

Phase 2 Dalefield Road, Gravesend

Remedial Action Plan & Watching Brief Report

O'Halloran & O'Brien Ltd

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1.0 Introduction

- a. This report has been prepared by Manhire Associates Geo-Environmental Ltd to address comments received from GBC Environmental Protection in relation to a Pre Application Response reference number PRE20230287 received on the 17th of January 2024 for Dalefield Industrial Park. Dalefield Way, Gravesend, Kent.
- b. GBC Environmental Protection noted that:-

"There would be no objection to this proposal should a full application be submitted. The following is provided for advice to the applicant.

Watching Brief

A watching brief during construction will be recommended as a condition on any approval in case any contamination issue is encountered. If during development any contamination is found, the local planning authority should be informed as soon as practical, and the work shall not continue until written agreement is provided by the LPA as to the appropriate measures to be taken to resolve the matter and they are satisfied that those measures have been carried out".

- c. This Report describes measures being adopted on site so that any unexpected contamination identified on site is reported and details of what any post remediation verification report needs to include.
- d. This Report is prepared for the use of O'Halloran & O'Brien Ltd in connection with the development. The report is not intended for, and should not be relied upon by any third party, and no responsibility is undertaken to any third party, without the express written agreement of Manhire Associates Geo-Environmental Ltd.

2.0 Site description

The existing site on Dalefield Way, Gravesend, Kent DA12 2JH is known as Dalefield Way Industrial Estate; which includes the offices, workshops and storage areas used by B&T plant hire, O'Halloran & O'Brien & Keady Construction.

3.0 Development proposals

Proposals are to erect two new buildings within the existing storage areas :-

- a) A new office building of three stories, Use Class E (g) (i); (Total Floor Area 1,170m²)
- b) A storage building of one storey, Use Class B8 (Total Floor Area 234m²)

The current Architectural GA Drawings are provided within Appendix A.

4.0 Summary GES Ground Investigation Report

4.1.1 Ground conditions

The anticipated Alluvium overlying the Seaford Chalk Formation and Newhaven Chalk Formation was encountered during the intrusive investigation overlain by a mantle of Topsoil and Made Ground.

4.1.2 Groundwater

During the investigation, groundwater was encountered within all locations (with the exception of TP7) to depths of between 0.20m to 16.80m bgl. During the groundwater monitoring, standing water was recorded within the monitoring wells at depths of between 0.00m (ground level) and 1.53m bgl.

4.1.3 Ground Gases

Hazardous gas flows calculated for WS4 and WS7 were <0.7l/hr, however, readings of 5.5% and 8.4% for Carbon Dioxide have been recorded respectively classifying WS4 and WS7 as being CS2. Therefore, ground gas protection measures are required.

4.1.4 End users

The statistical analysis has found that for all of the determinands tested the null hypothesis can be rejected with >95% confidence. Additional testing was undertaken for Asbestos, and no asbestos was identified within the samples tested. Samples were analysed for speciated TPH, and all reported concentrations within normal limits for the proposed end use.

Analysis Organo Chlorine Pesticides was undertaken as part of the investigation, all concentrations were below laboratory detection limits Therefore no further action is deemed necessary with regards to soil contamination.

The site overlies a Secondary Undifferentiated Aquifer and a Principal Aquifer and is outside of any SPZ. Groundwater samples were taken from the monitoring wells during the first monitoring visit.

All results were compared against EQS Saltwater standards although these standards are highly conservative, All concentrations were within normal limits with the exception of marginally elevated concentrations for Copper (WS1), Mercury (WS3), Nickel (WS5) and elevated concentrations for PAHs. No standards were available for comparison of TPH.

No on-site sources of contamination were noted on-site whilst elevated concentrations are unlikely to affect end users. Elevated concentrations are likely to be from surrounding sources including the River Thames, the water treatment works, historical landfill and commercial businesses. Therefore, no further action is deemed necessary with regards to groundwater.

Two samples of water were taken from the ditch bounding the north-western portion of the site, one up stream outside of the site area, and one downstream within the site area. All results were compared against EQS Saltwater standards although these standards are highly conservative. All concentrations were within normal limits with the exception of marginally elevated concentrations for PAHs. No standards were available for comparison of TPH.

No on-site sources of contamination were noted on-site whilst elevated concentrations are unlikely to affect end users. Elevated concentrations are likely to be from surrounding sources including the River Thames, the water treatment works, historical landfill and commercial businesses. Therefore, no further action is deemed necessary with regards to surface water.

4.1.5 Adjacent Land Users

No significant risks to adjacent land users have been identified.

4.1.6 Waste Disposal

The test results indicate that the chemical quality of the near surface soil encountered on-site is likely to require WAC testing prior to off-site disposal. Natural soils free from contamination from foundation excavations may be classified as "Inert" for off-site disposal to landfill or may be suitable for re-use on-site subject to any necessary consents.

Notwithstanding the above, where excess soils are removed from site they will be classified as waste and should be disposed of accordingly. As several classification systems exist, confirmation of disposal costs and classification should be sought from local waste operators.

4.1.7 Discovery Strategy

A discovery strategy should be employed, so that any evidence of possible unidentified contamination can be dealt with appropriately.

The current GES Ground Investigation Report dated March 2016 is provided within Appendix B.

5.0 Remedial Action Plan

5.1 General

Contaminant testing was previously undertaken on selected soil samples for the original Phase 2 development and the results confirmed Contaminants of concern were not identified.

Whilst the investigation undertaken on the site to date is considered to be thorough, it remains possible that previously unexpected soil conditions may be encountered during the process of site demolition and construction.

Further WAC tests will be undertaken by the Ground Works Contractor as necessary during the works to categorize the soil arisings prior to disposal off site.

A Discovery Strategy and Watching Brief is also being adopted on site so that any unexpected contamination identified on site is reported.

5.2 Prevention of Pollution

Care should be taken in order to minimize the production of dust generated on the site, especially in dry climatic conditions.

All vehicles leaving the site should be clear of any potential contaminated debris other than that to be specifically removed. Vehicles transporting wastes for disposal should be appropriate for the required means in order to prevent release during transit.

Specific materials removed from site for subsequent disposal should be transported to a suitably approved and licensed facility. The contractor shall maintain a full documentary record in accordance with Duty of Care including copies of all Waste Transfer Notes for verification.

The programme of works and any subsequent modification should be maintained in such a manner as to avoid potential cross-contamination. A watching brief should be maintained and Manhire Geo-Environmental Ltd contacted in the event that evidence of any additional 'contamination' is encountered. The contractor should allow for any delays resulting from the presence of possible contamination and the necessary measures thereof.

It is the responsibility of all personnel on site to report any evidence of possible contamination to the suitably qualified and experienced Site Agent who will contact Manhire Geo-Environmental Ltd where there is any doubt about this contamination.

5.3 Remediation

Based on the previous investigations, it is considered that no remediation of the site is warranted.

5.4 Validation of Imported/ Site Sourced Materials - Demolition Materials & Waste

Imported / site sourced materials can generally be split into two categories imported or site sourced demolition materials and imported soils validation of both types of materials will be required.

It should be noted that should material come from more than one source then the minimum following specified samples per source will be required.

5.4.1 Site Sourced / Imported Demolition Materials

All material should be visually assessed to check for any contamination, including asbestos presence. Any suspected materials should be removed from site. For all material the following amount of validation testing is required as a minimum amount of samples per source should be 4 and samples should be analysed at a rate of 1 sample per 100m³ of material but allowing for the above minimum. Assuming no other contamination is suspected all samples should be analysed for asbestos, CLEA metals, phenols, speciated PAH and TPH.

5.4.2 Imported Soils

All imported soils should be certified clean by the supplying facility, with tests certificates supplied.

In addition, on site sampling of the soils will be required, this should ideally be done when it has been placed, but as a minimum be undertaken on site. The following amount of validation testing is required. A minimum number of samples per source should be 4 and samples should be analysed at a rate of 1 samples per 50m³ of material but allowing for the above minimum.

All samples should be analysed for asbestos, CLEA metals, phenols, speciated PAH and TPH

5.5 Discovery Strategy and Watching Brief

During the course of the development, it will be the responsibility of the on-site manager to ensure watching briefs are undertaken and documented.

The watching brief will consist of a record of:

- a. Observations of contamination made during the course of the development by any member of site staff, contractor, or visitor; and
- b. The key stages of the development and occurrences including contamination found during the course of the development, the formation levels of excavations, any reduced level dig/mass excavation, formation of landscaped or garden areas, etc. with supporting photographs.

5.6 Watching Brief Written Statement

Upon completion of the development, a written and signed statement will be prepared by the following parties:

- a. Ground Works Contractor(s) - upon completion of foundations and ground works;
- b. On-site manager - upon completion of groundworks and landscaping work; and

The written statement will clearly state whether or not evidence of contamination was identified during the course of the development along with any remedial action that was taken.

5.7 Staff Training

All site staff, contractors, and visitors will be briefed on the potential presence of land, groundwater or airborne contamination before commencing work on the site.

This will include the following information:

- a. Relevant health & safety considerations;
- b. The type of land, water, or airborne contamination present and potentially present at the site;
- c. Any particular areas of the site which are likely to be affected; and
- d. Staff responsibilities under the discovery strategy.

The on-site manager will provide written confirmation that site staff were briefed about contaminated land in line with these recommendations.

5.8 Construction Workers Risk Assessments

A detailed health and safety risk assessment will be carried out, in accordance with current guidance, before works commence on-site and appropriate personal protective equipment will be worn by all construction workers.

6.0 Discovery Strategy & Watching Brief

If unexpected contamination is found at any time, then this will be reported to Environmental Protection, Gravesham Borough Council within seven days and 2 weeks notice given prior to undertaking any remediation if considered necessary.

The discovery strategy sets out the actions that will be taken if contamination is encountered during the course of a development. Examples of the types of observations that will be considered are detailed in Table 1 below, following which examples of the general actions that will be taken are set out in Table 2, and examples of any emergency actions are detailed in Table 3.

Evidence	Description
Visual	- Fuel or oil-like substances mixed in with or smeared on the soil or floating on perched, groundwater or surface waters. - Waste materials (refuse, barrels, industrial wastes, ash, tar, etc.) Buried at specific location across the site. - Marked variation in colour, e.g., red, orange, yellow, green, light, or dark blue, etc. may indicate contamination from a variety of contaminants. - Soils including large amounts of ash and clinker where such contamination of soils wasn't expected. - Evidence of suspected asbestos.
Odours	- Fuel, oil and chemical-type odours. - Unusual odours such as sweet or fishy odours.
Well-being	- Lightheadedness and/or nausea when in excavations, at the working face of an excavation, when visual or olfactory evidence of contamination exists, etc. - Burning of nasal passages, throat, lungs, or skin. - Blistering or reddening of skin due to contact with soil.

Table 1 - Potentially significant observations (not exhaustive)

Person observing contamination	To be reported to	Action to be taken
Site visitor	Must report observations to the site manager.	Stop work and where possible, make area safe and secure area before reporting to site manager.
Contractor	Must report observations to the site manager.	Stop work and where possible, make area safe and secure area before reporting to site manager.
On site manager	Must report observations to their direct manager, the appointed Environmental Consultant, the Planning Authority and Contaminated Land Officer at LBS.	Stop work and, where possible, make area safe and secure area before reporting to others.
Environmental Consultant	Must report observations to the site manager, the planning Authority and Contaminated Land Officer LBS.	Advise that work stops and where possible, make sure the area is made safe before reporting to others.

Table 2 - General actions to be performed.

Occurrence	Description	Contact
Risk to the public	If at any point residents, the public or other may be at risk as a result of contamination found during the course of investigation, remediation, or development works.	• Contact the emergency services if there is a risk to life. • Contaminated Land Officer at LBS. • Health & Safety Executive.
Nuisance to residents/the public	If a nuisance has been or is likely to be caused to nearby residents, the public and others - for example, odours, dust, noise, vibration, etc.	• Environmental Health at LBS.
Pollution of controlled waters	If any surface, culverted or groundwater has been polluted, e.g., slurry, contaminated soil/water or a chemical spillage entering a river or canal.	• Environmental Agency. • Planning Authority and Contaminated Land Officer at LBS.
Pollution of adjoining land	If land outside the boundary of the development site is polluted from site activities, e.g., slurry, contaminated soil/water, or a chemical spillage.	• The owner of the land. • Planning Authority and contaminated Land Officer at LBS.

Table 3 - Emergency actions to be performed.

In addition to the above, the following should also be noted:

- Should gross contamination be encountered during groundworks, then the advice of an environmental consultant will be sought;
- Any soil arising from areas where visual or olfactory evidence of contamination has been observed will be handled as potentially hazardous waste and temporarily stockpiled appropriately;
- Stockpiled soils may undergo validation testing to determine whether they can be used elsewhere on the site at or close to the ground; and

The Contaminated Land Officer at Environmental Protection, Gravesham Borough Council will be contacted to agree any further remedial works that become necessary during the course of the development.

7.0 Verification Report

Following the completion of any remedial action and the development of the site, a post-remediation verification report will be produced and submitted to the planning authority.

The report will detail fully any actions undertaken, including any report from the discovery strategy, and watching brief.

All work undertaken will be supported by photographic evidence, along with any other documented items such as waste transfer noted, asbestos removal reports, soil invoices etc.

All imported soil will undergo confirmatory analysis in order to satisfy their suitability for use. Laboratory certificated results will be included within the report.

Finally the report will include the aforementioned declaration from the site manager, groundworks contractor and appointed environmental consultant stating that wither no suspected additional contamination was detected, or, that all additional detected contamination has been addressed appropriately.

APPENDIX A

ARCHITECTURAL GA DRAWINGS



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SITE OF PROPOSED DEVELOPMENT

LAND ALSO OWNED BY THE APPLICANT

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info@lrw.co.uk | www.lrw.co.uk
H.Q. 50 Dearmans Place Manchester M3 5LH

Manchester
+44 (0)161 833 0211

London
+44 (0)207 993 1363

CLIENT
KEADY CONSTRUCTION

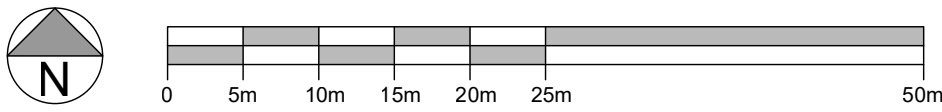
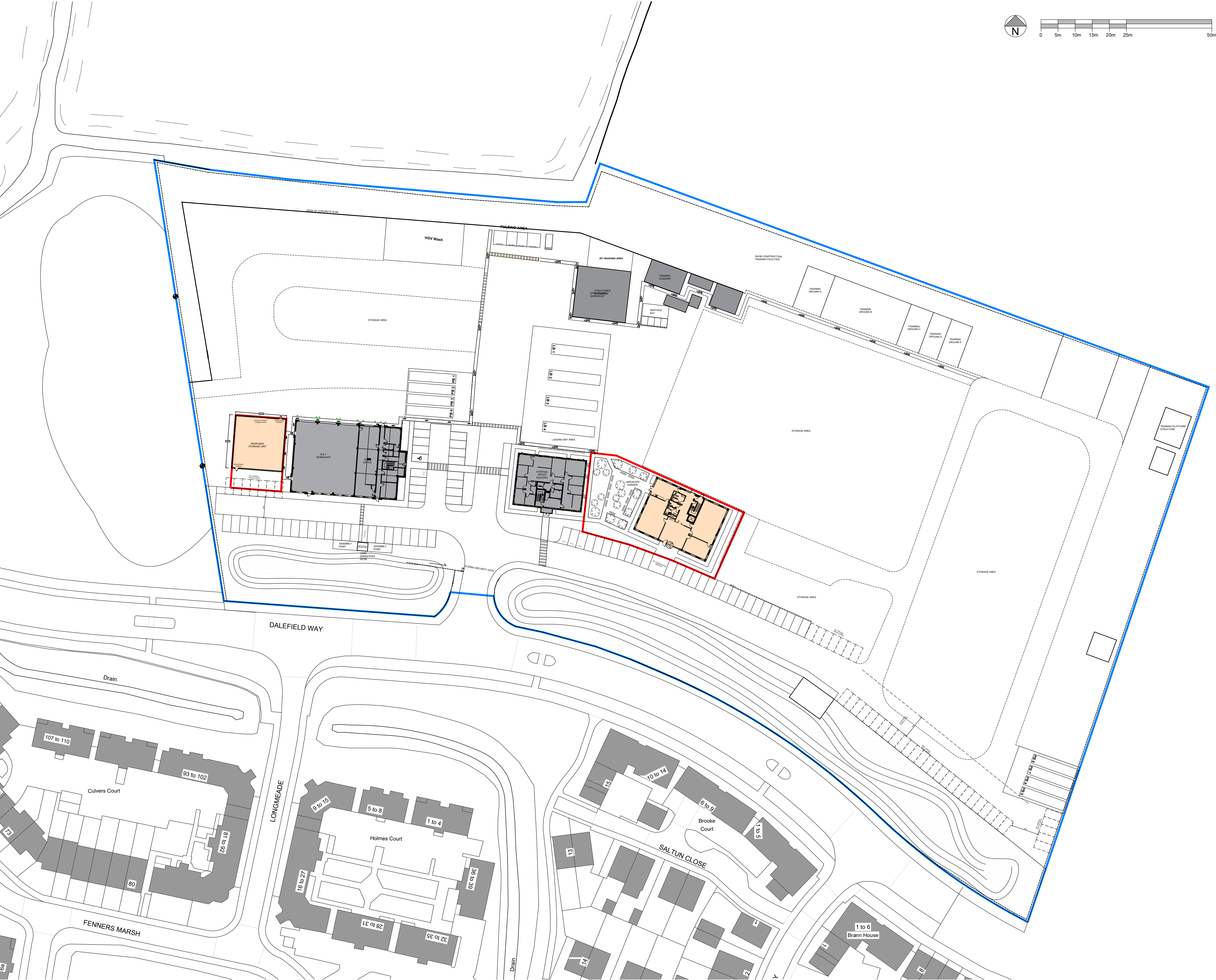
PROJECT	DALEFIELD WAY
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DOCUMENT NAME
8352-LRW-ZZ-ZZ-DR-A-00-111

DESCRIPTION
EXISTING BLOCK PLAN

LRW PROJECT No.	DATE CREATED	CREATED BY	AUTHORISED BY
8352	25.08.2023	IC	SK

PURPOSE OF ISSUE
 PLANNING ☒ BUILDING REGS ☐ TENDER ☐ PRELIM./COMMENT ☐ APPROVAL ☐ CONSTRUCTION ☐



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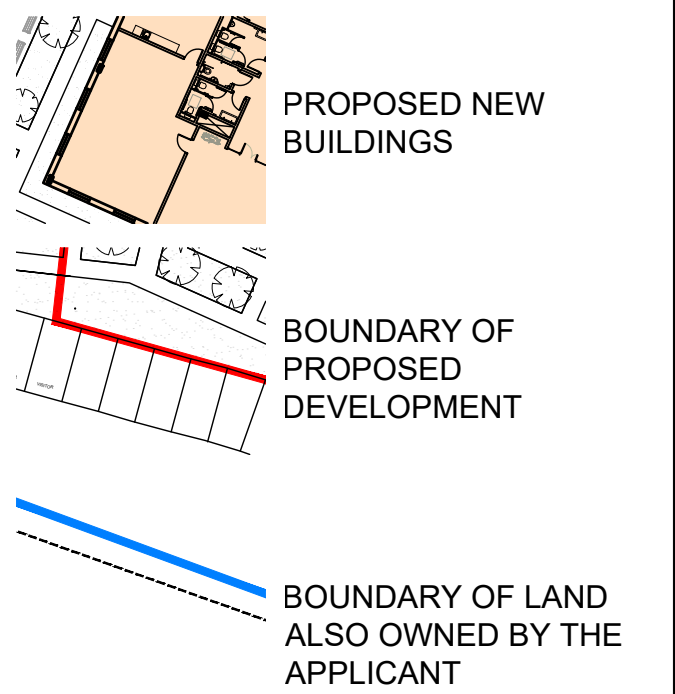
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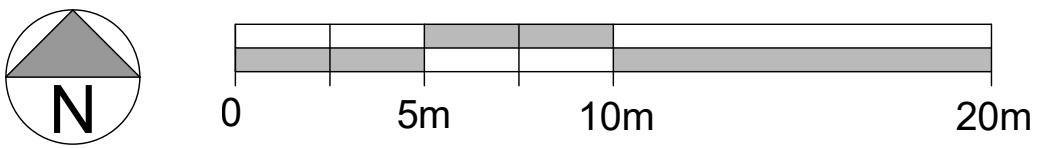
P03	PARKING SPACES ADDED	IC	GC	09.02.24
P02	amendment to storage building size	SK	MB	06.09.23
P01	first issue	SK	MB	25.08.23
rev	description	drawn	auth	date

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Architects

info@lrw.co.uk | www.lrw.co.uk
H.Q. 50 Dearmans Place Manchester M3 5LH
Manchester London
+44 (0)161 833 0211 +44 (0)207 993 1363

CLIENT	KEDDY CONSTRUCTION		
PROJECT	DALEFIELD WAY		
DOCUMENT NAME	8352-LRW-ZZ-ZZ-DR-A-00-112		
DESCRIPTION	PROPOSED BLOCK PLAN		
REVISION	P02	SCALE	1:500@ A1
LRW PROJECT No.	8352	DATE CREATED	25.08.2023
CREATED BY	IC	AUTHORISED BY	SK
PURPOSE OF ISSUE	PLANNING		
PLANNING	BUILDING PERMIT TENDER PRELIM COMMENT APPROVAL CONSTRUCTION		



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04	ISSUED FOR COORDINATION	IC	GC	21.02.2
03	ISSUE FOR COMMENT	IC	GC	09.02.2
02	FOOTPRINT AMENDED TO 15 X 15m	SK	MB	06.09.2
01	FIRST ISSUE	SK	MB	29.08.2
rev	description	drawn	auth	date

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LeachRhodesWalke
Architects

info@lrw.co.uk | www.lrw.co.uk
H.Q. 50 Dearmans Place Manchester M3 5LH

Manchester **London**
+44 (0)161 833 0211 +44 (0)207 993 1363

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PROJECT
DALEFIELD WAY

DOCUMENT NAME
8352-LRW-ZZ-ZZ-DR-A-00-113
DESCRIPTION
PROPOSED STORAGE SITE PLAN

REVISION P04		SCALE 1:200@ A1	
RAW PROJECT No. 8352	DATE CREATED 29.08.2023	CREATED BY SK	AUTHORISED BY MB

PLANNING ☒ BUILDING REGS ☐ TENDER ☐ PRELIM.COMMENT ☐ APPROVAL ☐ CONSTRUCTION ☐

APPENDIX B

GES GROUND INVESTIGATION REPORT



Geo-Environmental

**GROUND INVESTIGATION REPORT
for the site at
LAND AT DALEFIELD WAY
GRAVESEND, KENT, DA12 2LL
on behalf of
RIVERDALE DEVELOPMENTS LTD**



Report: GROUND INVESTIGATION REPORT
Site: LAND AT DALEFIELD WAY, GRAVESEND, KENT, DA12 2LL
Client: RIVERDALE DEVELOPMENTS LTD
Date: MARCH 2016
Reference: GE15338GAR
Version: Version v1

Prepared by:



**ANTHONY POTTER BSc.(Hons), M.Sc., FGS.
SENIOR GEOENVIRONMENTAL ENGINEER**

Reviewed by:



**GLYN EVANS B.Sc+. M.Sc., FGS., MEnvSc
DIRECTOR**

Geo-Environmental Services Ltd
Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL
T: 01273 832 972 388 E: mail@gesl.net W: www.gesl.net

Environmental Consultants | Geotechnical Engineers | Site Investigations



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EXECUTIVE SUMMARY	
Scope of Works	To undertake a combined geotechnical and environmental ground investigation with associated interpretation and assessment.
Form of Development	It was understood that the development would comprise two blocks of commercial units and one office block with hard and soft landscaping and associated infrastructure.
Site Description	The site comprised an irregular shaped field for equine grazing, the majority of which was flat and level. However, the south-western portion had been artificially raised and was approximately 0.5m rising to c.1.5m above the remaining parts of the site. At the time of the investigation, parts of the field were waterlogged and extremely difficult to traffic. The site was bound by a drainage ditch on the eastern and north-western boundaries, a field to the west and Dalefield Way and a field to the south. The surrounding area comprised a field to the north, a caravan park and fields to the north-west, fields to the east, residential properties to the south and commercial buildings to the west. Site access was via Dalefield Way to the south.
Ground Conditions	The anticipated Alluvium overlying the Seaford Chalk Formation and Newhaven Chalk Formation was encountered during the intrusive investigation overlain by a mantle of Topsoil and Made Ground.
Groundwater	During the investigation, groundwater was encountered within all locations (with the exception of TP7) to depths of between 0.20m to 16.80m bgl. During the groundwater monitoring, standing water was recorded within the monitoring wells at depths of between 0.00m (ground level) and 1.53m bgl.
Traditional Foundations	Due to the presence of a high groundwater table and highly compressible Alluvial soils, together with the fact that levels are to be raised across the site to accommodate potential flood events, conventional foundations are considered inappropriate for the site and it is recommended that a piled foundation scheme be used for the proposed development. Preliminary pile design information can be found within section 5.2.
Excavations	Shallow excavations within any Made Ground are likely to remain relatively stable in the short to medium term. However, excavations within any deeper areas of Made Ground may be prone to instability and some form of temporary support may be required. Both shallow and deeper excavations within the Alluvial soils are also likely to be highly unstable in the short to medium term and require some form of temporary support. All excavations taken below the groundwater table will be prone to collapse and water inundation and will require appropriate support and dewatering.
Pavements	The Made Ground encountered across the site was noted to be of mixed composition. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the variability of the Made Ground it would be prudent to assume the material to be deemed frost susceptible throughout, thus a minimum pavement thickness of 450mm would be appropriate. Transport Road Research Laboratory Report LR 1132 "The Structural Design of Bituminous Roads" cites an estimated equilibrium suction index of 1.5% for the alluvial clays encountered within the Alluvium, under average construction conditions and a high groundwater table. It would be prudent to assume the material to be deemed non frost susceptible. It is recommended that the sub-grade be proof rolled and any soft spots removed and replaced with a suitable compacted granular fill.
Sub-surface concrete	The results of the sulphate and pH analyses fell into Class DS-1 of BRE Special Digest 1, with an ACEC class of AC-1 being appropriate, based on the reported pH values for the Made Ground and Chalk. The Alluvium fell into the class of DS-2, ACEC class AC-2. The advice of this publication should be taken for the design and specification of all sub surface concrete.
Soakaways	Soakage testing did not form the remit of the investigation however, based on the encountered conditions, soakaways are unlikely to be viable. It is recommended that an alternative form of stormwater drainage be used.
Ground Gases	Hazardous gas flows calculated for WS4 and WS7 were <0.7l/hr, however, readings of 5.5% and 8.4% for



	Carbon Dioxide have been recorded respectively classifying WS4 and WS7 as being CS2. Therefore, ground gas protection measures are required. It is recommended that a further three rounds of groundgas monitoring is undertaken, corresponding with both low and high atmospheric pressure, in order to provide a more robust ground gas risk assessment.
Radon Gas	No protection measures are required.
Soil contamination	Contaminants of concern have not been identified.
End users	The statistical analysis has found that for all of the determinands tested the null hypothesis can be rejected with >95% confidence. Additional testing was undertaken for Asbestos, and no asbestos was identified within the samples tested. Samples were analysed for speciated TPH, and all reported concentrations within normal limits for the proposed end use. Analysis Organo Chlorine Pesticides was undertaken as part of the investigation, all concentrations were below laboratory detection limits Therefore no further action is deemed necessary with regards to soil contamination. The site overlies a Secondary Undifferentiated Aquifer and a Principal Aquifer and is outside of any SPZ. Groundwater samples were taken from the monitoring wells during the first monitoring visit. All results were compared against EQS Saltwater standards although these standards are highly conservative, All concentrations were within normal limits with the exception of marginally elevated concentrations for Copper (WS1), Mercury (WS3), Nickel (WS5) and elevated concentrations for PAHs. No standards were available for comparison of TPH. No on-site sources of contamination were noted on-site whilst elevated concentrations are unlikely to affect end users. Elevated concentrations are likely to be from surrounding sources including the River Thames, the water treatment works, historical landfill and commercial businesses. Therefore, no further action is deemed necessary with regards to groundwater. Two samples of water were taken from the ditch bounding the north-western portion of the site, one up stream outside of the site area, and one downstream within the site area. All results were compared against EQS Saltwater standards although these standards are highly conservative. All concentrations were within normal limits with the exception of marginally elevated concentrations for PAHs. No standards were available for comparison of TPH. No on-site sources of contamination were noted on-site whilst elevated concentrations are unlikely to affect end users. Elevated concentrations are likely to be from surrounding sources including the River Thames, the water treatment works, historical landfill and commercial businesses. Therefore, no further action is deemed necessary with regards to surface water.
Adjacent Land Users	No significant risks to adjacent land users have been identified.
Built Environment	The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UKWIR Report 10/WM/03/02 (re-issued 2010). However, the guidance is not mandatory and there has been concerns raised by various industry technical associations regarding the document and the methodologies proposed. Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1. The presumption in the guidance is that barrier pipe will be adopted for any brownfield site. Exceedances have been recorded (SVOCs) and it is likely that barrier pipe will be required. However, it is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practical in order to confirm the pipe material. As a matter of good practice, and to maximise the protection to utilities, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.
Waste Disposal	The test results indicate that the chemical quality of the near surface soil encountered on-site is likely to require WAC testing prior to off-site disposal. Natural soils free from contamination from foundation



	excavations may be classified as "Inert" for off-site disposal to landfill or may be suitable for re-use on-site subject to any necessary consents. Notwithstanding the above, where excess soils are removed from site they will be classified as waste and should be disposed of accordingly. As several classification systems exist, confirmation of disposal costs and classification should be sought from local waste operators.
Discovery Strategy	<i>A discovery strategy should be employed, so that any evidence of possible unidentified contamination can be dealt with appropriately.</i>
<i>This Executive Summary is intended to provide a brief summary of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report ref. GE15338GIR.</i>	



1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Riverdale Developments Limited to undertake an investigation of the geotechnical and geo-environmental factors pertaining to the proposed development at land at Dalefield Way, Gravesend, Kent, DA12 2LL (see Figure 1).

1.2 Form of Development

It was understood that the development would comprise two blocks of commercial units and one office block with hard and soft landscaping and associated infrastructure.

1.3 Objectives

A Phase 1 Desk Study assessment has been undertaken by Geo-Environmental and is incorporated into this report. The aim of the Phase 2 intrusive investigation reported herein was to assess whether any potential sources and any associated pollutant linkages existed with respect to the proposed change in use together with clarifying the ground model for the site in relation to potential geotechnical factors associated with redevelopment of the site.

The data from the geotechnical investigation was to form the basis of an interpretation with respect to foundation design, pavement construction, concrete specification, excavation stability and other pertinent construction issues.

In terms of the geo-environmental investigation, a Preliminary Risk Assessment (PRA) was undertaken as part of the desk study in accordance with CLR11, in order to provide a basis for the scope and rationale of the subsequent Phase II ground investigation. The data from Phase I and Phase II were then to form the basis of a subsequent Tier 1 Generic Quantitative Risk Assessment (GQRA). The objective of the risk assessments was to evaluate the risks posed to the proposed redevelopment, adjacent land uses and the wider environment, in the context of likely planning requirements, immediate liabilities under the Environment Act 1990 and risks posed to Controlled Waters under the Water Resources Act.

1.4 Standards

Where practicable, the ground investigation and subsequent geotechnical and environmental assessments were undertaken in accordance with the following documents and guidance:

- o Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004
- o Environment Agency Guidance on Requirements for Land Contamination Reports, Version 1 dated July 2005.
- o BS10175:2011 - Investigation of Potentially Contaminated Sites - Code of Practice, BSI 2011.
- o BS5930: 1999 - Code of Practice for Site Investigations, BSI 1999



- o BS1377: 1990 - Soils for Civil Engineering Purposes, BS1990
- o NHBC Standards Chapter 4.1 Land Quality - Managing Ground Conditions, October 1999
- o National Planning Policy Framework (2012)
- o Eurocode 7 – Geotechnical Design
- o CIRIA C665 – Assessing risks posed by hazardous ground gases to buildings (2007)
- o NHBC 10627-R01(04)- Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present (2007)
- o BS8485:2007 – Code of practice for the characterization and remediation from ground gas in affected developments.

1.5 Conditions

The data collected from the investigations have been used to provide an interpretation of the geotechnical and/or environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. This report should not be taken as any guarantee that a site is free of hazardous or potentially contaminative materials.

Information contained in this report is intended for the use of the Client and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever express or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

Assessment criteria or other parameters developed for the evaluation of contamination on this site are based on a number of assumptions regarding exposure and toxicology and exposure to contaminants and levels of adverse effects may therefore vary. Whilst every care and expertise has been employed in the development of such criteria, no liability is accepted in this respect. Other criteria or guidance on the development of assessment criteria may be published in the future and no liability is accepted in this respect.



2.0 DESK STUDY

A summary of the findings of the Phase One desk study is presented below. An EnviroCheck report was obtained as part of the desk study, a copy of which is presented in Appendix A.

2.1 Site Walkover Survey

The site comprised an irregular shaped field for equine grazing, the majority of which was flat and level. However, the south-western portion had been artificially raised and was approximately 0.5m rising to c.1.5m above the remaining parts of the site. At the time of the investigation, parts of the field were waterlogged and extremely difficult to traffic.

The site was bound by a drainage ditch on the eastern and north-western boundaries, a field to the west and Dalefield Way and a field to the south.

The surrounding area comprised a field to the north, a caravan park and fields to the north-west, fields to the east, residential properties to the south and commercial buildings to the west. Site access was via Dalefield Way to the south.

2.2 Geology

The 1:50,000 geological map of the area indicated the site to be underlain by Alluvium overlying Seaford Chalk Formation and Newhaven Chalk Formation.

Alluvium is the most recent river or estuarine deposit and generally comprises silty clays usually with an appreciable organic content. Lenses of sand and gravel are also commonly found, as are pockets of peat.

The **Seaford Chalk Formation and Newhaven Chalk Formation** are a soft white friable microporous limestone composed of coccolith biomicrites with a varying proportion of larger shell fragments. Flint characterises the Chalk, occurring as nodular courses, tabular beds and linings to fractures.

At various levels clay sized material occurs as marl seams and partings. Close to the surface the upper few metres are invariably discoloured brown, due to leaching from the overlying strata. The interface with any overlying stratum is invariably extremely irregular as a result of localised weathering and general solution. Weathering by frost action may extend to a depth of several metres.

Occasional erosional features, such as pipes, swallow holes and solution cavities, usually in-filled with drift deposits, are found in the chalk, sometimes manifesting themselves at the surface as shallow circular depressions. Solution features may be reactivated by the concentrated ingress of water from leaking drains or soakaways. Reactivation may lead to surface collapse.

2.3 Hydrogeology

The superficial geology (Alluvium) is classified as being a Secondary Undifferentiated aquifer, this has been assigned in cases where it has not been possible to attribute



either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

The solid geology (Seaford Chalk Formation and Newhaven Chalk Formation) has been classified as being a principal aquifer. These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

According to information provided by the Environment Agency the Site lies outside of any Source Protection Zone (SPZs). An SPZ is a protection zone placed around a well or borehole that supplies groundwater of potable quality. An SPZ is divided into three zones defined as follows:

- o Zone I – Travel time (of water) of 50 days or less to the groundwater source.
- o Zone II – Either 25% of the source area or a travel time of 400 days whichever is greater.
- o Zone III – The total area needed to support the discharge and abstraction from the protected groundwater source.

Two water abstractions were noted within 500m of the site boundary:

- 396m NW – Southern water, other industrial/commercial/public services, general washing process washing, permitted.
- 440m N – J Clubb Ltd, mineral products, mineral washing, permitted.

Five discharge consents were identified within 500m of the site boundary:

- 376m S – Retirement Care Group, discharge of other matter, surface water.
- 386m S – Retirement Care Group, discharge of other matter, surface water.
- 387m S – Retirement Care Group, discharge of other matter, surface water.
- 399m S – Retirement Care Group, discharge of other matter, surface water.
- 446m N – Services Support Ltd, trade effluent discharge, site drainage.

2.4 Hydrology

A surface water ditch was noted along the north-western and eastern boundaries on-site. The site was located within an area of extreme flooding from rivers or sea (zone 2) but benefited from flood defence. In addition, the site was in a low risk (1000 year return) area for flooding from surface water.

One substantiated pollution incidents to surface water was noted within a radius of 500m of the site boundary:

- 406m NW – Category 2 significant incident, crude sewage, 07/05/2004.

Two pollution incidents to controlled waters were identified within 500m of the site boundary:

- 298m NW – Aggregate, sewage sludge, category 3 minor incident, 03/08/1998.
- 383m NW – Mixed agricultural, oils, category 3 minor incident, 16/12/1997.

2.5 Radon

According to the data supplied within the EnviroCheck Dataset:

- o Less than 1% of homes are above the Action Level.
- o No radon protection measures are required.

2.6 Environmental Data

Searches of other various environmental databases were made as part of the desk study, including air pollution control sites, Part IIA contaminated land, IPC and IPPC sites, registered radioactive substances, COMAH sites, explosives sites, NIHSS sites and planning permissions for sites involving hazardous substances. None were identified.

No local authority pollution prevention and controls were identified within 250m of the site boundary.

One registered substantiated pollution incident was identified within 500m of the site boundary:

- 406m NW – Category 2 major incident to water, category 4 no impact to air or land, 07/05/2004.

A search of contemporary trade directories was also undertaken. One inactive business with the potential to pollute was identified within 250m of the site boundary:

- 201m SW – DGR Procurement Services Ltd, printers, inactive.

One fuel station was identified within 600m of the site boundary:

- 574m S – Chalk Service Station, petrol station, open.

2.7 Geotechnical Data

The site lies within an area considered by the Coal Authority as in an area that might not be affected by mining.

National databases for a number of geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site is presented on the following table below. In accordance with BGS recommendations, the highest rating within 50m of the site boundary (or a 250m radius for shallow mining) has been recorded.

Stability Hazards	Hazard Potential
Non Coal Mining Area	Rare
Collapsible ground subsidence	No hazard



Compressible ground subsidence	Moderate
Ground Dissolution	Very low
Landslides	Very low
Running sand	Very low
Shrinking and swelling clay subsidence	Low

Table 1: Summary of Geotechnical Hazard Potential

2.8 Sensitive Land Uses

A search was made of environmentally sensitive areas, including areas of scenic or natural beauty, parks, reserves, nitrate zones, or protected conservation and scientific areas. All such data is searched to a radius of at least 500m, although ecological receptors such as Sites of Special Scientific Interest (SSSIs) are searched to an increased radius to allow a Part IIA compliant Ecorisk Assessment.

The site was indicated to be within an environmentally sensitive area (North Kent Marshes), a nitrate vulnerable zone, a Ramsar Site and a site of special scientific interest.

2.9 Ground Gases

Two historical landfills were identified within 500m of the site boundary:

- 4m NW – Shamrock Road, deposited waste included inert and household waste.
- 414m NW – Denton-Comma Oil, deposited waste included inert waste.

2.10 Historical Data

A summary of the apparent history of the site and surrounding area noted on the map extracts are presented in the following table (below). The historical extracts cover the period 1864-2016.

Date	On Site	Adjacent Area
1864-74	The site was indicated to form part of Westcourt Marshes. A ditch was indicated to run north to south through the western portion and another ran south-west to north-east.	The surrounding area comprised Westcourt Marshes, West Court was indicated c.110m south west.
1869	No significant changes noted.	Few changes since the previous map edition.
1897	Few changes since the previous map edition.	Few changes since the previous map edition.
1898-99	Few changes since the previous map edition.	Few changes since the previous map edition.
1899	Few changes since the previous map edition.	Few changes since the previous map edition.
1908-09	Few changes since the previous map edition.	Few changes since the previous map edition.
1909	Few changes since the previous map edition.	Few changes since the previous map edition.
1923	Few changes since the previous map edition.	Few changes since the previous map edition.
1932	Few changes since the previous map edition.	Some residential development had taken place c.150m west, a sewage works was indicated c.200m north.



