage of predominant furniture.</p> <p>Access to the site is gained off an unnamed track to the south of the site.</p> <p>No issues of environmental significance were noted associated with the current use of the site.</p> <p>From an environmental perspective, the current site operators are not considered to pose a significant ground contamination risk to the continued use of the property.</p>
<b>Surrounding land uses</b>	The site is located within an area of agricultural land to the north, east and south. The closest residential property is located adjacent to the north, with sparsely distributed residential properties from adjacent west.
<b>Site Gradient</b>	The site is generally flat in nature. Localised variation in topography may be present in some areas.
<b>Proposed Use</b>	It is understood that it is proposed to demolish the existing building on site and construct 2 No. residential properties, likely with associated landscaped gardens.



Photograph Number	Photograph Description	Photograph
1.	<p><b>Womens Institute, High Newton-by-the-Sea</b></p> <p>General view of the s looking east, showing existing building. The building was noted to k in a poor state.</p>	
2.	<p><b>Womens Institute, High Newton-by-the-Sea</b></p> <p>Internal view of the building shown in Image 1.</p>	
3.	<p><b>Womens Institute, High Newton-by-the-Sea</b></p> <p>Internal view of the building present onsite, currently utilised for storage of furniture.</p>	

Photograph Number	Photograph Description	Photograph
4.	<p><b>Womens Institute, High Newton-by-the-Sea</b></p> <p>Internal view of the building present onsite. The building was noted to be in a poor state.</p>	
5.	<p><b>Womens Institute, High Newton-by-the-Sea</b></p> <p>View of the building present on site. The building was noted to be in a poor state.</p>	
6.	<p><b>Womens Institute, High Newton-by-the-Sea</b></p> <p>A sub-station was noted adjacent to the eastern boundary of the site.</p>	

## 4. Operational Issues

### Deleterious Materials

The Control of Asbestos Regulations 2012 came into effect in April 2012. These repeal earlier asbestos legislation. Owners, occupiers, managers and/or those who have responsibilities for premises have a legal duty to either manage the risk of asbestos or a duty to co-operate with whoever manages that risk. The responsible party has to identify the existence of Asbestos Containing Materials (ACMs), record their location and condition, set out a plan to manage the risk from the material and take the necessary steps to put this plan into action.

An appropriately licensed asbestos contractor should remove ACMs that are likely to be disturbed and cannot be easily protected. Reviews of this plan will have to be undertaken on an on-going basis. Details as to the location and condition of the materials must be provided to anyone who is liable to work on or disturb them.

### Asbestos Survey

When considering the age of the building currently on-site i.e. dating back to the 1920s, there is the potential for asbestos containing materials to be present within the building fabric, although no evidence ACMs were identified during the site inspection.

In the event that further works are carried out that involve the disturbance or demolition of the building or parts of the building, a refurbishment and demolition asbestos survey should be carried out and the information provided to the contractors undertaking the work.

### Site Services

Specific details pertaining to the presence or nature of buried utilities/services at the site are not known at this stage.

Prior to commencement of any groundworks, it would be prudent to undertake a utility clearance and or mapping survey to ensure damage to utilities and other services is prevented. Such a survey would also identify current service routes and connections to aid future development plans. A sub-station was noted adjacent to the eastern boundary of the site.

### **Above Ground Tanks (Fuel and Oil)**

Based on information obtained from the Envirocheck Report, and observations made during the site inspection, REL are unaware of above ground fuel/oil storage tanks being situated on site.

### **Below Ground Tanks (Fuel and Oil)**

Based on information obtained from the Envirocheck Report, and observations made during the site inspection, REL are unaware of below ground fuel/oil storage tanks being situated on site.

### **Chemical Storage**

The site is currently vacant and as such it is understood, no significant volumes or quantities of chemicals are understood to be used or stored on site. None were noted during the site walkover.

### **Waste Management Practices**

The site comprises a vacant building, as such, no waste is produced on site. However, during the site inspection, a number of waste materials including old wooden table tops were identified within the building, which, as part of redevelopment would need to be removed from site.

### **Invasive Plants**

The Wildlife and Countryside Act 1981 (as amended) is the principal legislation governing the release of non-native species. Section 14(2) prohibits the release of certain invasive non-native plants into the wild in Great Britain; it is an offence under Section 14(2) to “*plant or otherwise cause to grow in the wild*” any plants listed on Part II of Schedule 9. The most common plant species found on brownfield and urban sites include Japanese Knotweed, Hogweed and Himalayan Balsam.

Based on available information, it is understood that none of these plants are known to be present. In addition, although REL were not appointed to undertake an ecological survey, observations made during the site inspection support this assumption. Prior to site clearance works commencing, a survey by a suitably qualified ecological consultant may be prudent to ensure any such invasive plants are not disturbed and redevelopment works do not result in the spread of such plants to adjacent areas which could result in prosecution and/or additional development costs.

## 5. Historical Development

A review of historical maps contained within the Envirocheck Report has been undertaken. A summary of relevant information, within 250m of the property (i.e. in the planning consultation zone), is shown in chronological order in the table below with relevant maps in **Appendix I**. All distances listed below are approximate.

**Table 3:** Historical Development description of the subject site and surrounding land.

Source	Site	Surroundings
Pre 1866 – pre 1895	The site comprised undeveloped likely agricultural land.	Surrounding land largely comprised undeveloped agricultural land. A <i>smithy</i> was present 90m to the west of the site and sparsely dispersed likely residential agricultural properties from 200m to the north-west.
Pre 1895 – pre 1897	The site remained largely unchanged.	Surrounding land remained largely unchanged. Further sparse residential / agricultural properties were denoted from 200m to the south-west.
Pre 1897 – pre 1923	The site remained largely unchanged.	Surrounding land remained largely unchanged. <i>smithy</i> was no longer denoted to the west.
Pre 1923 – pre 1975	A building was present on site denoted as an institute, with the site shown in its current layout.	Surrounding land remained largely unchanged. A watercourse was denoted 20m to the south-west of the site.
Pre 1975 – pre 1994	The site remained largely unchanged.	Surrounding land remained largely unchanged; further residential properties were developed from 100m to south-west. The watercourse to the south-west was denoted as a drain.
Pre 1994 – pre 2006	The site remained largely unchanged.	Further properties were developed from 10m to the west / south-west of the site.
Pre 2006 – present	The site remained largely unchanged.	An agricultural building was constructed 30m south-east, with surrounding land largely shown in current layout.

\* Potentially significant contaminative land uses in *bold italic*.

### Potential for Historical Contamination

The historical assessment has identified that the previous site uses, and site conditions, are unlikely to have resulted in significant contamination of underlying strata. Residual contamination may exist associated with the site's former use as a farm.

For the redevelopment of the site, an intrusive ground investigation would be required to allow for the collection of geotechnical data, to be used to inform future foundation design. During any such investigation, it would be prudent to obtain environmental samples to confirm the absence of a significant risk to human health or sensitive receptors.

## 6. Previous Reports

No previous reports were subject to review during the compilation of this report.

## 7. Geological Setting

The geology beneath the site, summarised below, has been established from the Geological Survey (BGS) 1: 50,000 scale Provisional Series, Geological Map, England and Wales, 5 (Alnwick), together with information from the BGS website.

### Made Ground:

According to published BGS data the site and adjacent areas are not mapped as being underlain by significant depths of Made Ground. However, when considering the developed nature of the site, the presence of some Made Ground of an unknown origin and nature should be assumed.

### Drift Geology:

A review of BGS information has identified that the site is situated within an area underlain by superficial deposits comprising Devensian Till.

### Solid Geology:

Published BGS data records the site to be underlain by solid deposits of the Stainmore Formation comprising mudstone, sandstone and limestone.

### Borehole Logs

Based on a review of the BGS borehole database, a borehole undertaken adjacent to the north of the site (reference: NU22NW13614/14) has been identified, which is considered to be located within an area with a similar geological sequence to that identified above. A summary of the strata recorded in this borehole log is shown below with a copy presented within **Appendix II**.

Depth (m bgl)	Description
0.00 – 0.50	TOPSOIL.
0.50 – 4.90	Firm to stiff brown silty sand stoney CLAY (boulder clay).
4.90 – 5.50	Weathered dark grey / black shaley MUDSTONE.

### Economic Geology

According to available information, the site is located within a Coal Mining Reporting Area, however, is not located within a Development High Risk Area, or an Area of Past or Probable Shallow Coal Mine Workings. In addition, there are no mine entries located on site or within a potential zone of influence of the site. As such, is not considered to be at risk from coal mining activities. In addition, there are no BGS Recorded Mineral Sites within 250m of the site, and no Man-Made Mining Cavities within 1km of the subject site.

## 8. Hydrogeology

### **Aquifer Status**

According to the Envirocheck Report and the Environment Agency website, the superficial deposits, are classified as a Secondary (Undifferentiated) Aquifer, which is assigned in cases where it has not been possible to attribute either category A or B to a rock type.

The bedrock deposits are classified as a Secondary (A) Aquifer, which comprise permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

### **Groundwater Source Protection Zone**

The subject site is not located within a groundwater Source Protection Zone.

### **Groundwater Abstraction Licences**

Based on information presented within the Envirocheck Report, there are no groundwater abstraction licences recorded within 1km of the subject site.

### **Groundwater Flood Risk**

According to the Envirocheck Report, there is the potential for groundwater flooding to occur at the surface of the site.

## 9. Hydrology

### Surface Watercourses

There are no significant sensitive watercourses located on site or within distance of the site. According to the Envirocheck there is a small, likely drain present adjacent south of the building.

### Culverted Watercourses

According to the Landmark Report, there are no culverted watercourses present beneath the property. Should clarification on this point be required, it would be necessary to undertake an intrusive drainage survey to trace the location of the drainage infrastructure.

### Surface Water Abstractions

Based on information presented within the Envirocheck Report, there are no surface water abstraction licences recorded within 1km of the subject site.

### Flood Risk

According to the Environment Agency database mapping, the site is situated within Flood Zone 1, which land assessed as having between a 1 in 1,000 annual probability of river flooding (1% – 0.1%), in any year, and is therefore not considered to be at significant risk from river flooding.

Based on information contained within the Envirocheck Report there is the potential for groundwater flooding to occur at the surface. The site is not understood to be at risk of flooding from surface water.

## 10. Ecology

According to the Envirocheck Report, the subject site is located within an Area of Outstanding Natural Beauty. There are no further ecologically sensitive land uses recorded within 500m of the subject site.

## 11. Environmental Sensitivity

The superficial and solid geological deposits are classified as a Secondary Undifferentiated and Secondary A Aquifer respectively. The subject site is not situated within a groundwater Source Protection Zone and there are no water abstraction licences recorded within 1km of the subject site. As such, the site location is considered to be of **Low to Moderate** environmental sensitivity.



## 12. Regulatory Databases

From a review of Envirocheck Report (316761438\_1\_1) presented in Appendix II, the following regulatory authorisations, consents and permits have been identified within 250m (i.e. in the planning consultation zone).

**Table 4.** Regulatory Database review results.

Record	On site	Within 250m Radius	Details
Discharge Consents	0	0	Not Applicable (N/A).
Environmental Permits (Active)	0	0	N/A.
Radioactive Substances (Active)	0	0	N/A.
COMAH Site (Active)	0	0	N/A.
Pollution Incidents	0	0	N/A.
Landfill Sites	0	0	N/A.
Potentially Infilled Land	0	0	N/A.
Fuel Sites	0	0	N/A.
BGS Recorded Mineral Sites	0	0	N/A.
Ground Stability	Ground Stability Hazards at the site are recorded as No Hazard to Low.		
Radon	According to the Envirocheck report, the site is located in an area in which less than 1% of homes are above the radon action level. As a consequence protection measures are required in the construction of new dwellings or external		

### Unexploded Ordnance (UXO) Assessment

Following a review of a Zetica Unexploded Bomb Risk Map for the area in which the site located, it appears that the site is located in an area with a **Low** risk. As such, no further works are considered necessary for the proposed redevelopment of the site with regard UXO. Please refer to **Appendix II** for a copy of the Zetica Map.

## 13. Regulatory Enquiries

### Planning

A review of Northumberland County Council's online Planning Portal has not identified any planning applications relating to the subject site. In addition, no environmentally pertinent information was available for review.

### Contaminated Land

We understand the site is not currently listed as Part 2A Contaminated Land under the EPA 1990 and it is unlikely that the site would be investigated under the Contaminated Land Regime. This is supported by information presented within the Envirocheck report, which indicates that there are no Contaminated Land Register Entries and Notices recorded on site or within 500m of the subject site.