1936-38	Few changes since the previous map edition.	Few changes since the previous map edition.
1938	Few changes since the previous map edition.	Few changes since the previous map edition.
1946-51	Few changes since the previous map edition.	Few changes since the previous map edition.
1947 Aerial	Few changes since the previous map edition.	Some form of earthworks were indicated adjacent to the north-western boundary.
1954-60	Few changes since the previous map edition.	Few changes since the previous map edition.
1955-64	Few changes since the previous map edition.	Few changes since the previous map edition.
1961	Few changes since the previous map edition.	Few changes since the previous map edition.
1966	Few changes since the previous map edition.	Few changes since the previous map edition.
1970	Few changes since the previous map edition.	The north western boundary was banked (off-site).
1975	Few changes since the previous map edition.	Three large ponds/pits were indicated c.15m north-west.
1977 Russian	Few changes since the previous map edition.	Few changes since the previous map edition.
1982	Few changes since the previous map edition.	Few changes since the previous map edition.
1993	Few changes since the previous map edition.	There had been some residential development c.110m south-west.
2006	The two ditches running through the site were no longer indicated.	The large pits/ponds were no longer indicated.
2016	Few changes since the previous map edition.	There had been further residential development c.20m south, West Court was no longer indicated.

Table 2 - Summary table of the main findings from the historical maps

2.11 Previous Ground Investigations

Geo-Environmental were unaware of any previous investigations on the subject site.

2.12 Soil Chemistry

Data obtained as part of the desk study provides details on the estimated soil chemistry for the natural soils in the vicinity of the site. The estimated soil quality on the subject site is presented Table 2.1.

Contaminant	Estimated Concentration
Arsenic	15-25 mg/kg
Cadmium	<1.8 mg/kg
Chromium	60-120 mg/kg
Lead	<150 mg/kg
Nickel	15-45 mg/kg

Table 3 Estimated Soil Concentrations on site

The natural background concentrations were below respective published Soil Guideline Values, Generic Assessment Criteria and Category 4 Screening Levels for the protection of human health under a residential land use, i.e. the most conservative end use.

However these values are not necessarily representative of the site's soil chemistry. Furthermore, some SGVs and GACs are dependent on pH and soil organic matter content. Therefore, concentrations of specific determinants and the utilised SGV/GAC cannot be determined without site specific investigation and analysis.

2.13 Generic Contamination

From the historical mapping the site had only formed marsh land however, the near surface soils may have been impacted by heavy metals and organic pollutants such as poly-aromatic hydrocarbons (PAHs) through direct placement/introduction of materials such as ash, clinker or the like during the historic use of the site and through aerial deposition.



3.0 PRELIMINARY RISK ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site in the context of the proposed redevelopment of the site. A justification and rationale for the subsequent ground investigation is given in section 3.4.

3.1 Geotechnical Factors

The following factors that might impact the geotechnical condition of the site were identified as part of the desk study:

- o The presence of a significant thickness of weak Alluvial soils.
- o Shallow Groundwater.

3.2 Environmental Conceptual Model

3.2.1 Methodology

A Preliminary Risk Assessment (PRA) and Conceptual Site Model (CSM) has been prepared in accordance with CLR11 based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors identified have been assessed following a source-pathway-receptor (SPR) approach in accordance with current UK protocols.

A risk may only exist where a plausible SPR linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. Risk may be defined as a function of the likelihood and severity of any adverse effects arising from contamination. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Table 4 & 5 below:

Table 4

Risk Ratings Matrix

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk



Table 5

Risk Ratings Definition

Risk Rating	Definitions
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not already undertaken) is required and remediation works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.
Moderate to low risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is unlikely that any such harm would be severe, or if any harm were to occur it is probable that the harm would be relatively mild.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

3.2.2 Summary of Plausible Sources

Possible sources of contamination identified or discounted as part of the desk study are summarised on Table 6:

Table 6

Possible Sources of Contamination

Source	Description	Comments
Made Ground and near surface soils	General background chemical quality of the near surface soils.	Possible elevated metals, organic and inorganic contaminants.
Ground Gases	Significant concentrations of Methane, Carbon Dioxide and reduced Oxygen, generated from any organic horizons within the Alluvium or off-site landfill	Ground gases could potentially migrate into buildings. A former landfill was indicated adjacent to the site. Peat may be present within the underlying Alluvium.

3.2.3 Summary of Plausible Pathways

The plausible pathways are summarised below:

- direct contact (soil, dust ingestion, dermal contact and dust inhalation);
- soil gas inhalation;
- vertical and lateral migration including leaching;
- root uptake; and
- chemical attack of infrastructure (including water supply pipes) and building foundations.

3.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development, identified or otherwise discounted, are summarised on Table 7 below:

Table 7

Possible Receptors of Contamination

Receptor	Description	Comments	Plausible
End Users	Occupants of the proposed commercial development.	The development will include soft landscaping	Yes
Soft Landscaping	Areas of planting including lawns, shrubs, trees, etc.	Soft landscaped areas included within the development.	Yes
Water Supply Pipes	Plastics for potable water supply pipes may be laid in contact with contaminated soils.	Chemical quality of near surface soils may impact pipe material selection. Although significant depths of Made Ground are not anticipated.	Yes
Buildings & Infrastructure	Buried concrete for foundations etc. may be laid in contact with contaminated/aggressive soils.	Significant depths of Made Ground are not anticipated.	Yes
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses comprise residential and commercial. Site adjacent to a nature reserve.	Yes
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site lies upon a principal Aquifer, but is outside of any source protection zone.	Yes
Surface Water	Controlled Waters within lakes, rivers, ponds, etc., or coastal waters.	Nearest water feature on north western and eastern boundaries.	Yes

Site workers involved in the preparation and construction of the development have not



been considered in this assessment as the principal contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 8 overleaf summarises the identified plausible pollution linkages:

Table 8
Plausible Pollution Linkages

Potential Source/Media	Potential Receptors	Possible Pathways	Likelihood	Severity	Risk & Justification
Contaminants of concern/Soil	End Users	Direct contact	Likely	Mild	Moderate to Low Future end users are likely to come into contact with soils with as soft landscaping is proposed within the new development.
	Adjacent Land Users	Direct contact	Likely	Minor	Low There is a low likelihood that adjacent site users will come into contact with soils from the site.
	Water Supply Pipes	Direct contact	Likely	Mild	Moderate to Low Water supply pipes are likely to come into contact with impacted soils depending upon depth of installation and extent of soil impact.
	Buildings and Infrastructure	Direct contact	Low	Mild	Low Foundations and utilities will be placed within soils; however the consequence is anticipated to be mild.
	Groundwater	Vertical migration	Likely	Mild	Moderate to Low Groundwater is likely to be encountered, though the soils are unlikely to be highly permeable. The risk of downward migration is considered to be low.
Ground Gases/Soil	End users	Ground gas inhalation	Likely	Medium	Moderate The desk study identified a historical landfill adjacent to the site boundary. The risk of gases is considered to be moderate.
	Adjacent Land Users	Ground gas inhalation	Low Likelihood	Mild	Low The sites former use included marsh land, the risk to adjacent land users is considered to be minor.

3.3 Preliminary Risk Assessment Summary

The PRA and CSM developed from the information gathered as part of the desk study process have identified several plausible pollutant linkages that exist in relation to the proposed redevelopment of the site. However, the preliminary risk rating for each linkage has been classified as moderate to low to low, and as such the site is considered overall as moderate to low risk.

3.3 Scope of Works

In summary, the following scope of works for the intrusive investigation was agreed with the Client.

- o An Engineer to attend site and supervise works.
- o The construction of three cable percussive boreholes to a provisional depth of 20m bgl (or maximum achievable depth) with regular in-situ testing and sampling.
- o Trial pitting with pits to a maximum depth of 3.00m bgl with regular sampling.
- o One day's window sampling with window sampler boreholes to a maximum depth of 4.0m with regular sampling.
- o The installation within window sampler boreholes of a dual purpose gas and water monitoring standpipes, sealed using bentonite pellets, and with filter pack response zones.
- o Three ground gas and groundwater monitoring visits at fortnightly intervals.
- o Geotechnical laboratory testing on recovered soil and water samples to support geotechnical interpretation.
- o Geochemical laboratory testing on recovered soil and water samples to support a Tier 1 Risk Assessment.

Due to access constraints and difficulty tracking across the site it was decided to undertake a single cable percussion hole centrally within the site to a depth of 36.5mbgl.

3.4 Investigation Strategy

The Desk Study and Preliminary Risk Assessment identified that the site had formed marsh land. However, a landfill has been identified adjacent to the site.

Table 9

Summary of Geotechnical Investigation Strategy

Geotechnical Factor	Investigation	Positions
Shrinkable Soils	Construction of a cable percussive borehole, window sampler boreholes and trial pits across the site.	All
Groundwater	Standpipes installed.	WS1, WS3, WS4, WS5, WS6, WS7

Table 10**Summary of the Environmental Investigation Strategy**

Environmental Factor	Investigation	Positions
Near surface soils	Construction of a cable percussive borehole, window sampler boreholes and trial pits across the site.	All
Ground Gases	Standpipes installed.	WS1, WS3, WS4, WS5, WS6, WS7

In addition to the above the client specifically requested the testing of the quality of the groundwater and surface water running within the ditch adjacent to the landfill site on the north-western boundary



4.0 ENCOUNTERED CONDITIONS

A factual record of the conditions encountered during the physical investigation of the site is presented in the following sections.

For further details of the ground conditions, reference should be made to the engineer's records presented in Appendix B, the monitoring results presented in Appendix C, the geotechnical testing results in Appendix D and the contamination testing results in Appendix E.

The physical ground investigation works were undertaken between the 22nd and 25th February 2016 and the return monitoring visits were undertaken between 1st and 16th March 2016. Both the geotechnical and contamination testing were undertaken by UKAS accredited laboratories, with the chemical testing undertaken in accordance with MCerts approved protocols.

Unless stated otherwise, all depths are reported as metres below ground level (m bgl).

4.1 Soils

The anticipated Alluvium and Seaford Chalk Formation and Newhaven Chalk Formation were encountered during the intrusive investigation overlain by a thin mantle of Made Ground or Topsoil.

Made Ground was encountered within BH1, TP3, TP7, WS4-WS5 and WS7 to depths of between 0.30m and 2.30m bgl. The Made Ground generally comprised grey sandy silt, silty clay with frequent chalk fragments, rare brick, plastic, concrete, limestone cobbles and flint. The Made Ground within TP3 was of a different composition comprising grey clay with frequent black peat bands and frequent timber.

Underlying the Made Ground, the Alluvium was encountered within all locations with the exception of TP3 and was encountered to a depth of 20.80m bgl (BH1) and generally comprised extremely low to high strength silty clay with peat. Within the cable percussive borehole, flint gravel and flint cobbles were encountered within the Alluvium at depth.

Underlying the Alluvium, the Seaford Chalk Formation and Newhaven Chalk Formation was encountered within the cable percussive borehole only, to a depth of 36.45m bgl (maximum depth of the investigation) and comprised structureless chalk composed of sub-angular to rounded gravel. Clasts are very weak, low and medium density and off-white. Matrix is a pale brown with occasional fine to coarse flint gravel. At greater depths (c.23m bgl) the chalk became off-white weak, medium density chalk infilled with off-white comminuted chalk and occasional fine to coarse flint gravel.

For full details of the ground conditions encountered, reference should be made to the borehole records in Appendix B.

4.2 Groundwater

During the investigation, groundwater was encountered within all locations (with the exception of TP7) to depths of between 0.20m to 16.80m bgl. During the groundwater



monitoring, standing water was recorded within the monitoring wells at depths of between 0.00m (ground level) and 1.53m bgl.

It should be noted that changes in groundwater levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a standpipe or piezometer.



4.3 Obstructions

No obstructions were encountered during the intrusive investigation however; the presence of obstructions or voids elsewhere on the site cannot be discounted.

4.4 Ground Gases

Ground gas monitoring wells have been installed within WS1, WS3, WS4, WS5, WS6 and WS7 with three visits undertaken to date. During the visits a maximum methane concentration of 0.1% v/v was recorded. A maximum carbon dioxide concentration of 8.4% v/v was recorded during the third visit. Oxygen concentrations in the standpipe were depleted with a minimum concentration of 4.9% recorded. Atmospheric Pressure was recorded at between 1004mb and 1027mb whilst flows were recorded at 0.0l/hr.

Based on the monitoring visits undertaken ground gas protection measures are likely to be required in the form of the installation of a membrane, on account of the elevated carbon dioxide, the specification of the measures required will be provided within Section 6.2.

Due to the presence of elevated carbon dioxide, it is recommended that a further three monitoring visits are made to provide a more robust risk assessment.

For full details of the ground gas monitoring, reference should be made to the monitoring results in Appendix D.

4.5 Chemical Analysis

In order to assess the general chemical quality of the strata encountered, sixteen samples of shallow soils, six sample of groundwater and two samples of surface water from the ditch located between the site and historical landfill were recovered and were submitted for analysis for a range of potential contaminants selected on the basis of the findings of the desk study and supported by CLR publication CLR8 and Environment Agency R&D66 publication.

The general testing rationale used was based on providing general information on contaminative status in the upper metre of ground across the site for the majority of the testing.

4.6 Geotechnical Testing

Thirteen samples of the Alluvium were analysed for Atterberg Limit Tests. The results indicated the clays and peat of the Alluvium had plasticity indices ranging between 11% and 212%.

Four saturation moisture content tests were undertaken on the Seaford Chalk Formation and Newhaven Chalk Formation. Saturated moisture content ranged between 26% and 31% whilst the bulk density ranged between 1.85Mg/m³ and 1.96Mg/m³.

The test results indicated the Alluvium to be High Volume Change Potential as defined by the NHBC Standards, Chapter 4.2., whilst the Seaford Chalk Formation and Newhaven Chalk Formation is likely to be classified as being non-shrinkable.



Eight pH and water soluble sulphate determinations were undertaken on samples of the Alluvium. The results indicate pH values of between pH7.48 and pH7.82 with corresponding water soluble sulphate concentrations of 0.34g/ℓ and 1.24g/ℓ.

Three pH and water soluble sulphate determinations were undertaken on samples of the Seaford Chalk Formation and Newhaven Chalk Formation. The results indicate pH values of between pH7.79 and pH7.90 with corresponding water soluble sulphate concentrations of 0.04g/ℓ and 0.21g/ℓ.

Five undrained triaxial compression tests were undertaken on undisturbed samples of the Alluvium taken from the cable percussive borehole. The results gave consolidated undrained shear strengths of between 10 kPa and 89 kPa.

Standard penetration tests were undertaken on both the Alluvium and Seaford Chalk Formation and Newhaven Chalk Formation within the cable percussive borehole. The N values recorded within the Alluvium ranged between 3 and 26, whilst the N values recorded for the Chalk ranged between 9 and 44.

For full details of the geotechnical results, reference should be made to Appendix D.

5.0 ENGINEERING CONSIDERATIONS

Subsequent to intrusive investigation of the site and receipt of the laboratory results, the following interpretative assessments have been made with respect to engineering considerations.

5.1 Traditional Foundations

Due to the presence of a high groundwater table and highly compressible Alluvial soils, together with the fact that levels are to be raised across the site to accommodate potential flood events, conventional foundations are considered inappropriate for the site and it is recommended that a piled foundation scheme be used for the proposed development.

5.2 Piled Foundations

The construction of a piled foundation is a specialist job and the advice of a reputable contractor familiar with the type of ground and groundwater conditions encountered on this site should be sought prior to finalising the design. The actual working load for proposed piles will depend on the particular type of pile and method of installation adopted.

Piles should be taken at least five times the pile diameter into the founding strata. The construction of piles on the site could create vertical migration pathways and as such any piling solution on this site should take due account of the contamination assessment and the findings thereof.

Preliminary load capacities calculated for varying diameters of CFA piles taken into the Chalk is given on the table below. The design should be used for preliminary purposes only as the actual working load is dependent on the type of pile and method of installation.

Table 11

Preliminary Pile Design

Pile Type	Diameter (mm)	Depth (mbgl)	Working Load (kN)
CFA	300	25	190
	450	25	360
	600	25	580
CFA	300	30	340
	450	30	590
	600	30	880

These working loads have been calculated on the basis of the ground conditions encountered within BH1, and assume the following parameters:

- No allowance has been made for potential negative skin friction over the upper 21.0m within the Alluvium.



- A factor of safety of 1.5 on skin friction and 3.5 on end bearing was used to calculate the working loads.

The bearing values given are applicable to single vertically loaded piles. Where groups of piles are to be constructed, the bearing value of each individual pile should be reduced by a factor of 0.8 and a calculation made to check for the factor of safety against block failure.

The piling contractor should be aware that the boreholes were cased to depths of up to 32m in order to prevent collapse as drilling progressed.

Full details of the preliminary pile working loads are presented in Appendix H.

Due to the presence of shrinkable soils, deep Made Ground and ground gases, mitigating measures are likely to require ground slabs to be fully suspended. Recommendations for ground gas protection measures will be made within the ground section.

5.3 Excavations

Shallow excavations within any Made Ground are likely to remain relatively stable in the short to medium term. However, excavations within any deeper areas of Made Ground may be prone to instability and some form of temporary support may be required.

Both shallow and deeper excavations within the Alluvial soils are also likely to be highly unstable in the short to medium term and require some form of temporary support.

All excavations taken below the groundwater table will be prone to collapse and water inundation and will require appropriate support and dewatering.

Appropriate Health and Safety precautions should be adopted where man entry into excavations is required. However, groundworks should be designed in such a manner to avoid man entry into excavations.

5.4 Pavements

The Made Ground encountered across the site was noted to be of mixed composition. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the variability of the Made Ground it would be prudent to assume the material to be deemed frost susceptible throughout, thus a minimum pavement thickness of 450mm would be appropriate.

Transport Road Research Laboratory Report LR 1132 "The Structural Design of Bituminous Roads" cites an estimated equilibrium suction index of 1.5% for the alluvial clays encountered within the Alluvium, under average construction conditions and a high groundwater table. It would be prudent to assume the material to be deemed non frost susceptible.

It is recommended that the sub-grade be proof rolled and any soft spots removed and replaced with a suitable compacted granular fill.

5.5 Sub-Surface Concrete

The results of the sulphate and pH analyses are as follows:

Geology	Sulphate Class	ACEC Class
Made Ground	DS1	AC-1
Alluvium	DS2	AC-2
Chalk	DS1	AC-1

Table 12: Concrete Specification

The advice of this publication should be taken for the design and specification of all sub surface concrete.

5.6 Soakaways

Soakage testing did not form the remit of the investigation however, based on the encountered conditions, soakaways are unlikely to be viable. It is recommended that an alternative form of stormwater drainage be used.



6.0 ENVIRONMENTAL CONSIDERATIONS

A Generic Quantitative Risk Assessment (GQRA) incorporating the results of the desk study and ground investigation was undertaken in accordance with CLR11, the findings of which are presented in the following sections.

6.1 Outline Risk Assessment

The conceptual site model identified several plausible pollutant linkages between receptors and sources. These are summarised in Section 3.2.4 Table 7. The investigation did not encounter conditions that warranted a revision of the preliminary Conceptual Site Model.

6.2 Ground Gases vs. End Users

The desk study and identified that the site was adjacent to a landfill.

Recommendations on acceptable gas levels recorded in the ground beneath or adjacent to buildings are given in a variety of publications. For the purpose of this assessment, the results have been evaluated in terms of CIRIA C665 [2007], NHBC 10627-R01(04) [2007] and BS8485:2015.

Table 13

Ground Gas Classification

Characteristic Gas Situation (CS)	Hazardous Gas Flow (HGF) (CO ₂ or CH ₄) (l/hr)	Hazard Potential	Additional Factors
1	<0.07l/hr	Very Low	Typically Methane <1% v/v and/or Carbon Dioxide < 5% v/v. Otherwise consider increase to CS2.
2	<0.7l/hr	Low	Borehole air flow rate not to exceed 70l/h. Otherwise consider increase to CS3.
3	<3.5l/hr	Moderate	
4	<15l/hr	Moderate to High	Quantitative risk assessment required to evaluate scope of protective measures.
5	<70l/hr	High	
6	>70l/hr	Very High	

Hazardous Gas Flows have been calculated for the borehole location for Methane and Carbon Dioxide respectively based on the monitoring to date. These are presented in the table below:

Table 14

Hazardous Gas Flows

Borehole	Maximum Hazardous Gas Flows		Classification
	CH ₄	CO ₂	
WS1	0.0001	0.0002	CS1
WS3	0.0001	0.0001	CS1
WS4	0.0001	0.0055	CS1
WS5	0.0001	0.0001	CS1



WS6	0.0001	0.0001	CS1
WS7	0.0001	0.0084	CS1

Hazardous gas flows calculated for WS4 and WS7 were <0.7l/hr, however, readings of 5.5% and 8.4% for Carbon Dioxide have been recorded respectively classifying WS4 and WS7 as being CS2. Therefore, ground gas protection measures are required.

Based on British Standard 8485:2015, for a commercial development a score of 2.5 would be required for the gas protection measures to comply with characteristic gas situation CS2, or NHBC Amber 1. To meet this score it is likely that some form of passive sub floor ventilation (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers etc.) and a gas membrane will be required.

For further guidelines on construction details reference should be made to BR414.

The gas membrane should be installed by a specialist sub-contractor and verified by the geo-environmental consultant. In addition, a remediation method statement should be prepared with further information regarding the specification and verification required.

It is recommended that a further three rounds of groundgas monitoring is undertaken, corresponding with both low and high atmospheric pressure, in order to provide a more robust ground gas risk assessment.

6.3 Soil Contamination vs. End Users

The presence of a possible contaminant does not necessarily imply that a site or area is contaminated or that there is any unacceptable risk to human health. A Preliminary Quantitative Risk Assessment has been undertaken in accordance with CLR11, in order to evaluate any unacceptable risks posed to human health with respect to the proposed residential end use of the site. It should be noted that this assessment is protective of the chronic long-term effects of contaminants, which is also likely to be protective of any possible immediate acute effects.

A quantitative risk assessment has been undertaken by comparing the results of the laboratory chemical testing of shallow soils against Site Specific Assessment Criteria (SSAC) generated using the Contaminated Land Exposure Assessment (CLEA) model v1.06 published by the Environment Agency, or against the Category 4 Screening Levels (C4SL) published by DEFRA. Although the C4SL's were released for Part 2a use, the associated policy companion document for the C4SL's indicated that they may also be used for planning. Although the C4SL's represent a marginally higher risk level than the GAC's (low risk rather than minimal risk) it is considered that the risk levels remain very low. Therefore, the final C4SL's are considered to be suitable to assess soils under the planning regime.

The assumptions made as part of the CLEA v1.06 calculations for a commercial end are presented on the table below.



Table 15 Assumptions for SSAC Calculation (CLEA v1.06 Software)

	Assumptions			Comments
Land Use	Commercial			Conservative assumption based on proposed development
Receptor	Female (com)			A conservative assumption using the most sensitive possible receptor.
Age Class	17 to 17			Critical receptor age 17 to 65.
Building	Office (Post 1970)			Office (Post 1970) is closest building type for the proposed land use.
Soil Type	Silty loam	pH 8.1	SOM 2%	Based on an average of the chemical laboratory results.
Exposure Pathways	Oral	Direct soil & dust ingestion		Default setting for land use.
	Dermal	outdoor		Default setting for land use.
	Inhalation	outdoor dust & vapour		Default setting for land use.
Occupancy	days/year	hours/day (indoors)	hour/day (outdoors)	Estimated durations for the critical receptor.
	230	8.3	0.7	

The statistical analysis summary sheets are included in Appendix E. The results of the statistical analysis are summarised in the table overleaf.

Table 16

Summary of Statistical Analysis

Determinand	Soil Screening Value (mg/kg)	Sample Mean (mg/kg)	Upper Confidence Limit (mg/kg)	Evidence Level (%)	Reject null hypothesis?
Arsenic	640	19.18	22.73	100	Yes
Cadmium	410	0.32	0.56	100	Yes
Chromium	30400	37.58	43.04	100	Yes
Lead	2330	59.63	95.19	100	Yes
Mercury	3640	0.30	0.53	100	Yes
Nickel	1790	28.06	30.88	100	Yes
Copper	71700	22.38	32.21	100	Yes
Zinc	665000	98.21	112.20	100	Yes
Selenium	13000	0.5	0.5	100	Yes
Chromium VI	49	0.4	0.4	100	Yes
Barium	22100	73.86	84.01	100	Yes
Beryllium	378	1.09	1.52	100	Yes
Vanadium	3160	61.76	73.19	100	Yes
Benzo(a)pyrene	76	0.33	0.97	100	Yes
Phenol	36500	3	3	100	Yes

The statistical analysis revealed a few statistical outliers, however these occurred where the majority of other results in the dataset were less than the laboratory detection



limit and the outliers were all individually significantly below the SSAC/GAC. Benzo(a)pyrene has been used in the assessment as a surrogate marker for PAH contamination.

The statistical analysis has found that for all of the determinands tested the null hypothesis can be rejected with >95% confidence. Additional testing was undertaken for Asbestos, and no asbestos was identified within the samples tested. Samples were analysed for speciated TPH, and all reported concentrations within normal limits for the proposed end use.

Analysis Organo Chlorine Pesticides was undertaken as part of the investigation, all concentrations were below laboratory detection limits Therefore no further action is deemed necessary with regards to soil contamination.

6.4 Soil Contamination vs. Adjacent Land Users

Surrounding land uses included fields, commercial and residential. Based on the laboratory testing results it is unlikely that the soils on this site pose any significant risk to surrounding land uses.

6.5 Soil Contamination vs. Building Materials

Recommendations with respect to pH and sulphate in relation to buried concrete are made in Section 5.4.

The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UKWIR Report 10/WM/03/02 (re-issued 2010). However, the guidance is not mandatory and there has been concerns raised by various industry technical associations regarding the document and the methodologies proposed.

Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1.

The presumption in the guidance is that barrier pipe will be adopted for any brownfield site. Exceedances have been recorded (SVOCs) and it is likely that barrier pipe will be required. However, it is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practical in order to confirm the pipe material.

As a matter of good practice, and to maximise the protection to utilities, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

6.6 Groundwater

The site overlies a Secondary Undifferentiated Aquifer and a Principal Aquifer and is outside of any SPZ. Groundwater samples were taken from the monitoring wells during the first monitoring visit.



All results were compared against EQS Saltwater standards although these standards are highly conservative, All concentrations were within normal limits with the exception of marginally elevated concentrations for Copper (WS1), Mercury (WS3), Nickel (WS5) and elevated concentrations for PAHs. No standards were available for comparison of TPH.

No on-site sources of contamination were noted on-site whilst elevated concentrations are unlikely to affect end users. Elevated concentrations are likely to be from surrounding sources including the River Thames, the water treatment works, historical landfill and commercial businesses. Therefore, no further action is deemed necessary with regards to groundwater.

6.7 Surface Water

Two samples of water were taken from the ditch bounding the north-western portion of the site, one up stream outside of the site area, and one downstream within the site area. All results were compared against EQS Saltwater standards although these standards are highly conservative. All concentrations were within normal limits with the exception of marginally elevated concentrations for PAHs. No standards were available for comparison of TPH.

No on-site sources of contamination were noted on-site whilst elevated concentrations are unlikely to affect end users. Elevated concentrations are likely to be from surrounding sources including the River Thames, the water treatment works, historical landfill and commercial businesses. Therefore, no further action is deemed necessary with regards to surface water.

6.8 Waste Disposal

The test results indicate that the chemical quality of the near surface soil encountered on-site is likely to require WAC testing prior to off-site disposal. Natural soils free from contamination from foundation excavations may be classified as "Inert" for off-site disposal to landfill or may be suitable for re-use on-site subject to any necessary consents.

Notwithstanding the above, where excess soils are removed from site they will be classified as waste and should be disposed of accordingly. As several classification systems exist, confirmation of disposal costs and classification should be sought from local waste operators.

6.8 Discovery Strategy

Whilst the investigation undertaken on the site to date is considered to be thorough, it remains possible that previously unexpected soil conditions may be encountered during the process of site demolition and construction.

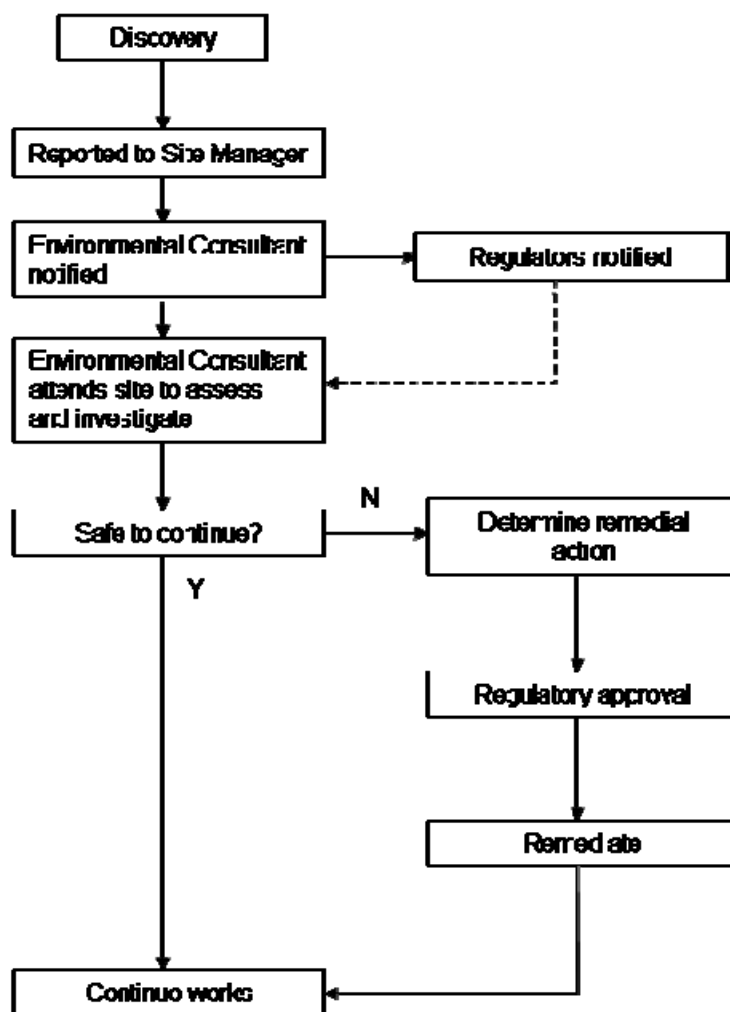
Examples may include oily pockets within the soil, pockets of cement boarding or fibrous materials within the soil, black ashy materials, soils exhibiting strong odours,

brightly coloured materials, and former structures or brickwork.

Should previously undiscovered contamination be encountered during the demolition/construction of the new buildings the following course of action should be adhered to:

- Works in the area of the suspected contamination should cease immediately. The ground workers should report any suspected contamination immediately to the Client's site supervisor. The supervisor should contact the Environmental Consultant, who should visit the site to assess the extent of the 'contamination'.
- The Environmental Consultant shall make records of their inspection, and pass details of these to the Local Authority.
- Where the conditions revealed differ from those previously anticipated, the Environmental Consultant shall take samples as deemed appropriate to be dispatched for appropriate chemical testing.
- Depending on the results of the testing either: 1) no further work will be required; 2) a further detailed risk assessment will be required; and/or 3) localised specific remedial measures will be necessary. Appraisal criteria will vary depending on the nature of the assessment.
- The results of any such testing will be sent to the Regulatory Authority for consultation. If remediation is required, the Regulatory Authority will be informed of the date and time of the proposed works.
- Remediation will be undertaken in accordance with a method statement submitted to the Local Authority for approval. The works shall be supervised by the Environmental Consultant who shall provide a Validation Report for the Local Authorities purposes.

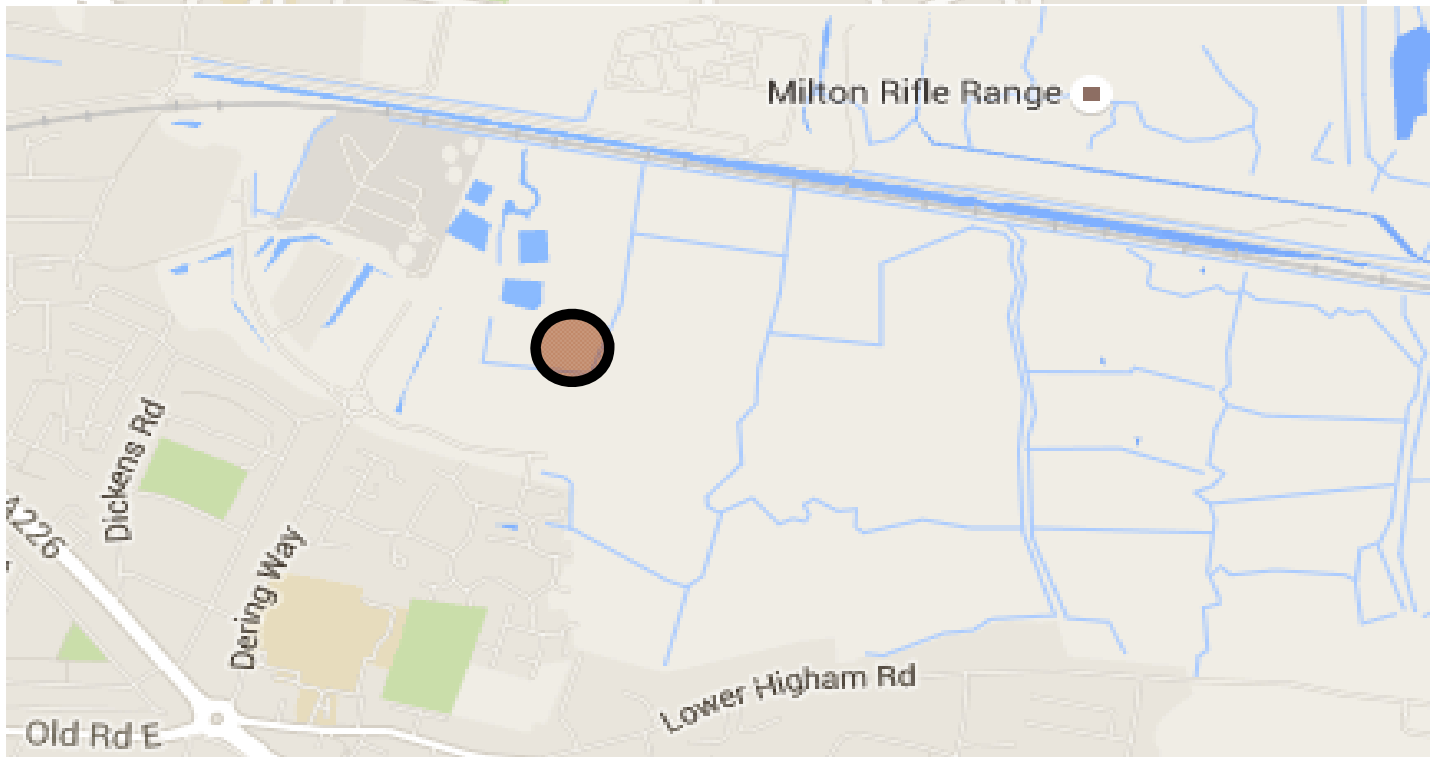
The process is summarised overleaf:



A copy of this strategy should be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious or contaminated materials they may encounter.

FIGURE 1

Site Location Plan



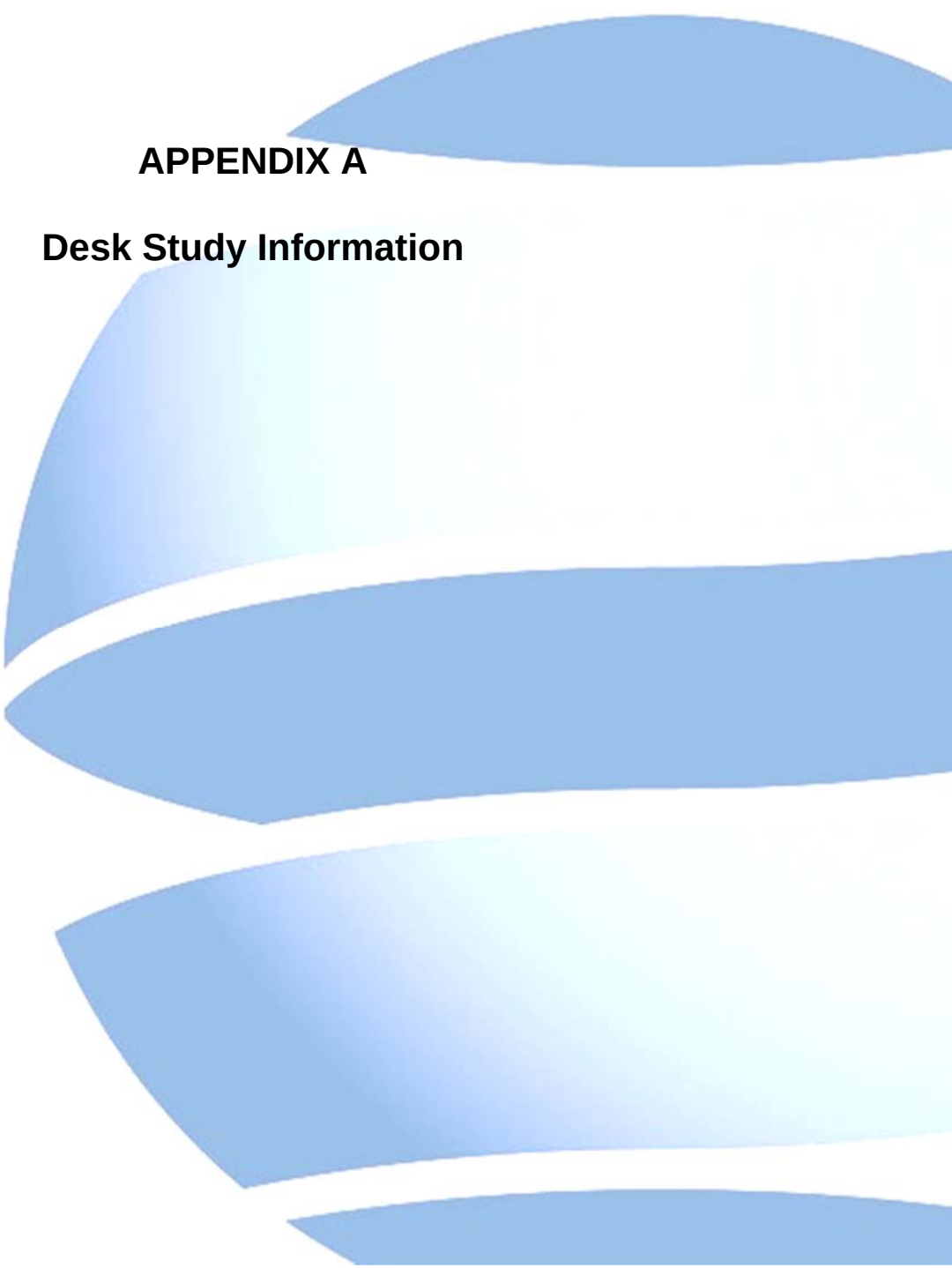
Project: Land Off Dalefield Way, Gravesend		Title	Site Location Plan
Client: Riverdale		Geo-Environmental Services Ltd Danworth Farm, Unit 7, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL E: mail@gesl.net T: 01273 832972	
Ref No: GE15338	Revision: v1		
Drawn: AP	Date: 19/02/2016		
Figure: 1	Scale: Not To Scale		

FIGURE 2

Site Investigation Plan



Project:	Land Off Dalefield Way, Gravesend			Title	Site Investigation Plan	 Geo-Environmental
Client:	Riverdale Developments			Geo-Environmental Services Limited		
Ref No:	GE15338	Revision:	v1	Unit 7, Danworth Farm, Cuckfield Rd		
Drawn:	AP	Date:	02/03/2016	Hurstpierpoint, BN6 9GL		
Figure:	2	Scale:	Not To Scale	E: mail@gesl.net W: www.gesl.net		



APPENDIX A

Desk Study Information



Geo-Environmental

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

80691026_1_1

Customer Reference:

GE15338

National Grid Reference:

567070, 173570

Slice:

A

Site Area (Ha):

4.87

Search Buffer (m):

1000

Site Details:

Site at
Gravesend
Kent

Client Details:

Ms B Newton
Geo Environmental Services Ltd
Unit 7 Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL



Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	20
Hazardous Substances	23
Geological	24
Industrial Land Use	37
Sensitive Land Use	46
Data Currency	47
Data Suppliers	52
Useful Contacts	53

Introduction

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

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

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Report Version v50.0



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			5	21
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7				4
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 7		Yes		
Pollution Incidents to Controlled Waters	pg 8			2	12
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 10			1	1
Water Abstractions	pg 10			2	4 (*17)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 16	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 16	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 16	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 16	Yes		n/a	n/a
Flooding from Rivers or Sea without Defences	pg 16	Yes		n/a	n/a
Areas Benefiting from Flood Defences	pg 16	Yes		n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines	pg 17	Yes	Yes	Yes	n/a
Detailed River Network Offline Drainage					n/a



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 20		1	1	4
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 21				2
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 21				1
Registered Waste Treatment or Disposal Sites	pg 22				1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites	pg 23				1
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 24	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 24	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 34				3
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 35	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 35		Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 36	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



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 37		1	16	86
Fuel Station Entries	pg 45				1
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt	pg 46			1	
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas	pg 46	1	1		
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves	pg 46				1
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 46	2			
Ramsar Sites	pg 46	1			
Sites of Special Scientific Interest	pg 46	1			
Special Areas of Conservation					
Special Protection Areas					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (S)	376	2	567180 173060
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (S)	386	2	567190 173050
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (S)	387	2	567170 173050
1	Discharge Consents Operator: Retirement Care Group Property Type: Undefined Or Other Location: Mullender Court, Chalk Road, Chalk, Gravesend Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00945 Permit Version: 1 Effective Date: 31st March 1987 Issued Date: 31st March 1987 Revocation Date: 30th January 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (S)	399	2	567150 173040



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: Services Support (Gravesend) Limited Property Type: Domestic Property (Single) Location: Gravesend Training Complex, Mark Lane, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P09285 Permit Version: 1 Effective Date: 20th March 2001 Issued Date: 20th March 2001 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Site Drainage Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SW (N)	446	2	567010 174130
3	Discharge Consents Operator: Mr P Bell Property Type: Education Location: Fire Fighting Training Centre, East Kent College, Gravesend Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P06840 Permit Version: 1 Effective Date: 22nd August 1997 Issued Date: 22nd August 1997 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Site Drainage Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	503	2	567400 174100
4	Discharge Consents Operator: Central Electricity Gen. Board Property Type: Production & Distribution Of Electricity Location: Cable Tunnel At Denton, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: K02109 Permit Version: 1 Effective Date: 14th November 1967 Issued Date: 14th November 1967 Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	506	2	566420 173860
5	Discharge Consents Operator: National Grid Property Type: Production & Distribution Of Electricity Location: 400 Kv Line Cable Tunnel Denton, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: K02108 Permit Version: 1 Effective Date: 14th November 1967 Issued Date: 14th November 1967 Revocation Date: 4th November 2010 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (N)	516	2	567050 174200



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Discharge Consents Operator: Clubbs Washed Gravel Company Property Type: Undefined Or Other Location: J Clubb, Denton, Land At Mark Lane, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Old-unknown river Reference: P05493 Permit Version: 1 Effective Date: 14th February 1995 Issued Date: 14th February 1995 Revocation Date: 24th May 1996 Discharge Type: Trade Discharge - Mineral Workings Discharge: Freshwater Stream/River Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (N)	532	2	566850 174200
7	Discharge Consents Operator: Shell UK Ltd Property Type: Not Given Location: Land At City Self Serve Chalk, Rochester Road, Chalk, GRAVESEND, Kent, Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P.4619/K/T/92 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 15th February 1993 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Land/Soakaway Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	563	2	566610 173065
8	Discharge Consents Operator: Shell Uk Ltd Property Type: Retail Filling Stations Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P04619 Permit Version: 2 Effective Date: 20th December 2012 Issued Date: 20th December 2012 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	570	2	566560 173090
8	Discharge Consents Operator: Shell Uk Ltd Property Type: Retail Filling Stations Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P04619 Permit Version: 1 Effective Date: 15th February 1993 Issued Date: 15th February 1993 Revocation Date: 19th December 2012 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	570	2	566560 173090



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Discharge Consents Operator: Shell Uk Ltd Property Type: Retail Filling Stations Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P04619 Permit Version: 2 Effective Date: 20th December 2012 Issued Date: 20th December 2012 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	578	2	566560 173080
8	Discharge Consents Operator: Shell Uk Ltd Property Type: Retail Filling Stations Location: Land At City Self Serve Chalk, Rochester Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P04619 Permit Version: 1 Effective Date: 15th February 1993 Issued Date: 15th February 1993 Revocation Date: 19th December 2012 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	578	2	566560 173080
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CATM.2970 Permit Version: 1 Effective Date: 28th July 1997 Issued Date: 28th July 1997 Revocation Date: 16th April 2008 Discharge Type: Sewage Discharges - Unspecified - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NW (N)	657	2	566935 174335
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CATM.2969 Permit Version: 1 Effective Date: 28th July 1997 Issued Date: 28th July 1997 Revocation Date: 20th December 2000 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NW (N)	658	2	566930 174335



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Tideway -Windle/RBourne (s) Reference: Catm.2969 Permit Version: 5 Effective Date: 5th October 2009 Issued Date: 5th October 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal River Thames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	662	2	566930 174340
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Catm.2969 Permit Version: 4 Effective Date: 1st April 2009 Issued Date: 14th October 2008 Revocation Date: 4th October 2009 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	662	2	566930 174340
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Catm.2969 Permit Version: 3 Effective Date: 20th July 2007 Issued Date: 20th July 2007 Revocation Date: 31st March 2009 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	662	2	566930 174340
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Catm.2969 Permit Version: 2 Effective Date: 21st December 2000 Issued Date: 21st December 2000 Revocation Date: 19th July 2007 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	662	2	566930 174340



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Catm.2970 Permit Version: 2 Effective Date: 17th April 2008 Issued Date: 28th July 1997 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	662	2	566930 174340
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Catm.2970 Permit Version: 2 Effective Date: 17th April 2008 Issued Date: 28th July 1997 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tidal Riverthames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	662	2	566930 174340
9	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewage Disposal Works - Water Company Location: Gravesend Stw Range Road Denton Gravesend Kent Da12 2qf Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CSSC.0412 Permit Version: 1 Effective Date: 17th June 1985 Issued Date: 17th June 1985 Revocation Date: 30th December 2000 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: River Thames Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NW (N)	662	2	566930 174340
10	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewerage Network - Sewers - Water Company Location: Empress Road Chamber, Gravesend, Gravesend, , Kent Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Casm.0006 Permit Version: 1 Effective Date: 6th September 1999 Issued Date: 19th April 1999 Revocation Date: 6th January 2000 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Tidal Waters Environment: Receiving Water: Tidal River Thames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	810	2	566420 174330



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: Southern Water Services Ltd. Property Type: Sewerage Network - Sewers - Water Company Location: Empress Road Chamber, Gravesend, , Kent Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Casm.0006 Permit Version: 2 Effective Date: 7th January 2000 Issued Date: 19th April 1999 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Saline Estuary Environment: Receiving Water: Tidal River Thames Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	810	2	566420 174330
11	Discharge Consents Operator: Mr B W Smith Property Type: Mixed Farming Location: Filborough Farm Barn, Lower Higham Road, Chalk, Gravesend, Kent Authority: Environment Agency, Southern Region Catchment Area: Thames Haven Reference: P09544 Permit Version: 1 Effective Date: 2nd January 2002 Issued Date: 2nd January 2002 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Into Land Environment: Receiving Water: Into Land Status: Not Supplied Positional Accuracy: Located by supplier to within 10m	A15SW (E)	950	2	568150 173300
12	Local Authority Pollution Prevention and Controls Name: Shell Chalk Service Station Location: Rochester Road, Chalk, GRAVESEND, Kent, DA12 4TN Authority: Gravesham Borough Council, Environmental Health Department Permit Reference: PP1/98/040 Dated: 30th December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Automatically positioned to the address	A7NE (SW)	575	3	566584 173067
13	Local Authority Pollution Prevention and Controls Name: J Clubb Location: Marine Works, Mark Lane, Denton, Gravesend, Kent, DA12 2QB Authority: Gravesham Borough Council, Environmental Health Department Permit Reference: PP3/92/006 Dated: 21st April 1993 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	705	3	566586 174306
14	Local Authority Pollution Prevention and Controls Name: Remix Dry Mortar Ltd Location: Denton Wharf, Mark Lane, Denton, Gravesend, Da12 2qb Authority: Gravesham Borough Council, Environmental Health Department Permit Reference: PP3/09/065 Dated: 1st June 2010 Process Type: Local Authority Pollution Prevention and Control Description: PG3/15 Mineral drying and roadstone coating processes Status: Permitted Positional Accuracy: Manually positioned to the road within the address or location	A17NE (NW)	745	3	566422 174251
15	Local Authority Pollution Prevention and Controls Name: R S Dawe Location: Norfolk Road Industrial Estate, Norfolk Road, GRAVESEND, Kent, DA12 2PS Authority: Gravesham Borough Council, Environmental Health Department Permit Reference: Pp6/92/010 Dated: 4th July 1995 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorised Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	797	3	566204 174079
	Nearest Surface Water Feature	A13SE (SE)	2	-	567195 173485



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	Pollution Incidents to Controlled Waters Property Type: Aggregate (Sand/Gravel) Location: Gravesend Water Treatment Works Authority: Environment Agency, Southern Region Pollutant: Sewage Sludge Note: Sludge Lost From Digister To Drainage Ditch Incident Date: 3rd August 1998 Incident Reference: 197260 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leaking Tank Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	298	2	566700 173900
17	Pollution Incidents to Controlled Waters Property Type: Mixed Agricultural Location: Land Adjacent To , Gravesend Sewage Treatment Works, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Oils - Unknown Note: Possible Contaminated Land Incident Date: 16th December 1997 Incident Reference: 197043 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	383	2	566550 173850
18	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Gravesend Stw, Kent Authority: Environment Agency, Thames Region Pollutant: General Note: Confirmed incident Incident Date: 8th January 1999 Incident Reference: THSE1999041799 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	538	2	566800 174200
19	Pollution Incidents to Controlled Waters Property Type: Industrial: Other Location: Mark Lane, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Miscellaneous - Fire water / Foam Note: Four Pump Fire; Industrial: Other Incident Date: 6th December 1994 Incident Reference: 94T429 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	590	2	566400 174000
20	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Gravesend Stw Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 11th April 1990 Incident Reference: SE900108 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	628	2	566900 174300
21	Pollution Incidents to Controlled Waters Property Type: Transport, Storage, Communications Location: 50 Roehampton Close, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Organic Chemicals : Mixed / Unidentified / Waste Mineral & Synthetic Oils Note: Not Supplied Incident Date: 7th July 1999 Incident Reference: 3237 Catchment Area: Medway Estuary Receiving Water: Estuary Cause of Incident: Unauthorised Activity : Unconsented Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	647	2	566250 173550



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Sewage Treatment Works Location: Gravesham Stw Authority: Environment Agency, Southern Region Pollutant: Sewage - Treated Effluent Note: Stream Through Denton Stw Very Poor Incident Date: 4th June 1992 Incident Reference: 92T255 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Water Company STW Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	681	2	566690 172900
23	Pollution Incidents to Controlled Waters Property Type: Transport, Storage, Communications Location: Behind Bonners Haulage Company, Mark Lane, Denton Wharf, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Contaminated Water Mixed With Contaminants Note: Not Supplied Incident Date: 27th May 1999 Incident Reference: 1141 Catchment Area: Darent Receiving Water: Potential River Cause of Incident: Other Cause Incident Severity: Category 2 - Significant Incident Positional Accuracy: Approximate location provided by supplier	A17SE (NW)	717	2	566400 174195
23	Pollution Incidents to Controlled Waters Property Type: Other Transport Location: Thames Medway Canal At Medway Wharf, DENTON Authority: Environment Agency, Southern Region Pollutant: Oils - Waste Oil Note: Oil Pollution Incident Date: 29th May 1993 Incident Reference: 93T059 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Oils/Related Products Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	721	2	566400 174200
24	Pollution Incidents to Controlled Waters Property Type: Not Given Location: GRAVESEND Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 29th October 1995 Incident Reference: SE950501 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	740	2	566500 174300
25	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Denton Wharf Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 11th November 1991 Incident Reference: SE910312 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	790	2	566440 174320
26	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Denton Wharf Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 31st January 1993 Incident Reference: SE930008 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	827	2	566500 174400



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	Pollution Incidents to Controlled Waters Property Type: Not Given Location: DENTON, Kent Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 1st June 1998 Incident Reference: 38952 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	851	2	566550 174450
28	Pollution Incidents to Controlled Waters Property Type: Manufacturing Location: R S Dawe Ltd, Norfolk Road, GRAVESEND Authority: Environment Agency, Southern Region Pollutant: Organic Chemicals : Industrial Fuel Oils Note: Not Supplied Incident Date: 28th May 1999 Incident Reference: 4441 Catchment Area: Medway Estuary Receiving Water: Estuary Cause of Incident: Containment Failure : Insufficient System Capacity Incident Severity: Category 3 - Minor Incident Positional Accuracy: Approximate location provided by supplier	A17SW (NW)	869	2	566200 174200
29	Substantiated Pollution Incident Register Authority: Environment Agency - Southern Region, Kent and East Sussex Incident Date: 7th May 2004 Incident Reference: 234990 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Contaminated Water: Other Contaminated Water Pollutant: Crude Sewage	A12NE (NW)	406	2	566513 173823
30	Substantiated Pollution Incident Register Authority: Environment Agency - Southern Region, Kent and East Sussex Incident Date: 23rd February 2004 Incident Reference: 218671 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Other Specific Waste Material	A12NW (NW)	584	2	566343 173879
31	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 9/40/01/0508/G Permit Version: 100 Location: Point 1, Borehole At Gravesend Sewage Works In Kent. Authority: Environment Agency, Southern Region Abstraction: Other Industrial/Commercial/Public Services: General Washing/Process Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	396	2	566670 174000



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	Water Abstractions Operator: J Clubb Ltd Licence Number: 9/40/01/0498/G Permit Version: 100 Location: Point A, S Drift, Underground Gravel Strata (Thames Ballast) Authority: Environment Agency, Southern Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Shown Coloured Blue On Licence Map. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (N)	440	2	566960 174120
33	Water Abstractions Operator: Gravesham Borough Council Licence Number: So/040/0001/001/R01 Permit Version: 1 Location: Denton New Cut-Canal Restoration Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: General Use (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames & Medway Canal Restoration Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	506	2	567468 174076
33	Water Abstractions Operator: Gravesham Borough Council Licence Number: So/040/0001/001 Permit Version: 1 Location: Denton New Cut-Canal Restoration Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: General Use (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames & Medway Canal Restoration Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 18th December 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	506	2	567468 174076
34	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SW (E)	989	2	568194 173902



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SW (E)	989	2	568194 173902
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1079	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1079	2	568022 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 2 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 1st May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1114	2	568070 174370



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 2 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1114	2	568070 174370
	Water Abstractions Operator: Mr Cj Glover Licence Number: 01/150 Permit Version: 1 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 18th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1114	2	568070 174370
	Water Abstractions Operator: Mr Cj Glover Licence Number: 01/150 Permit Version: 1 Location: Area 1, Ditches At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from any point within an area Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 18th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1114	2	568070 174370
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Point B, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1666	2	568824 174152



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 3 Location: Point B, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 19th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1666	2	568824 174152
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 2 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1688	2	568910 173900
	Water Abstractions Operator: The Royal Society For The Protection Of Birds Licence Number: 01/150 Permit Version: 2 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 1st May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1688	2	568910 173900
	Water Abstractions Operator: Mr Cj Glover Licence Number: 01/150 Permit Version: 1 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 18th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1688	2	568910 173900



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr Cj Glover Licence Number: 01/150 Permit Version: 1 Location: Point A, Denton New Cut At Shorne Marshes Rspb Reserve Authority: Environment Agency, Southern Region Abstraction: Environmental: Remedial River/Wetland Support: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: As Boldly Outlined On Licence Map Authorised Start: 01 April Authorised End: 31 May Permit Start Date: 18th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1688	2	568910 173900
	Water Abstractions Operator: Innogy Plc Licence Number: 8/37/56/*T/0091 Permit Version: 1 Location: Intakes On River Thames Authority: Environment Agency, Anglian Region Abstraction: Production Of Energy: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th September 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21NE (NW)	1794	2	566020 175240
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 9/40/01/0511/G Permit Version: 100 Location: Boreholes, Adits And Catchpits At Windmill Hill Ps Authority: Environment Agency, Southern Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: N/A Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1860	2	565060 173270
	Water Abstractions Operator: Shaws Laundries Limited Licence Number: 1/141 Permit Version: Not Supplied Location: Whitehill Road, GRAVESEND Authority: Environment Agency, Southern Region Abstraction: Industrial Processing (Miscellaneous) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 210 Yearly Rate (m3): 33500 Details: Additional Purpose: Industrial Other Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1NW (SW)	1876	2	565400 172420



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 1/0511/A/G Permit Version: Not Supplied Location: Windmill Hill Pumping Station Authority: Environment Agency, Southern Region Abstraction: Sand And Gravel Washing Abstraction Type: Not Supplied Source: Pond or Lake Daily Rate (m3): 7000 Yearly Rate (m3): 2562000 Details: Additional Purpose: Public Water Supply Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1926	2	565006 173196
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 01/026 Permit Version: Not Supplied Location: Windmill Hill Ps, GRAVESEND Authority: Environment Agency, Southern Region Abstraction: Public Water Supply Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 7000 Yearly Rate (m3): 2562000 Details: H5 Chalk; Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1930	2	565001 173201
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 40 Thames Estuary Scale: 1:100,000	A13SW (SW)	0	2	567005 173489
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (H1) - Soils which readily transmit liquid discharges because they are either shallow, or susceptible to rapid by-pass flow directly to rock, gravel or groundwater Map Sheet: Sheet 40 Thames Estuary Scale: 1:100,000	A13NE (NE)	0	2	567070 173575
	Drift Deposits Drift Deposit: Low permeability drift deposits occurring at the surface and overlying Major and Minor Aquifers are head, clay-with-flints, brickearth, peat, river terrace deposits and marine and estuarine alluvium Map Sheet: Sheet 40 Thames Estuary Scale: 1:100,000	A13NE (NE)	0	2	567070 173575
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NE (NE)	0	4	567070 173575
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13NE (NE)	0	4	567070 173575
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	0	2	567070 173575
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	0	2	567070 173575
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A13NE (NE)	0	2	567070 173575
	Flood Water Storage Areas None				
	Flood Defences None				



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Currently Undefined Flood Risk: Currently Undefined Management Status: Water Course: Dering Way Name: Water Course: E500 Reference:	A13NW (N)	0	2	567064 173592
36	Detailed River Network Lines River Type: Primary River River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Currently Undefined Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A13SE (SE)	3	2	567195 173483
37	Detailed River Network Lines River Type: Primary River River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Currently Undefined Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A13NE (E)	30	2	567259 173648
38	Detailed River Network Lines River Type: Lake/Reservoir River Name: Not Supplied Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A13SW (SW)	121	2	566917 173426
39	Detailed River Network Lines River Type: Primary River River Name: Not Supplied Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A13SW (SW)	123	2	566880 173426
40	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: Not Supplied Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A18SE (NE)	348	2	567313 173964



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	Detailed River Network Lines River Type: Primary River River Name: Thames and Medway Canal Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Norfolk Road Name: Water Course: E500 Reference:	A18SW (N)	381	2	566991 174064
42	Detailed River Network Lines River Type: Primary River River Name: Not Supplied Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A18SE (NE)	400	2	567356 174007
43	Detailed River Network Lines River Type: Primary River River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Currently Undefined Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Damigos Road Name: Water Course: E500 Reference:	A18SE (NE)	405	2	567356 174012
44	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SE (NE)	405	2	567356 174012
45	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Currently Undefined Flood Risk: Currently Undefined Management Status: Water Course: Shorne and Higham Marshes Name: Water Course: E500 Reference:	A18SW (N)	439	2	567008 174123
46	Detailed River Network Lines River Type: Primary River River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Currently Undefined Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Shorne and Higham Marshes Name: Water Course: E500 Reference:	A18SE (NE)	456	2	567404 174049



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	Detailed River Network Lines River Type: Primary River River Name: Drain Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Currently Undefined Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: Shorne and Higham Marshes Name: Water Course: E500 Reference:	A19SW (NE)	498	2	567493 174055
	Detailed River Network Offline Drainage None				



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	Historical Landfill Sites Licence Holder: Gravesham Borough Council Location: Denton, Kent Name: Shamrock Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19301 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7028 BGS Ref: Not Supplied Other Ref: GR1	A13NW (NW)	4	2	566948 173671
49	Historical Landfill Sites Licence Holder: J Clubb Limited Location: Denton, Kent Name: Denton-Comma Oil Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19298 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7030 BGS Ref: Not Supplied Other Ref: GR11	A17SE (NW)	414	2	566543 173898
50	Historical Landfill Sites Licence Holder: Not Supplied Location: Gravesend, Kent Name: Gas Works - Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19292 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Commercial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7031 BGS Ref: Not Supplied Other Ref: GR12	A17SW (NW)	670	2	566387 174115
51	Historical Landfill Sites Licence Holder: Not Supplied Location: Denton, Kent Name: Norfolk Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19290 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Commercial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7038 BGS Ref: Not Supplied Other Ref: GR4	A17SE (NW)	710	2	566397 174182
52	Historical Landfill Sites Licence Holder: Not Supplied Location: Gravesend, Kent Name: Gas Works - Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19294 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Commercial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7031 BGS Ref: Not Supplied Other Ref: GR12	A17SW (NW)	727	2	566315 174117



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	Historical Landfill Sites Licence Holder: Gravesham Borough Council Location: Gravesend, Kent Name: The Nest Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19325 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert and Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2200/7037 BGS Ref: Not Supplied Other Ref: GR3	A7SE (SW)	909	2	566471 172746
54	Licensed Waste Management Facilities (Locations) Licence Number: 19390 Location: Denton Industrial Estate, Wharf Road, Gravesend, Kent, DA12 2RU Operator Name: Gravesend Metals And Recycling Limited Operator Location: Not Supplied Authority: Environment Agency - South East Region, Kent & South London Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Issued Issued: 18th December 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	756	2	566350 174200
54	Licensed Waste Management Facilities (Locations) Licence Number: 19391 Location: Waste Transfer Station, Wharf Road, Off Mark Lane, Denton, Gravesend, Kent, DA12 2RU Operator Name: Gurbinder Sall Operator Location: Not Supplied Authority: Environment Agency - South East Region, Kent & South London Area Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Expired Issued: 25th April 1997 Last Modified: 12th December 2003 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	792	2	566300 174200
	Local Authority Landfill Coverage Name: Gravesham Borough Council - Has no landfill data to supply		0	11	567070 173575
	Local Authority Landfill Coverage Name: Kent County Council - Had landfill data but passed it to the relevant environment agency		0	12	567070 173575
55	Registered Waste Transfer Sites Licence Holder: Gurbinder Sall Licence Reference: P/02/25 Site Location: Wharf Road, off Mark Lane, Denton, GRAVESEND, Kent, DA12 2RU Operator Location: 19 St Marys Close, GRAVESEND, Kent, DA12 5PA Authority: Environment Agency - Southern Region, Kent Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is known Dated: 25th April 1997 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Kent Cat. A - Non (V.Slow)-Degrading Waste Kent Cat. B1 - Slowly Degradable Waste Kent Cat. B2 - Scrap Metal Prohibited Waste: Liable To Cause Environmental Hazards Waste N.O.S.	A17SW (NW)	817	2	566250 174180



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	Registered Waste Treatment or Disposal Sites Licence Holder: Gravesend Metals & Recycling Ltd Licence Reference: P/02/19 Site Location: Wharf Road, Denton Industrial Estate, GRAVESEND, Kent, DA12 2RU Operator Location: As Site Address Authority: Environment Agency - Southern Region, Kent Area Site Category: Scrapyard Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 18th December 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Kent Cat. B2 - Scrap Metal Lead/Acid Batteries Prohibited Waste: Max.Waste Permitted By Licence Waste N.O.S.	A17SW (NW)	752	2	566350 174195



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	Explosive Sites Name: Denton Wharf Ltd Location: Denton Wharf, Mark Lane, GRAVESEND, Kent, DA12 Status: Not Active Positional Accuracy: Manually positioned to the road within the address or location	A17NE (NW)	720	5	566509 174282



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: White Chalk Subgroup	A13NE (NE)	0	4	567070 173575
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NW (W)	0	4	567000 173575
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	0	4	567070 173575
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	87	4	567000 173437
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 90 - 120 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SW (SW)	97	4	567000 173437
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	99	4	567232 173342
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	163	4	567000 173338



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13SW (SW)	184	4	566963 173357
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A13SE (SE)	264	4	567403 173267
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SW (SE)	313	4	567458 173258
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SE (N)	316	4	567070 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SW (N)	317	4	567000 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NW (SE)	346	4	567449 173196



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8NE (S)	435	4	567070 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8NE (S)	436	4	567217 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A8NE (S)	449	4	567308 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8NE (SE)	460	4	567348 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NW (SE)	467	4	567534 173110
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A8NW (S)	478	4	567000 173000



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NW (SE)	521	4	567485 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NW (S)	526	4	566882 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	575	4	566324 173517
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SE (E)	608	4	567789 173279
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12NW (W)	619	4	566265 173623
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	645	4	567000 174329



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NW (N)	645	4	567001 174329
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SE (SE)	679	4	567849 173230
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	682	4	567826 173165
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NW (SE)	684	4	567727 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	698	4	567858 173201
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	699	4	567850 173177



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NE (N)	706	4	567077 174390
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	711	4	567000 174395
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	719	4	566178 173518
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A14SE (E)	734	4	567909 173239
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	750	4	567832 173032
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14NE (E)	755	4	568000 173575



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A14SE (E)	755	4	567931 173239
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (SE)	758	4	567820 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A12NW (W)	801	4	566090 173729
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A14SE (E)	822	4	568000 173237
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A14SE (E)	822	4	568000 173238
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (SE)	828	4	567922 173031



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (E)	830	4	568000 173207
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (SE)	831	4	567972 173126
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A14SE (E)	840	4	568018 173237
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A14SE (E)	841	4	568019 173237
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A19SE (NE)	844	4	568000 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (SE)	850	4	568000 173145



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14SE (E)	882	4	568062 173236
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A11NE (W)	888	4	566000 173581
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A11NE (W)	893	4	566000 173575
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (SE)	896	4	568000 173034
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (E)	896	4	568063 173189
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (SE)	902	4	568000 173019



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A11NE (W)	910	4	566000 173867
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (SE)	911	4	568000 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A15SW (E)	923	4	568113 173267
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A16SE (W)	932	4	566000 173950
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A7NW (SW)	937	4	566139 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A16SE (W)	947	4	566000 173996



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A16SE (W)	948	4	566000 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A9NE (SE)	952	4	568000 172921
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 90 - 120 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A16SE (W)	995	4	565941 173974
58	BGS Recorded Mineral Sites Site Name: Clubb'S Marine Terminal Location: Marine Gravel Worksmark Lane, Denton, Gravesend, Kent, Da12 2qb Source: British Geological Survey, National Geoscience Information Service Reference: 10545 Type: Wharf Status: Active Operator: J Clubb Ltd Operator Location: J Clubb Ltd, Church Hill, Wilmington, Dartford, Kent, Da2 7dz Periodic Type: Not Available Geology: Quarry (Hard Rock) Commodity: Crushed Rock Positional Accuracy: Located by supplier to within 10m	A18SW (N)	520	4	566960 174200
58	BGS Recorded Mineral Sites Site Name: Clubb'S Marine Terminal Location: Marine Gravel Worksmark Lane, Denton, Gravesend, Kent, Da12 2qb Source: British Geological Survey, National Geoscience Information Service Reference: 10545 Type: Wharf Status: Active Operator: J Clubb Ltd Operator Location: J Clubb Ltd, Church Hill, Wilmington, Dartford, Kent, Da2 7dz Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A18SW (N)	520	4	566960 174200
59	BGS Recorded Mineral Sites Site Name: Denton Wharf Location: , Denton, Gravesend, Kent Source: British Geological Survey, National Geoscience Information Service Reference: 10546 Type: Wharf Status: Ceased Operator: Port Of London Authority Operator Location: Port Of London Authority, London River House, Royal Pier Road, Gravesend, Da12 2bg Periodic Type: Quaternary Geology: Marine Deposits Commodity: Marine Sand And Gravel Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	817	4	566565 174420



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	155	4	567275 173300
	Non Coal Mining Areas of Great Britain Risk: Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	163	4	567000 173350
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	87	4	567000 173438
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	16	4	567013 173694
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	87	4	567000 173438
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A12NE (NW)	196	4	566719 173769
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	58	4	567067 173744
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	117	4	566995 173382
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	157	4	567285 173304
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	87	4	567000 173438
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	163	4	566963 173357
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	87	4	567000 173438



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	163	4	566963 173357
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	87	4	567000 173438
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	4	567070 173575



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	Contemporary Trade Directory Entries Name: Dgr Procurement Services Ltd Location: 25, Damigos Road, Gravesend, Kent, DA12 2LR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	201	-	566748 173415
61	Contemporary Trade Directory Entries Name: Punjab Autofix Location: Unit 21 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	269	-	566662 173815
61	Contemporary Trade Directory Entries Name: The Automotive Showroom Location: Unit 21 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Dealers - Used Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	269	-	566662 173815
61	Contemporary Trade Directory Entries Name: Auto 22 Location: Unit 22 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	271	-	566668 173826
61	Contemporary Trade Directory Entries Name: C S Accident Repair Services Location: Unit 12 Block C, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	308	-	566636 173847
62	Contemporary Trade Directory Entries Name: G P S E Metals Location: Unit 16 Block D, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	272	-	566631 173760
63	Contemporary Trade Directory Entries Name: M S S Catering Equipment Engineers Location: 182, Lower Higham Road, Gravesend, Kent, DA12 2NN Classification: Catering Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (SE)	295	-	567302 173159
64	Contemporary Trade Directory Entries Name: Riverside Mot Centre Location: Unit 4 Block B, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Mot Testing Centres Status: Active Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	309	-	566608 173799
64	Contemporary Trade Directory Entries Name: Apple Mg Service Location: Unit 1 Block A, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	314	-	566587 173760
64	Contemporary Trade Directory Entries Name: New Star Door Controls Ltd Location: Unit 2 Block A, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	326	-	566577 173766
65	Contemporary Trade Directory Entries Name: Allscaff Location: Scaffold Yard Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Scaffolding & Work Platforms Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	320	-	566601 173810



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	Contemporary Trade Directory Entries Name: Riverview Garage Ltd Location: Unit 13 Block C, Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	321	-	566625 173853
65	Contemporary Trade Directory Entries Name: Auto Legend Location: Unit 10 Lion Business Park, Dering Way, Gravesend, Kent, DA12 2DN Classification: Car Dealers Status: Active Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	333	-	566590 173818
66	Contemporary Trade Directory Entries Name: Solar Air Systems Location: 15, Giles Field, Gravesend, Kent, DA12 2RB Classification: Air Conditioning & Refrigeration Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (S)	331	-	566960 173181
67	Contemporary Trade Directory Entries Name: J Clubb Ltd Location: Marine Works, Mark Lane, GRAVESEND, Kent, DA12 2QB Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (N)	425	-	566894 174095
68	Contemporary Trade Directory Entries Name: Flowmotive Location: 33, Ingoldsby Road, Gravesend, Kent, DA12 2LF Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	466	-	566483 173338
69	Contemporary Trade Directory Entries Name: J & M Crane & Transport Ltd Location: Denton Wharf, Mark Lane, Gravesend, Kent, DA12 2PL Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	500	-	566692 174130
70	Contemporary Trade Directory Entries Name: Alan Jolliffe Location: Maltings Enterprise Centre, Lower Higham Road, Gravesend, Kent, DA12 2NQ Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	540	-	566567 173123
70	Contemporary Trade Directory Entries Name: Kwik-Fit Location: Lower Higham Rd, Gravesend, Kent, DA12 2LY Classification: Tyre Dealers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	558	-	566580 173090
71	Contemporary Trade Directory Entries Name: E M A T Location: 83, Chalk Road, Gravesend, Kent, DA12 4UT Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (SE)	549	-	567363 172911
72	Contemporary Trade Directory Entries Name: Day Group Ltd Location: Mark Lane, Gravesend, Kent, DA12 2QB Classification: Sand, Gravel & Other Aggregates Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (N)	554	-	566863 174223
72	Contemporary Trade Directory Entries Name: Hye Oak Ltd Location: Mark Lane, Gravesend, Kent, DA12 2QB Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	554	-	566863 174223



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Contemporary Trade Directory Entries Name: Kwik Fit Location: Rochester Road, Gravesend, Kent, DA12 4TN Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	561	-	566495 173160
73	Contemporary Trade Directory Entries Name: Amc Pest Control Location: 165, Rochester Road, Gravesend, Kent, DA12 2JE Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	579	-	566470 173160
74	Contemporary Trade Directory Entries Name: Shell (Uk) Ltd Location: 179, Rochester Road, Gravesend, Kent, DA12 4TN Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	575	-	566584 173067
74	Contemporary Trade Directory Entries Name: Fivestart Ltd Location: Rochester Rd, Gravesend, Kent, DA12 4TN Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	607	-	566567 173040
75	Contemporary Trade Directory Entries Name: Comma Ltd Location: Comma Works, Dering Way, Gravesend, Kent, DA12 2QX Classification: Oil Fuel Distributors Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NW (NW)	584	-	566344 173880
76	Contemporary Trade Directory Entries Name: Daniel Dawkins Location: Rochester Road, Gravesend, Kent, DA12 4TN Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A7NE (SW)	586	-	566708 172994
77	Contemporary Trade Directory Entries Name: Dust Right Location: 17, Roehampton Close, Gravesend, Kent, DA12 2LA Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	617	-	566278 173575
78	Contemporary Trade Directory Entries Name: Cobham Street Building Supplies Ltd Location: Lower Range Rd, Gravesend, Kent, DA12 2QL Classification: Builders' Merchants Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NW (W)	626	-	566274 173788
79	Contemporary Trade Directory Entries Name: Bulk Products (Uk) Ltd Location: Mark Lane, Gravesend, Kent, DA12 2QB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	627	-	566435 174102
79	Contemporary Trade Directory Entries Name: Eurobulk Ltd Location: Mark Lane, GRAVESEND, Kent, DA12 2QB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	627	-	566435 174102
80	Contemporary Trade Directory Entries Name: J T Reborning Ltd Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Engine Rebuilding & Reconditioning Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	566436 173119
80	Contemporary Trade Directory Entries Name: B & H Motors Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	566436 173119



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	Contemporary Trade Directory Entries Name: Mc Autos Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	566436 173119
80	Contemporary Trade Directory Entries Name: Lion Test & Tyre Centre Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	566436 173119
80	Contemporary Trade Directory Entries Name: J T Reborning Ltd Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	631	-	566436 173119
80	Contemporary Trade Directory Entries Name: Waller Garages Ltd Location: Lion Garage, 301, Old Road East, Gravesend, Kent, DA12 1PW Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	566436 173119
80	Contemporary Trade Directory Entries Name: Waller Garages Ltd Location: Old Drive, Maidstone, Kent Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	638	-	566438 173107
81	Contemporary Trade Directory Entries Name: Mechanical Movements Location: Mark Lane, GRAVESEND, Kent, DA12 2QB Classification: Mechanical Handling Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	631	-	566533 174192
82	Contemporary Trade Directory Entries Name: Custom Card Creations Location: 129, Rochester Road, Gravesend, Kent, DA12 2HU Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	636	-	566296 173345
82	Contemporary Trade Directory Entries Name: Waste'A'Wayz Location: 117, Rochester Road, Gravesend, Kent, DA12 2HU Classification: Chemical Recycling & Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	656	-	566267 173375
83	Contemporary Trade Directory Entries Name: Sunlock Blinds Location: 9, Gerald Road, Gravesend, Kent, DA12 2HT Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (W)	648	-	566250 173532
84	Contemporary Trade Directory Entries Name: Ruddridge Ltd Location: Mark Lane, Gravesend, Kent, DA12 2QB Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	664	-	566600 174267
85	Contemporary Trade Directory Entries Name: Superior Sealants Ltd Location: 332, Rochester Road, Gravesend, Kent, DA12 4TT Classification: Sealant Compounds & Applications Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	667	-	566902 172835
86	Contemporary Trade Directory Entries Name: Scuff Doctor Location: 284, Rochester Road, Gravesend, Kent, DA12 4TZ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (SW)	673	-	566770 172887



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	Contemporary Trade Directory Entries Name: Scuff Doctor Location: 284, Rochester Road, Gravesend, Kent, DA12 4TZ Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A8NW (SW)	673	-	566770 172887
86	Contemporary Trade Directory Entries Name: 1st For Quality Location: 286, Rochester Road, Gravesend, Kent, DA12 4TZ Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (SW)	675	-	566773 172884
87	Contemporary Trade Directory Entries Name: Norfolk Road M O T Centre Location: Enterprise House, Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	702	-	566364 174137
87	Contemporary Trade Directory Entries Name: Gravesend Car Breakers Location: Wharf Rd, Gravesend, Kent, DA12 2RU Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	737	-	566344 174166
87	Contemporary Trade Directory Entries Name: Abbey Fork Trucks Location: Unit 7, Wharf Road, Gravesend, Kent, DA12 2RU Classification: Mechanical Handling Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	741	-	566350 174179
87	Contemporary Trade Directory Entries Name: Diesel Engines Location: Unit 7, Wharf Road, Gravesend, Kent, DA12 2RU Classification: Engine Rebuilding & Reconditioning Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	741	-	566350 174179
87	Contemporary Trade Directory Entries Name: Bridgeform Ltd Location: Unit 7, Wharf Road, Gravesend, Kent, DA12 2RU Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	741	-	566350 174179
88	Contemporary Trade Directory Entries Name: Wavecrest Ltd Location: Denton Wharf, Mark Lane, Gravesend, Kent, DA12 2QD Classification: Freight Forwarders Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	734	-	566507 174296
88	Contemporary Trade Directory Entries Name: Thames Tideway Properties Ltd Location: Denton Wharf, Mark Lane, Gravesend, Kent, DA12 2QD Classification: Ports, Docks & Harbours Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	734	-	566507 174296
88	Contemporary Trade Directory Entries Name: Cowden Tbm Ltd Location: Denton Wharf Business Park, Gravesend, DA12 2QD Classification: Builders' Merchants Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	738	-	566495 174294
88	Contemporary Trade Directory Entries Name: Abbey Fork Trucks Ltd Location: Unit B Denton Wharf, Mark Lane, Gravesend, Kent, DA12 2QD Classification: Fork Lift Trucks Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	738	-	566495 174294
88	Contemporary Trade Directory Entries Name: D T Rescue Location: Denton Wharf, Mark Lane, Gravesend, Kent, DA12 2QD Classification: Breakdown and Recovery Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	738	-	566495 174294