From a review of available information, it is the opinion of Roberts Environmental that there is an absence of significant source-pathway-receptor pollutant linkages. As such, it is unlikely the site would fall within the definition of Contaminated Land under Part IIA of the EPA 1990.

## 14. Preliminary Conceptual Site Model

### Potential Sources

No potentially *significant* sources of pervasive contamination have been identified associated with current or historical operations at the subject site. Residual localised contamination may exist in areas of the site.

There are *no significant* sources of ground gas located within a plausible migration distance of the site.

### Potential Pathways

#### Current

The site comprises a rectangular shaped area of land, dominated by a vacant property, with areas of undeveloped rough vegetation present around the site boundaries.

Within areas of soft landscaping, potential direct contact, ingestion and inhalation pathways could exist. However, any exposure to contaminants (if present) in underlying soils will be negligible due to the limited frequency and duration of occupation.

Mobile contaminants (if present) have the potential to migrate vertically and laterally underlying / adjacent Controlled Waters / adjacent properties thereby potentially impacting residential occupants.

Ground gas and vapours (where present) may have the potential to impact, on site and adjacent receptors via vertical and lateral migration through soil pores or discontinuities. However, the largely permeable nature of the site surrounds will provide a preferential pathway for ground gas (if present) to quickly diffuse to atmosphere.

#### During Redevelopment

Groundworkers could be acutely exposed to contamination (if present) in soils and groundwater beneath the site via the direct contact or inhalation/ingestion pathways.

Intrusive works into the subsurface could result in the mobilisation of contaminants (if present) into groundwaters and to the adjacent areas.

Intrusive works into the subsurface could displace potential gases and vapours opening lateral and vertical migration routes into service runs, adjacent areas and into foundation trenches. However, any groundworks undertaken are likely to be limited in depth and would be undertaken outdoors with adequate ventilation.

### Post Site Development

The site will be redeveloped for residential dwellings, which will likely include landscaped garden areas. Direct contact or inhalation/ingestion pathways could exist where landscaped areas and/or permeable surfacing is proposed at the site.

Mobile contaminants (if present) may have the potential to migrate vertically and laterally via permeable strata to underlying Controlled Waters and nearby properties. Where present, contamination may impact foundations and services placed on site via direct contact.

Ground gas and vapours (where present) may have the potential to impact on site adjacent receptors via upward and lateral migration through soil pores or discontinuities and ingress into proposed buildings on the site or buildings in adjacent areas.

### **Potential Receptors**

The key receptors at the site have been identified as:-

#### Current

- Potential site users, visitors and trespassers;
- Properties on site;
- Adjacent site residents/users;
- Adjacent properties;
- Controlled Waters.

#### During Site Development

- Site users, construction workers, visitors and trespassers;
- Properties on site;
- Adjacent site residents/users;
- Adjacent properties;
- Controlled Waters.

#### Post Site Development

- Future site residents/users;
- Future properties, foundations and services on site;
- Planting within landscaped/garden areas.
- Adjacent site residents/users;
- Adjacent properties;
- Controlled Waters.

## 15. Environmental Risk Assessment

### Regulatory Regime

In order to assess the risks associated with the presence of ground contamination, the linkages between the sources and potential receptors need to be established and evaluated. This is in accordance with Part 2A of the Environmental Protection Act (EPA) 1990, which provides a statutory definition of Contaminated Land and as revised under The Contaminated Land (England) (Amendment) Regulations 2012. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that:

Significant harm is being caused or there is a significant possibility of such harm being caused; or

Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused;

Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential receptors which could be harmed or polluted, and the potential pathways between them. A contaminant linkage must exist in relation to a particular land before the land can be considered potentially to be contaminated land under Part 2A, including evidence of the actual presence of contaminants.

### Risk Exposure

The risk of significant harm to human health or of pollution of controlled waters and proposed future site uses has been assessed qualitatively as low, medium or high, see **Appendix III**. A risk estimation matrix for all pollutant linkages identified is shown on the following page.

**Table 5. Environmental Risk Assessment.**

Receptor	Potential sources	Pathways	Risk	Justification
<b>Human Health</b>				
Current site users	Potential contamination in soils and groundwater.	Direct contact, ingestion, inhalation of dusts and/or fibres	Low	No potentially significant sources of contamination have been identified. Residual localised areas of contamination may exist on site. Exposure to residual contamination (if present) would be negligible when considering the limited duration of site occupation.
	Ground gas and/or vapour generated by contaminated land.	Passive migration of gas/vapour and build-up of harmful concentrations.	Low	No significant sources of ground gas / vapour generating materials, have been identified during the historic assessment and site walkover. Occupation of the site is infrequent with site users present for short durations.
Future ground workers	Potential contamination in soils and groundwater.	Direct contact, ingestion, inhalation of dusts and/or fibres.	Low	No potentially significant sources of contamination have been identified. Residual localised areas of contamination may exist on site. During excavations, construction and maintenance workers should be subject to assessment and maintain a watching brief. Workers should use appropriate procedures to manage risk from exposure to materials on site.
	Ground gas and/or vapour generated by contaminated land.	Passive migration/displacement of gas/vapour and build-up of harmful concentrations.	Low	No significant sources of ground gas/vapours have been identified. Groundworks will be undertaken in open air and are unlikely to extend to a significant depth. Excavations will be well-ventilated. Development workers should be subject to assessment. Workers should use appropriate procedures to manage risk from exposure to materials on site.
Future site residents	Potential contamination in soils and groundwater.	Direct contact, ingestion, inhalation of dusts and/or fibres.	Low	No potentially significant sources of contamination have been identified. Residual localised areas of contamination may exist on site. For the redevelopment of the site, an intrusive ground investigation would be required to confirm the absence of a significant risk to human health or sensitive receptors. This would be used to inform future foundation design. During any such investigation, it would be prudent to obtain environmental samples from soils to confirm the absence of a significant risk to human health or sensitive receptors.
	Ground gas and/or vapour.	Migration of gas and build-up of harmful concentrations	Low	No significant sources of ground gas/vapour generating materials have been identified during the historic assessment and site walkover. Due to the site's location within the coalfield, likely that Northumberland County Council will require gas protective measures to a minimum of Characteristic Situation 2 (CS-2) in the proposed development. Ground gas monitoring should be undertaken at the site to better characterise the risk.

**Built Environment**

Future residential properties and associated services	Potential contamination in soils and groundwater.	Direct contact with foundations and services. Migration and build-up of potentially explosive concentrations of volatile contaminants.	Low	<p>No potentially significant sources of pervasive contamination have been identified. Residual contamination may be present in some areas.</p> <p>Future geotechnical investigation should include for pH and SO<sub>4</sub> testing to determine the concrete design classification for underlying the site.</p> <p>A ground investigation and soil sampling exercise would inform the selection of water supply infrastructure.</p>
	Ground gas and/or vapour.	Migration and build-up of potentially explosive concentrations of volatile contaminants.	Low	<p>No significant sources of ground gas/vapour generating materials, have been identified during the historic assessment and site walkover.</p> <p>Due to the site's location within the coalfield it is likely that Northumberland County Council policy will require gas protective measures to a minimum of CS2 in the proposed development. Ground gas monitoring should be undertaken at the site to better characterise the risk.</p>
Future planting within gardens and landscaped areas	Potential phytotoxic soil, groundwater.	Direct contact with roots and plant uptake.	Low	<p>Current on and off-site vegetation appears in good condition. Based on available information, it is considered unlikely that contamination exists with the potential to cause significant harm to plants situated on the site.</p>

**Controlled Waters**

Surface Waters	Potential soil and groundwater contamination.	Lateral migration of mobile contaminant via groundwater.	Low	<p>No significant sources of contamination have been identified.</p> <p>No significant water courses have been identified within a plausible migration distance of the site.</p>
Groundwater within the Aquifer deposits	Potential contamination in soils and groundwater.	Migration of mobile contaminants into groundwater.	Low	<p>No significant potential sources of contamination have been recorded on site.</p> <p>The site is not located within a groundwater Source Protection Zone. No groundwater abstraction licences are recorded on site within 1km of the subject site.</p>

**Overall Risk Rating****LOW**

## 16. Conclusions

This report has been prepared for the purpose of assisting in the evaluation of the environmental risks associated with contamination issues at the site which is required as part of the planning application for the redevelopment of the site.

It is understood that it is proposed to demolish the existing building on site and construct 2 No. residential properties, likely with associated landscaped gardens.

Based on the information obtained during the desk study it is concluded that the environmental risk arising from the ground conditions at the subject site when taking into account the site's current status and usage is **Low**.

When considering the proposed redevelopment of the site for a residential end-use, it is concluded that the potential environmental risk arising from the ground conditions at the subject site would be **Low**.

Based on the above, it is the opinion of Roberts Environmental, that **the issues identified should not preclude the future redevelopment of the site**. However, recommendations have been provided to address residual uncertainties and to allow for a refinement of the preliminary site conceptual model detailed in this report.

## 17. Recommendations

As part of the proposed redevelopment, we recommend that the client undertakes the following action:

On receipt of final development plans and on completion of demolition of the existing structure on site, an intrusive investigation would be prudent to confirm the absence of an unacceptable risk to Human Health and Controlled Waters, and to inform the foundation design.

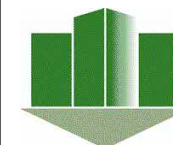
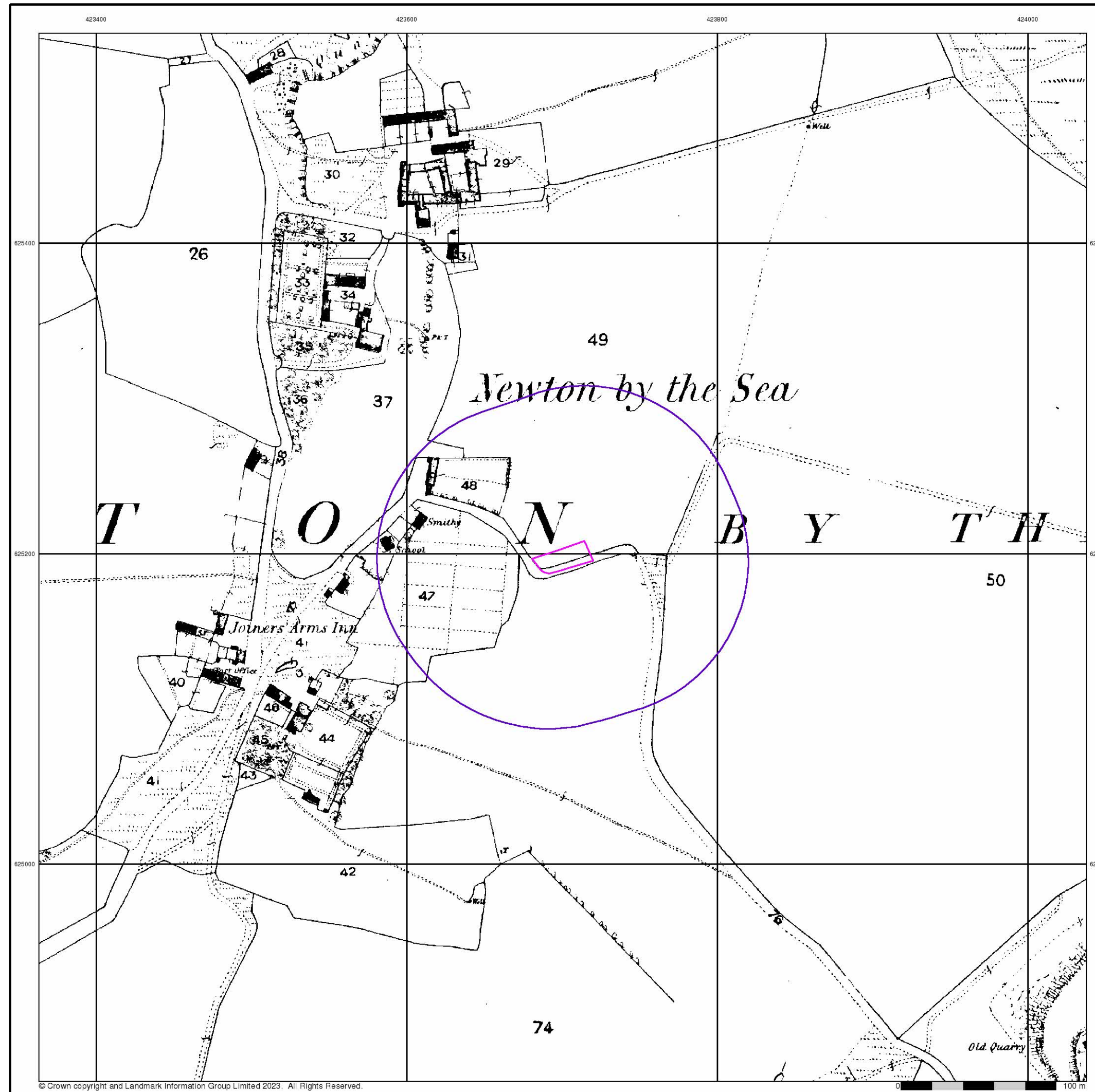
In the event that further works are carried out that involve the disturbance or demolition of the building or parts of the building, a refurbishment and demolition asbestos survey should be carried out and the information provided to the contractors undertaking the work.