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	Contemporary Trade Directory Entries Name: North Kent Distribution Location: Unit 1, Mark La, Gravesend, Kent, DA12 2QB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	738	-	566495 174294
88	Contemporary Trade Directory Entries Name: J N Recovery Location: Unit 6, Denton Business Estate, Mark La, Gravesend, Kent, DA12 2QB Classification: Breakdown and Recovery Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	738	-	566495 174294
88	Contemporary Trade Directory Entries Name: Amsco Logistics Location: Denton Wharf, Mark La, Gravesend, Kent, DA12 2QD Classification: Freight Forwarders Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	745	-	566482 174294
88	Contemporary Trade Directory Entries Name: Access Warehousing & Distribution Location: Denton Wharf, Mark La, Gravesend, Kent, DA12 2QD Classification: Distribution Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	762	-	566487 174317
89	Contemporary Trade Directory Entries Name: Ladybird Cleaning Services Location: 101, Barr Road, Gravesend, Kent, DA12 4DX Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	745	-	566879 172759
90	Contemporary Trade Directory Entries Name: Used Tyre Centre Location: Wharf Road, Gravesend, Kent, DA12 2RU Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	745	-	566395 174228
90	Contemporary Trade Directory Entries Name: Care Auto Repairs Location: Unit 7, Mark Lane, Gravesend, Kent, DA12 2QB Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	751	-	566397 174238
90	Contemporary Trade Directory Entries Name: Care Auto Repairs Location: Unit 7, Mark Lane, Gravesend, Kent, DA12 2QB Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	751	-	566397 174238
90	Contemporary Trade Directory Entries Name: Lifting Gear Hire London Ltd Location: Unit 6, Mark Lane, Gravesend, Kent, DA12 2QB Classification: Lifting Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	758	-	566398 174248
91	Contemporary Trade Directory Entries Name: Merry Motors Location: 14, Sutherland Close, Gravesend, Kent, DA12 4XJ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	749	-	567719 172895
92	Contemporary Trade Directory Entries Name: Matt'S Easy Cleaning Services Location: 9, The Poplars, Gravesend, Kent, DA12 2PU Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	764	-	566191 173980
93	Contemporary Trade Directory Entries Name: North Kent Distribution Location: 1, Woodville Cottages, Mark Lane, Gravesend, Kent, DA12 2QA Classification: Pallets, Crates & Packing Cases Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	769	-	566426 174284



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	Contemporary Trade Directory Entries Name: Allens Autos Mobile Services Location: 90, Barr Road, Gravesend, Kent, DA12 4DZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	781	-	566828 172743
94	Contemporary Trade Directory Entries Name: Allens Autos Location: 90, Barr Road, Gravesend, Kent, DA12 4DZ Classification: Car Engine Tuning & Diagnostic Services Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	781	-	566828 172743
94	Contemporary Trade Directory Entries Name: Allensautos Mobile Services Location: 90, Barr Road, Gravesend, Kent, DA12 4DZ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	781	-	566828 172743
95	Contemporary Trade Directory Entries Name: Lynx Engineering Kent Ltd Location: Unit 2, Katrina Wharf, Wharf Road, Gravesend, Kent, DA12 2RU Classification: Mechanical Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	787	-	566292 174183
95	Contemporary Trade Directory Entries Name: Abbey Fork Trucks Ltd Location: Wharf Rd, Gravesend, Kent, DA12 2RU Classification: Fork Lift Trucks Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	800	-	566271 174178
95	Contemporary Trade Directory Entries Name: Denton Wharf Spares Location: Norfolk Road Ind Est, Gravesend, Kent, DA12 2RU Classification: Diesel Fuel Injection Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	807	-	566262 174178
95	Contemporary Trade Directory Entries Name: H & F Vehicle Recycling Location: Wharf Rd, Gravesend, Kent, DA12 2RU Classification: Recycling Centres Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	811	-	566258 174180
95	Contemporary Trade Directory Entries Name: Broadshire Contracts Location: Katrina Wharf, Wharf Rd, Gravesend, Kent, DA12 2RU Classification: Concrete Contractors Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	813	-	566256 174180
96	Contemporary Trade Directory Entries Name: L V Transport Ltd Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	796	-	566206 174079
96	Contemporary Trade Directory Entries Name: R S Dawe Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	796	-	566206 174079
96	Contemporary Trade Directory Entries Name: R S Dawe Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	796	-	566206 174079
96	Contemporary Trade Directory Entries Name: R S Dawe Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	796	-	566206 174079



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	Contemporary Trade Directory Entries Name: R S Dawe Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	796	-	566206 174079
96	Contemporary Trade Directory Entries Name: G E Hydrfab Ltd Location: Norfolk Rd, Gravesend, Kent, DA12 2PS Classification: Hydraulic Equipment & Accessories - Sales & Service Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	806	-	566180 174054
96	Contemporary Trade Directory Entries Name: N S P Coating Ltd Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Powder Coatings Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	820	-	566175 174075
96	Contemporary Trade Directory Entries Name: Milestone Recovery Location: Norfolk Rd, Gravesend, Kent, DA12 2PS Classification: Garage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	820	-	566175 174075
96	Contemporary Trade Directory Entries Name: Boxley Haulage Ltd Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Road Haulage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	820	-	566175 174075
96	Contemporary Trade Directory Entries Name: R P Cars Location: Norfolk Road, Gravesend, Kent, DA12 2PS Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	820	-	566175 174075
97	Contemporary Trade Directory Entries Name: Growplan Ltd Location: 13, Alexandra Road, Gravesend, Kent, DA12 2QG Classification: Asphalt & Coated Macadam Laying Contractors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	816	-	566104 173897
98	Contemporary Trade Directory Entries Name: Dairy Crest Ltd Location: Denton Farm, 29, Rochester Road, Gravesend, Kent, DA12 2JN Classification: Dairies Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	823	-	566066 173655
99	Contemporary Trade Directory Entries Name: Semec Engineering Ltd Location: Cornwall Wharf, Wharf Road, Gravesend, Kent, DA12 2RU Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A17NW (NW)	830	-	566285 174239
100	Contemporary Trade Directory Entries Name: Apple Cleaning Location: 235, Old Road East, Gravesend, Kent, DA12 1PW Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SW)	833	-	566206 173086
101	Contemporary Trade Directory Entries Name: L E Gill Location: 30, Range Road, Gravesend, Kent, DA12 2JR Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	845	-	566060 173836
102	Contemporary Trade Directory Entries Name: Greenfields Location: 55, Bourne Road, Gravesend, Kent, DA12 4EA Classification: Cladding Suppliers & Installers Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	867	-	566809 172657



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
103	Contemporary Trade Directory Entries Name: Gravesend Motor Services Location: 1, Waterton Avenue, Gravesend, Kent, DA12 2PY Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (W)	876	-	566066 173972
103	Contemporary Trade Directory Entries Name: Gravesend Motor Service Location: 1, Waterton Avenue, Gravesend, Kent, DA12 2PY Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (W)	876	-	566066 173972
104	Contemporary Trade Directory Entries Name: 1st Bus Stop Bus & Coach Hire Company Location: Wharf Road, Gravesend, DA12 2RU Classification: Bus & Coach Operators & Stations Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	907	-	566174 174229
104	Contemporary Trade Directory Entries Name: H & F Recycling Location: Units 3-4 Wharf Road, Gravesend, Kent, DA12 2RU Classification: Scrap Metal Merchants Status: Active Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	907	-	566174 174229
104	Contemporary Trade Directory Entries Name: S M M Propeller Services Ltd Location: Wharf Road, Gravesend, Kent, DA12 2RU Classification: Marine Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	946	-	566127 174231
104	Contemporary Trade Directory Entries Name: Smm Engineering Services Location: Wharf Road, Gravesend, Kent, DA12 2RU Classification: Marine Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	946	-	566127 174231
104	Contemporary Trade Directory Entries Name: Thames Ship Repair Services Ltd Location: Wharf Road, Gravesend, Kent, DA12 2RU Classification: Ship Builders, Repairs & Fittings Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	946	-	566127 174231
105	Contemporary Trade Directory Entries Name: Gaslec Installations Ltd Location: 5, East Milton Road, Gravesend, Kent, DA12 2JL Classification: Gas Appliances - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NE (W)	925	-	565973 173806
106	Contemporary Trade Directory Entries Name: J Roberts Electrical Ltd Location: 44, Richmond Drive, Gravesend, Kent, DA12 4DJ Classification: Air Conditioning Equipment & Systems Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	969	-	566422 172705
107	Fuel Station Entries Name: Chalk Service Station Location: Rochester Road, Gravesend, Kent, DA12 4TN Brand: SHELL Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	574	-	566604 173056



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	Areas of Unadopted Green Belt Authority: Gravesham Borough Council Plan Name: Gravesham Local Plan 2nd Review Status: Deposit Plan Date: 31st May 2000	A18SE (NE)	351	7	567303 173970
109	Environmentally Sensitive Areas Name: North Kent Marshes Multiple Areas: Y Total Area (m2): 32710239.72 Source: Natural England	A13NE (NE)	0	8	567070 173575
110	Environmentally Sensitive Areas Name: North Kent Marshes Multiple Areas: Y Total Area (m2): 110134.73 Source: Natural England	A13NW (NW)	179	8	566737 173765
111	Marine Nature Reserves Name: Thames Estuary Multiple Area: Y Area (m2): 10874320.9 Source: Natural England	A18NW (N)	614	8	566990 174298
112	Nitrate Vulnerable Zones Name: Not Supplied Description: Surface Water Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	A13NE (NE)	0	9	567070 173575
113	Nitrate Vulnerable Zones Name: Not Supplied Description: Groundwater Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	A13NE (NE)	0	9	567070 173575
114	Ramsar Sites Name: Thames Estuary & Marshes Multiple Areas: Y Total Area (m2): 55535895.15 Source: Natural England Reference: UK11069 Designation Date: Not Supplied	A13SE (SE)	0	8	567191 173487
115	Sites of Special Scientific Interest Name: South Thames Estuary And Marshes Multiple Areas: Y Total Area (m2): 52889828.35 Source: Natural England Reference: 1003874 Designation Details: Local Nature Reserve Designation Date: 24th December 1991 Date Type: Notified Designation Details: Ramsar Site Designation Date: 24th December 1991 Date Type: Notified Designation Details: Nature Conservation Review Designation Date: 24th December 1991 Date Type: Notified Designation Details: Site Of Special Scientific Interest Designation Date: 24th December 1991 Date Type: Notified Designation Details: Special Protection Area Designation Date: 24th December 1991 Date Type: Notified Designation Details: RSPB Reserve Designation Date: 24th December 1991 Date Type: Notified Designation Details: Environmentally Sensitive Area Designation Date: 24th December 1991 Date Type: Notified	A13NE (N)	0	8	567092 173645



Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Medway Council - Environmental Health Thurrock Borough Council - Environmental Health Department Dartford Borough Council - Environmental Health Department Gravesham Borough Council - Public Health Services	August 2013 November 2013 October 2014 September 2013	Annual Rolling Update Annually Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Anglian Region Environment Agency - Southern Region Environment Agency - Thames Region	January 2016 January 2016 January 2016	Quarterly Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Anglian Region Environment Agency - Southern Region	March 2013 March 2013	As notified As notified
Integrated Pollution Controls Environment Agency - Anglian Region Environment Agency - Southern Region	October 2008 October 2008	Not Applicable Not Applicable
Integrated Pollution Prevention And Control Environment Agency - Anglian Region Environment Agency - Southern Region	January 2016 January 2016	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Thurrock Borough Council - Environmental Health Department Medway Council - Environmental Health Gravesham Borough Council - Environmental Health Department London Port Health Authority - Environmental Services Dartford Borough Council - Environmental Health Department	February 2015 June 2014 October 2014 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Thurrock Borough Council - Environmental Health Department Medway Council - Environmental Health Gravesham Borough Council - Environmental Health Department London Port Health Authority - Environmental Services Dartford Borough Council - Environmental Health Department	February 2015 June 2014 October 2014 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Thurrock Borough Council - Environmental Health Department Medway Council - Environmental Health Gravesham Borough Council - Environmental Health Department London Port Health Authority - Environmental Services Dartford Borough Council - Environmental Health Department	February 2015 June 2014 October 2014 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters Environment Agency - Southern Region Environment Agency - Anglian Region Environment Agency - Thames Region	December 1999 September 1999 September 1999	Not Applicable Not Applicable Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Anglian Region Environment Agency - Southern Region	March 2013 March 2013	As notified As notified
Prosecutions Relating to Controlled Waters Environment Agency - Anglian Region Environment Agency - Southern Region	March 2013 March 2013	As notified As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually



Agency & Hydrological	Version	Update Cycle
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	January 2016 January 2016 January 2016	Quarterly Quarterly Quarterly
Water Abstractions Environment Agency - Anglian Region Environment Agency - Southern Region	January 2016 January 2016	Quarterly Quarterly
Water Industry Act Referrals Environment Agency - Anglian Region Environment Agency - Southern Region	January 2016 January 2016	Quarterly Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	As notified
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	January 2015	As notified
Source Protection Zones Environment Agency - Head Office	January 2016	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2015	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2015	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	November 2015	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	November 2015	Quarterly
Flood Defences Environment Agency - Head Office	November 2015	Quarterly
Detailed River Network Lines Environment Agency - Head Office	March 2012	Annually
Detailed River Network Offline Drainage Environment Agency - Head Office	March 2012	Annually
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water Suitability Environment Agency - Head Office	October 2013	As notified



Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	November 2015	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Anglian Region Environment Agency - Southern Region	October 2008 October 2008	Not Applicable Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	October 2015 October 2015 October 2015	Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - Anglian Region - Eastern Area Environment Agency - South East Region - Kent & South London Area Environment Agency - Southern Region - Kent Area Environment Agency - Southern Region - Kent and East Sussex	January 2016 January 2016 January 2016 January 2016	Quarterly Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Dartford Borough Council - Environmental Health Department Gravesham Borough Council Kent County Council - Waste Management Group Medway Council - Environmental Protection Department Thurrock Borough Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Dartford Borough Council - Environmental Health Department Gravesham Borough Council Kent County Council - Waste Management Group Medway Council - Environmental Protection Department Thurrock Borough Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - Anglian Region - Eastern Area Environment Agency - Southern Region - Kent Area	March 2003 March 2003	Not Applicable Not Applicable



Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	June 2015	Bi-Annually
Explosive Sites Health and Safety Executive	June 2015	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Thurrock Borough Council - Development Control Medway Council London Port Health Authority - Environmental Services Dartford Borough Council Kent County Council Gravesham Borough Council	December 2015 February 2016 January 2008 January 2016 January 2016 October 2015	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Thurrock Borough Council - Development Control Medway Council London Port Health Authority - Environmental Services Dartford Borough Council Kent County Council Gravesham Borough Council	December 2015 February 2016 January 2008 January 2016 January 2016 October 2015	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	January 2010	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2015	Bi-Annually
Brine Compensation Area Cheshire Brine Subsidence Compensation Board	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	July 2014	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified



Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2016	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2015	Quarterly
Sensitive Land Use	Version	Update Cycle
Areas of Adopted Green Belt Dartford Borough Council Gravesham Borough Council Medway Council Thurrock Borough Council - Development Control	January 2016 January 2016 January 2016 January 2016	As notified As notified As notified As notified
Areas of Unadopted Green Belt Dartford Borough Council Gravesham Borough Council Medway Council Thurrock Borough Council - Development Control	November 201 November 201 November 201 November 201	As notified As notified As notified As notified
Areas of Outstanding Natural Beauty Natural England	October 2015	Bi-Annually
Environmentally Sensitive Areas Natural England	October 2015	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	October 2015	Bi-Annually
Marine Nature Reserves Natural England	October 2015	Bi-Annually
National Nature Reserves Natural England	October 2015	Bi-Annually
National Parks Natural England	August 2015	Bi-Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	Annually
Ramsar Sites Natural England	October 2015	Bi-Annually
Sites of Special Scientific Interest Natural England	October 2015	Bi-Annually
Special Areas of Conservation Natural England	October 2015	Bi-Annually
Special Protection Areas Natural England	October 2015	Bi-Annually



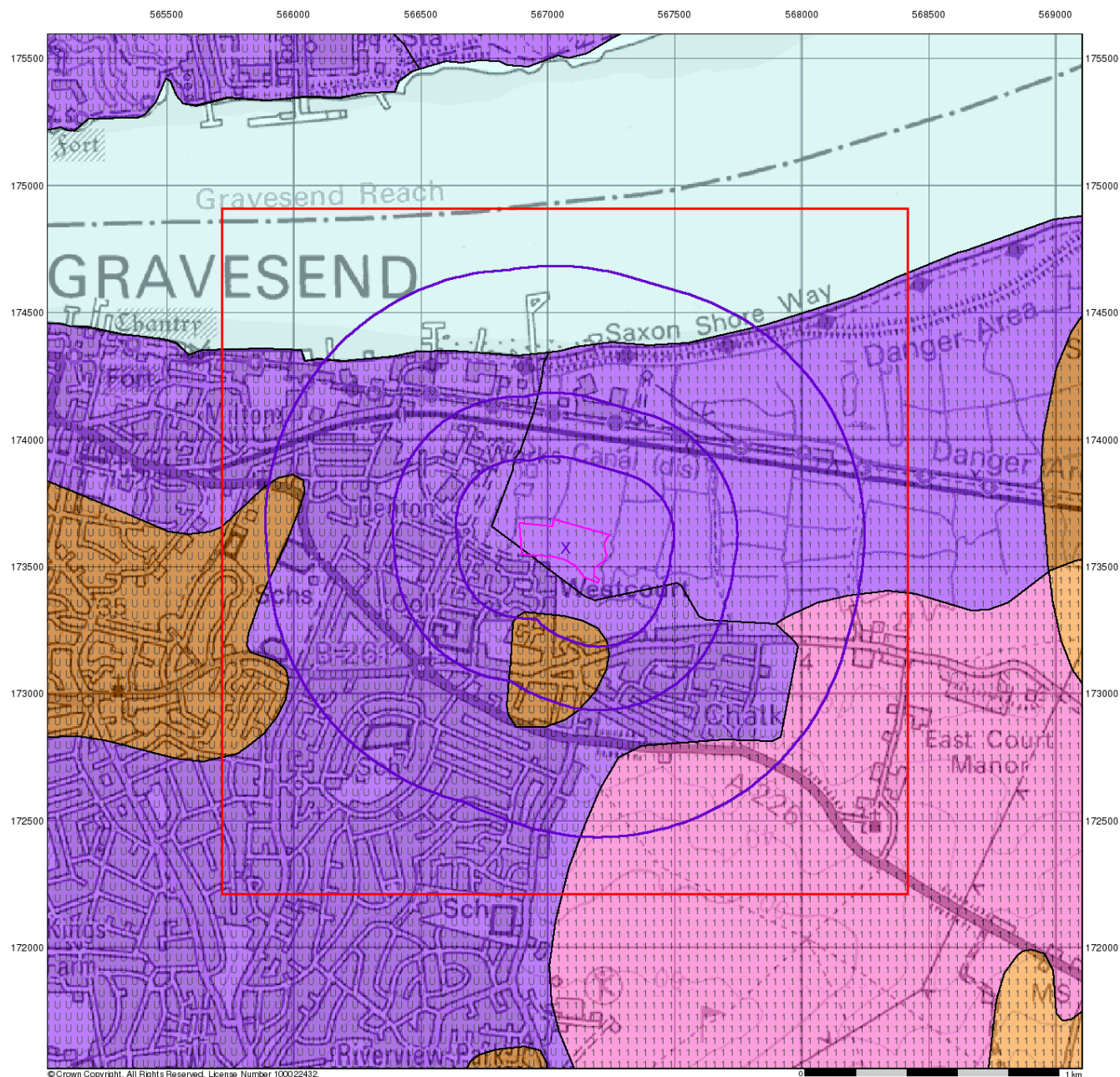
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	



Contact	Name and Address	Contact Details
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Gravesham Borough Council - Environmental Health Department Civic Centre, 132 Windmill Street, Gravesend, Kent, DA12 1AU	Telephone: 01474 337241 Fax: 01474 337546 Email: glyn.thomson@gravesham.gov.uk Website: www.gravesham.gov.uk
4	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
5	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
6	Thurrock Borough Council - Development Control Civic Offices, New Road, Grays, Essex, RM17 6SL	Telephone: 01375 390000 Fax: 01375 652359 Website: www.thurrock.gov.uk
7	Gravesham Borough Council Cygnet House, 132 Windmill Street, Gravesend, Kent, DA12 1BQ	Telephone: 01474 564422 Fax: 01474 337546 Website: www.gravesham.gov.uk
8	Natural England Suite D, Unex House, Bourges Boulevard, Peterborough, Cambridgeshire, PE1 1NG	Telephone: 0845 600 3078 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
9	Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
10	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
11	Gravesham Borough Council Cygnet House, 132 Windmill Street, Gravesend, Kent, DA12 1AU	Telephone: 01474 564422 Fax: 01474 337546 Website: www.gravesham.gov.uk
12	Kent County Council - Waste Management Group Block H, The Forstal, Beddow Way, Aylesford, Kent, ME20 7BT	Telephone: 01622 605976 Website: www.kent.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



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Geo-Environmental Groundwater Vulnerability

General

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

Agency and Hydrological

Geological Classes

**Major Aquifer
(Highly Permeable)**

**Minor Aquifer
(Variably Permeable)**

**Non Aquifer
(Negligibly Permeable)**

Water or Sea

Drift Deposit

Soil Classes

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

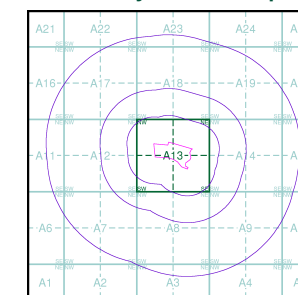
Low

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

Low

Site Sensitivity Context Map - Slice A



Order Details

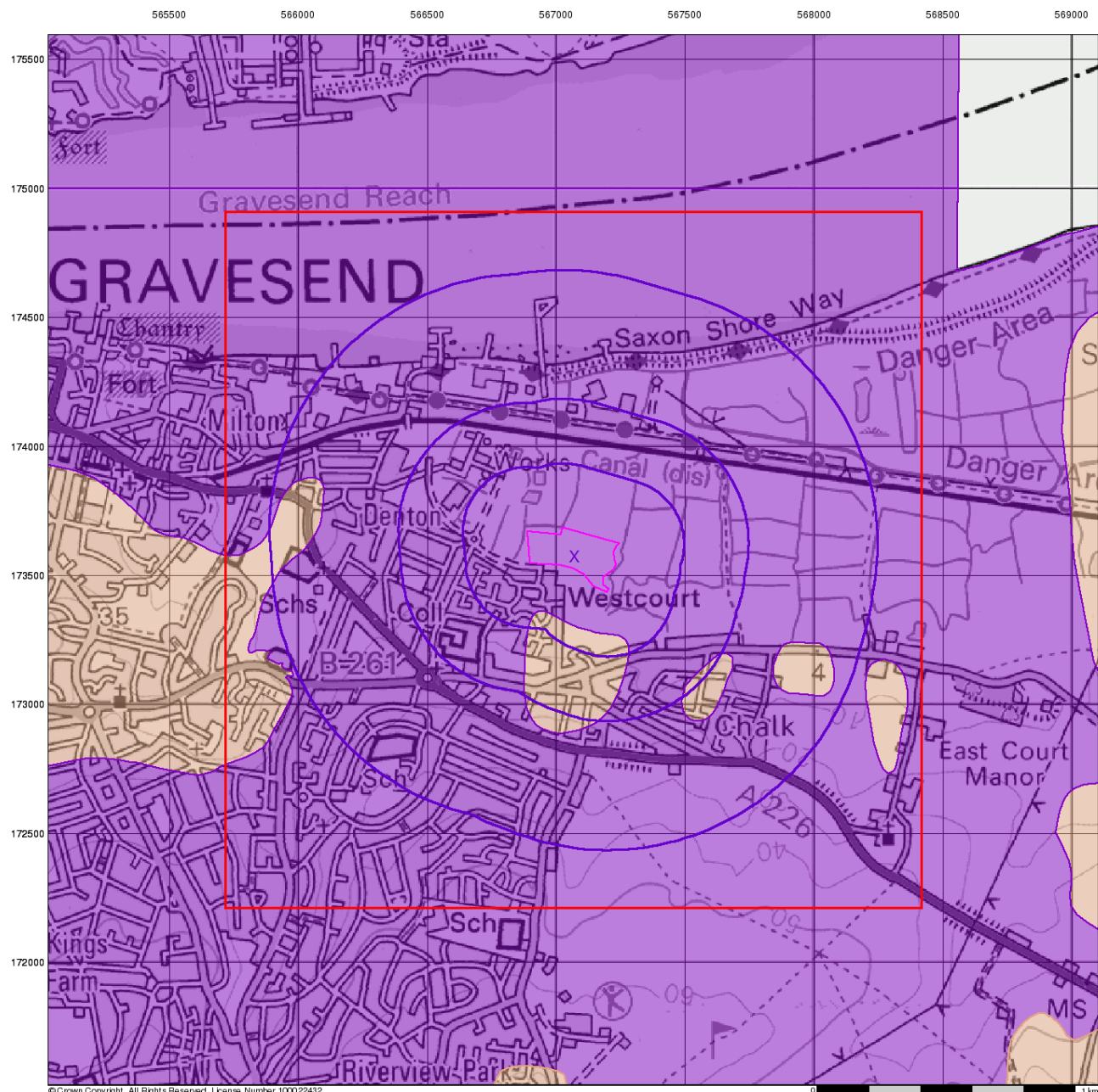
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 Customer Ref: GE15338
 National Grid Reference: 567070, 173570
 Slice: A
 Site Area (Ha): 4.87
 Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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Geo-Environmental Bedrock Aquifer Designation

General

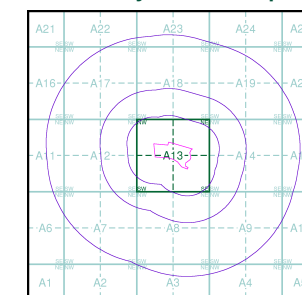
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

Site Sensitivity Context Map - Slice A



Order Details

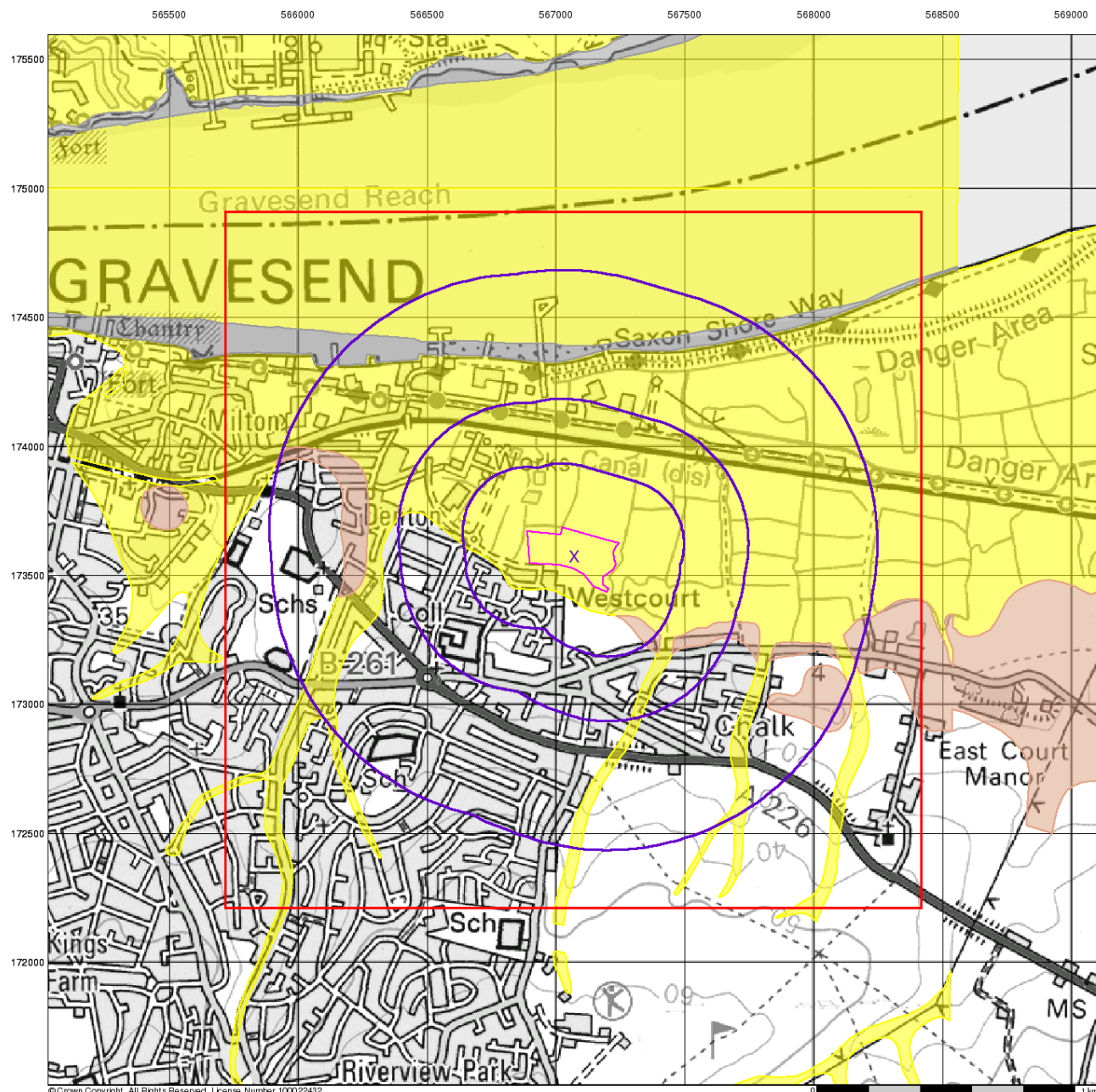
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 Search Buffer (m): 1000

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Geo-Environmental Superficial Aquifer Designation

General

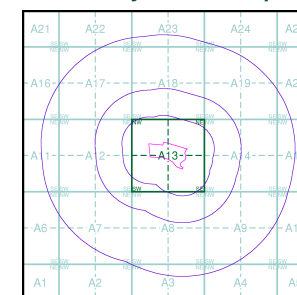
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

Site Sensitivity Context Map - Slice A



Order Details

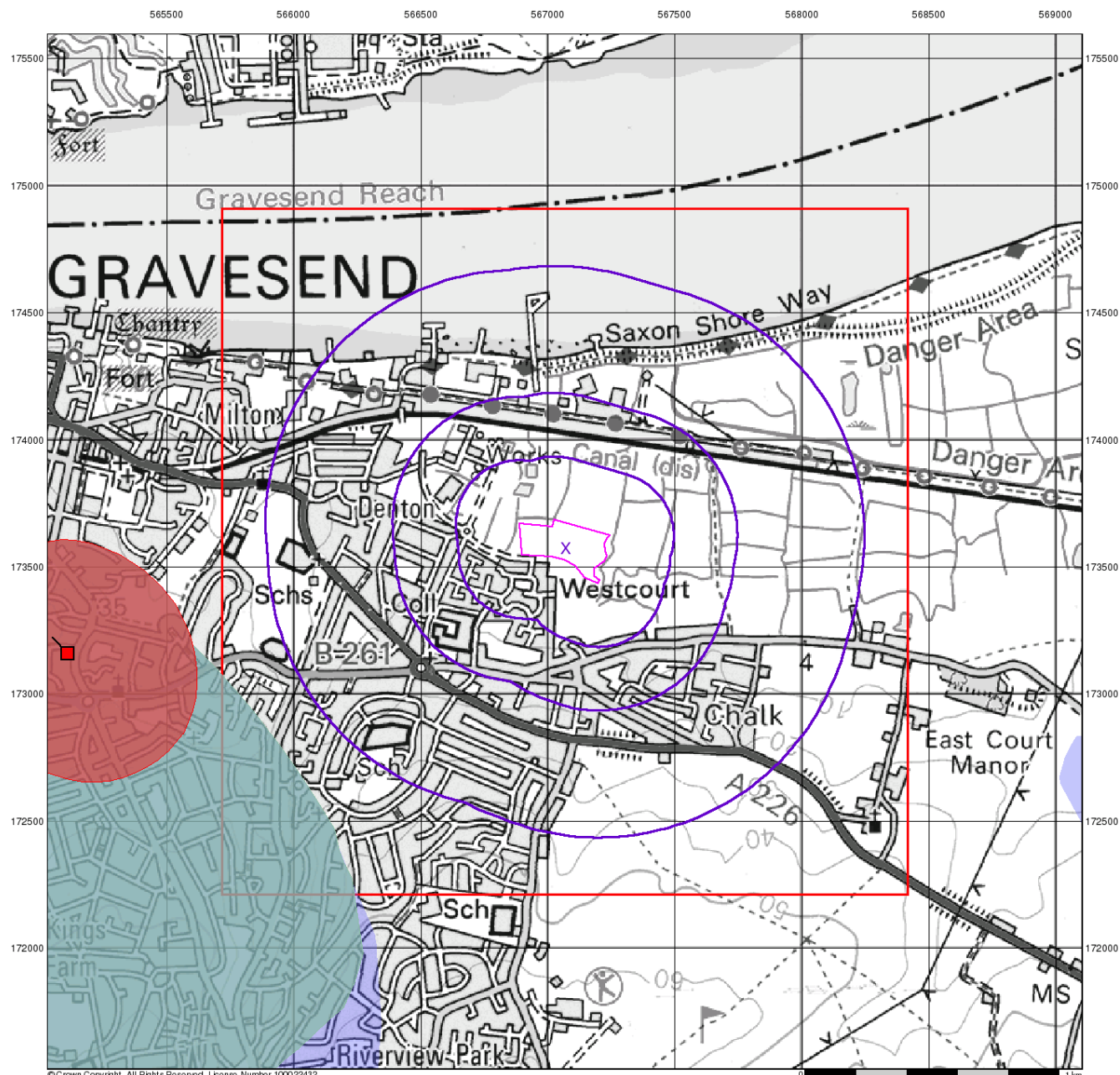
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 Slice: A
 Site Area (Ha): 4.87
 Search Buffer (m): 1000

Site Details

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Geo-Environmental Source Protection Zones

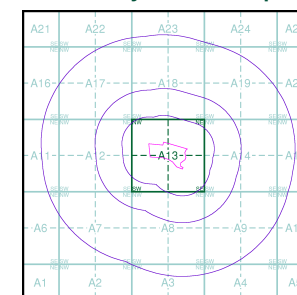
General

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

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



Order Details

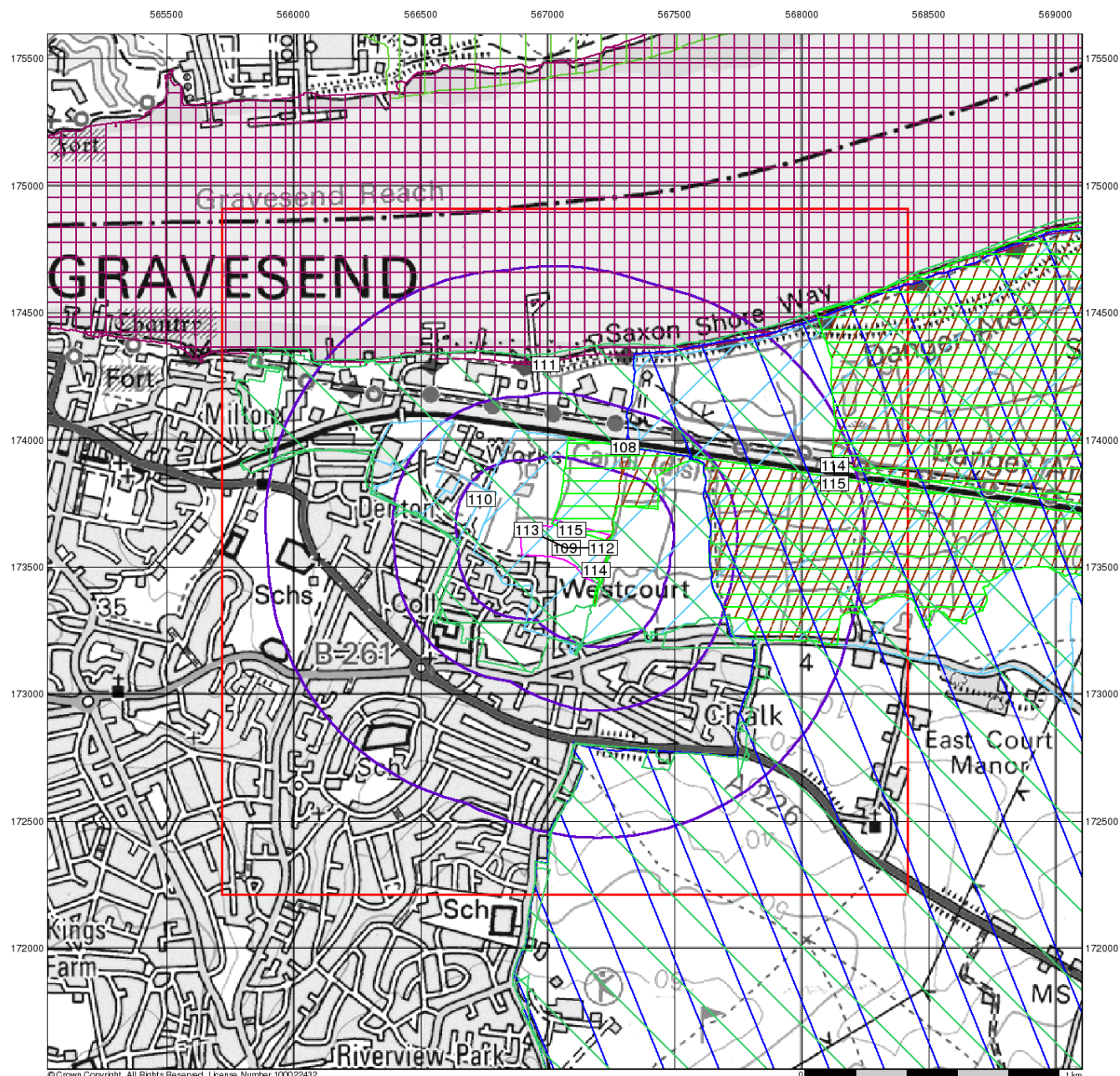
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Geo-Environmental Sensitive Land Uses

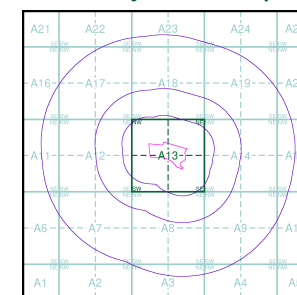
General

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

Sensitive Land Uses

- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area

Site Sensitivity Context Map - Slice A



Order Details

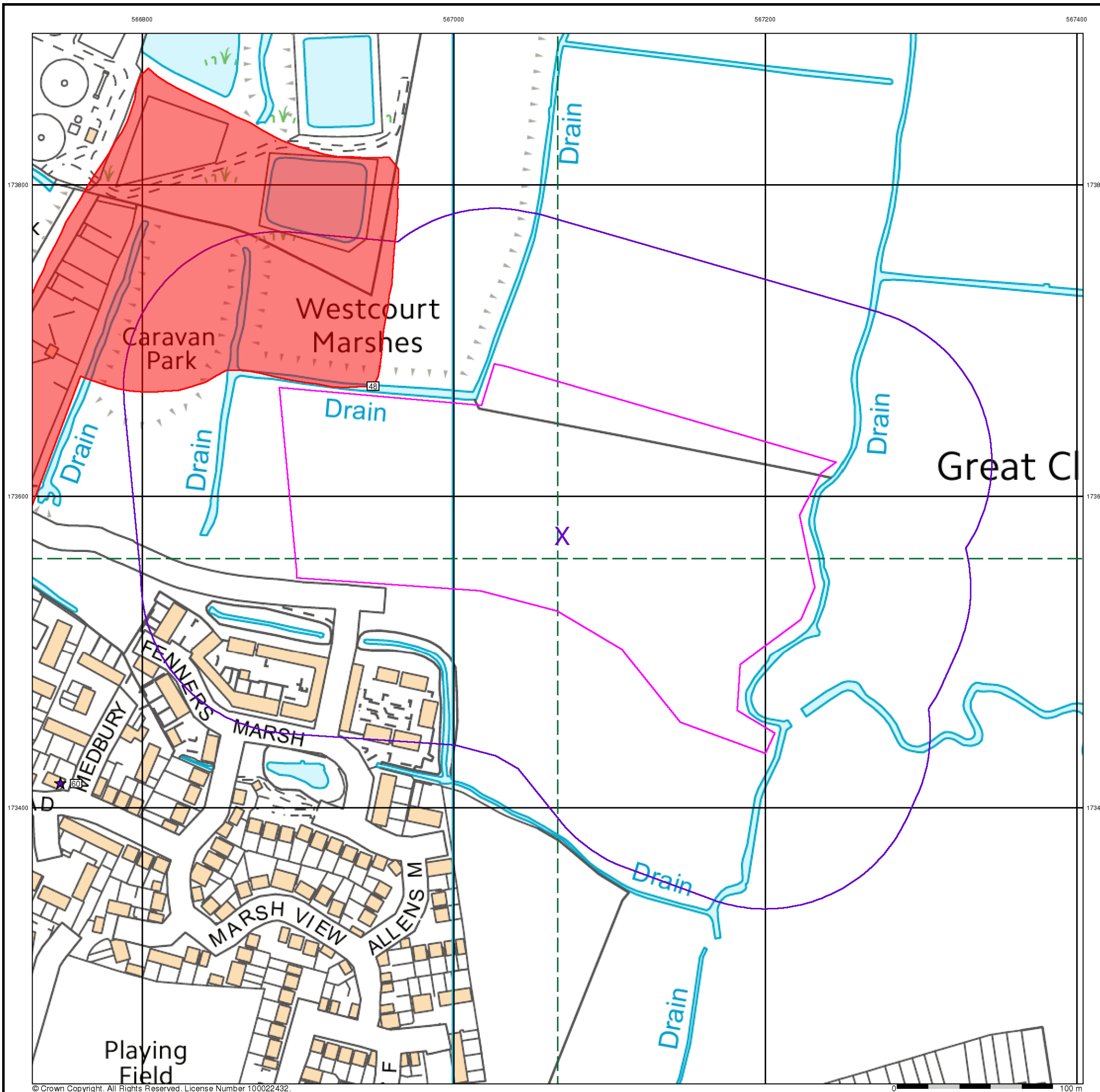
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 Site Area (Ha): 4.87
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Geo-Environmental

General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

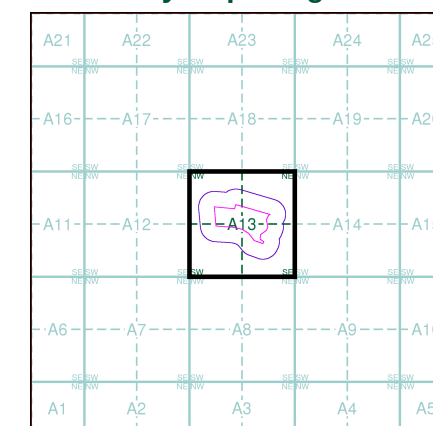
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A13



Order Details

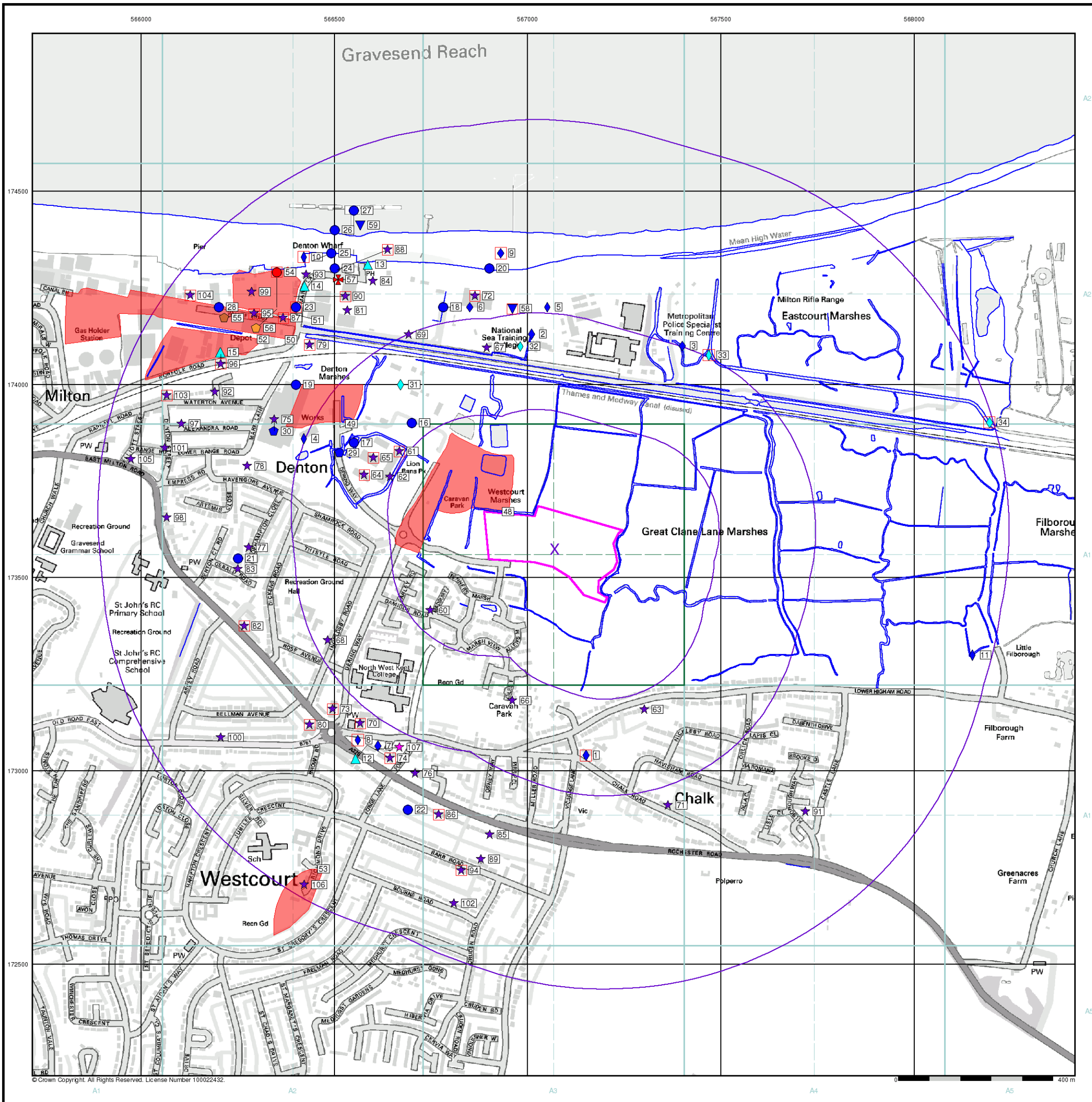
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National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87

Site Details

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Geo-Environmental

General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral
- BGS Recorded Mineral Site
- Contemporary Trade Directory Entry
- Fuel Station Entry

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

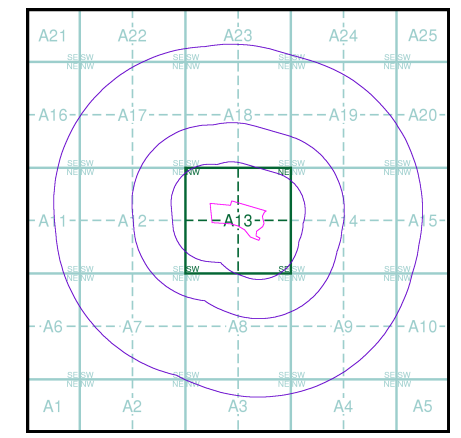
Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

Site Sensitivity Map - Slice A



Order Details

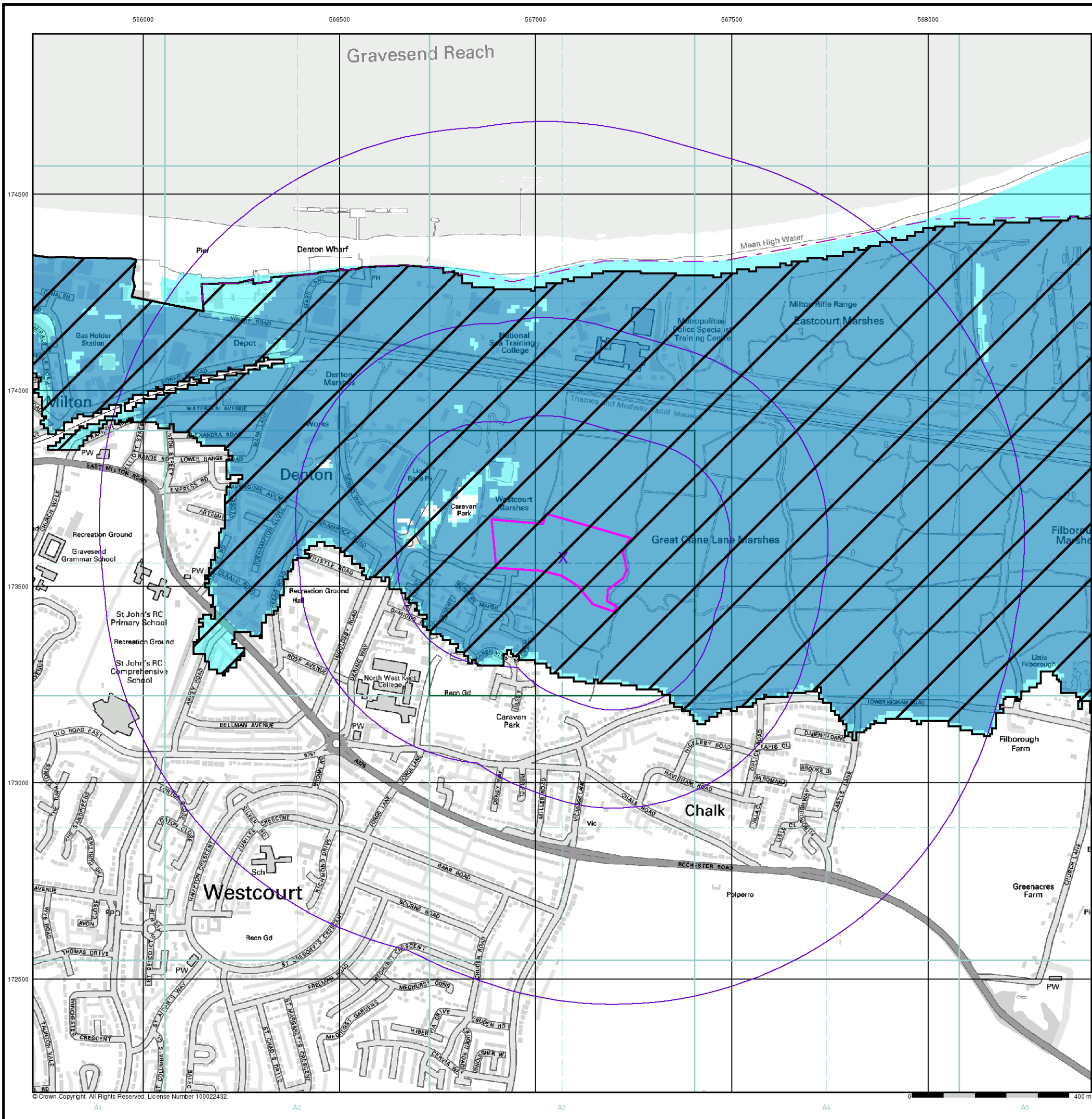
Order Number: 80691026_1_1
Customer Ref: GE15338
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Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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Geo-Environmental

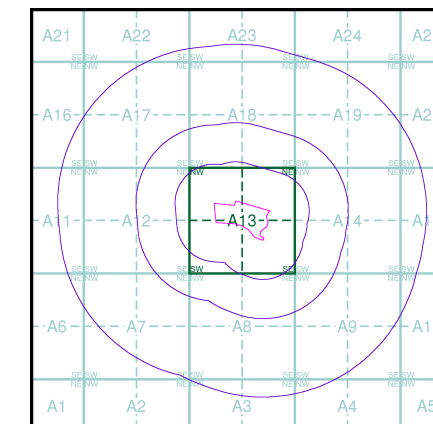
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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



Geo-Environmental

General

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

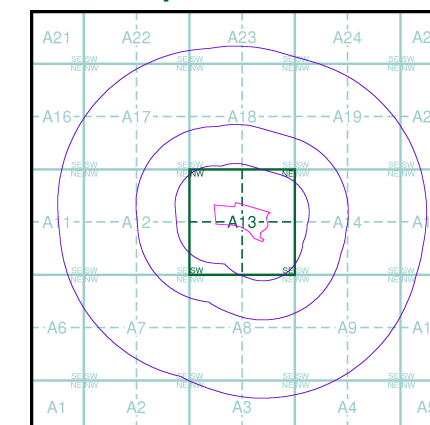
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A



Order Details

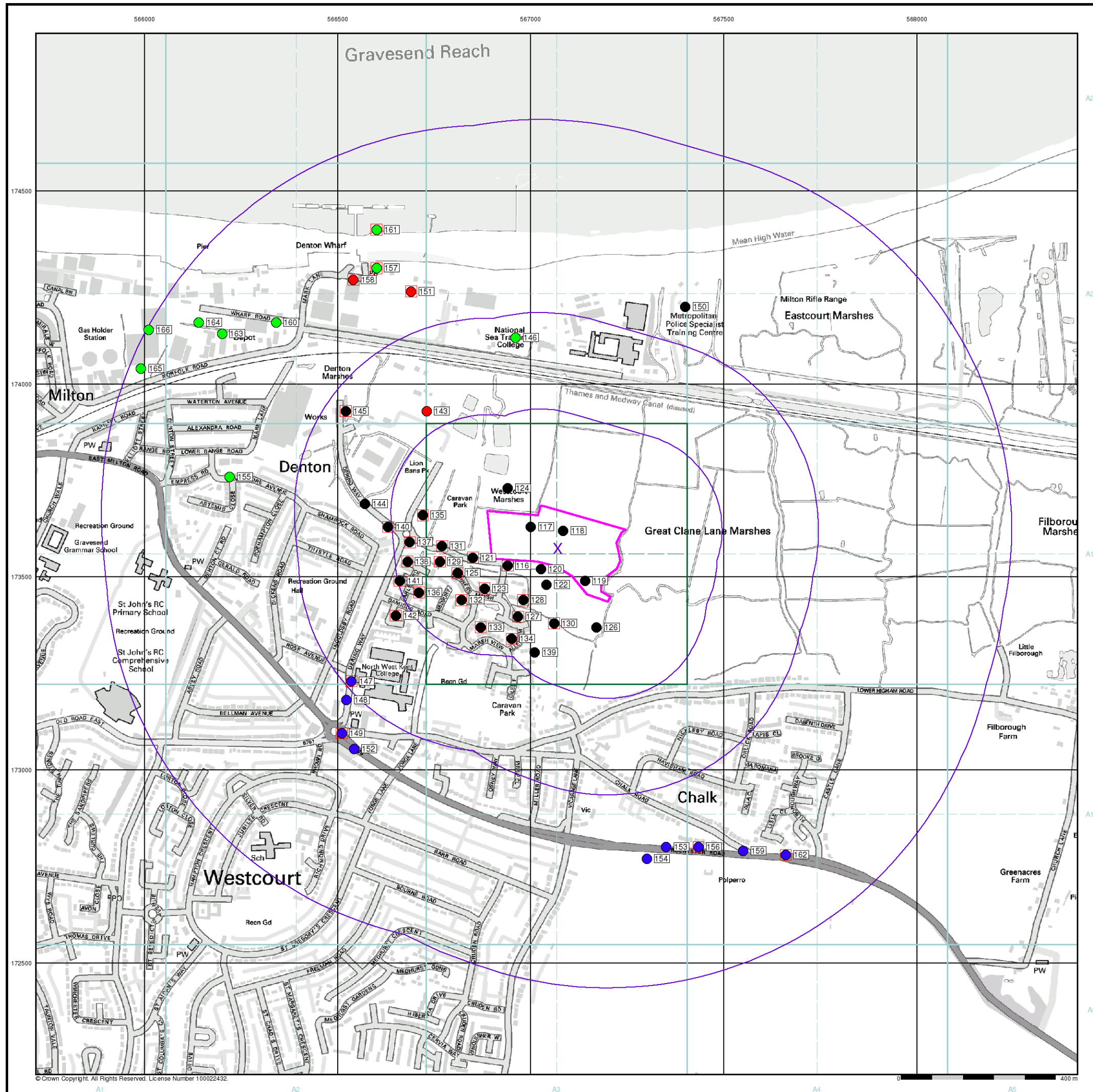
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

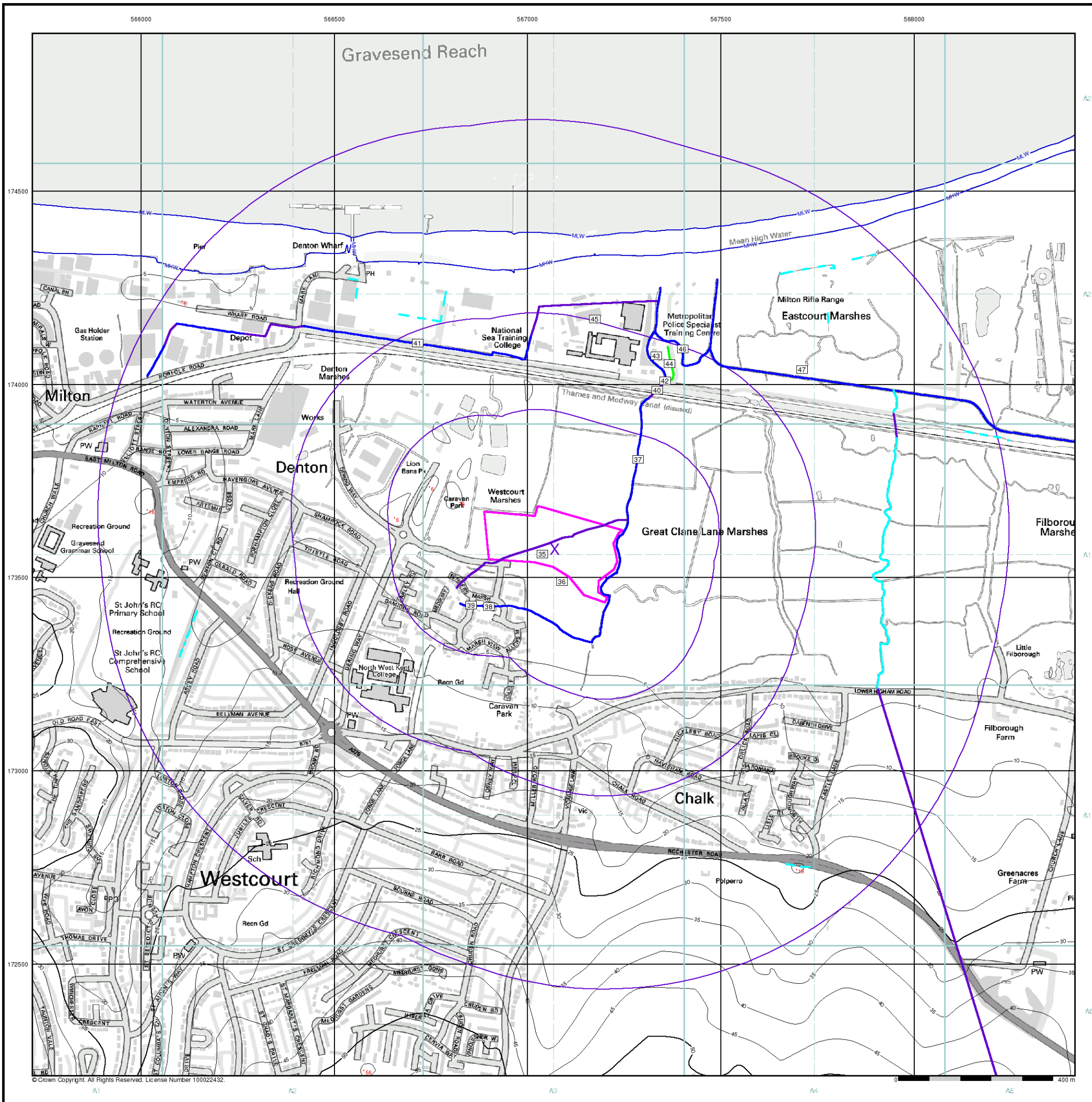
Site Details

Site at, Gravesend, Kent



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





Geo-Environmental

General

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

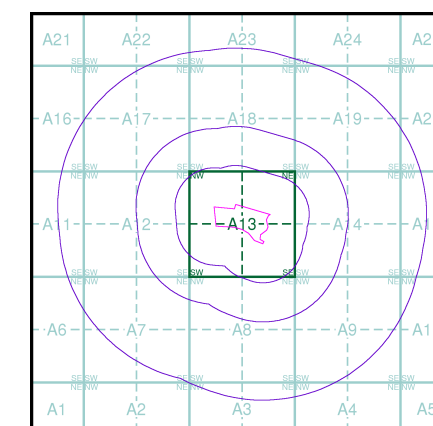
Detailed River Network Data

- | | |
|--------------------------|-------------------------------------|
| Primary River | Extended Culvert (greater than 50m) |
| Secondary River | Underground River (inferred) |
| Tertiary River | Underground River (local knowledge) |
| Canal | Downstream of High Water Mark |
| Canal Tunnel | Downstream of Seaward Extension |
| Undefined River | Not assigned River feature |
| Lake/Reservoir | |
| Offline Drainage Feature | |

Contours (height in metres)

- Standard Contour 105 100 95
- Master Contour
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

E/NRW Detailed River Network Map - Slice A



Order Details

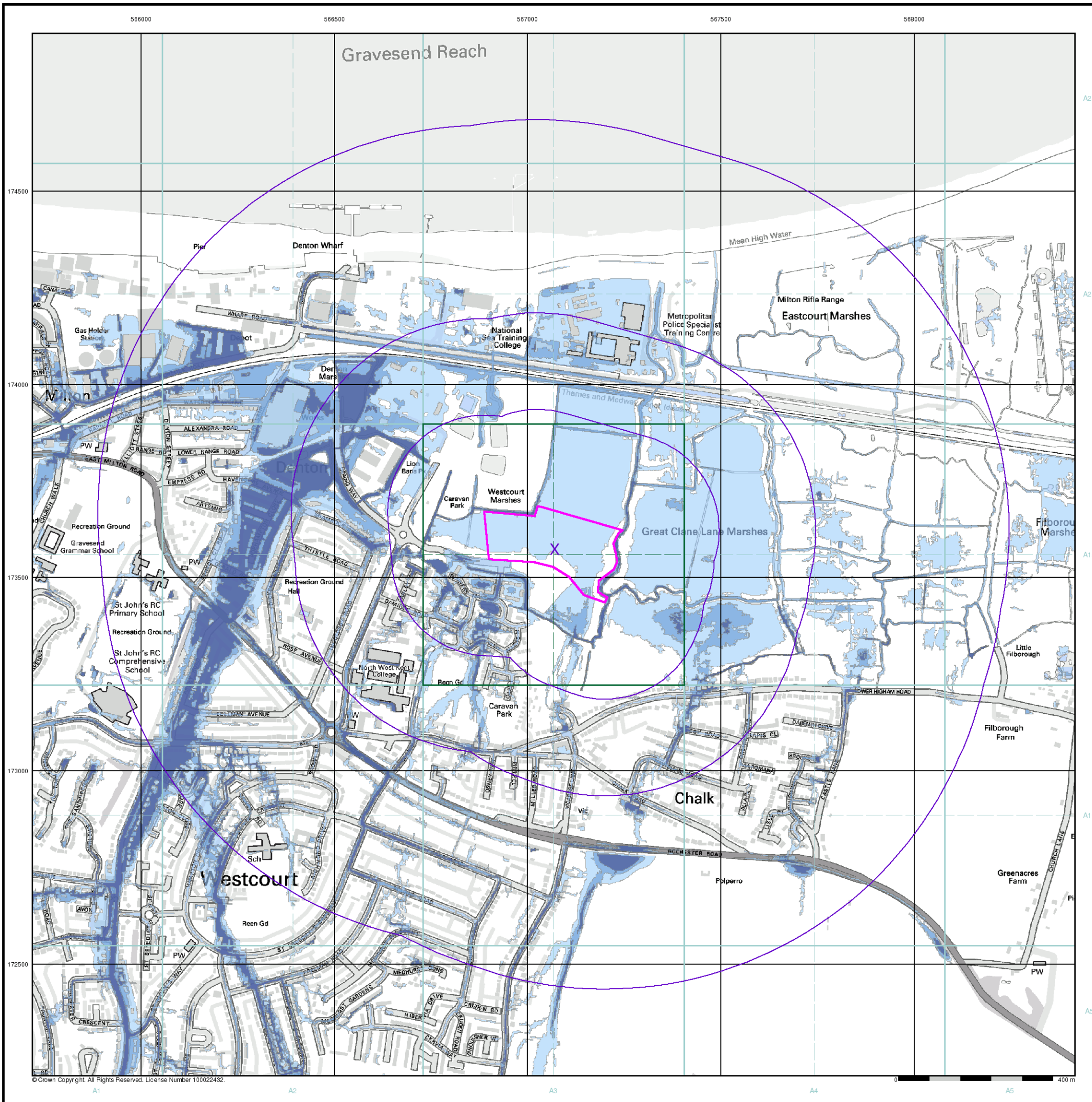
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

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Geo-Environmental

General

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

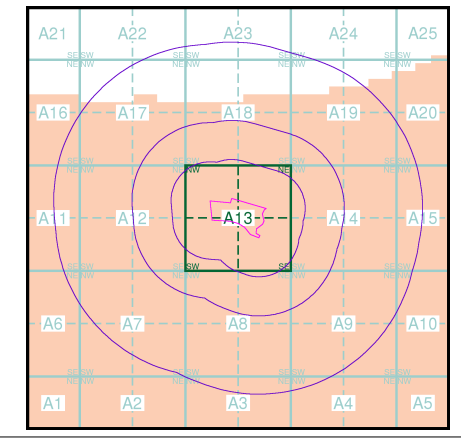
Risk of Flooding from Surface Water

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

Suitability

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

E/NRW Suitability Map - Slice A



Order Details

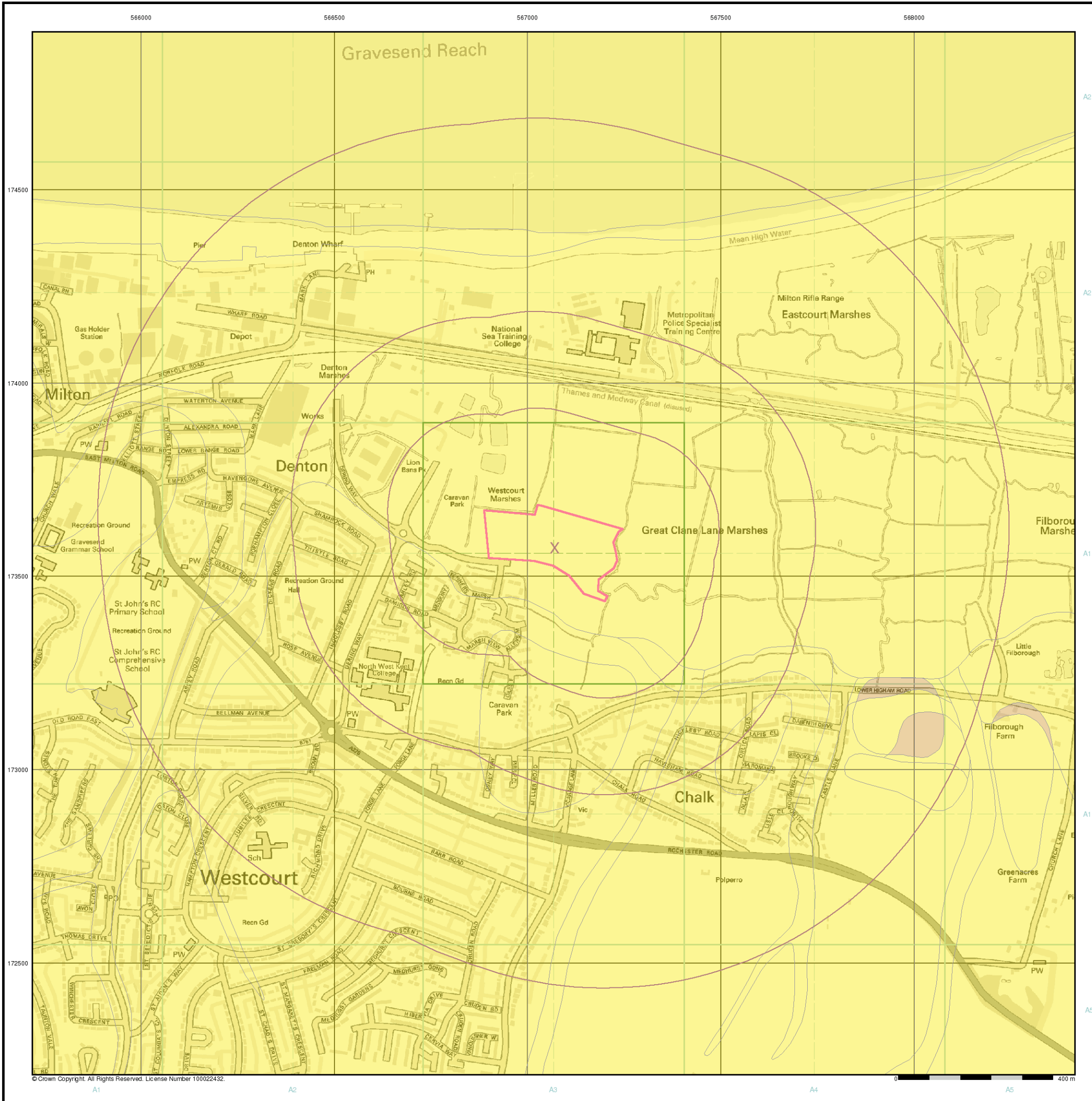
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

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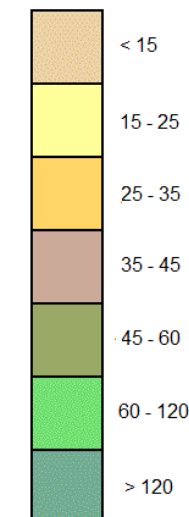
Geo-Environmental

General

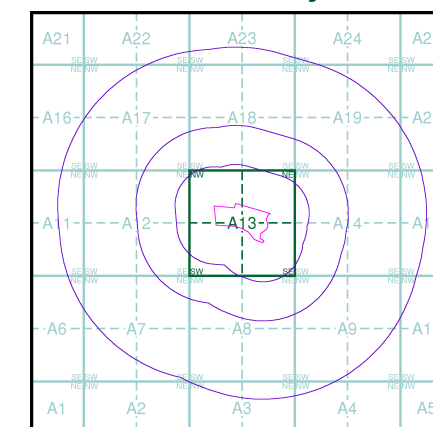
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

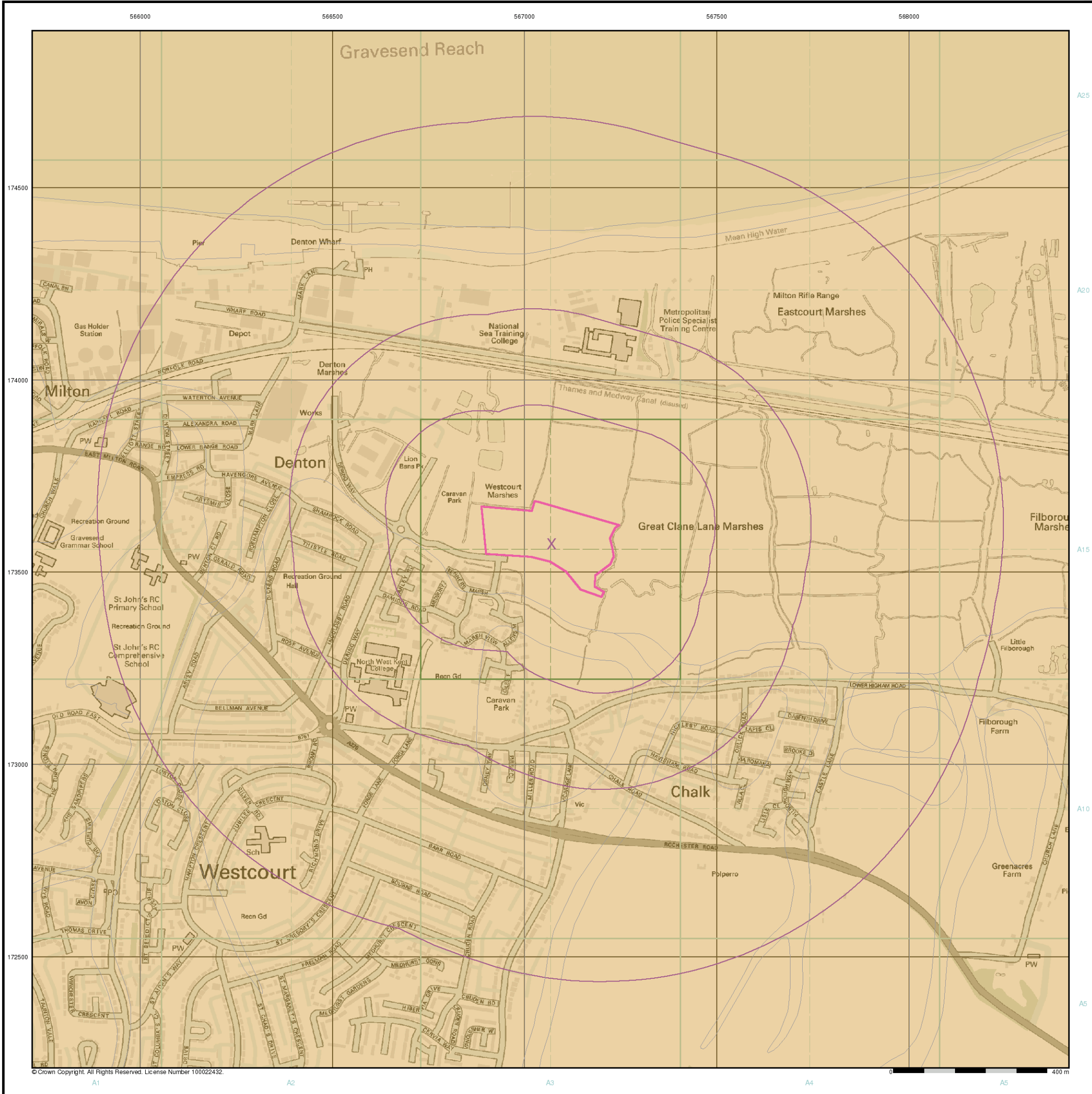
Order Details: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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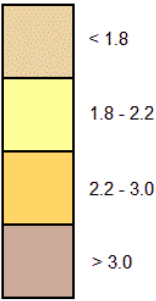
Geo-Environmental

General

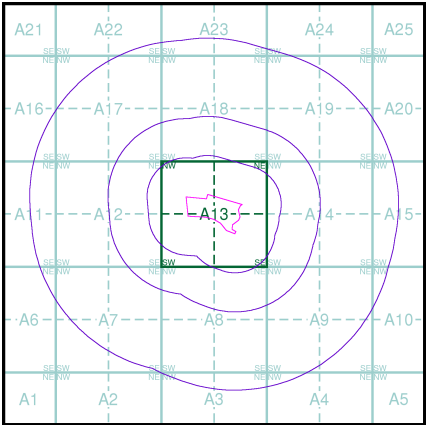
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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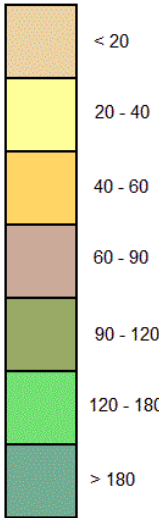
Geo-Environmental

General

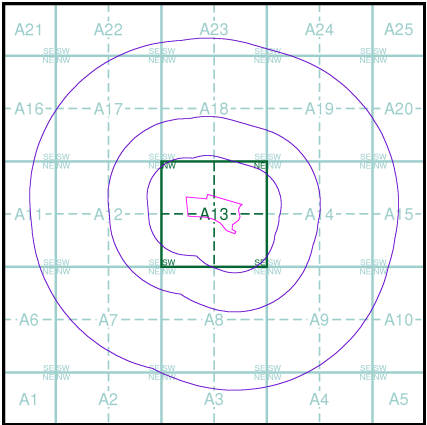
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

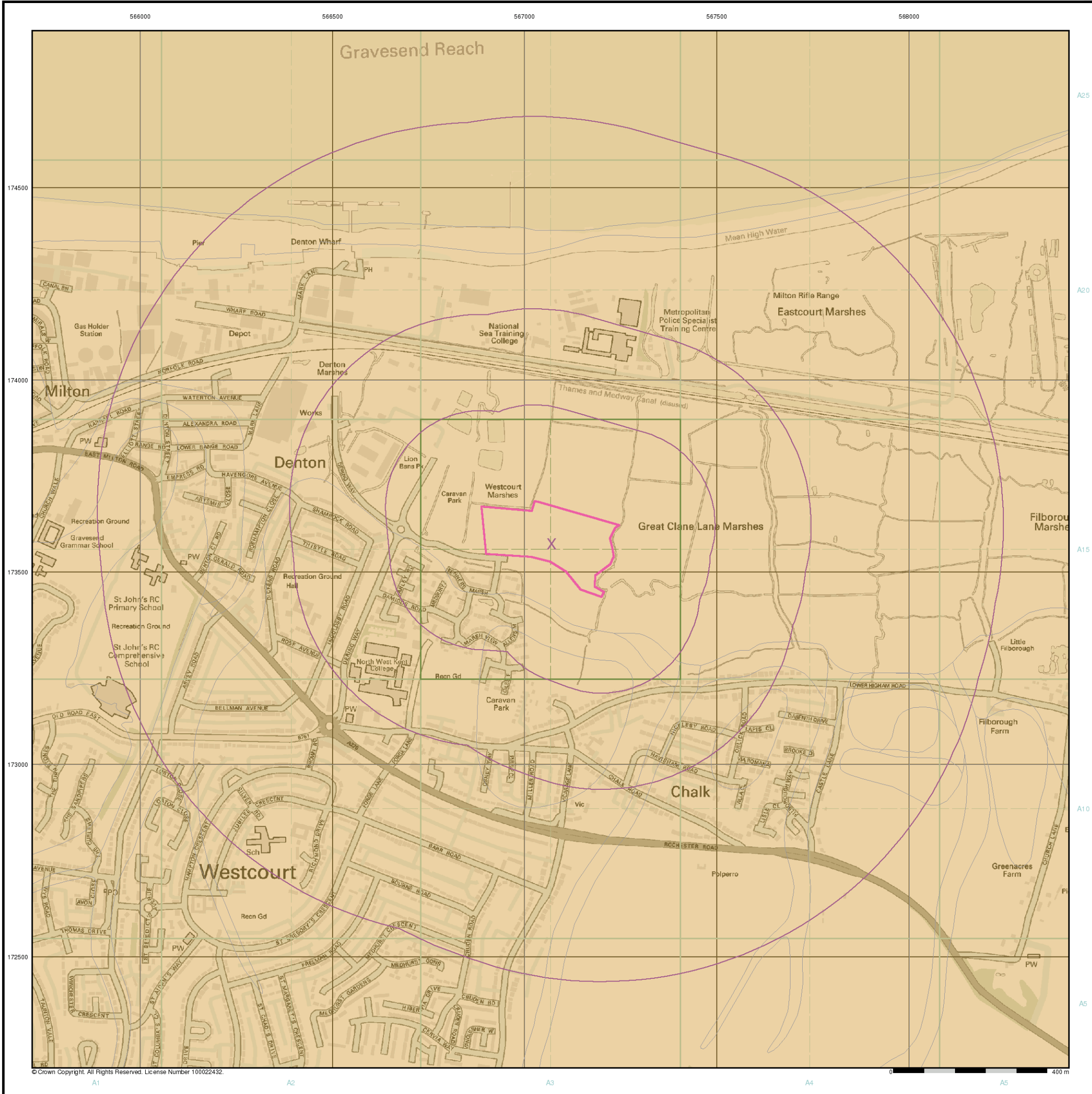
Order Details: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