Prior to the commencement of any redevelopment works, the contractor shall conduct a suitable and sufficient risk assessment and as a minimum future construction/ground workers should be provided with and make use of appropriate PPE.

Definitions and Reservations used in this report are presented in **Appendix III**.



## APPENDIX I      HISTORICAL MAPPING



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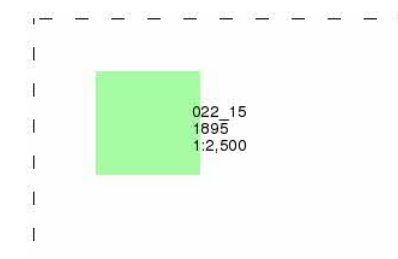
**Northumberland**

**Published 1895**

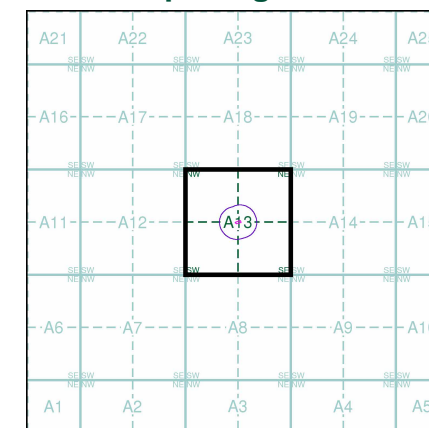
**Source map scale - 1:2,500**

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**

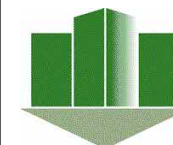
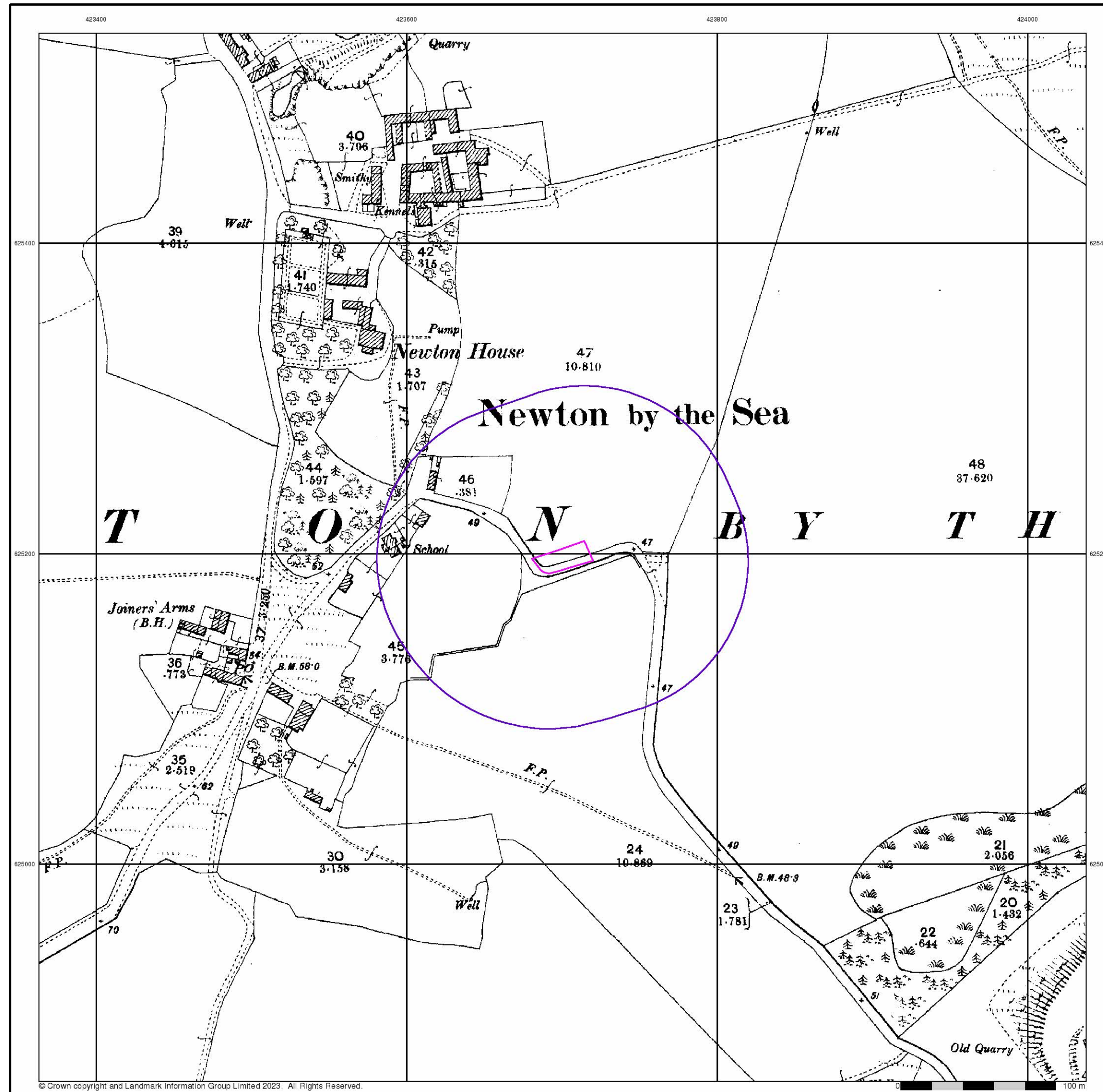
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 National Grid Reference: 423700, 625200  
 Slice: A  
 Site Area (Ha): 0.05  
 Search Buffer (m): 100

**Site Details**

Womens Institute, Newton Point, NEWTON-BY-THE-SEA, NE66 3EA

**Landmark**  
INFORMATION GROUP

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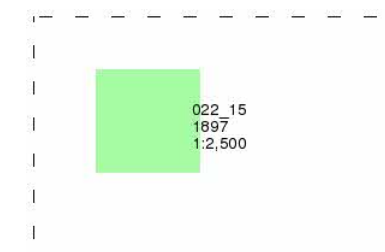
## Northumberland

Published 1897

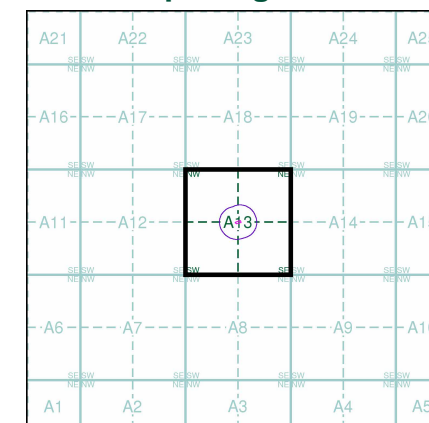
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered 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

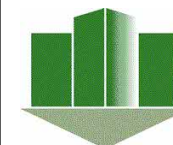
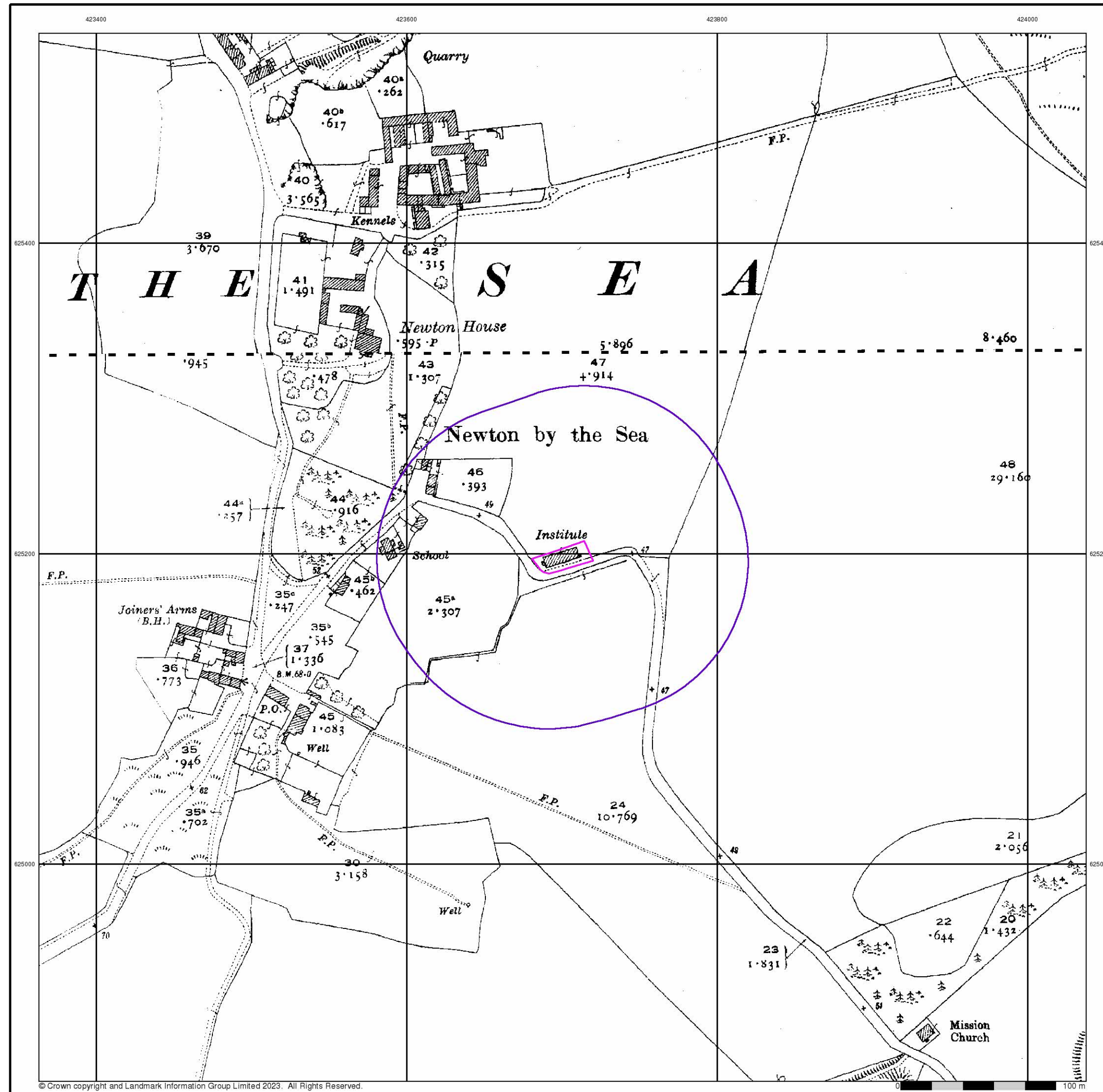
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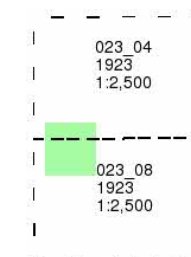
## Northumberland

Published 1923

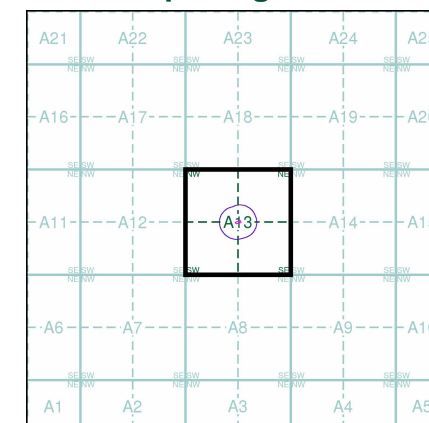
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### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