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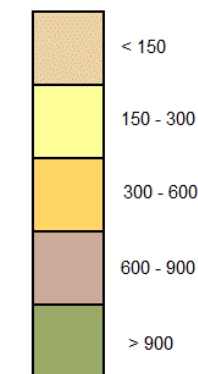
Geo-Environmental

General

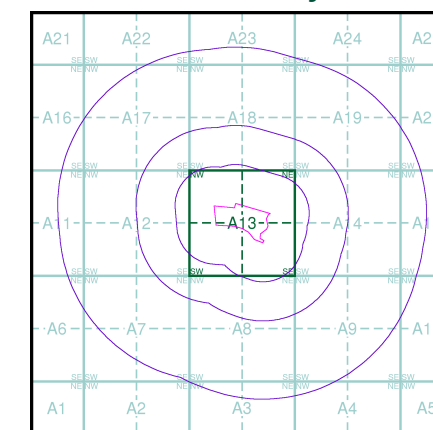
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

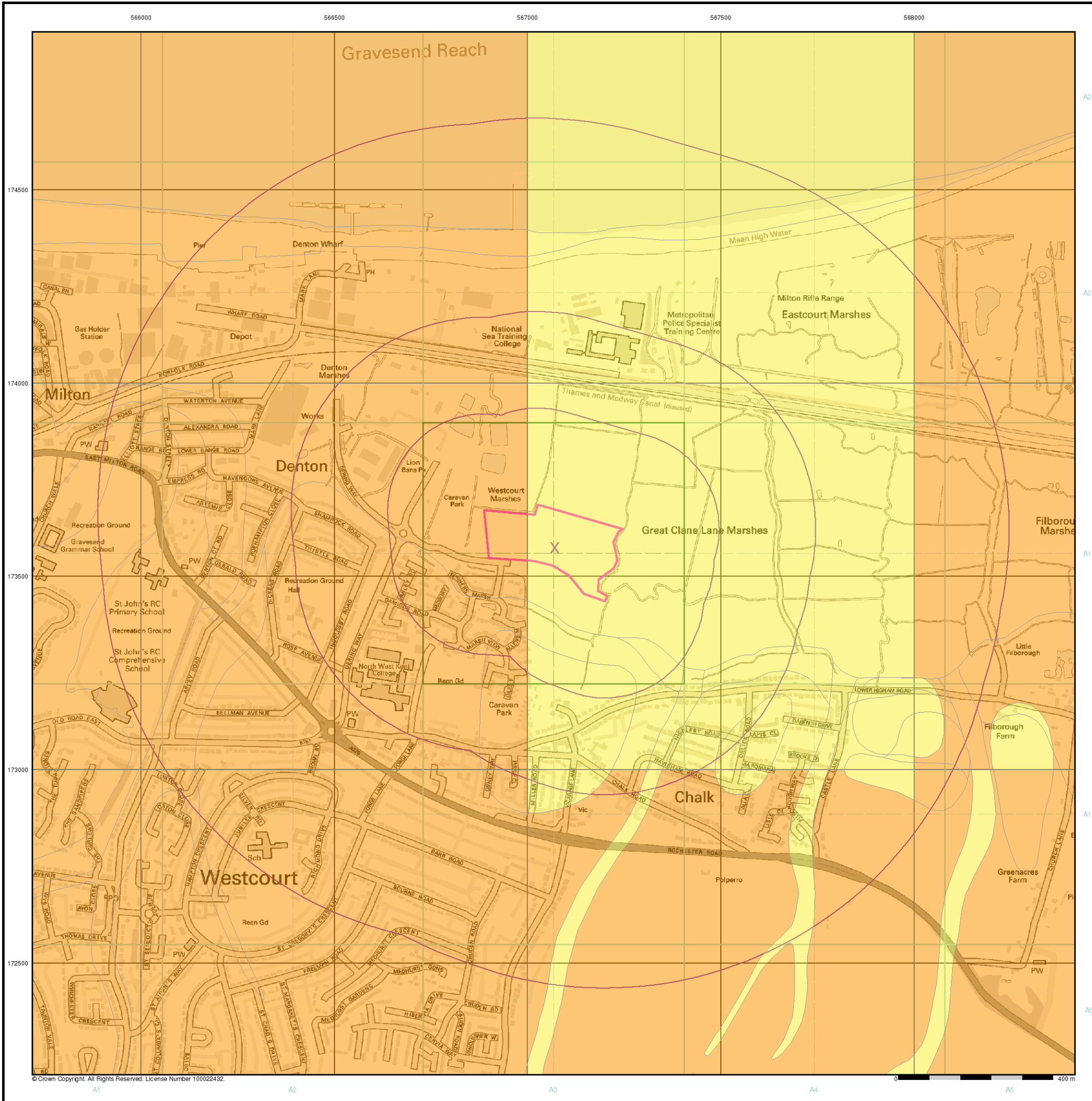
Order Details: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

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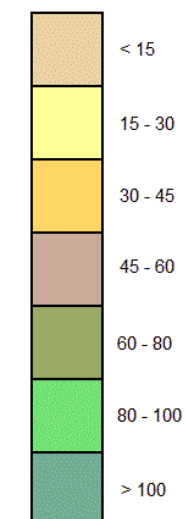
Geo-Environmental

General

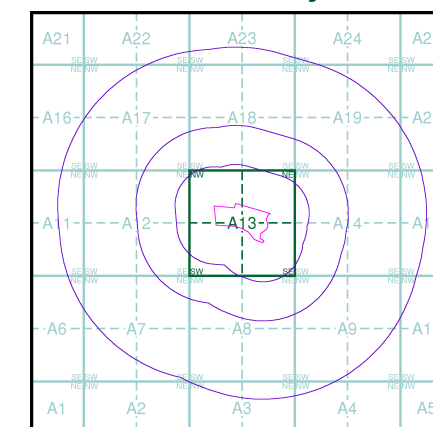
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

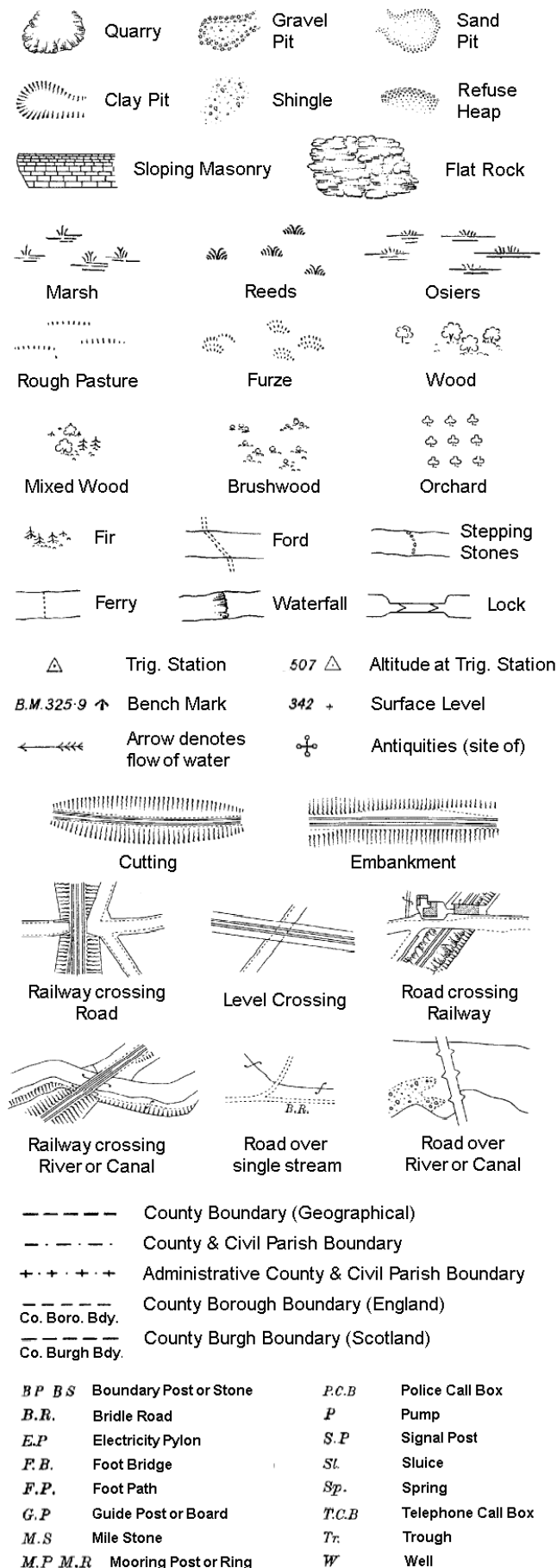
Site at, Gravesend, Kent



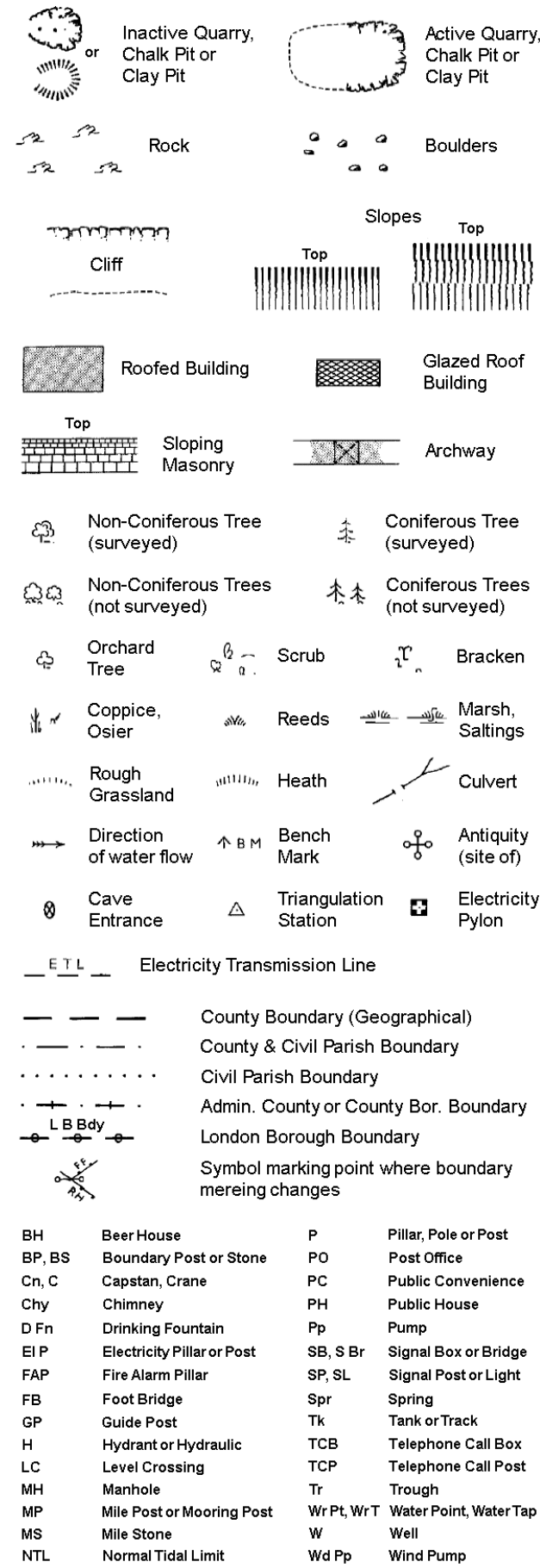
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

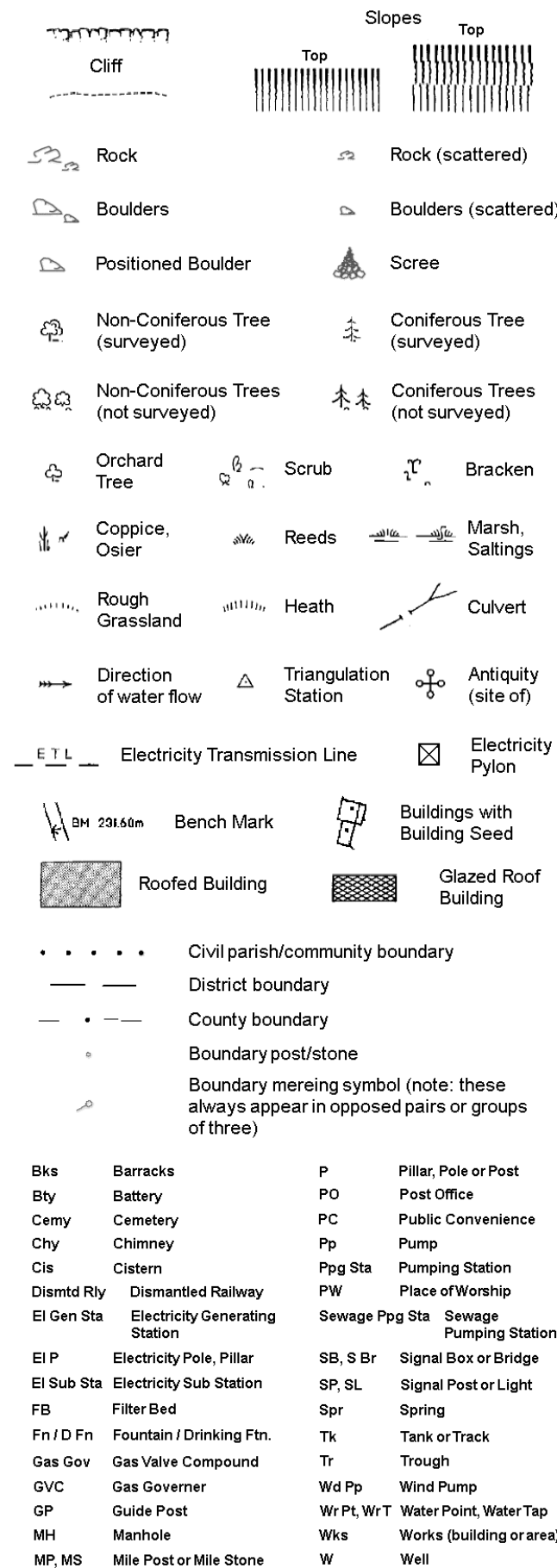
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



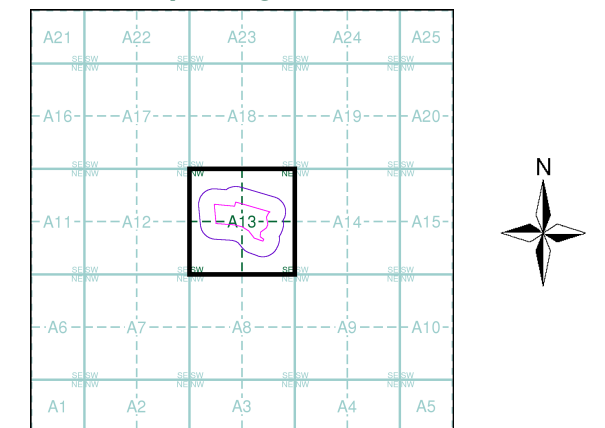
Large-Scale National Grid Data 1:2,500 and 1:1,250



Geo-Environmental Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Kent	1:2,500	1864 - 1874	2
Kent	1:2,500	1897	3
Kent	1:2,500	1908 - 1909	4
Kent	1:2,500	1936 - 1938	5
Ordnance Survey Plan	1:1,250	1954 - 1960	6
Ordnance Survey Plan	1:2,500	1955 - 1964	7
Ordnance Survey Plan	1:2,500	1964	8
Ordnance Survey Plan	1:1,250	1966 - 1969	9
Ordnance Survey Plan	1:2,500	1970	10
Supply of Unpublished Survey Information	1:2,500	1973	11
Ordnance Survey Plan	1:1,250	1975	12
Additional SIMs	1:1,250	1981 - 1985	13
Additional SIMs	1:1,250	1989	14
Additional SIMs	1:1,250	1991	15
Large-Scale National Grid Data	1:1,250	1993	16
Large-Scale National Grid Data	1:1,250	1993	17

Historical Map - Segment A13



Order Details

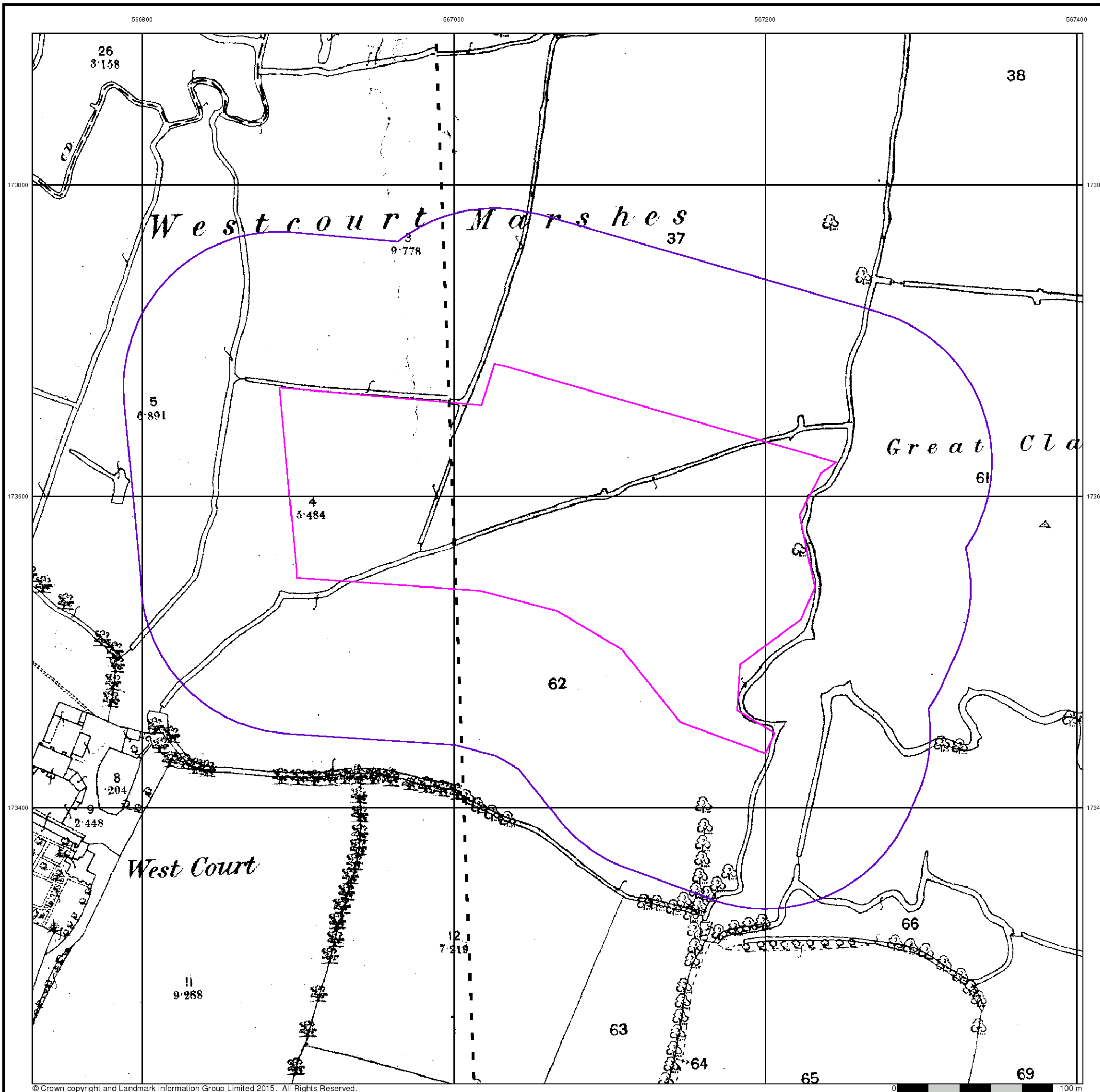
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

Site at, Gravesend, Kent



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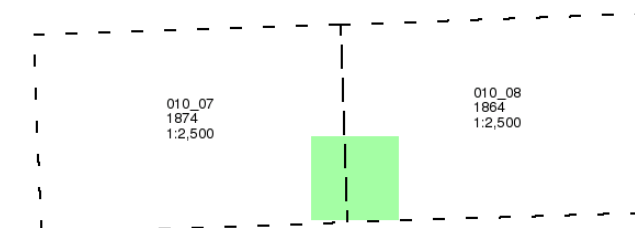
Geo-Environmental Kent

Published 1864 - 1874

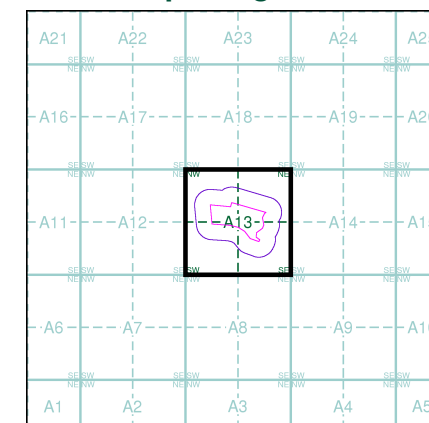
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

Site at, Gravesend, Kent



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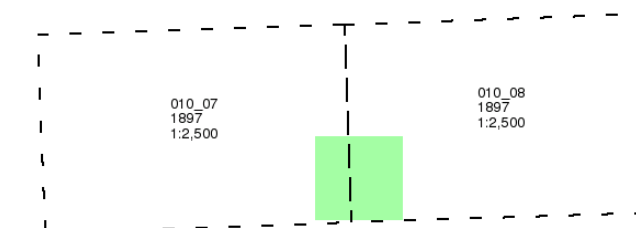
Geo-Environmental Kent

Published 1897

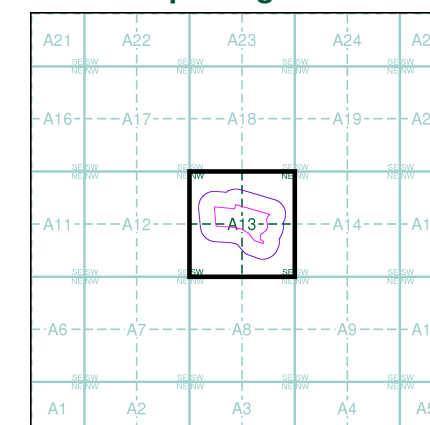
Source map scale - 1:2,500

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

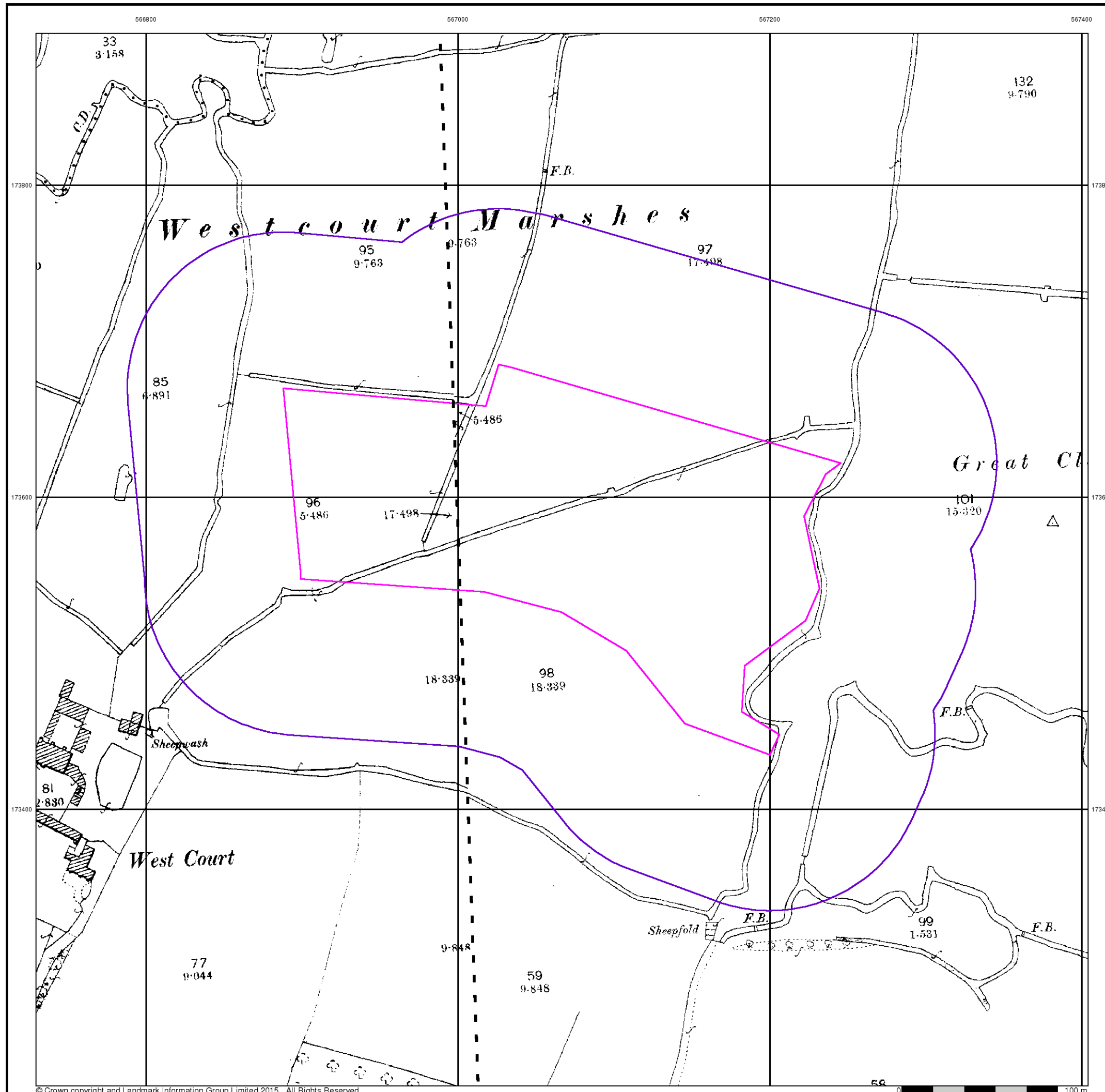
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Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

Site at, Gravesend, Kent



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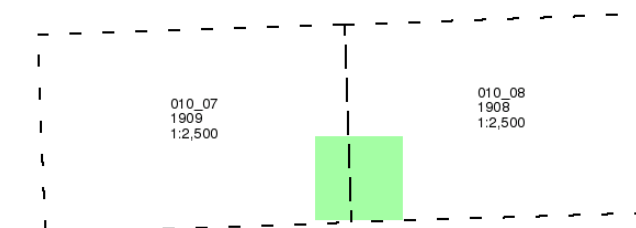
Geo-Environmental Kent

Published 1908 - 1909

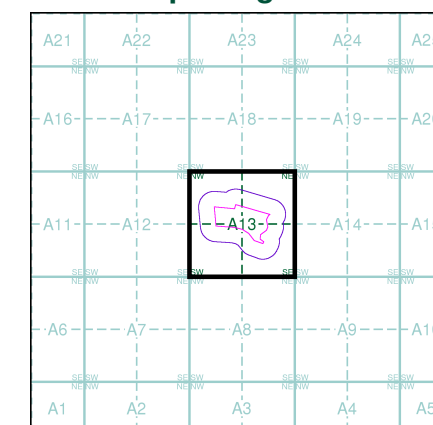
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

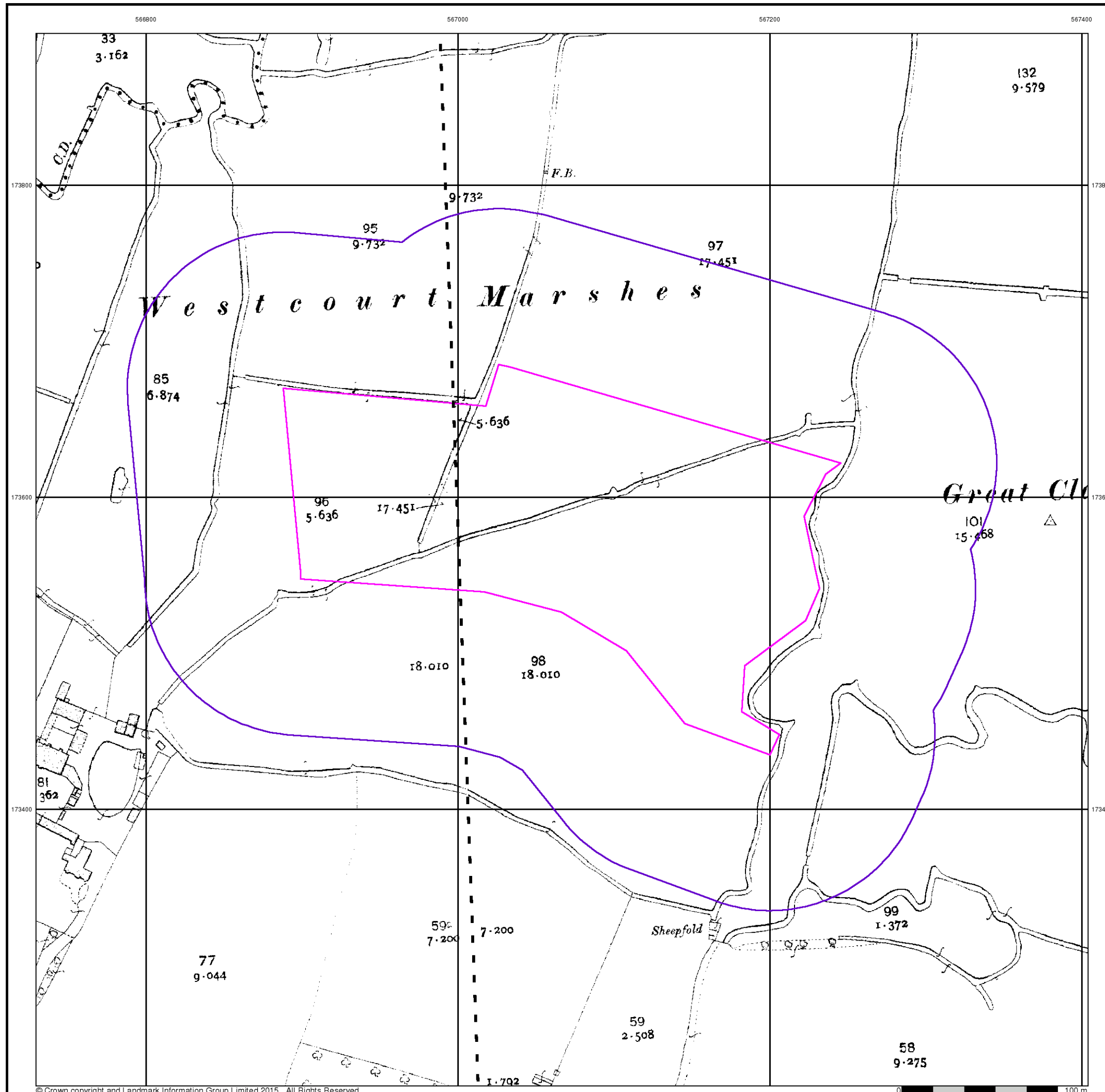
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

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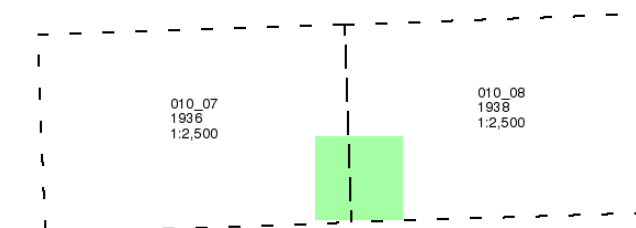
Geo-Environmental Kent

Published 1936 - 1938

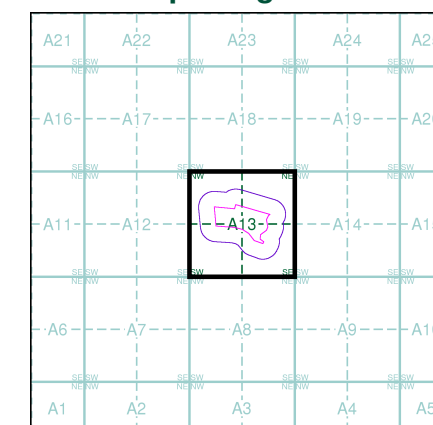
Source map scale - 1:2,500

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

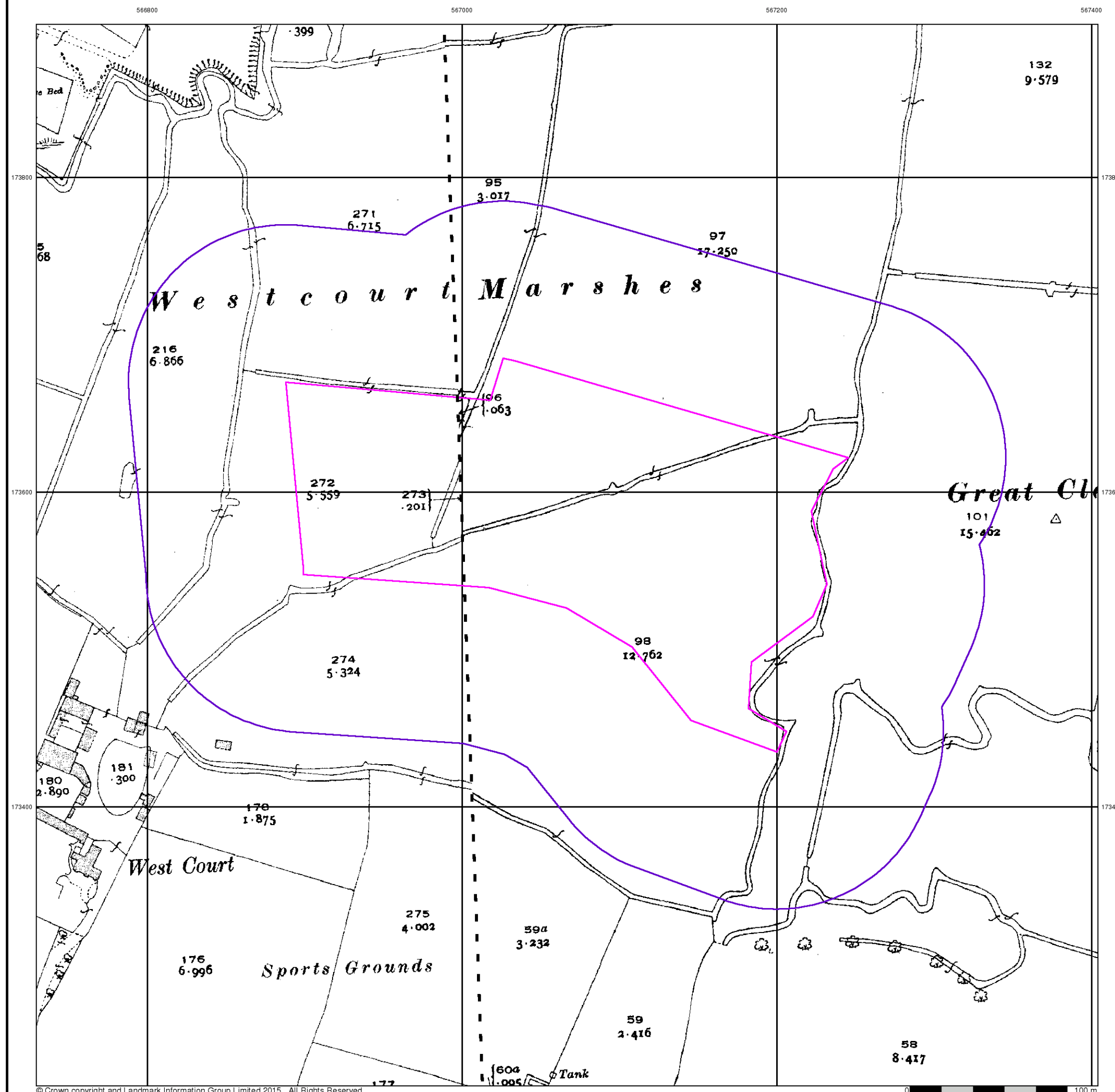
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Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

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Geo-Environmental Ordnance Survey Plan

Published 1954 - 1960

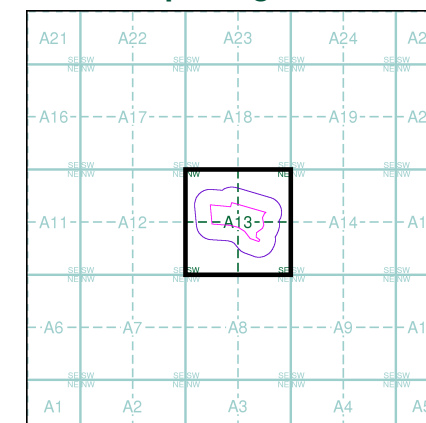
Source map scale - 1:1,250

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)

TQ6673NE	1954	1:1,250
TQ6673SE	1954	1:1,250
TQ6773SW	1960	1:1,250

Historical Map - Segment A13



Order Details

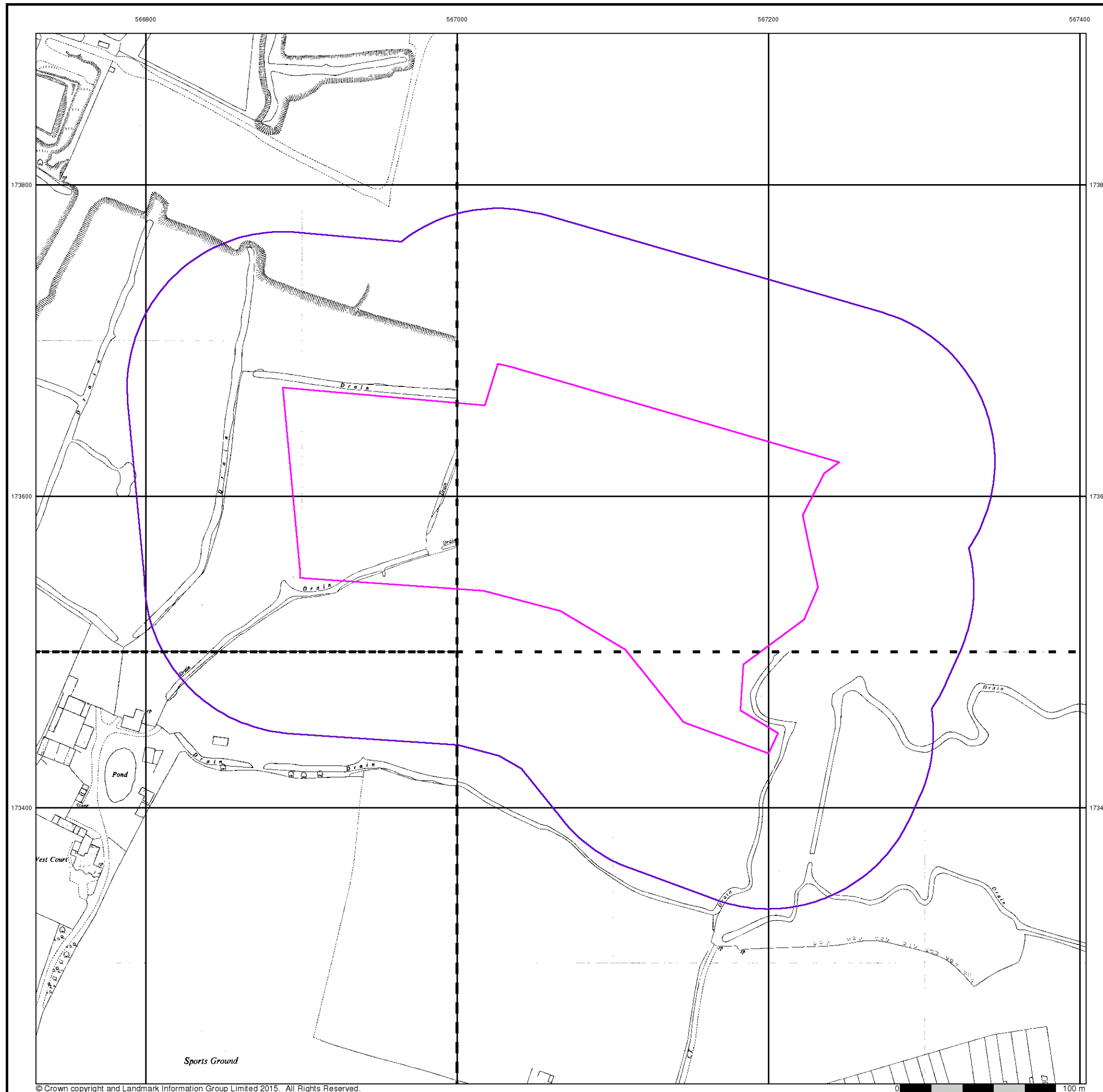
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

Site at, Gravesend, Kent



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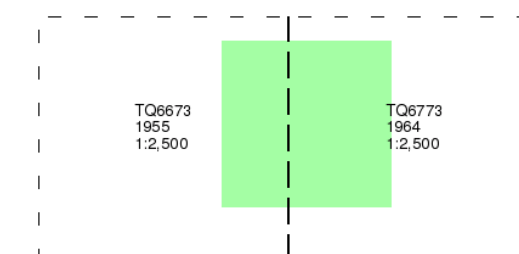
Geo-Environmental Ordnance Survey Plan

Published 1955 - 1964

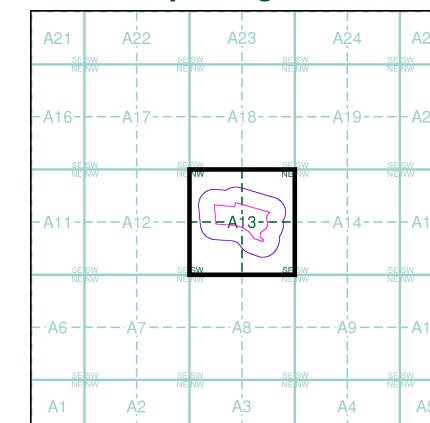
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

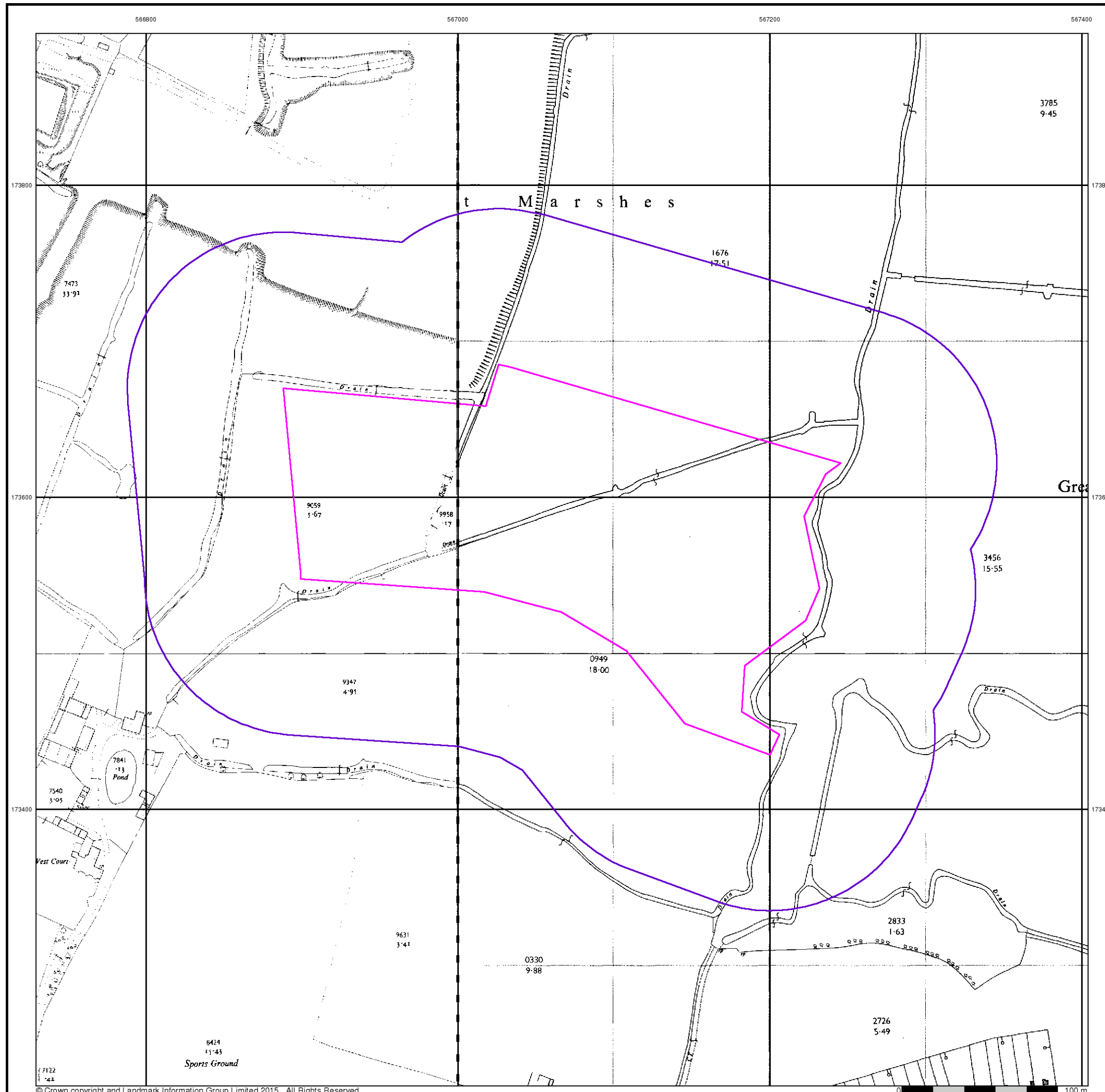
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

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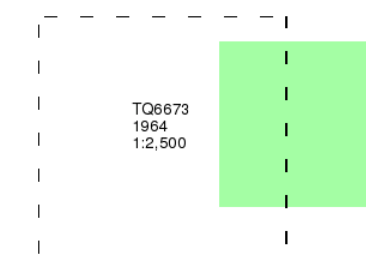
Geo-Environmental Ordnance Survey Plan

Published 1964

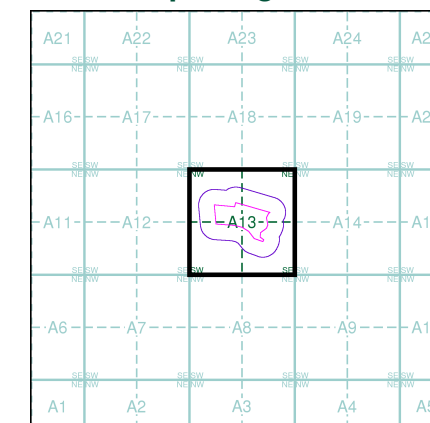
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

Site at, Gravesend, Kent



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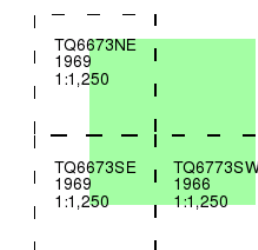


Published 1966 - 1969

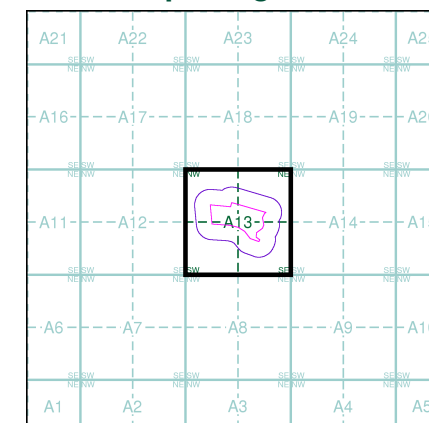
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

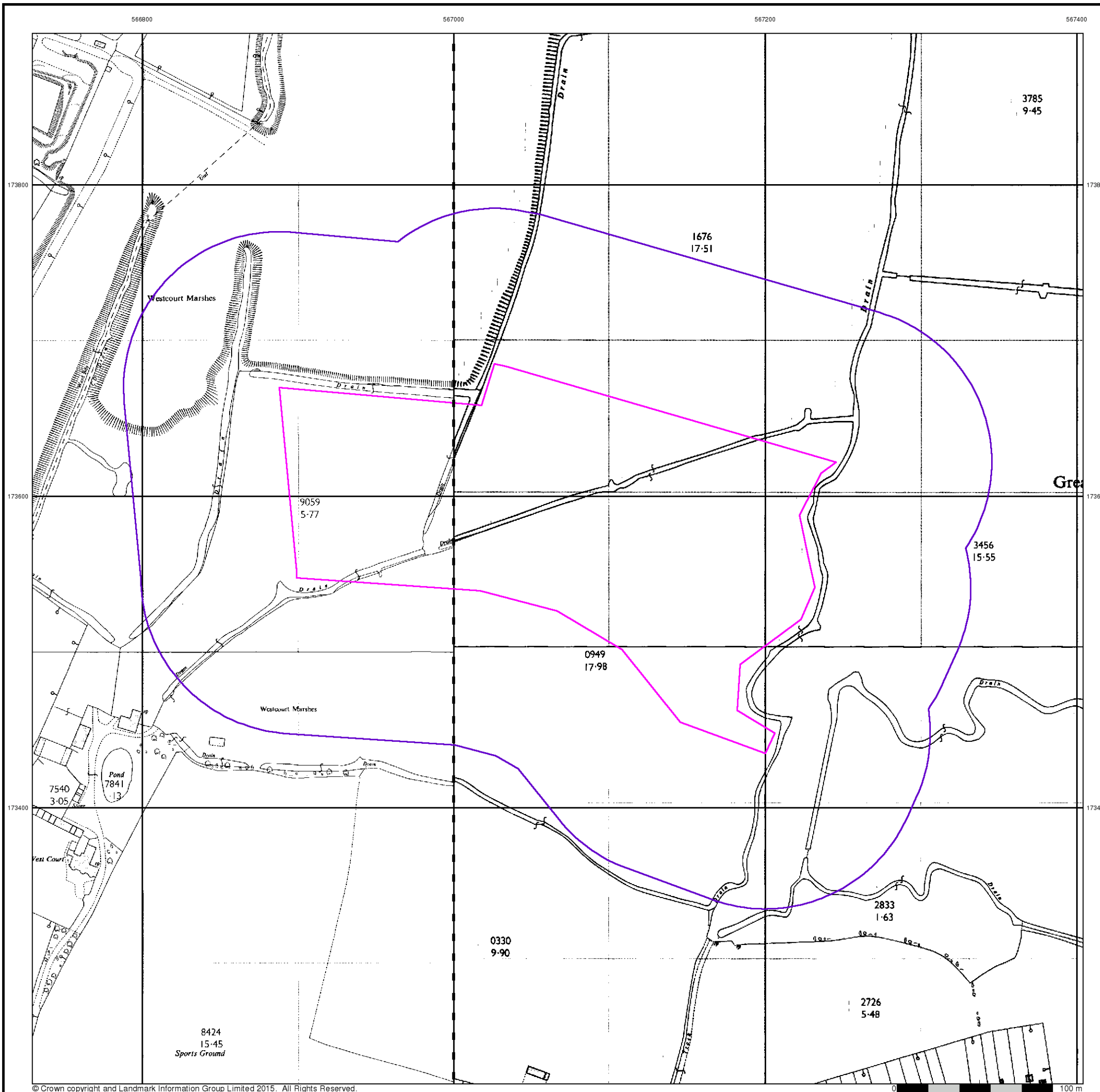
Order Number:	80691026_1_1
Customer Ref:	GE15338
National Grid Reference:	567070, 173570
Slice:	A
Site Area (Ha):	4.87
Search Buffer (m):	100

Site Details

Site at, Gravesend, Kent



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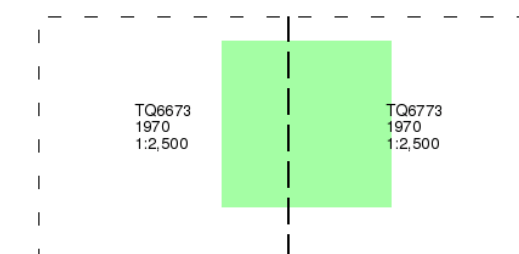
Geo-Environmental Ordnance Survey Plan

Published 1970

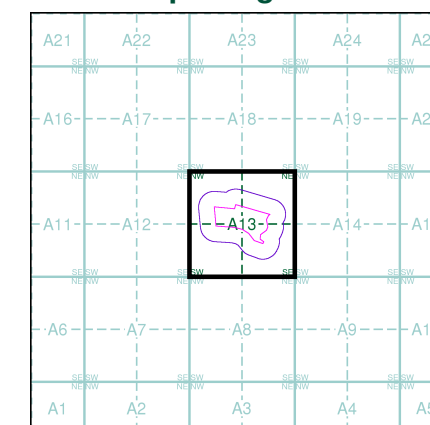
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

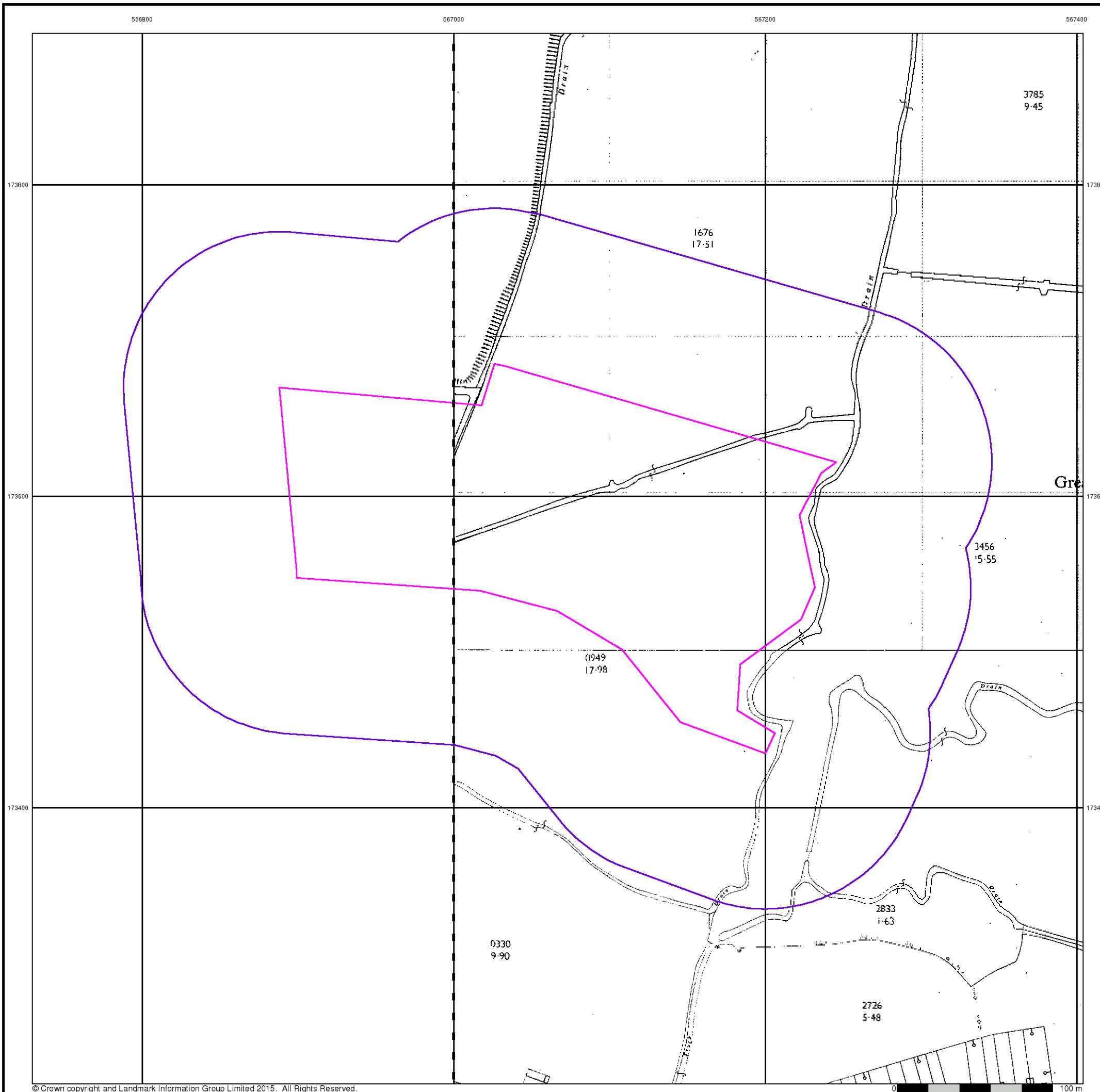
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

Site at, Gravesend, Kent



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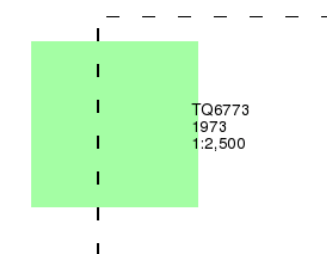
Geo-Environmental Supply of Unpublished Survey Information

Published 1973

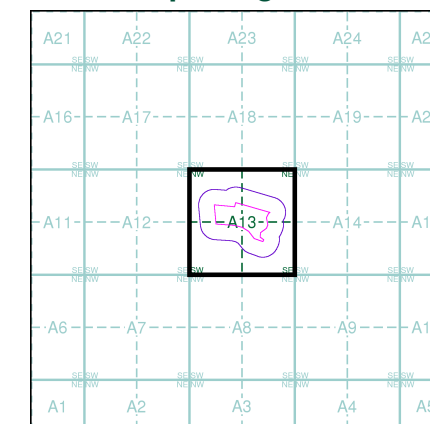
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

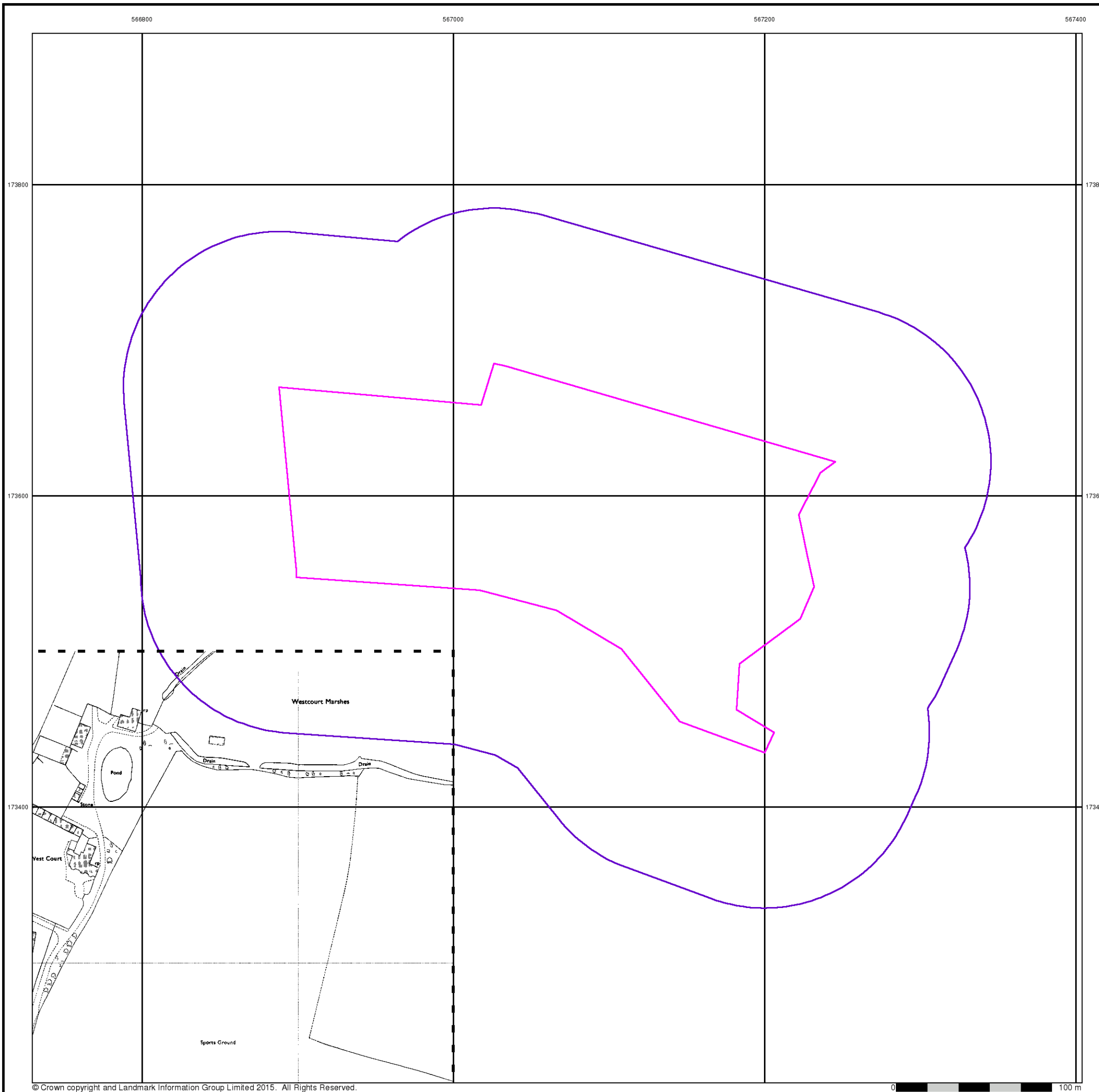
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
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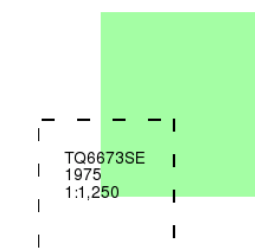
Geo-Environmental Ordnance Survey Plan

Published 1975

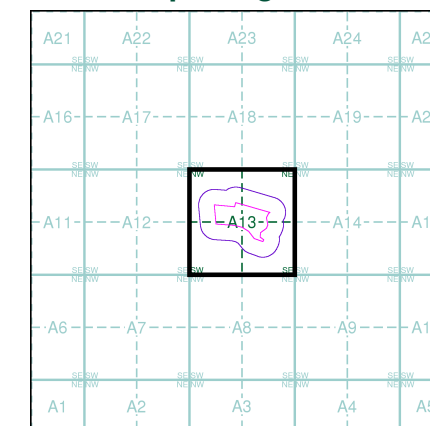
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

Site Details

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Geo-Environmental Additional SIMs

Published 1981 - 1985

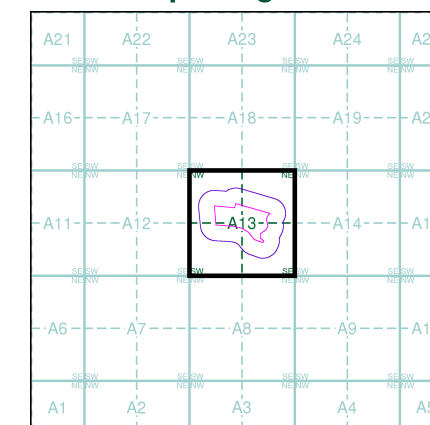
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

TQ6673NE	1982	1:1,250
TQ6673SE	1985	1:1,250
TQ6773SW	1981	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

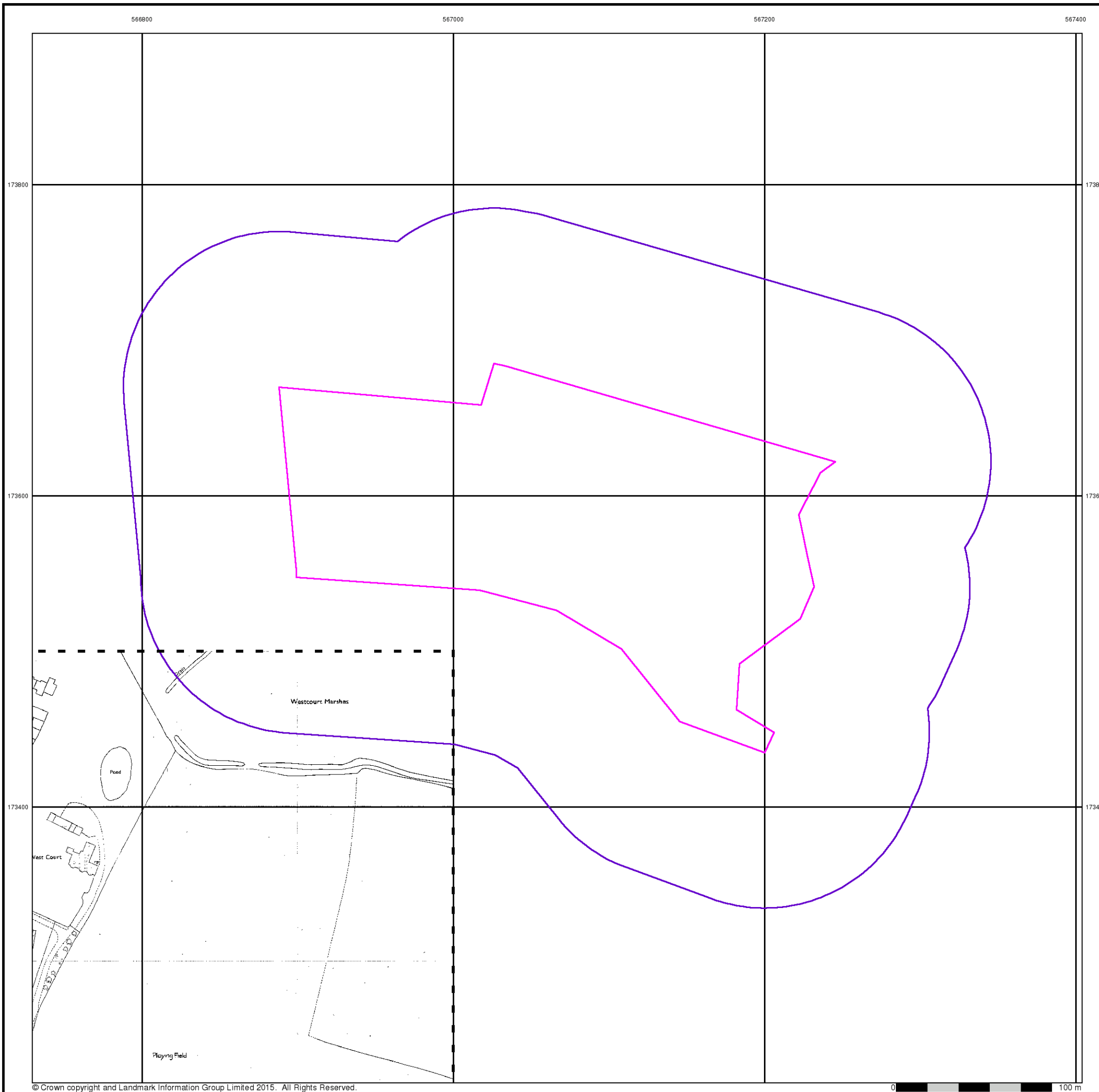
Site Details

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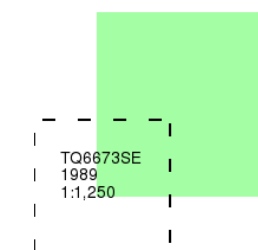
Geo-Environmental Additional SIMs

Published 1989

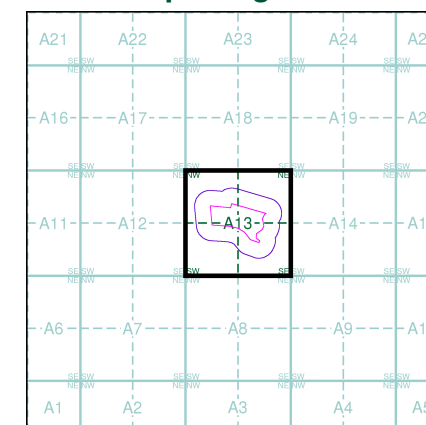
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

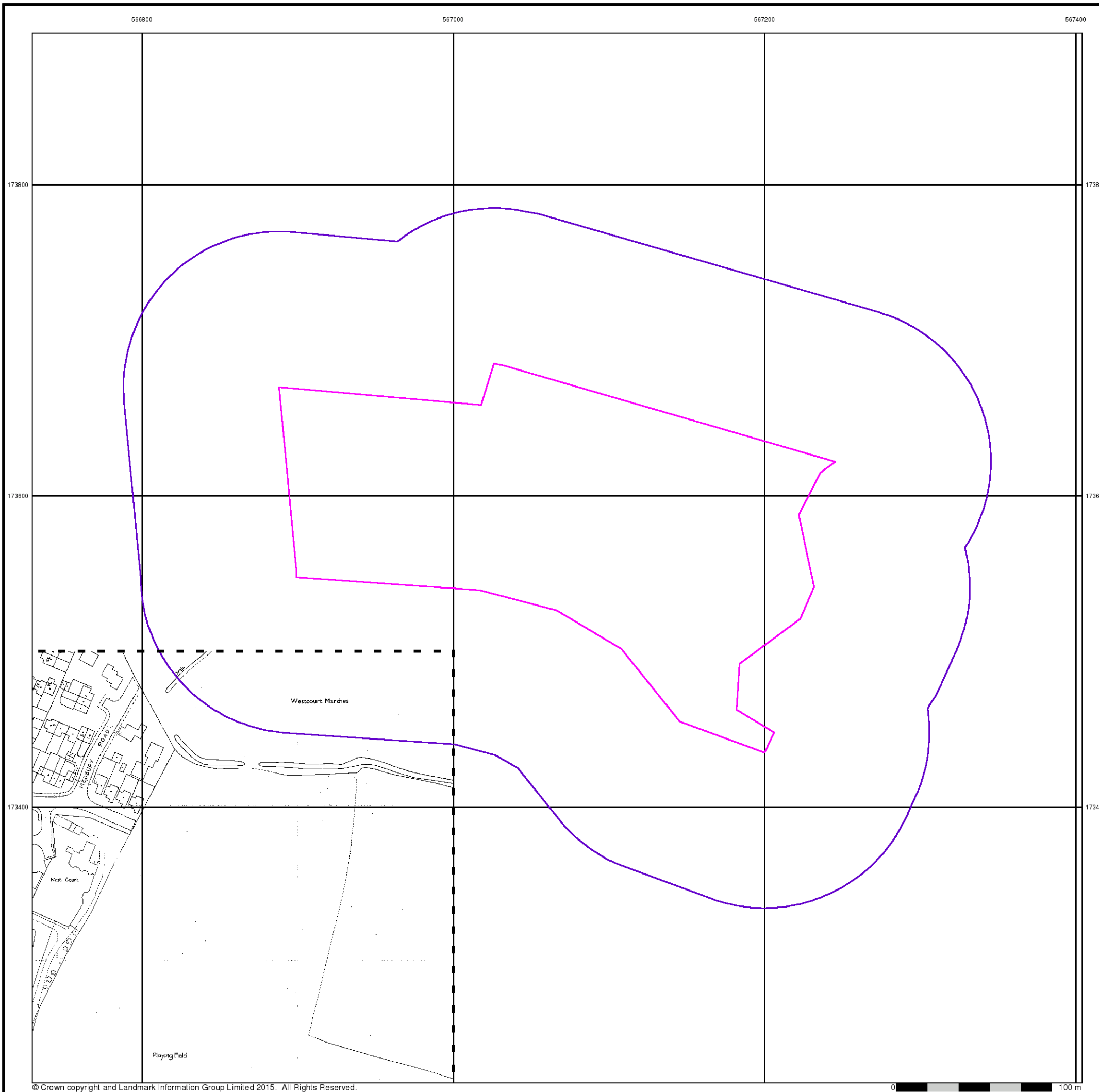
Order Number: 80691026_1_1
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Slice: A
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0 100 m



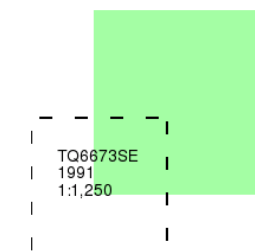
Geo-Environmental Additional SIMs

Published 1991

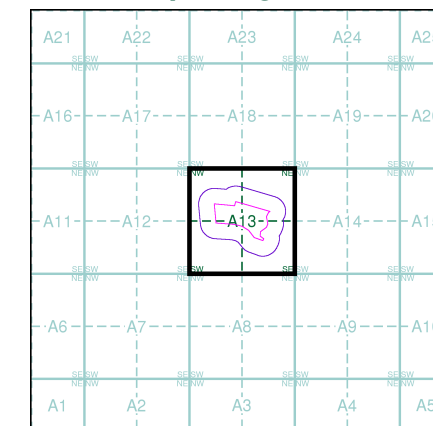
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



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Geo-Environmental Large-Scale National Grid Data

Published 1993

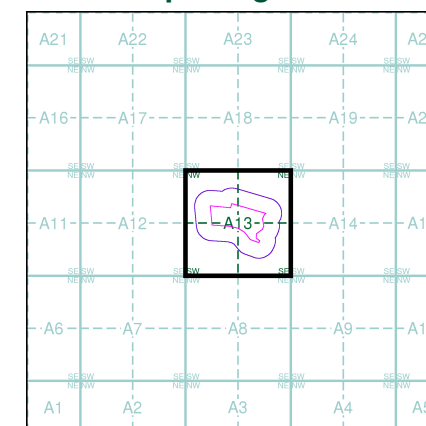
Source map scale - 1:1,250

'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)

TQ8673NE 1993 1:1,250	TQ8773NW 1993 1:1,250
TQ8673SE 1993 1:1,250	TQ8773SW 1993 1:1,250

Historical Map - Segment A13



Order Details

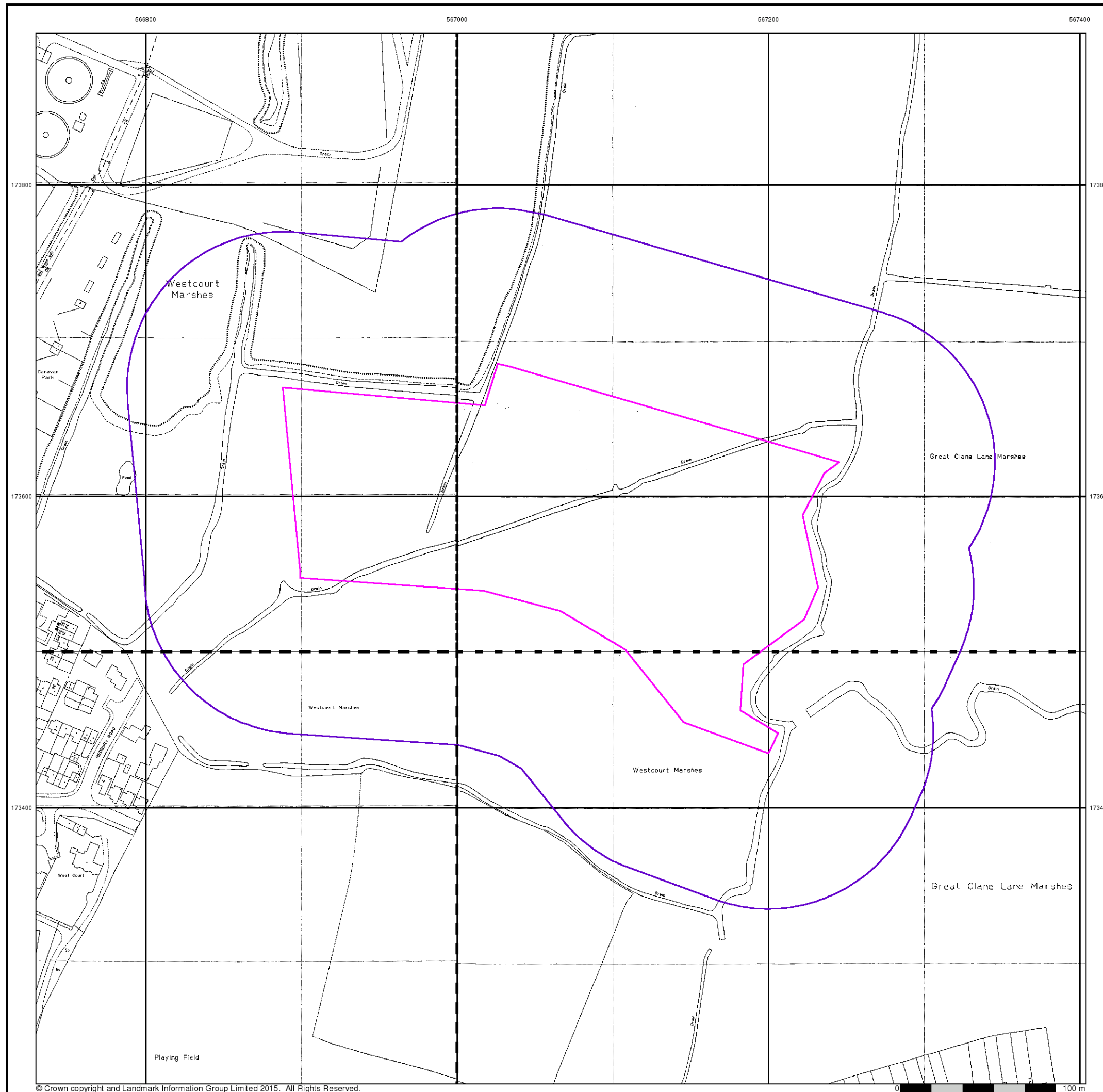
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 100