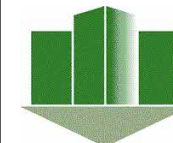
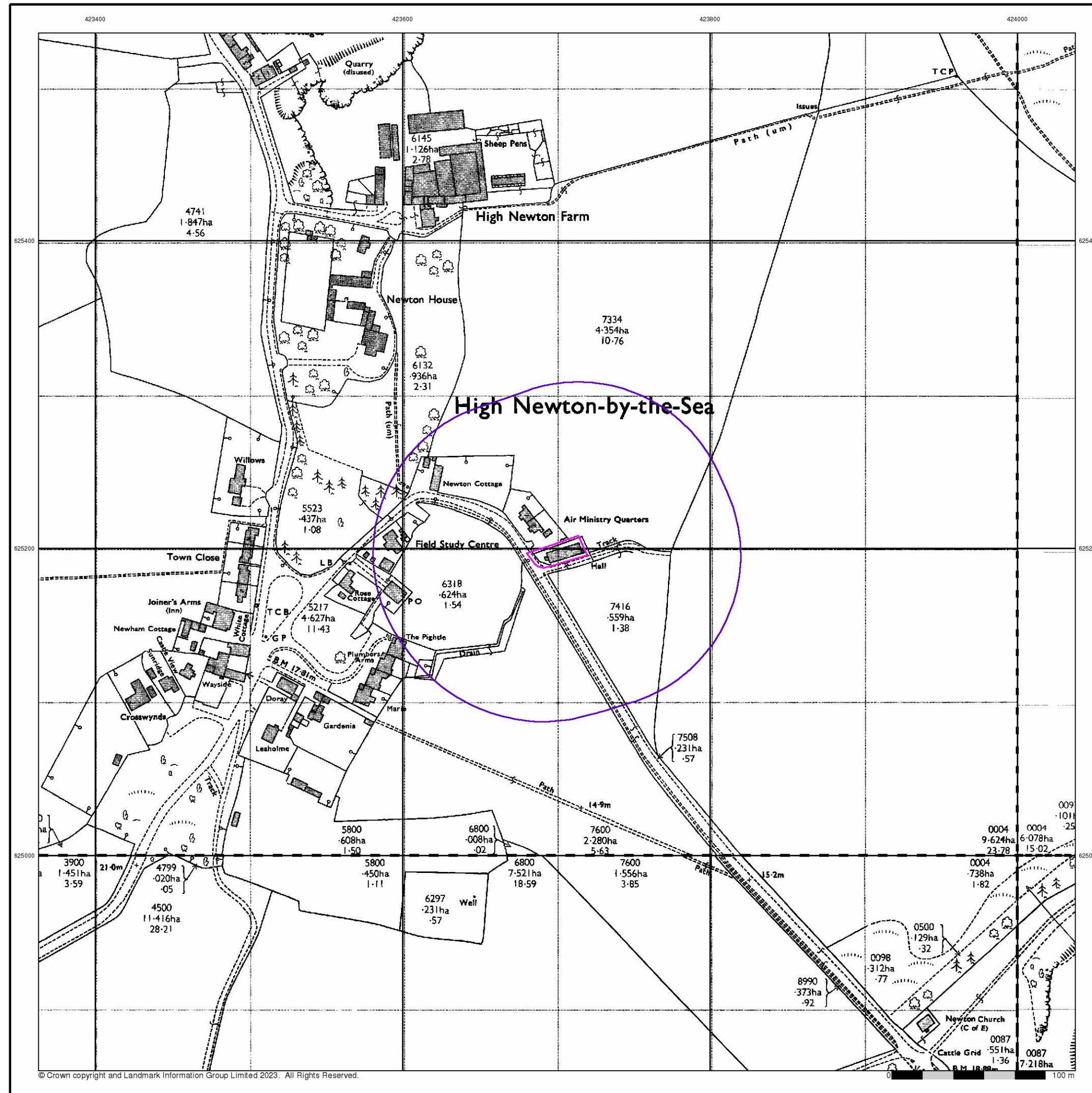
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## Ordnance Survey Plan

Published 1975 - 1976

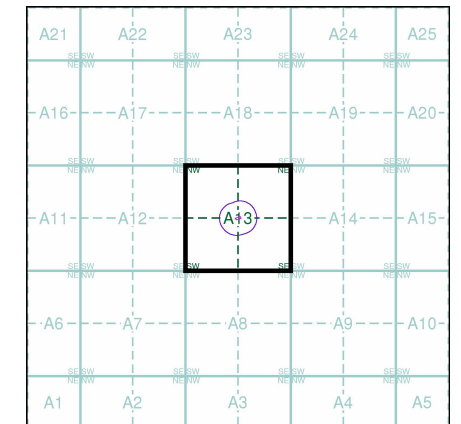
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### Map Name(s) and Date(s)

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NU2324 1976 1:2,500	NU2424 1975 1:2,500

### Historical Map - Segment A13



### Order Details

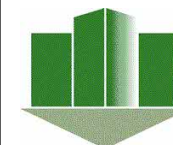
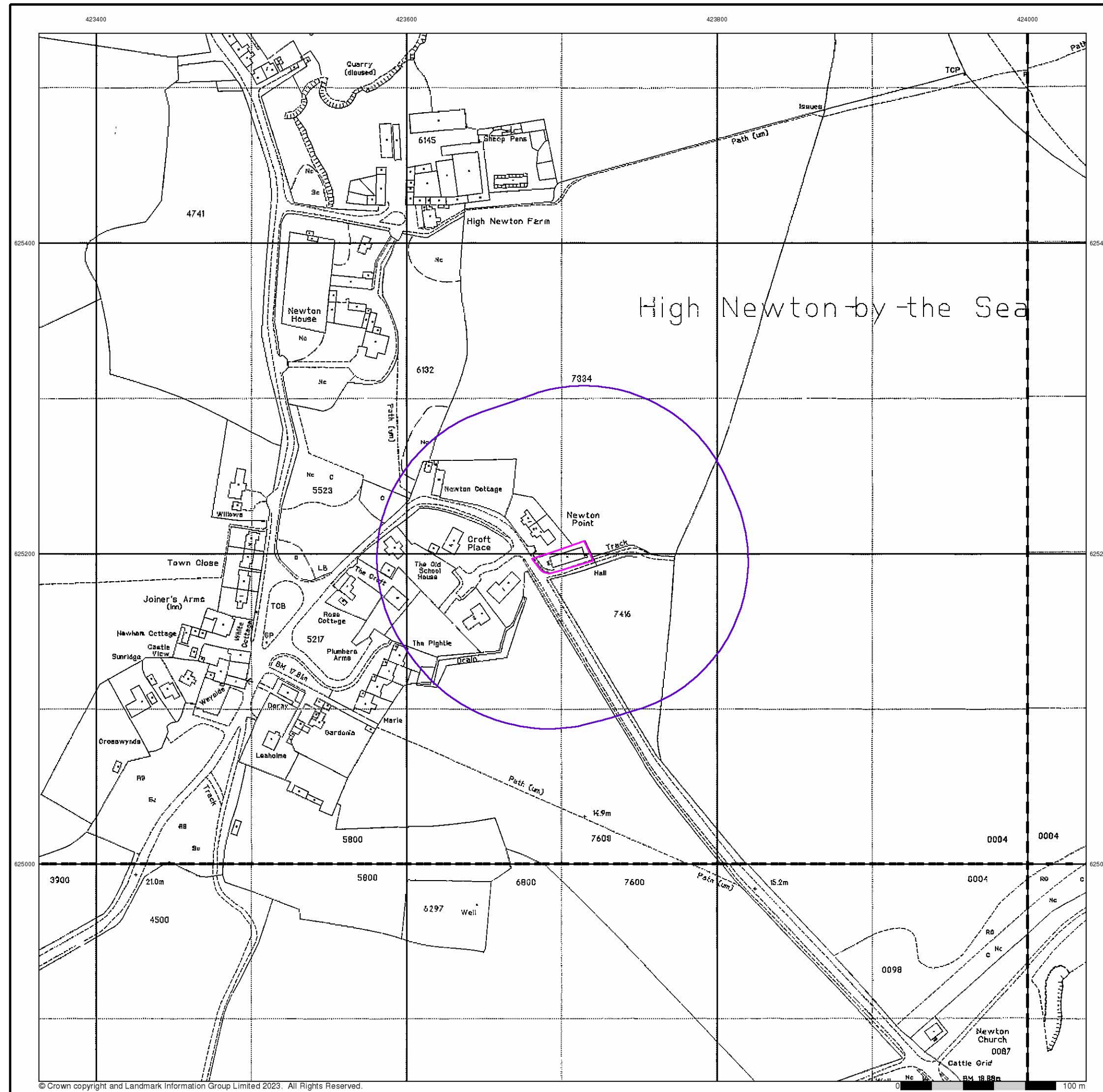
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## Large-Scale National Grid Data

Published 1994

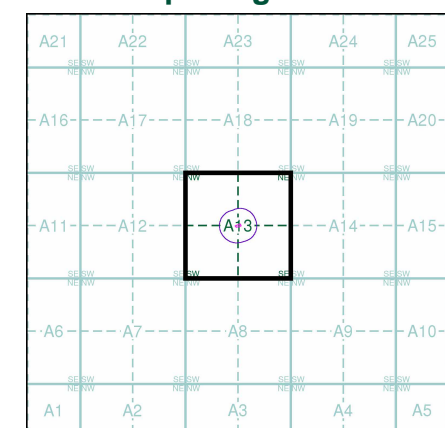
Source map scale - 1:2,500

'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)

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NU2324 1994 1:2,500	NU2424 1994 1:2,500

### Historical Map - Segment A13



### Order Details

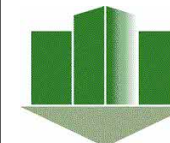
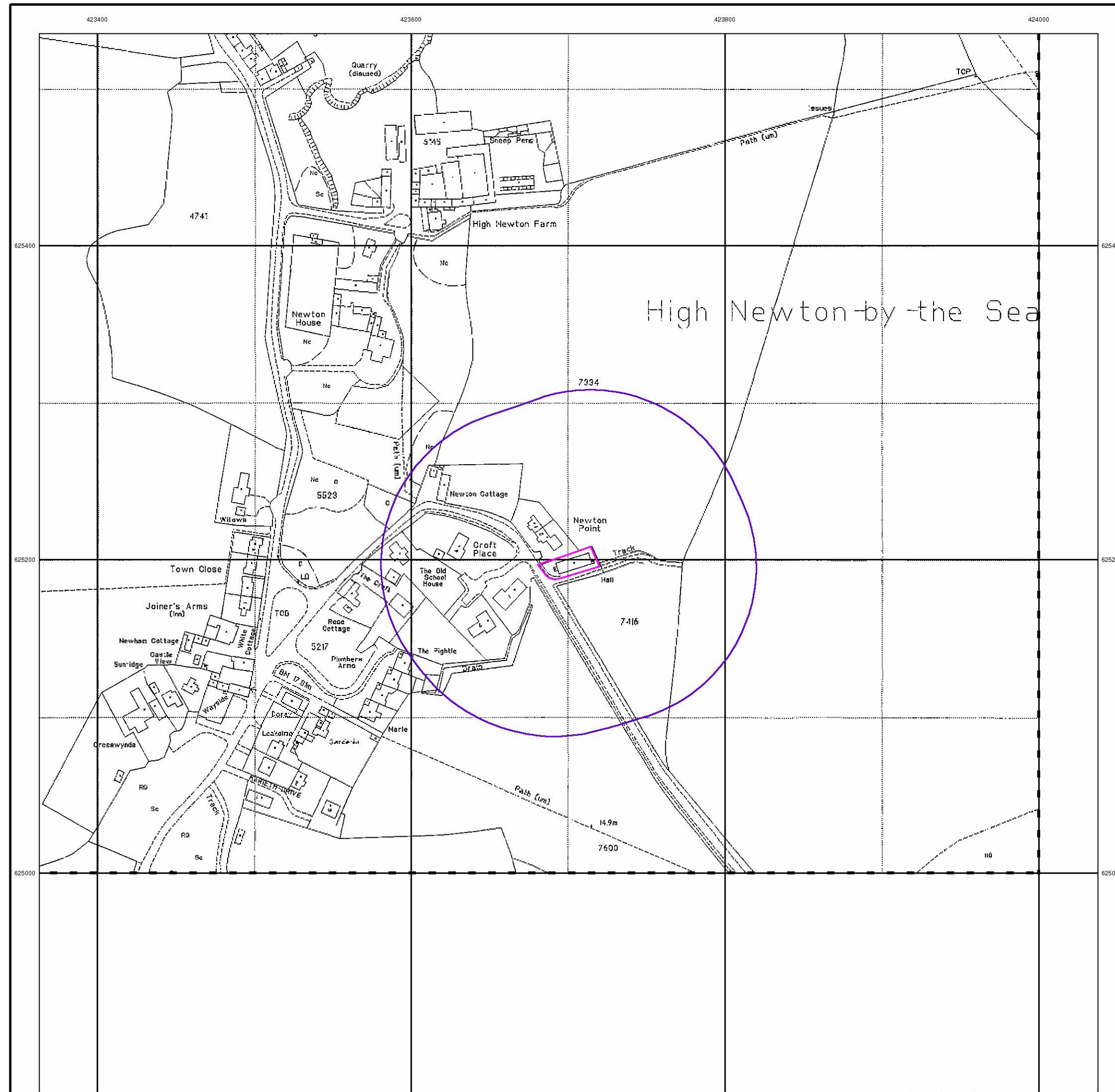
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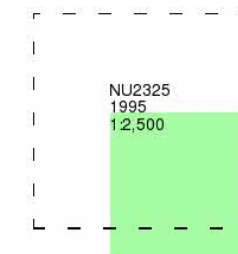
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Published 1995

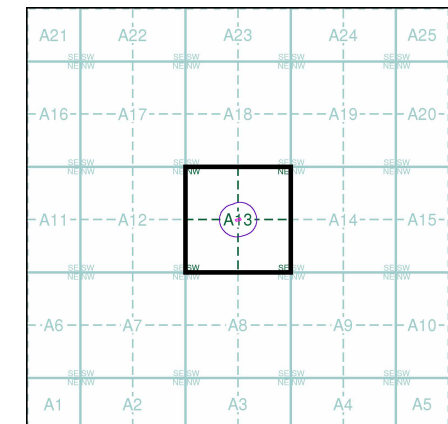
Source map scale - 1:2,500

'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



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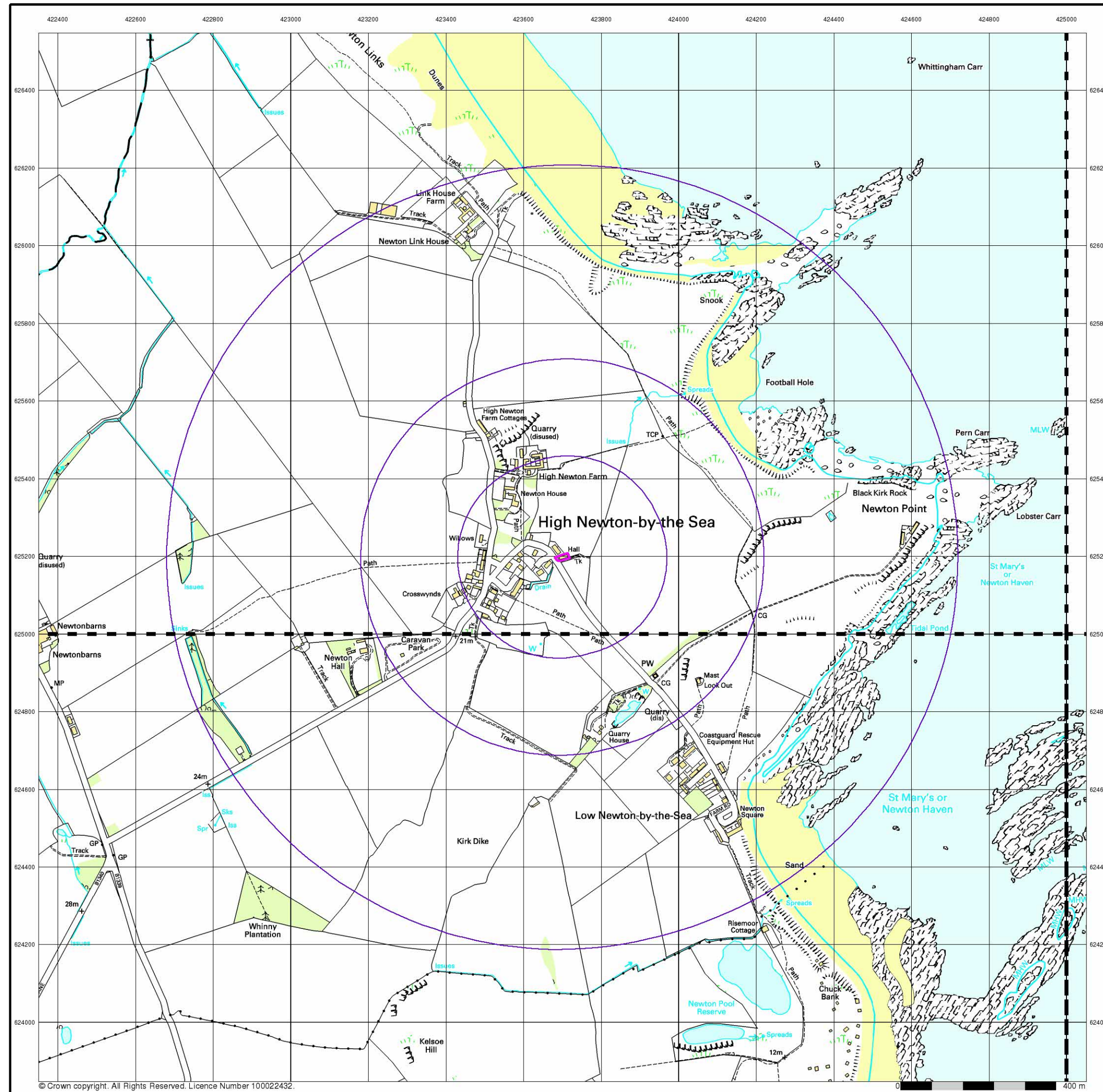
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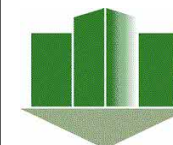
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## 10k Raster Mapping

Published 2000

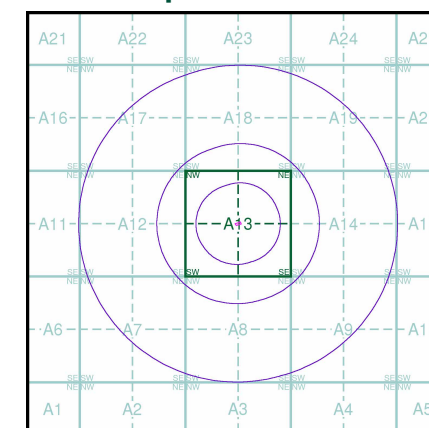
Source map scale - 1:10,000

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)

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NU22SW	2000	1:10,000
NU22SE	2000	1:10,000

### Historical Map - Slice A



### Order Details

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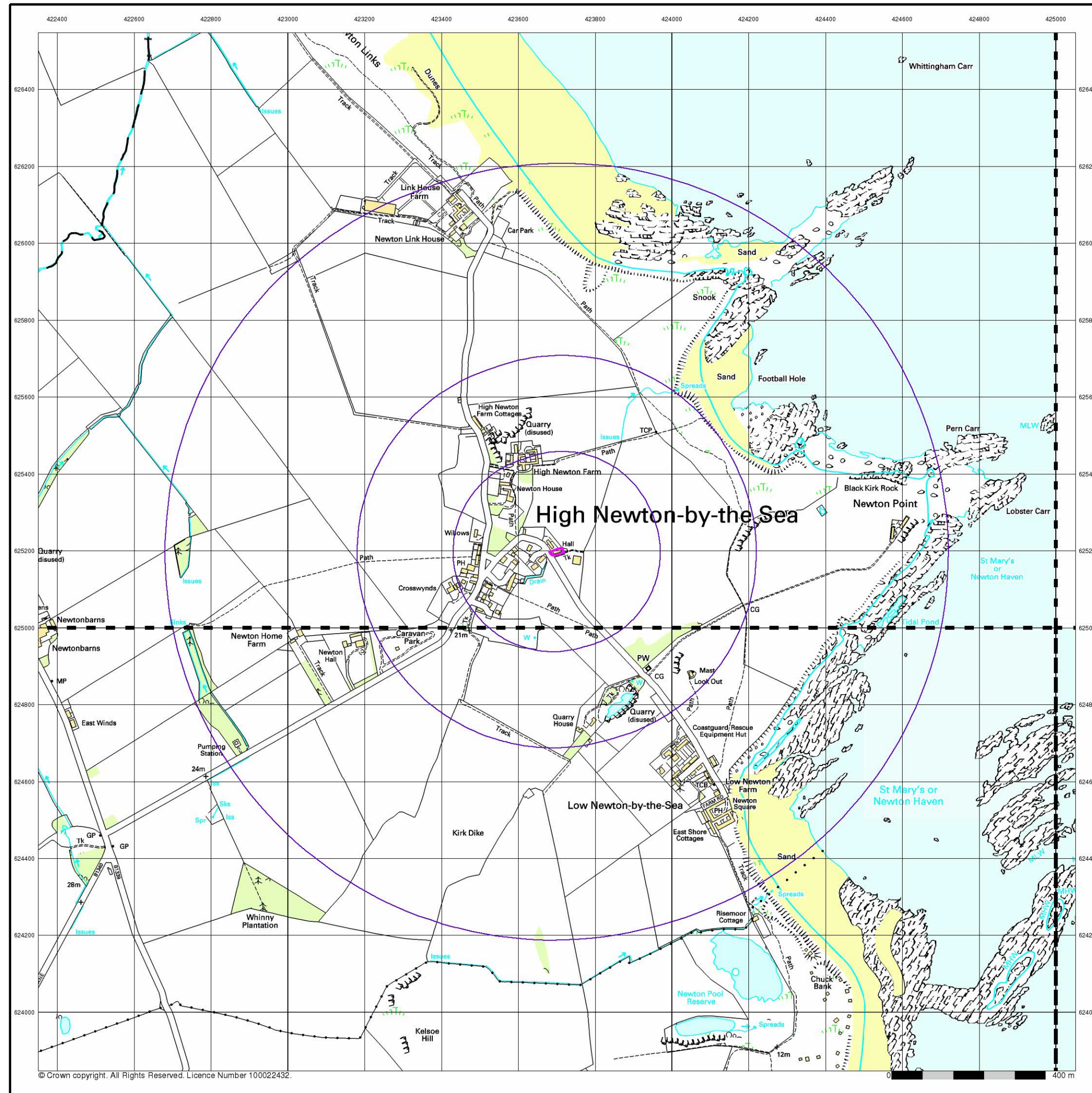
### Site Details

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 NE66 3EA

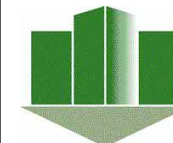


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## 10k Raster Mapping

Published 2006

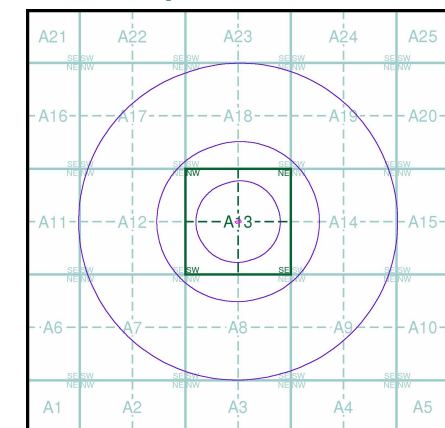
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The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, 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)

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2006		
1:10,000		
NU22SW	NU22SE	
2006	2006	
1:10,000	1:10,000	

### Historical Map - Slice A



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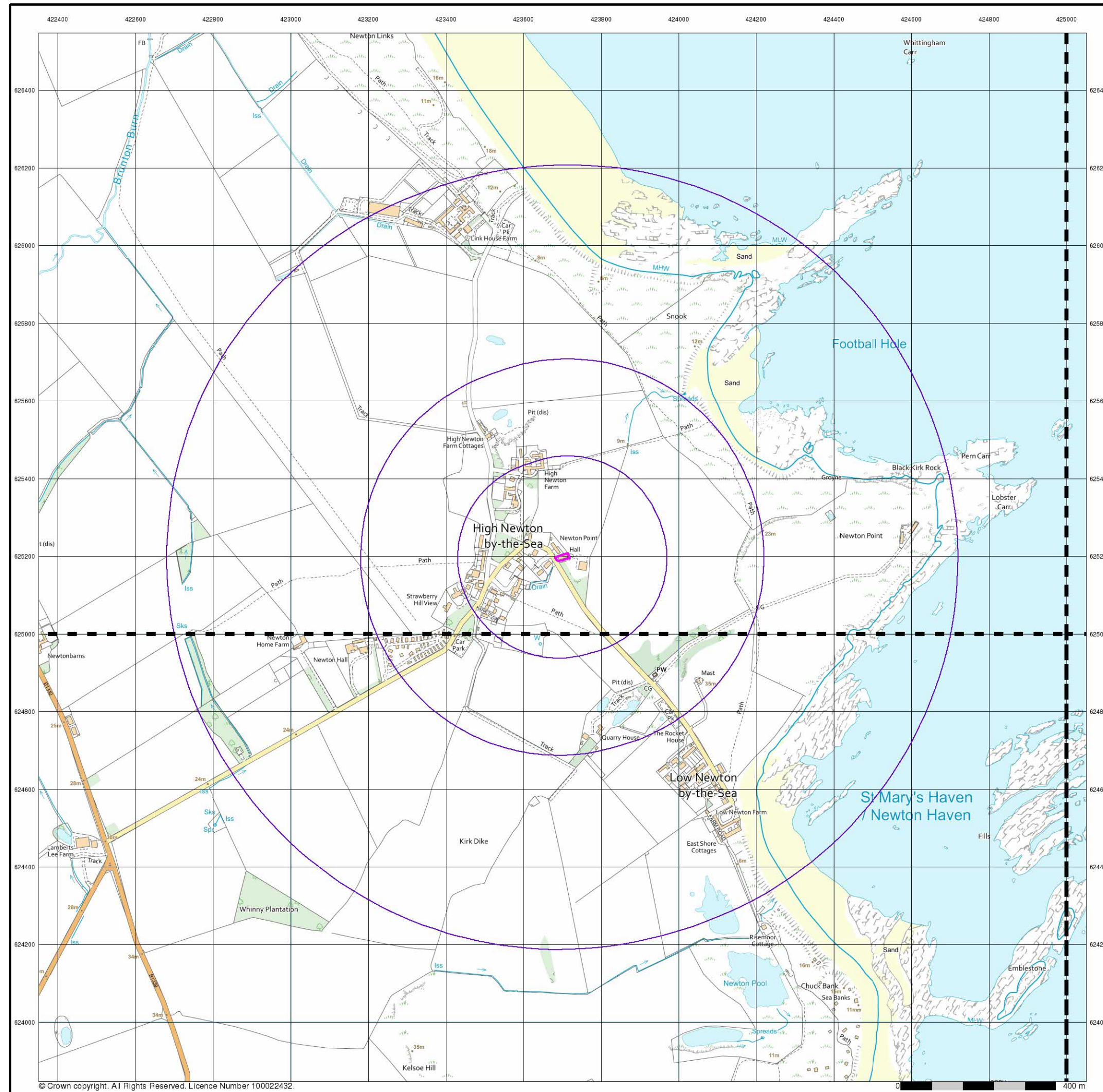
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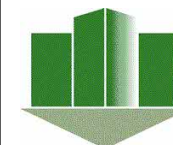
Womens Institute, Newton Point, NEWTON-BY-THE-SEA,  
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## VectorMap Local

Published 2023

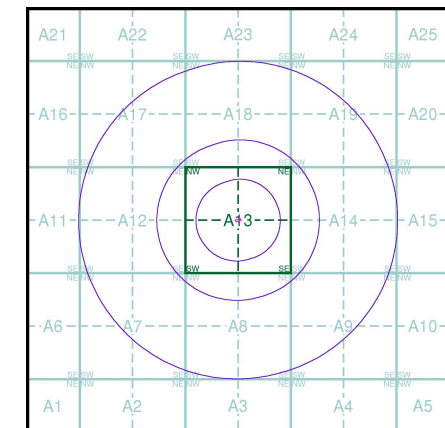
Source map scale - 1:10,000

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)

NU22NW 2023 Variable	NU22NE 2023 Variable
NU22SW 2023 Variable	NU22SE 2023 Variable

### Historical Map - Slice A



### Order Details

Order Number: 316761438\_1\_1  
 Customer Ref: 230907  
 National Grid Reference: 423700, 625200  
 Slice: A  
 Site Area (Ha): 0.05  
 Search Buffer (m): 1000

### Site Details

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## APPENDIX II      SUPPORTING INFORMATION

# Envirocheck<sup>®</sup> Report:

## Datasheet

### Order Details:

**Order Number:**

316761438\_1\_1

**Customer Reference:**

230907

**National Grid Reference:**

423700, 625200

**Slice:**

A

**Site Area (Ha):**

0.05

**Search Buffer (m):**

1000

### Site Details:

Womens Institute, Newton Point

NEWTON-BY-THE-SEA

NE66 3EA

### Client Details:

Mr J Roberts

Roberts Environmental Ltd

1 Croft Stairs

Newcastle Upon Tyne

NE1 2HG

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	7
Hazardous Substances	-
Geological	8
Industrial Land Use	12
Sensitive Land Use	13
Data Currency	15
Data Suppliers	22
Useful Contacts	23

## 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 this 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)
<b>Agency &amp; Hydrological</b>					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2			1	2
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					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 3		Yes		
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 3				1
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 3	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 3	1	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				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 4		1	3	14

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Waste</b>					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 7			1	
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 7	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 7			1	
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
<b>Hazardous Substances</b>					
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)
<b>Geological</b>					
BGS 1:625,000 Solid Geology	pg 8	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 8	Yes		Yes	Yes
BGS Recorded Mineral Sites	pg 9			4	
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 10	Yes	n/a	n/a	n/a
Mining Instability	pg 10	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 10	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 10	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 11		Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
<b>Industrial Land Use</b>					
Contemporary Trade Directory Entries					
Fuel Station Entries					
Points of Interest - Commercial Services					
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 12			4	
Points of Interest - Public Infrastructure					
Points of Interest - Recreational and Environmental	pg 12				1
Gas Pipelines					
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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Sensitive Land Use</b>					
Ancient Woodland					
Areas of Adopted Green Belt					
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Areas of Outstanding Natural Beauty	pg 13	1			
Environmentally Sensitive Areas					
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Local Nature Reserves					
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National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites	pg 13				1
Sites of Special Scientific Interest	pg 13				2
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Special Protection Areas	pg 14				2
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (S)	0	1	423701 625197
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	45	1	423700 625250
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	81	1	423800 625197
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	92	1	423701 625300
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (W)	131	1	423550 625197
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	132	1	423600 625300
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	181	1	423900 625197
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (E)	186	1	423900 625150
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (S)	188	1	423701 625000
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	192	1	423701 625400
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	203	1	423650 625400
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	204	1	423900 625100
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	212	1	423800 625000
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (W)	231	1	423450 625197
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	266	1	423600 625450
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	273	1	423950 625050
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	286	1	423550 625450
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	293	1	423700 625500
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	302	1	423950 625000
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	305	1	423900 624950
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	314	1	423600 625500
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	323	1	423850 624900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	337	1	423950 624950
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	342	1	424000 625000
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (NE)	368	1	423850 625550
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	373	1	424000 624950
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	375	1	424000 625450
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	375	1	423950 624900
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	381	1	423300 625200
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (SE)	384	1	424050 625000
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	431	1	424150 625200
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	438	1	423701 624750
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	446	1	424050 625500
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	483	1	424200 625150
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14NW (NE)	484	1	424100 625500
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	488	1	423700 624700
1	<b>Discharge Consents</b> Operator: Mr K G Holloway Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Hollowmere, The Quarry, Newton By The Sea, Alnwick Authority: Environment Agency, North East Region Catchment Area: N Northumberland/Holy Is Reference: 221/0184 Permit Version: 1 Effective Date: 9th August 1985 Issued Date: 9th August 1985 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Land/Soakaway Environment: Receiving Water: Land <b>Status: Transferred from COPA 1974</b> Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	390	2	423880 624840

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p><b>Discharge Consents</b></p> <p>Operator: Northumbrian Water Limited  Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY)  Location: P.S.No 2 (Low Newton), Low Newton, Northumberland  Authority: Environment Agency, North East Region  Catchment Area: Not Supplied  Reference: 221/1004  Permit Version: 1  Effective Date: 14th August 2000  Issued Date: 14th August 2000  Revocation Date: Not Supplied  Discharge Type: Sewage Discharges - Pumping Station - Water Company  Discharge: Controlled Sea  Environment:  Receiving Water: The North Sea  <b>Status: New Consent (Water Resources Act 1991, Section 88 &amp; Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A9NW (SE)	812	2	424260 624590
3	<p><b>Discharge Consents</b></p> <p>Operator: Northumbrian Water Limited  Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY)  Location: Newton Hall Ps, Newton-By-The-Sea, Alnwick, Northumberland  Authority: Environment Agency, North East Region  Catchment Area: N Northumberland/Holy Is  Reference: 221/0952  Permit Version: 1  Effective Date: 13th October 1995  Issued Date: 13th October 1995  Revocation Date: Not Supplied  Discharge Type: Sewage Discharges - Pumping Station - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Coastal Ditch  <b>Status: New Consent, by Application (Water Resources Act 1991, Section 88)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A7NW (SW)	935	2	422878 624718
	<b>Nearest Surface Water Feature</b>	A13SW (SW)	22	-	423675 625171
4	<p><b>Substantiated Pollution Incident Register</b></p> <p>Authority: Environment Agency - North East Region, North East Area  Incident Date: 7th October 2002  Incident Reference: 113025  Water Impact: Category 4 - No Impact  Air Impact: Category 3 - Minor Incident  Land Impact: Category 2 - Significant Incident  Positional Accuracy: Located by supplier to within 10m  Pollutant: Atmospheric Pollutants And Effects: Other Atmospheric Pollutant Or Effect</p>	A12SE (SW)	552	2	423210 624910
	<p><b>Groundwater Vulnerability Map</b></p> <p>Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability  Combined Vulnerability: Medium  Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer  Pollutant Speed: Low  Bedrock Flow: Well Connected Fractures  Dilution: &lt;300 mm/year  Baseflow Index: &lt;40%  Superficial: &gt;90%  Pachiness:  Superficial Thickness: &lt;3m  Superficial Recharge: High</p>	A13SE (S)	0	3	423701 625197
	<p><b>Groundwater Vulnerability - Soluble Rock Risk</b></p> <p>Classification: Very Significant Risk - Moderate Possibility</p>	A13SE (S)	0	3	423701 625197
	<p><b>Bedrock Aquifer Designations</b></p> <p>Aquifer Designation: Secondary Aquifer - A</p>	A13SE (S)	0	3	423701 625197
	<p><b>Superficial Aquifer Designations</b></p> <p>Aquifer Designation: Secondary Aquifer - Undifferentiated</p>	A13SE (S)	0	3	423701 625197
	<p><b>Extreme Flooding from Rivers or Sea without Defences</b></p> <p>None</p>				
	<p><b>Flooding from Rivers or Sea without Defences</b></p> <p>None</p>				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Areas Benefiting from Flood Defences</b> None				
	<b>Flood Water Storage Areas</b> None				
	<b>Flood Defences</b> None				
5	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 95.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A13SW (SW)	22	4	423675 625171
6	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 140.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A13NE (NE)	317	4	423868 625484
7	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A18SE (NE)	450	4	423917 625610
8	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 103.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A18SE (NE)	453	4	423919 625611
9	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 7.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A18SE (NE)	505	4	424011 625616
10	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 65.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A18SE (NE)	510	4	424018 625617
11	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 338.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A7NW (SW)	931	4	422886 624713
12	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 6.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A7NW (SW)	934	4	422895 624693

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 166.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A12NW (W)	935	4	422747 625235
14	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A7NW (SW)	937	4	422895 624687
15	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A12NW (W)	941	4	422745 625288
16	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 317.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A12NW (W)	942	4	422744 625292
17	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 10.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A7NW (SW)	942	4	422895 624679
18	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 123.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A7NW (SW)	947	4	422895 624669
19	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 156.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A17NE (NW)	954	4	423268 626056
20	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 124.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A12SW (W)	961	4	422731 625055
21	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 193.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A12SW (W)	962	4	422741 624991

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 13.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Berwick to Alnmouth Coast Primacy: 1	A12SW (W)	962	4	422740 625000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	<p><b>Historical Landfill Sites</b></p> <p>Licence Holder: Not Supplied            Location: Alnwick, Northumberland            Name: Coastguard Watch            Operator Location: Not Supplied            Boundary Accuracy: As Supplied            Provider Reference: EAHLD06464            First Input Date: Not Supplied            Last Input Date: Not Supplied            Specified Waste: Deposited Waste included Commercial and Household Waste            Type:            EA Waste Ref: 0            Regis Ref: Not Supplied            WRC Ref: 2900/0137            BGS Ref: Not Supplied            Other Ref: PA 008</p>	A13SE (SE)	315	2	423977 625014
	<p><b>Local Authority Landfill Coverage</b></p> <p>Name: Northumberland County Council            - Has supplied landfill data</p>		0	6	423701 625197
	<p><b>Local Authority Landfill Coverage</b></p> <p>Name: Alnwick District Council            - Has no landfill data to supply</p>		0	5	423701 625197
24	<p><b>Local Authority Recorded Landfill Sites</b></p> <p>Location: Coastguard Watch, Newton By-The-Sea            Reference: PA8            Authority: Northumberland County Council (now part of Northumberland Council)  <b>Last Reported Status:</b> Unknown            Types of Waste: Household            Date of Closure: Not Supplied            Positional Accuracy: Approximate location provided by supplier            Boundary Quality: Not Applicable</p>	A13SE (SE)	342	6	424000 625000



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS 1:625,000 Solid Geology</b> Description: Yoredale Group	A13SE (S)	0	1	423701 625197
	<b>BGS Estimated Soil Chemistry</b> 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 (S)	0	1	423701 625197
	<b>BGS Estimated Soil Chemistry</b> 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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A14NW (E)	417	1	424115 625325
	<b>BGS Estimated Soil Chemistry</b> 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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A18SE (NE)	451	1	423914 625612
	<b>BGS Estimated Soil Chemistry</b> 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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A14NW (E)	574	1	424287 625283
	<b>BGS Estimated Soil Chemistry</b> 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	A19SW (NE)	672	1	424215 625656
	<b>BGS Estimated Soil Chemistry</b> 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: 90 - 120 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A18NE (N)	703	1	423736 625911

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel <15 mg/kg Concentration:	A14NW (NE)	707	1	424343 625530
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NE (N)	772	1	423860 625966
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic no data Concentration: Cadmium <1.8 mg/kg Concentration: Chromium no data Concentration: Lead Concentration: <100 mg/kg Nickel no data Concentration:	A18NE (N)	934	1	423886 626126
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel <15 mg/kg Concentration:	A17NE (NW)	939	1	423289 626049
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel <15 mg/kg Concentration:	A14NE (E)	999	1	424701 625379
25	<b>BGS Recorded Mineral Sites</b> Site Name: Newton By The Sea Location: High Newton By The Sea, Bamburgh, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 112515 Type: Opencast <b>Status: Ceased</b> Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Great Whin Sill Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A18SW (N)	359	1	423621 625554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	<b>BGS Recorded Mineral Sites</b> Site Name: St Mary'S Or Newton Haven Location: Low Newton By The Sea, Embleton, Alnwick, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 112516 Type: Opencast <b>Status: Ceased</b> Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Alston Formation Commodity: Mineral Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	414	1	423881 624814
27	<b>BGS Recorded Mineral Sites</b> Site Name: Newton By The Sea Location: High Newton By The Sea, Bamburgh, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 112522 Type: Opencast <b>Status: Ceased</b> Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Great Whin Sill Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	448	1	424125 625005
28	<b>BGS Recorded Mineral Sites</b> Site Name: Newton By The Sea Location: High Newton By The Sea, Bamburgh, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 112520 Type: Opencast <b>Status: Ceased</b> Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Great Whin Sill Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	466	1	424028 624847
	<b>BGS Measured Urban Soil Chemistry</b> No data available				
	<b>BGS Urban Soil Chemistry Averages</b> No data available				
	<b>Coal Mining Affected Areas</b> Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SE (S)	0	7	423701 625197
	<b>Mining Instability</b> Mining Evidence: Conclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SE (S)	0	-	423701 625197
	<b>Non Coal Mining Areas of Great Britain</b> Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Non Coal Mining Areas of Great Britain</b> Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	152	1	423771 625049
	<b>Non Coal Mining Areas of Great Britain</b> Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000
	<b>Non Coal Mining Areas of Great Britain</b> Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	189	1	423668 625000
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	78	1	423615 625240
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	83	1	423623 625256
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	171	1	423796 625358
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	225	1	423944 625180
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	246	1	423462 625308
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	246	1	423462 625308
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	188	1	423701 625000
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	246	1	423462 625308
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	423701 625197

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	<b>Points of Interest - Manufacturing and Production</b> Name: Quarry (Disused) Location: NE66 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A13NW (N)	323	8	423581 625503
29	<b>Points of Interest - Manufacturing and Production</b> Name: Quarry (Disused) Location: NE66 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	339	8	423561 625513
30	<b>Points of Interest - Manufacturing and Production</b> Name: Quarry (Disused) Location: NE66 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	392	8	423912 624854
30	<b>Points of Interest - Manufacturing and Production</b> Name: Quarry (Disused) Location: NE66 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	397	8	423914 624850
31	<b>Points of Interest - Recreational and Environmental</b> Name: Play Area Location: NE66 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	953	8	423370 626097

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	<b>Areas of Outstanding Natural Beauty</b> Name: Northumberland Coast Multiple Areas: Y Total Area (m2): 133352524.89558241 Designation Date: 30th March 1958 Source: Natural England	A13SE (S)	0	9	423701 625197
33	<b>Marine Nature Reserves</b> Name: Berwick To St Marys Multiple Area: Y Area (m2): 303194606.68 Source: Natural England	A14NW (NE)	523	9	424145 625502
34	<b>Ramsar Sites</b> Name: Northumbria Coast Multiple Areas: Y Total Area (m2): 10598524.97 Source: Natural England Reference: UK11049 Designation Date: Not Supplied	A18SE (NE)	502	9	424009 625614
35	<b>Sites of Special Scientific Interest</b> Name: Northumberland Shore Multiple Areas: Y Total Area (m2): 18836840.71 Source: Natural England Reference: 2000134 Designation Details: Local Nature Reserve Designation Date: 11th December 1992 Date Type: Notified Designation Details: Special Area Of Conservation Designation Date: 11th December 1992 Date Type: Notified Designation Details: Special Protection Area Designation Date: 11th December 1992 Date Type: Notified Designation Details: Site Of Special Scientific Interest Designation Date: 11th December 1992 Date Type: Notified Designation Details: Water Framework Directive (WFD) Designation Date: 11th December 1992 Date Type: Notified	A18SE (NE)	502	9	424009 625614
36	<b>Sites of Special Scientific Interest</b> Name: Newton Links Multiple Areas: N Total Area (m2): 800054.64 Source: Natural England Reference: 1002860 Designation Details: National Trust Reserve Designation Date: 1st July 1988 Date Type: Notified Designation Details: Special Area Of Conservation Designation Date: 1st July 1988 Date Type: Notified Designation Details: Site Of Special Scientific Interest Designation Date: 1st July 1988 Date Type: Notified Designation Details: Water Framework Directive (WFD) Designation Date: 1st July 1988 Date Type: Notified	A18NW (N)	958	9	423444 626127
37	<b>Special Areas of Conservation</b> Name: Berwickshire And North Northumberland Coast Multiple Areas: Y Total Area (m2): 650548295.47 Source: NatureScot Reference: 8207 <b>Status: Designated</b>	A18SE (NE)	502	10	424008 625614
38	<b>Special Areas of Conservation</b> Name: Berwickshire & North Northumberland Coast Multiple Areas: N Total Area (m2): 652748243.77 Source: Natural England Reference: UK0017072 <b>Status: Designated</b>	A18SE (NE)	502	9	424009 625614

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	<b>Special Areas of Conservation</b> Name: North Northumberland Dunes Multiple Areas: Y Total Area (m2): 11342563.52 Source: Natural England Reference: UK0017097 Status: <b>Designated</b>	A18NW (N)	958	9	423444 626127
40	<b>Special Protection Areas</b> Name: Northumbria Coast Multiple Areas: Y Total Area (m2): 10972556.52 Source: Natural England Reference: UK9006131 Designation Date: Not Supplied	A18SE (NE)	502	9	424009 625614
41	<b>Special Protection Areas</b> Name: Northumberland Marine Multiple Areas: N Total Area (m2): 884986606.57 Source: Natural England Reference: UK9020325 Designation Date: Not Supplied	A14NW (NE)	523	9	424145 625502

Agency & Hydrological	Version	Update Cycle
<b>Contaminated Land Register Entries and Notices</b> Alnwick District Council (now part of Northumberland Council) - Environmental Health Department Northumberland Council - Environmental Health Department Environment Agency - Head Office Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Environmental Health Department	December 2019  January 2020 June 2020 September 2017	Annually Annually
<b>Discharge Consents</b> Environment Agency - North East Region	July 2023	Quarterly
<b>Enforcement and Prohibition Notices</b> Environment Agency - North East Region	March 2013	
<b>Integrated Pollution Controls</b> Environment Agency - North East Region	January 2009	
<b>Integrated Pollution Prevention And Control</b> Environment Agency - North East Region	January 2023	Quarterly
<b>Local Authority Integrated Pollution Prevention And Control</b> Alnwick District Council (now part of Northumberland Council) - Environmental Health Department Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Environmental Health Department Northumberland Council - Environmental Health Department	April 2009  March 2005  May 2014	Not Applicable  Not Applicable  Variable
<b>Local Authority Pollution Prevention and Controls</b> Alnwick District Council (now part of Northumberland Council) - Environmental Health Department Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Environmental Health Department Northumberland Council - Environmental Health Department	April 2009  March 2005  May 2014	Not Applicable  Not Applicable  Annually
<b>Local Authority Pollution Prevention and Control Enforcements</b> Alnwick District Council (now part of Northumberland Council) - Environmental Health Department Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Environmental Health Department Northumberland Council - Environmental Health Department	April 2009  March 2005  May 2014	Not Applicable  Not Applicable  Variable
<b>Nearest Surface Water Feature</b> Ordnance Survey	July 2023	
<b>Pollution Incidents to Controlled Waters</b> Environment Agency - North East Region	December 1998	
<b>Prosecutions Relating to Authorised Processes</b> Environment Agency - North East Region	July 2015	
<b>Prosecutions Relating to Controlled Waters</b> Environment Agency - North East Region	March 2013	
<b>Registered Radioactive Substances</b> Environment Agency - North East Region Environment Agency - Head Office	June 2016 May 2023	As notified Quarterly
<b>River Quality</b> Environment Agency - Head Office	November 2001	Not Applicable
<b>River Quality Biology Sampling Points</b> Environment Agency - Head Office	April 2012	
<b>River Quality Chemistry Sampling Points</b> Environment Agency - Head Office	April 2012	
<b>Substantiated Pollution Incident Register</b> Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	July 2023 July 2023	Quarterly Quarterly



Agency & Hydrological	Version	Update Cycle
<b>Water Abstractions</b> Environment Agency - North East Region	April 2023	Quarterly
<b>Water Industry Act Referrals</b> Environment Agency - North East Region	October 2017	
<b>Groundwater Vulnerability Map</b> Environment Agency - Head Office	June 2018	As notified
<b>Groundwater Vulnerability - Soluble Rock Risk</b> Environment Agency - Head Office	June 2018	As notified
<b>Bedrock Aquifer Designations</b> Environment Agency - Head Office	January 2018	Annually
<b>Superficial Aquifer Designations</b> Environment Agency - Head Office	January 2018	Annually
<b>Source Protection Zones</b> Environment Agency - Head Office	September 2022	Bi-Annually
<b>Extreme Flooding from Rivers or Sea without Defences</b> Environment Agency - Head Office	August 2023	Quarterly
<b>Flooding from Rivers or Sea without Defences</b> Environment Agency - Head Office	August 2023	Quarterly
<b>Areas Benefiting from Flood Defences</b> Environment Agency - Head Office	February 2023	Quarterly
<b>Flood Water Storage Areas</b> Environment Agency - Head Office	August 2023	Quarterly
<b>Flood Defences</b> Environment Agency - Head Office	August 2022	Quarterly
<b>OS Water Network Lines</b> Ordnance Survey	July 2023	Quarterly
<b>Surface Water 1 in 30 year Flood Extent</b> Environment Agency - Head Office	May 2018	Annually
<b>Surface Water 1 in 100 year Flood Extent</b> Environment Agency - Head Office	May 2018	Annually
<b>Surface Water 1 in 1000 year Flood Extent</b> Environment Agency - Head Office	May 2018	Annually
<b>Surface Water Suitability</b> Environment Agency - Head Office	February 2016	Annually
<b>BGS Groundwater Flooding Susceptibility</b> British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
<b>BGS Recorded Landfill Sites</b> British Geological Survey - National Geoscience Information Service	November 2002	As notified
<b>Historical Landfill Sites</b> Environment Agency - Head Office	July 2023	Quarterly
<b>Integrated Pollution Control Registered Waste Sites</b> Environment Agency - North East Region	January 2009	Not Applicable
<b>Licensed Waste Management Facilities (Landfill Boundaries)</b> Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	July 2023 July 2023	Quarterly Quarterly
<b>Licensed Waste Management Facilities (Locations)</b> Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	January 2023 January 2023	Quarterly Quarterly
<b>Local Authority Landfill Coverage</b> Alnwick District Council (now part of Northumberland Council) Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Environmental Health Department Northumberland County Council (now part of Northumberland Council)	February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable
<b>Local Authority Recorded Landfill Sites</b> Alnwick District Council (now part of Northumberland Council) Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Environmental Health Department Northumberland County Council (now part of Northumberland Council)	October 2018 October 2018 October 2018	
<b>Potentially Infilled Land (Non-Water)</b> Landmark Information Group Limited	December 1999	
<b>Potentially Infilled Land (Water)</b> Landmark Information Group Limited	December 1999	
<b>Registered Landfill Sites</b> Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	March 2006 March 2006	Not Applicable Not Applicable
<b>Registered Waste Transfer Sites</b> Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	April 2018 April 2018	
<b>Registered Waste Treatment or Disposal Sites</b> Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	June 2015 June 2015	

Hazardous Substances	Version	Update Cycle
<b>Control of Major Accident Hazards Sites (COMAH)</b> Health and Safety Executive	March 2023	Bi-Annually
<b>Explosive Sites</b> Health and Safety Executive	March 2017	
<b>Notification of Installations Handling Hazardous Substances (NIHHS)</b> Health and Safety Executive	August 2001	
<b>Planning Hazardous Substance Enforcements</b> Alnwick District Council (now part of Northumberland Council) Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Planning Department Northumberland Council - Planning Department Northumberland County Council (now part of Northumberland Council) - Minerals Waste and Development Control	February 2009 March 2009 May 2023 October 2008	Not Applicable Not Applicable Variable Annual Rolling Update
<b>Planning Hazardous Substance Consents</b> Alnwick District Council (now part of Northumberland Council) Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Planning Department Northumberland County Council (now part of Northumberland Council) - Minerals Waste and Development Control Northumberland Council - Planning Department	February 2009 March 2009 October 2008 October 2015	Not Applicable Not Applicable Annual Rolling Update Variable

Geological	Version	Update Cycle
<b>BGS 1:625,000 Solid Geology</b> British Geological Survey - National Geoscience Information Service	January 2009	As notified
<b>BGS Estimated Soil Chemistry</b> British Geological Survey - National Geoscience Information Service	December 2015	As notified
<b>BGS Recorded Mineral Sites</b> British Geological Survey - National Geoscience Information Service	June 2023	Bi-Annually
<b>CBSCB Compensation District</b> Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
<b>Coal Mining Affected Areas</b> The Coal Authority - Property Searches	February 2023	Annual Rolling Update
<b>Mining Instability</b> Ove Arup & Partners	June 1998	Not Applicable
<b>Non Coal Mining Areas of Great Britain</b> British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
<b>Potential for Collapsible Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	April 2020	As notified
<b>Potential for Compressible Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	January 2019	As notified
<b>Potential for Ground Dissolution Stability Hazards</b> British Geological Survey - National Geoscience Information Service	January 2019	As notified
<b>Potential for Landslide Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	January 2019	As notified
<b>Potential for Running Sand Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	January 2019	As notified
<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	January 2019	As notified
<b>Radon Potential - Radon Affected Areas</b> British Geological Survey - National Geoscience Information Service	September 2022	Annually
<b>Radon Potential - Radon Protection Measures</b> British Geological Survey - National Geoscience Information Service	September 2022	Annually

Industrial Land Use	Version	Update Cycle
<b>Contemporary Trade Directory Entries</b> Thomson Directories	July 2023	Quarterly
<b>Fuel Station Entries</b> Catalist Ltd - Experian	June 2023	Quarterly
<b>Gas Pipelines</b> National Grid	October 2021	Bi-Annually
<b>Points of Interest - Commercial Services</b> PointX	September 2023	Quarterly
<b>Points of Interest - Education and Health</b> PointX	September 2023	Quarterly
<b>Points of Interest - Manufacturing and Production</b> PointX	September 2023	Quarterly
<b>Points of Interest - Public Infrastructure</b> PointX	September 2023	Quarterly
<b>Points of Interest - Recreational and Environmental</b> PointX	September 2023	Quarterly
<b>Underground Electrical Cables</b> National Grid	February 2023	Bi-Annually

Sensitive Land Use	Version	Update Cycle
<b>Ancient Woodland</b> Natural England	April 2023	Bi-Annually
<b>Areas of Adopted Green Belt</b> Alnwick District Council (now part of Northumberland Council) Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Planning Department Northumberland Council - Planning Department	August 2023 August 2023 August 2023	Quarterly Quarterly Quarterly
<b>Areas of Unadopted Green Belt</b> Alnwick District Council (now part of Northumberland Council) Berwick-upon-Tweed Borough Council (now part of Northumberland Council) - Planning Department Northumberland Council - Planning Department	August 2023 August 2023 August 2023	Quarterly Quarterly Quarterly
<b>Areas of Outstanding Natural Beauty</b> Natural England	April 2023	Bi-Annually
<b>Environmentally Sensitive Areas</b> Natural England	August 2023	
<b>Forest Parks</b> Forestry Commission	May 2023	Not Applicable
<b>Local Nature Reserves</b> Natural England	August 2023	Bi-Annually
<b>Marine Nature Reserves</b> Natural England	April 2023	Bi-Annually
<b>National Nature Reserves</b> Natural England	February 2023	Bi-Annually
<b>National Parks</b> Natural England	February 2018	Bi-Annually
<b>Nitrate Sensitive Areas</b> Natural England	April 2023	Not Applicable
<b>Nitrate Vulnerable Zones</b> Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Environment Agency - Head Office	April 2016 March 2023	Bi-Annually
<b>Ramsar Sites</b> Natural England	March 2023	Bi-Annually
<b>Sites of Special Scientific Interest</b> Natural England	March 2023	Bi-Annually
<b>Special Areas of Conservation</b> Natural England NatureScot	April 2023 April 2023	Bi-Annually Bi-Annually
<b>Special Protection Areas</b> Natural England	April 2023	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	 <b>British Geological Survey</b> <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Centre for Ecology and Hydrology	 <b>Centre for Ecology &amp; Hydrology</b> <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	<b>British Geological Survey - Enquiry Service</b> British Geological Survey, Environmental Science 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	<b>Environment Agency - National Customer Contact Centre (NCCC)</b> PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	<b>Environment Agency - Head Office</b> Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	<b>Ordnance Survey</b> Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	<b>Alnwick District Council (now part of Northumberland Council)</b> County Hall, Morpeth, Northumberland, NE61 2EF	Telephone: 0845 600 6400 Website: www.northumberland.gov.uk
6	<b>Northumberland County Council (now part of Northumberland Council)</b> County Hall, Morpeth, Northumberland, NE61 2EF	Telephone: 01670 533000 Fax: 01670 534160 Website: www.northumberland.gov.uk
7	<b>The Coal Authority - Property Searches</b> 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
8	<b>PointX</b> 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	<b>Natural England</b> County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
10	<b>NatureScot</b> Great Glen House, Leachkin Road, Inverness, IV3 8NW	Telephone: 01463 725000 Email: enquiries@nature.scot Website: www.nature.scot
-	<b>Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards</b> Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	<b>Landmark Information Group Limited</b> 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.





**Holst Soil Engineering Limited**



**PARKSIDE LANE  
LEEDS LS163X.**

Contract No. SI 0848/F2442

Borehole No. 14

Location Alnwick R.D.C. Main Drainage (Newton by the Sea)

Ground Level 18.070

Client O. Balfour & Sons

Date 24.3.73

**BOREHOLE LOG**

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c kN/m <sup>2</sup>	φ deg.	m.c %	γ kg/cu m.	N
TOP SOIL		0.50	0.50	0.65					
Firm to stiff brown silty sandy stoney CLAY (Boulder Clay)				1.60	69.7	0	19.8	2120	
				2.55	27.6	0	14.3	2100	
		4.90	4.40	4.30	120.7	6	12.7	2222	
Weathered dark grey/black shaly NUDSTONE		5.50	0.60	5.35					108 for 0.15

Water Struck at None Encountered Maximum Observed Water Level

Undisturbed Sample  Sample Disturbed   
 Disturbed Sample   
 Water Sample   
 Penetration Test

c = Cohesion  
 φ = Angle of Internal Friction  
 m.c = Moisture Content  
 γ = Bulk Density  
 N = Standard Penetration Value

Water levels are subject to seasonal or tidal variation and should not be taken as constant

# UNEXPLODED BOMB RISK MAP



## SITE LOCATION

Location: NE66 3EA,  
Map Centre: 423489,625117



## LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- military
- industry
- UXO find
- transport
- dock
- Luftwaffe targets
- utilities
- Bombing decoy
- other

### How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment\* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment\* is necessary.

### What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

**Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.**

### If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

### If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

\*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

## APPENDIX III      DEFINITIONS AND RESERVATIONS

For the avoidance of doubt, Roberts Environmental has prepared the following alphabetical list of definitions and reservations to aid the client in understanding the content of our advice and or written reports(s):

Accuracy	Level of agreement between true value and observed value.
ACM's	Asbestos Containing Materials
Conceptual Exposure model	Textual and or schematic hypothesis of the nature and sources of contamination and potential migration pathways (including description of the ground and groundwater), and potential receptors, developed on the base of the information from the preliminary investigation and refined during subsequent phases of investigation and which is an essential part of the risk assessment process.  <b>Note 1:</b> The conceptual exposure model is initially developed and refined during the preliminary investigation. This conceptual model is used and refined during subsequent investigations, where these are considered to be necessary, in order to meet the objectives of the investigations and the risk assessment. The results of the field investigation can provide additional data that can be used to further refine the conceptual model.
Contamination	Presence of a substance which is in, on or under land, and which has <u>the potential</u> to cause significant harm or to cause significant pollution of controlled water.  <b>Note 1:</b> There is no assumption in this definition that harm results from the contamination.  <b>Note 2:</b> Naturally enhanced concentrations of harmful substances can fall within the definition of contamination.  <b>Note 3:</b> Contamination may relate to soils, groundwater or ground gas.
Controlled water	Inland freshwater (any lake, pond or watercourse above the freshwater limit) and any coastal water contained in underground strata and any coastal water between the limit of controlled water or the freshwater line to the three mile limit of territorial waters.  <b>Note 1:</b> See Section 104 of The Water Resources Act 1991.
Enquiries	Any enquiries undertaken by Roberts Environmental of local authorities and statutory undertakers are made verbally in respect of environmental issues. Local searches are not undertaken and no responsibility is accepted for any inaccuracies in the information provided.
Harm	It is further assumed unless otherwise stated that all necessary licences, permissions, consents etc. either run with the property or are transferable to a new occupier as appropriate. Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case of humans, including property.
Hazard	Inherently dangerous quality of a substance, procedure or event.
Pathway	Mechanism or route by which a contaminant comes into contact with, or is likely to affect, a receptor.
Precision	Level of agreement within a series of measurements of a parameter.
Receptor	Persons, living organisms, ecological systems, controlled water, atmosphere, structures and utilities that could be adversely affected by the contaminant(s).
Risk	Probability of the occurrence, magnitude and consequences of an unwanted effect on a receptor.
Risk assessment	Process of establishing, to the extent possible, the existence, nature and significance of a risk.
Sampling	Methods and techniques used to obtain a representative sample of the material for investigation.
Soil	Upper layer of the earth's crust composed of mineral parts, organic substance, air and living matter.  <b>Note 1:</b> In accordance with BS 10175:2001 the term soil has the meaning ascribed through general use in civil engineering and includes topsoil and subsoil; deposits such as clays, silt, sand, gravel, cobbles, boulders and organic deposits such as peat and other material of natural or human origin (e.g. fills and deposited wastes). The term embraces

all components of soil, including mineral matter, organic matter, soil gas and mo and living organisms.

**Source** Location from which contamination is, or was, derived.

**Note 1:** This could be the location of the highest soil or grou the contaminant(s).

**Uncertainty** Parameter, associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurement.

#### Risk Classification

In line with current UK guidance, the Environmental Assessment has been undertaken using a risk based approach, with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor' scenario. In consideration of the information gathered an overall risk rating has been provided for the site based on the following definitions:

#### Low Risk

The site is considered suitable for present use and environmental setting. It is unlikely that any issues will arise as a liability/cost for the freehold owner of the site.

#### Medium Risk

The site may not be suitable for present use and environmental setting. Contaminants are probably or certainly present and are likely to have an unacceptable impact on the identified receptors. It is possible that the issue(s) could arise as a liability/cost for the freehold owner of the site. Further work is usually required to clarify the risk.

#### High Risk

The site is not suitable for present use and environmental setting. Contaminants are probably or certainly present and are very likely to have an unacceptable impact on the identified receptors. It is likely that the issue(s) will arise as a liability/cost for the freehold owner of the site. Further work is urgently needed.