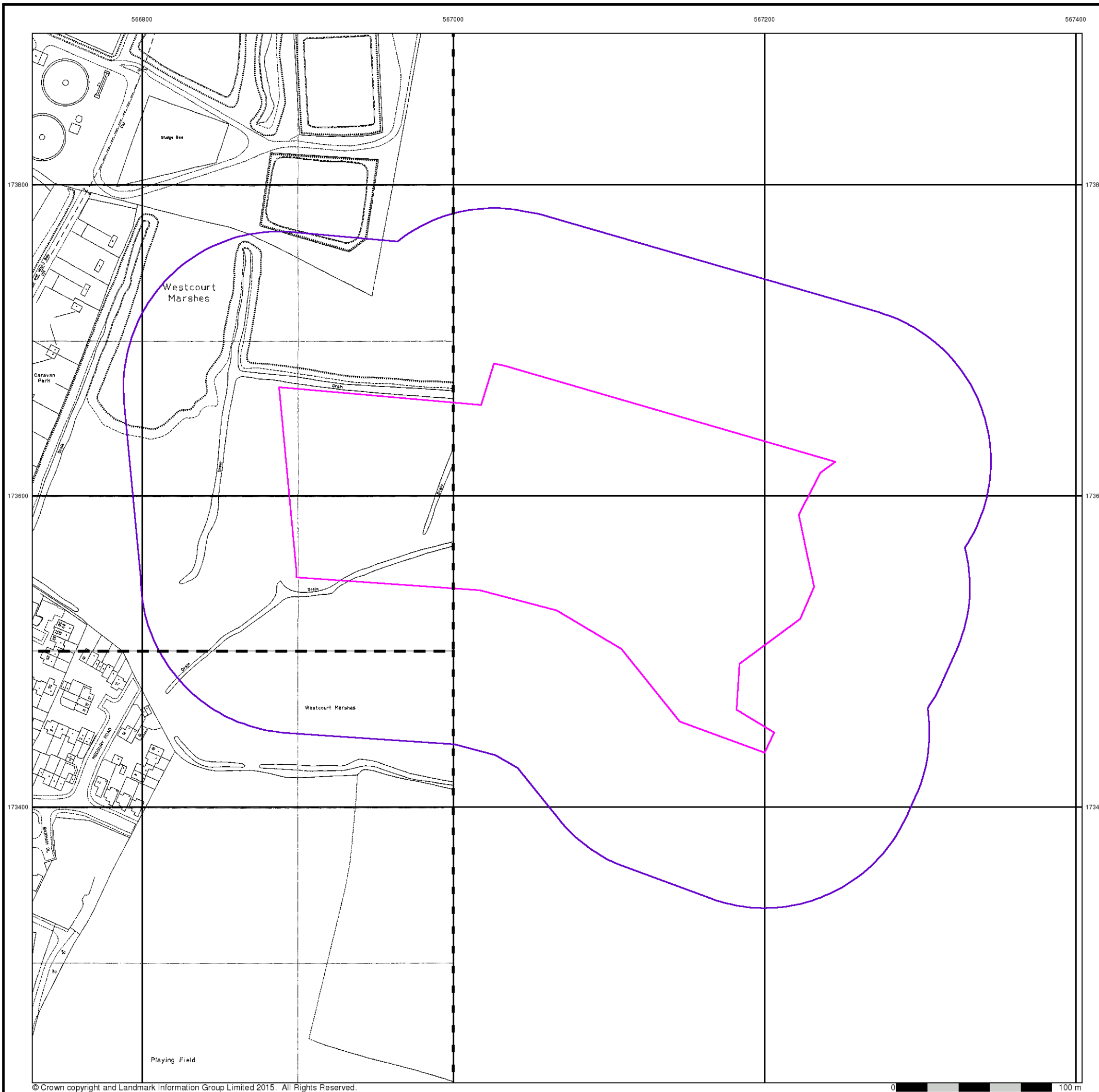
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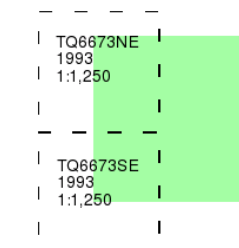
Geo-Environmental Large-Scale National Grid Data

Published 1993

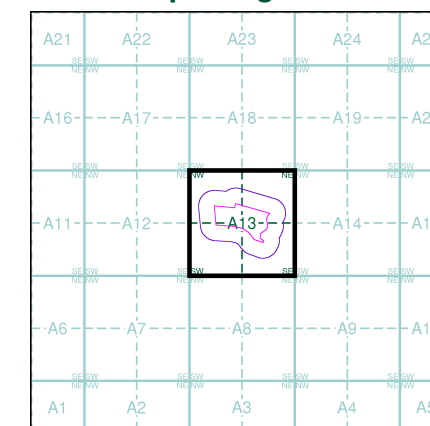
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 80691026_1_1
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Slice: A
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Site Details

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

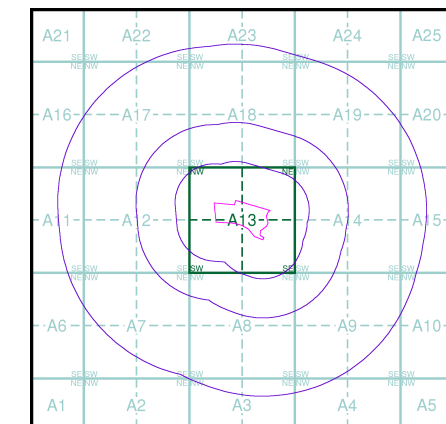
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil,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



Geo-Environmental Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Kent	1:10,560	1869	3
Essex	1:10,560	1872	4
Kent	1:10,560	1898 - 1899	5
Essex	1:10,560	1899	6
Kent	1:10,560	1909	7
Kent	1:10,560	1909	8
Kent	1:10,560	1909	9
Essex	1:10,560	1923	10
Kent	1:10,560	1932	11
Kent	1:10,560	1938	12
Essex	1:10,560	1938	13
Essex	1:10,560	1938	14
Kent	1:10,560	1946 - 1951	15
Historical Aerial Photography	1:10,560	1947	16
Ordnance Survey Plan	1:10,000	1961	17
Ordnance Survey Plan	1:10,000	1966	18
Ordnance Survey Plan	1:10,000	1975	19
Gravesend	1:10,000	1977	20
Ordnance Survey Plan	1:10,000	1982	21
10K Raster Mapping	1:10,000	2006	22
VectorMap Local	1:10,000	2016	23

Historical Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings

Military and Industrial Buildings

Military and Communication Areas

Subway Entrance

Fireproof Building

Prominent Fireproof Building

Non-fireproof Building

Non-fireproof Building (non-dwelling)

Factory, mill, and flour mill, with chimneys

Factory, mill, and flour mill, without chimneys

Power Station, drawn to scale

Hydroelectric Power Station

Radio Station, drawn to scale

Telephone Station, drawn to scale

Abandoned Open-pit Mine or Quarry

Open-pit Salt Mine

Pit

Oil Deposit or Well

Oil Seepage

Tailings Pile

Fuel Storage Tanks

Natural Gas Tank

Bench Mark

Drill Hole

Burial Mound

Triangulation Point on Burial Mound

Single-track Railroad

Double-track Railroad and Station Building

Coniferous Forest

Deciduous Forest

Mixed Forest

Lawns

Citrus Orchard

Wet Ground

Scattered Vegetation

243.8 Values for prominent elevations
186.0 Numbers for spot elevations, depth soundings, contour lines, etc.
0.2 Velocity of the current, width of river bed, depth of river
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings

Military and Industrial Buildings

Military and Communication Areas

Subway Entrance

Partly Demolished Buildings

Demolished Buildings

Built-Up Area with Fireproof Buildings Predominant

Built-Up Area with Non-Fireproof Buildings Predominant

Individual Fireproof Building

Prominent Industrial Building

Individual Dwelling, Fireproof

Ruins of an Individual Dwelling

Factory or Mill Chimney

Factory or Mill with Chimney

Factory or Mill without Chimney

Mine or Open Pit Mine

Operating Shaft or Mine

Non-Operating Shaft or Mine

Salt Mine

Tailings Pile

Pit

Stone Quarry

Gas Pump or Service Station

Fuel Storage or Natural Gas Tank

Oil or Natural Gas Derrick

Small Hydroelectric Power Station

Power Station

Transformer Station

Cemetery

Burial Mound (height in metres)

Triangulation Point on Burial Mound

Triangulation Point

Bench Mark

Bench Mark (monumented)

Telegraph Office

Telephone Station

Radio Station

Radio Tower

Airfield or Seaplane Base

Landing Strip

Telegraph/Telephone Lines

Main Highway

Highway under Construction

Improved Dirt Road (former truck road)

Double-track Railroad with First Class Station

Railroad Under Construction

Shore Embankment

River or Ditch with Embankment

Water Gauge

Water Level Mark

Well

Water Reservoir or Rain Water Pit

Spring

Isobath with value

Heavy (Index) Contour Line

Contour Line and Value

Half Contour Line

Spot Elevation Value

Coniferous

Deciduous

Mixed

Scrub

Key to Numbers on Mapping

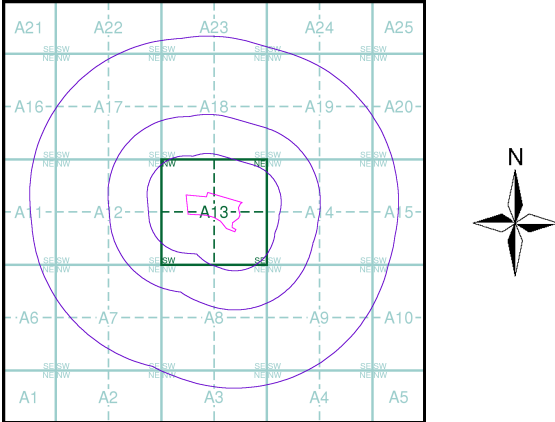
TQ67SE Gravesend

No.	Description
40	Sewage Works

Geo-Environmental
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Kent	1:10,560	1869	3
Essex	1:10,560	1872	4
Kent	1:10,560	1898 - 1899	5
Essex	1:10,560	1899	6
Kent	1:10,560	1909	7
Kent	1:10,560	1909	8
Kent	1:10,560	1909	9
Essex	1:10,560	1923	10
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Kent	1:10,560	1938	12
Essex	1:10,560	1938	13
Essex	1:10,560	1938	14
Kent	1:10,560	1946 - 1951	15
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Gravesend	1:10,000	1977	20
Ordnance Survey Plan	1:10,000	1982	21
10K Raster Mapping	1:10,000	2006	22
VectorMap Local	1:10,000	2016	23

Russian Map - Slice A



Order Details

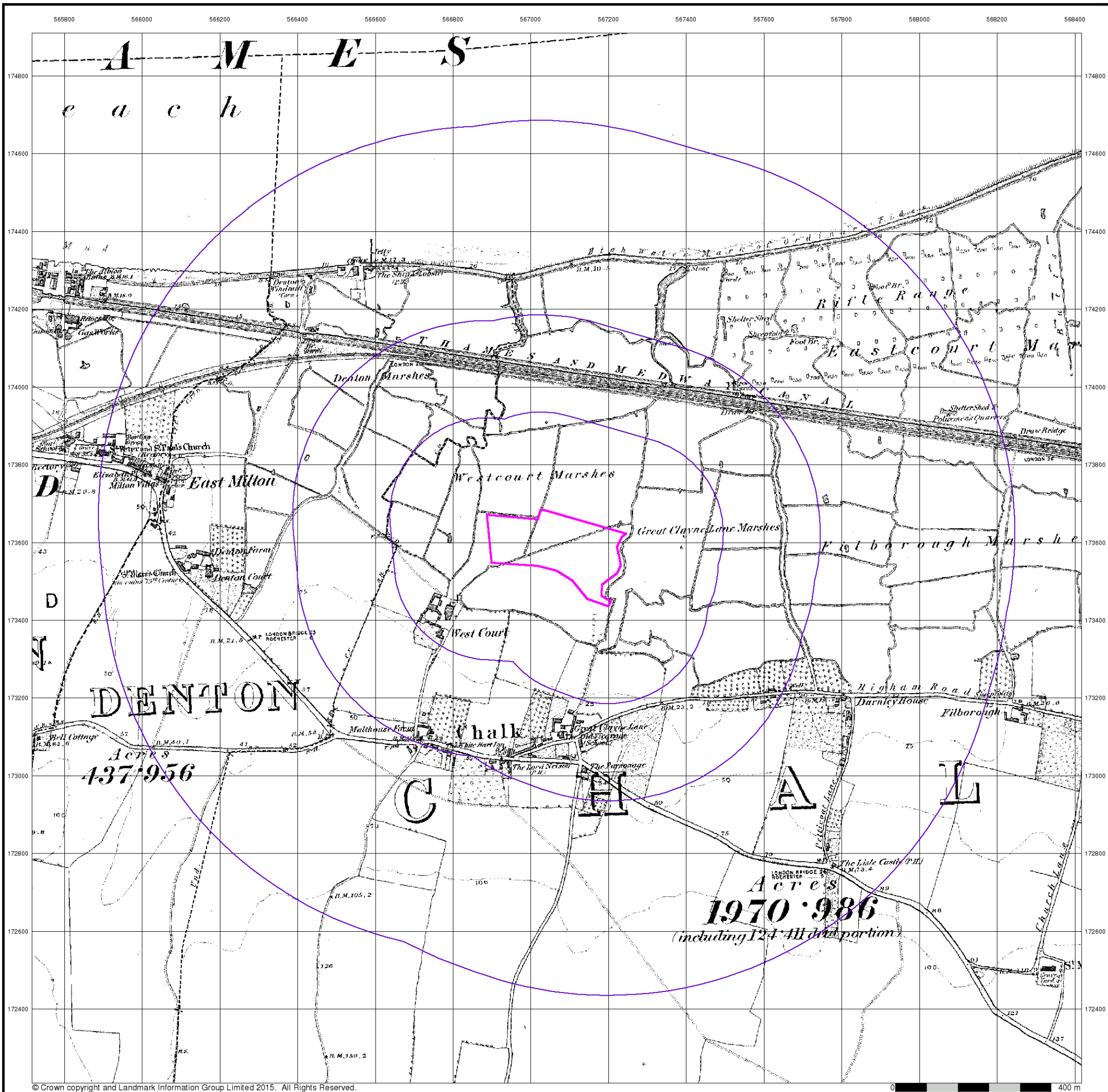
Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent

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Information Group

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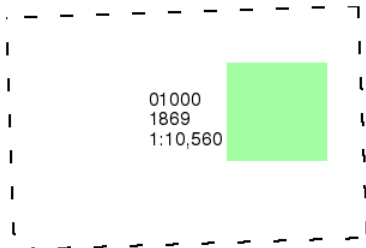
Geo-Environmental Kent

Published 1869

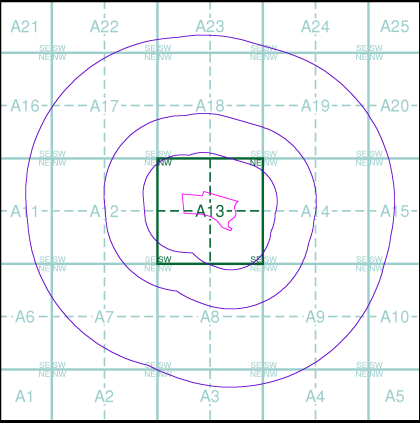
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

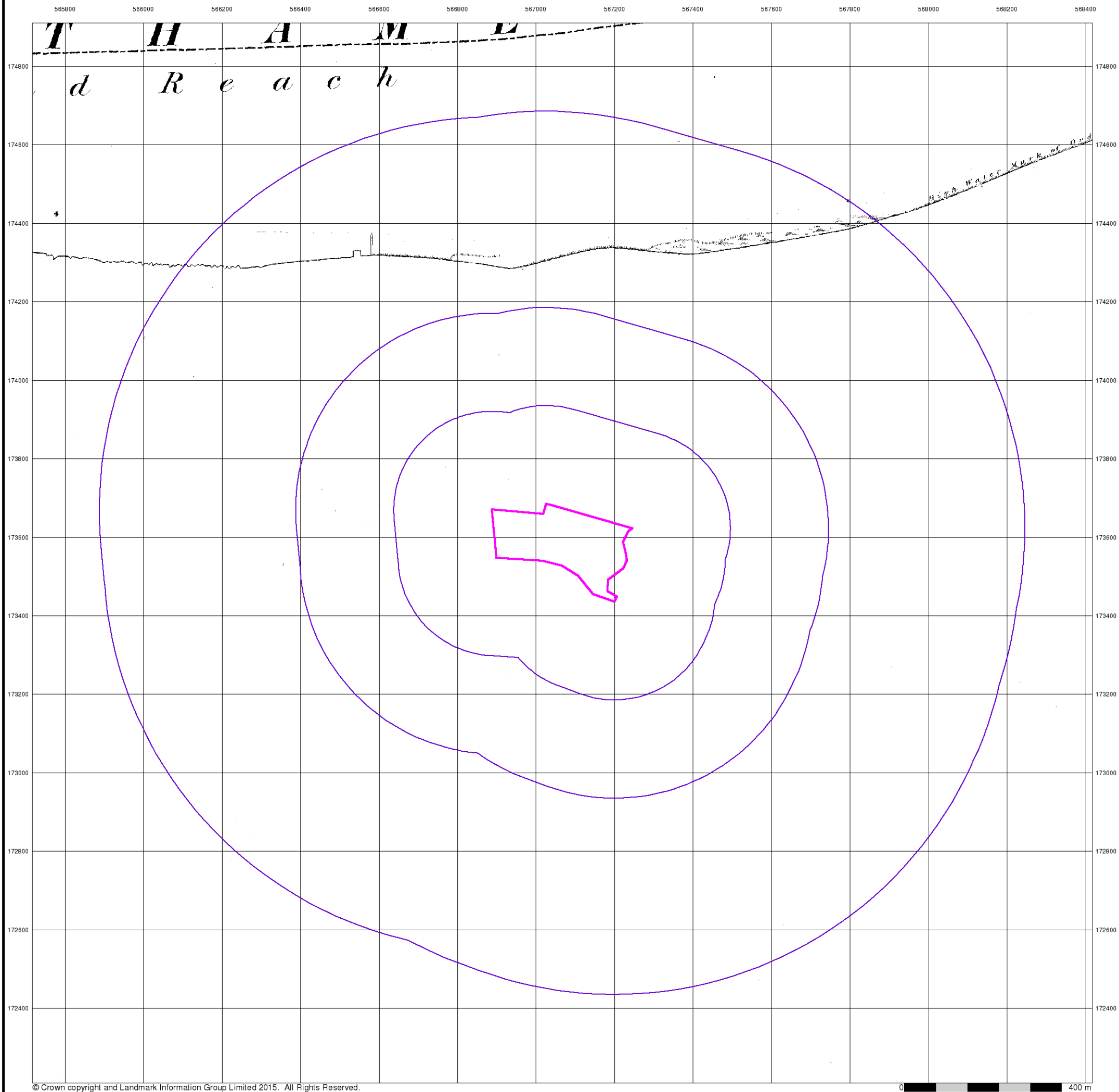
Order Number: 80691026_1_1
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0 400 m



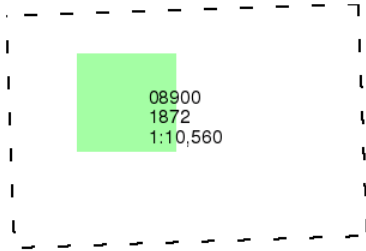
Geo-Environmental Essex

Published 1872

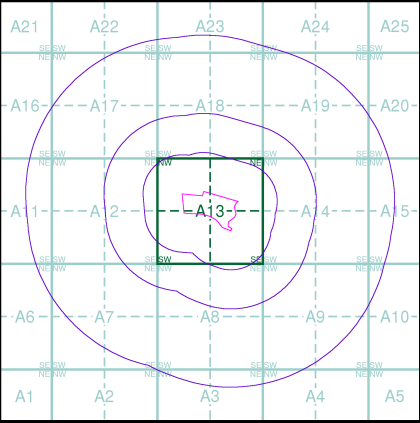
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

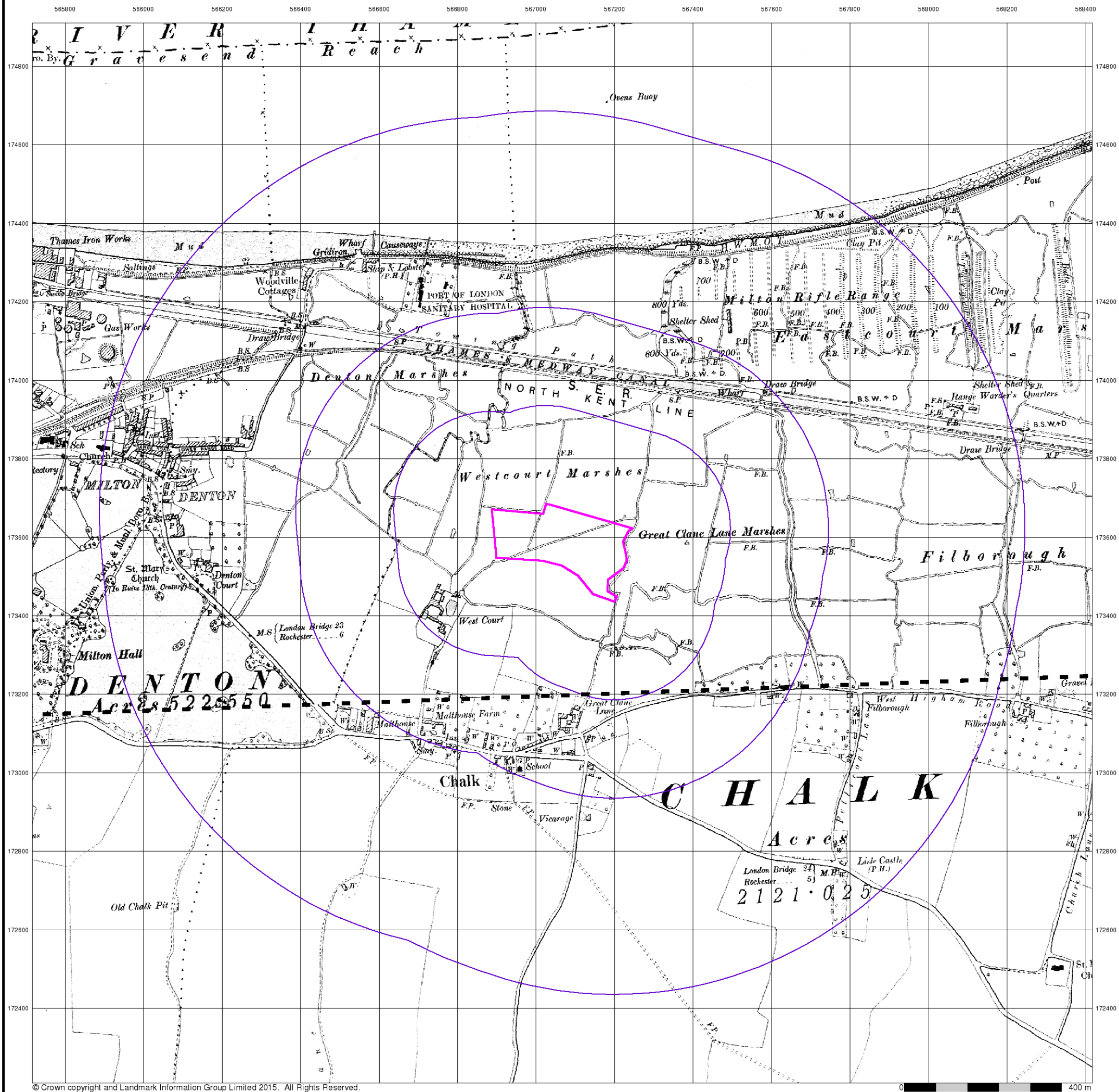
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Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

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Geo-Environmental Kent

Published 1898 - 1899

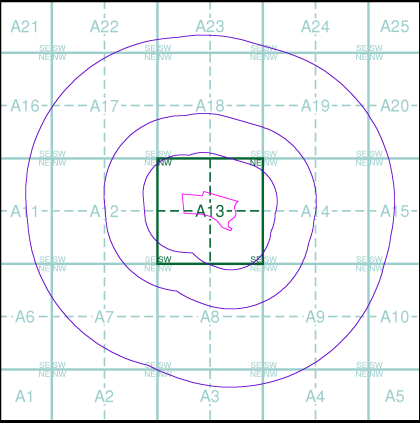
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps.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

Map Name(s) and Date(s)

010NE
1899
1:10,560
010SE
1898
1:10,560

Historical Map - Slice A



Order Details

Order Number:	80691026_1_1
Customer Ref:	GE15338
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Slice:	A
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Search Buffer (m):	1000

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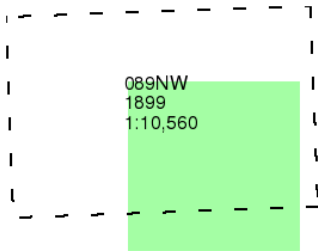
Geo-Environmental Essex

Published 1899

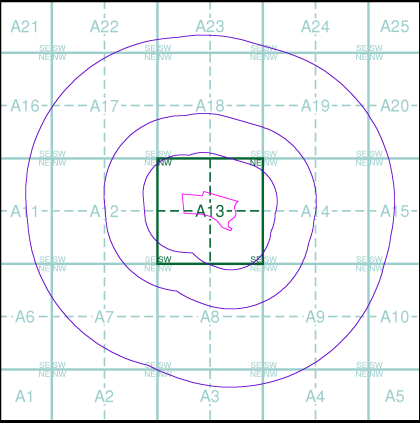
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps.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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

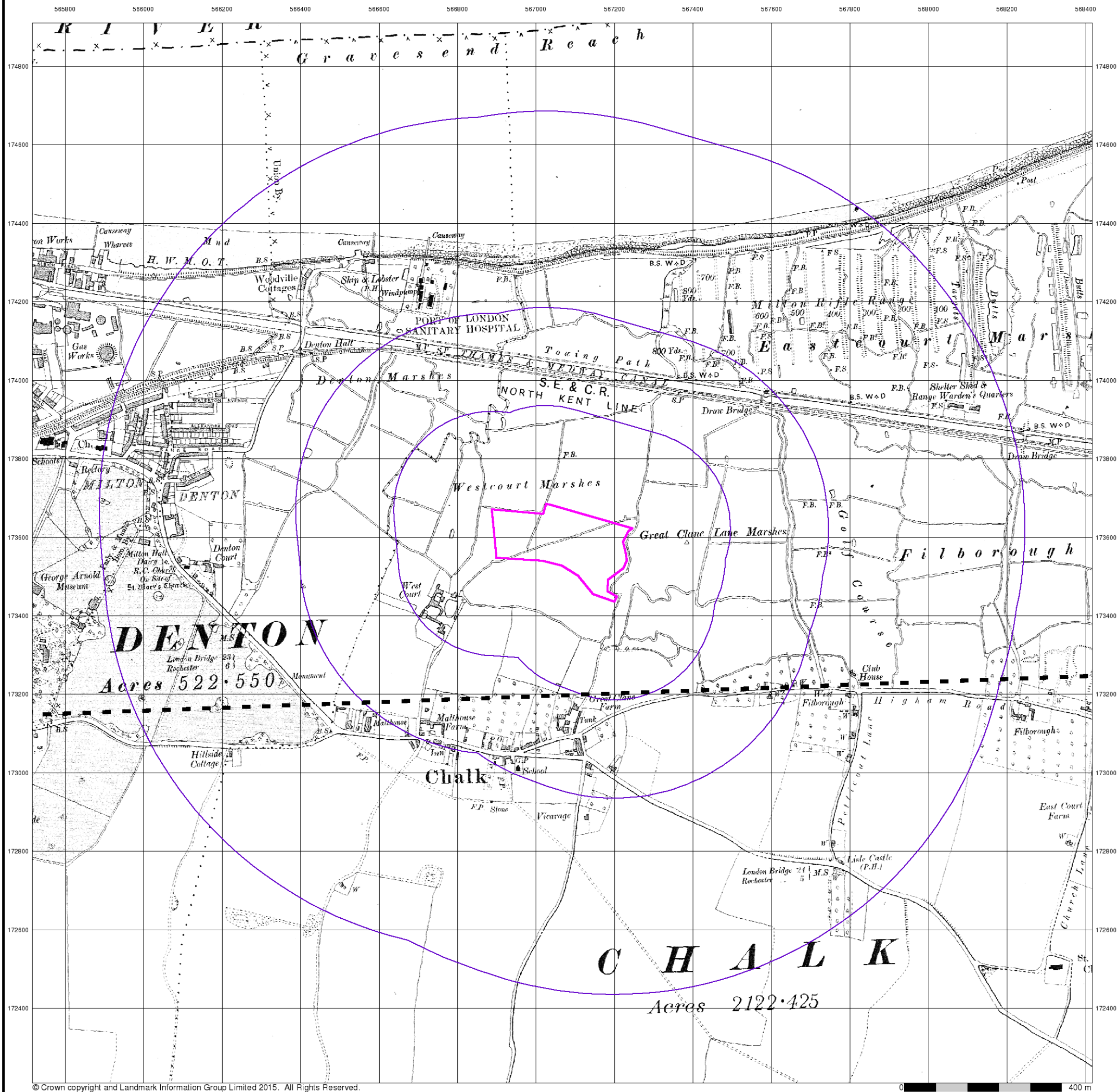
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Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

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Geo-Environmental Kent

Published 1909

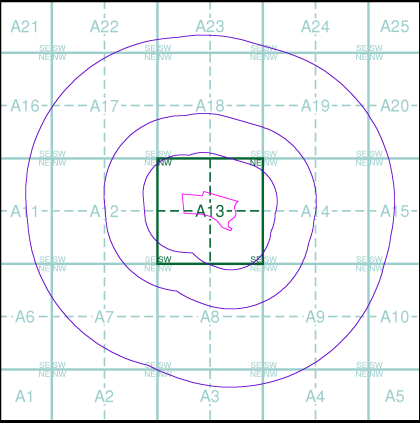
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

010NE
1909
1:10,560
010SE
1909
1:10,560

Historical Map - Slice A



Order Details

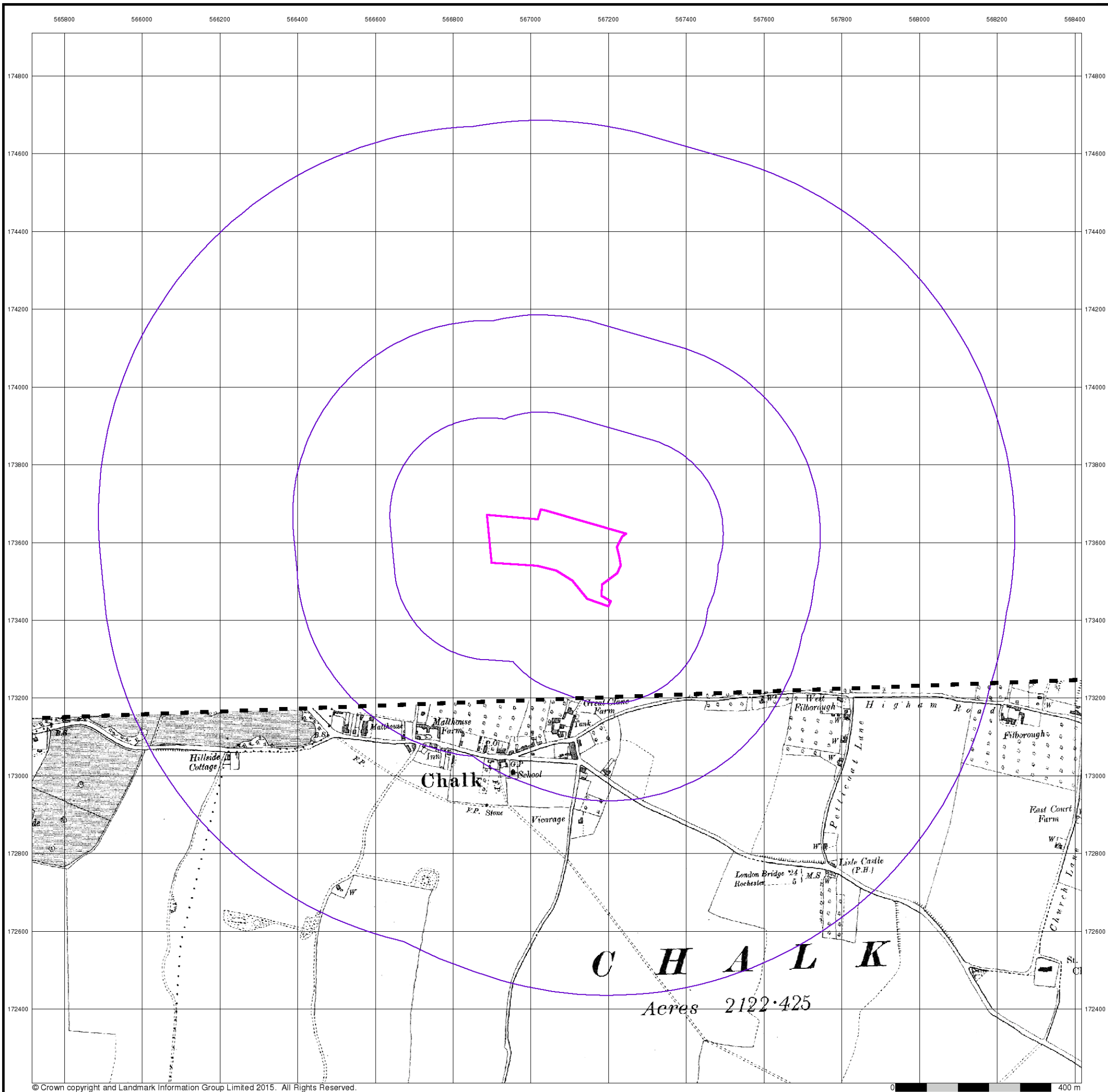
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Customer Ref:	GE15338
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Slice:	A
Site Area (Ha):	4.87
Search Buffer (m):	1000

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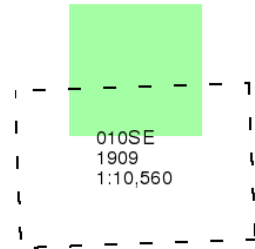
Geo-Environmental Kent

Published 1909

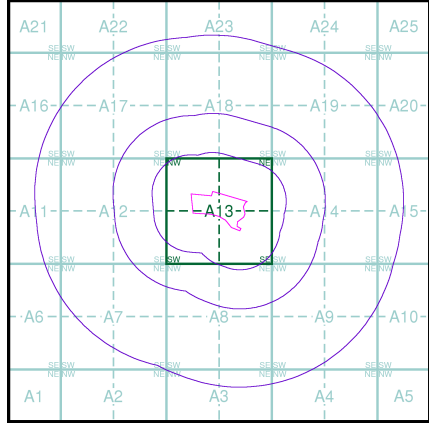
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

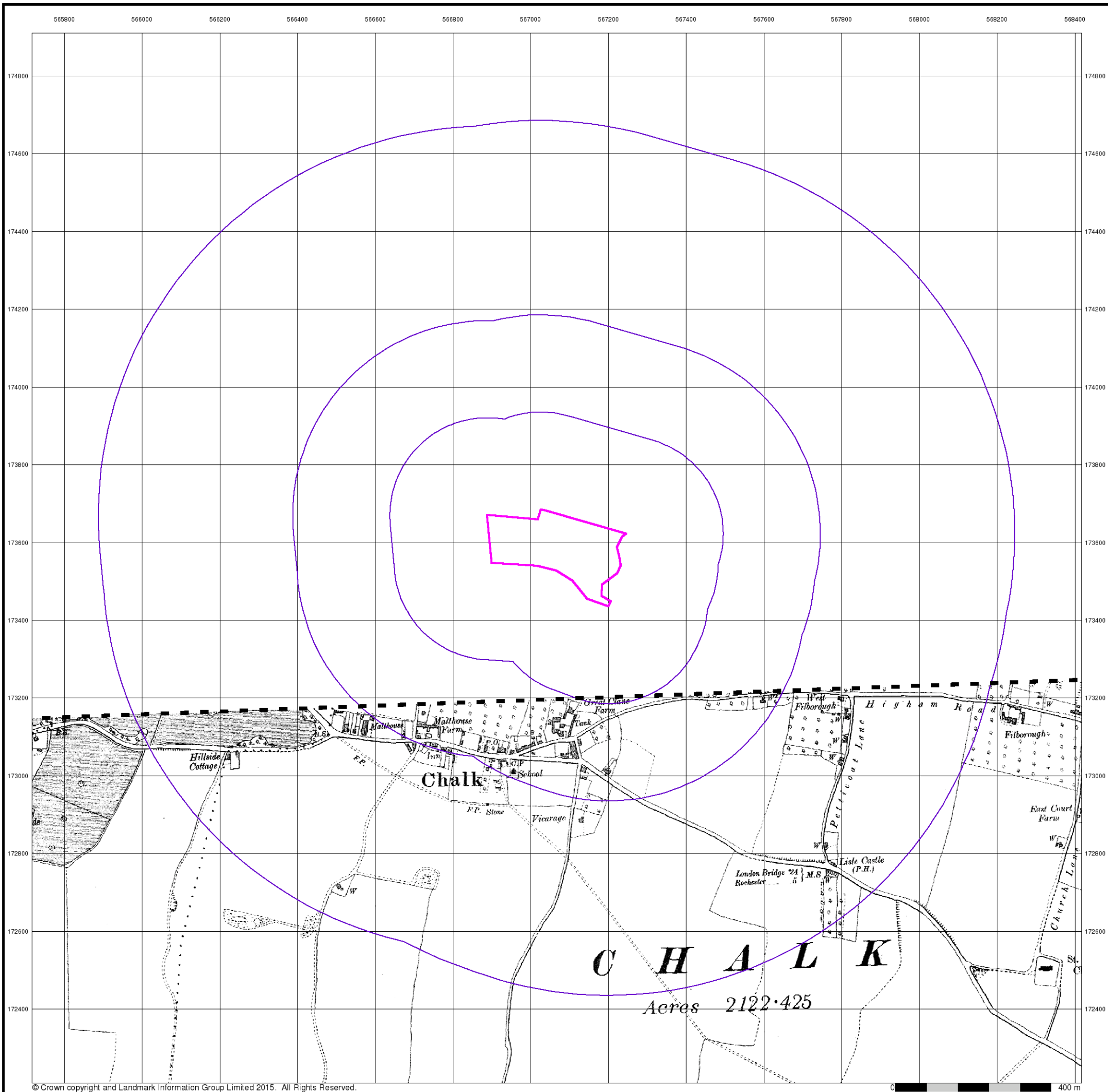
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Site Area (Ha): 4.87
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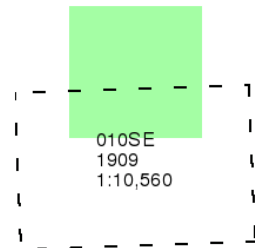
**Geo-Environmental
Kent**

Published 1909

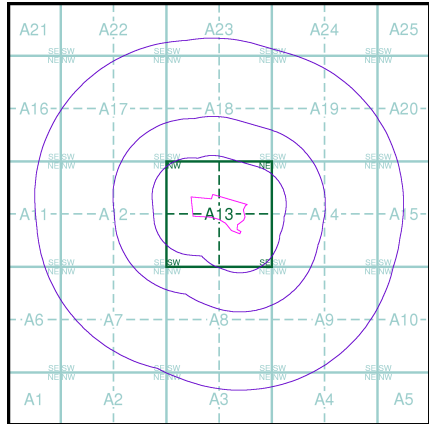
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
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Site Details

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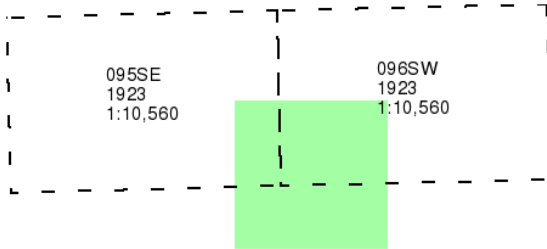
Geo-Environmental Essex

Published 1923

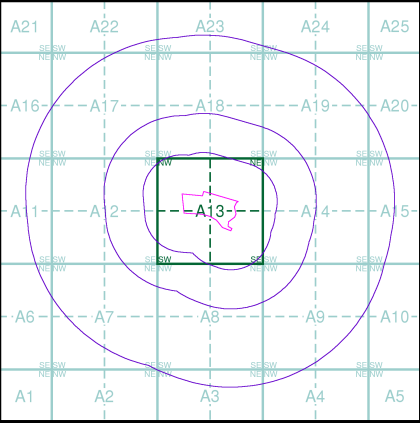
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

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Geo-Environmental Kent

Published 1932

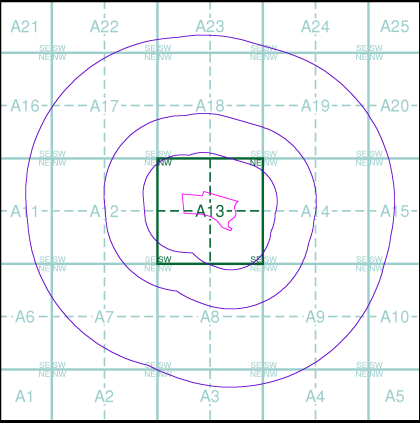
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

010NE
1932
1:10,560
010SE
1932
1:10,560

Historical Map - Slice A



Order Details

Order Number:	80691026_1_1
Customer Ref:	GE15338
National Grid Reference:	567070, 173570
Slice:	A
Site Area (Ha):	4.87
Search Buffer (m):	1000

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Geo-Environmental Kent

Published 1938

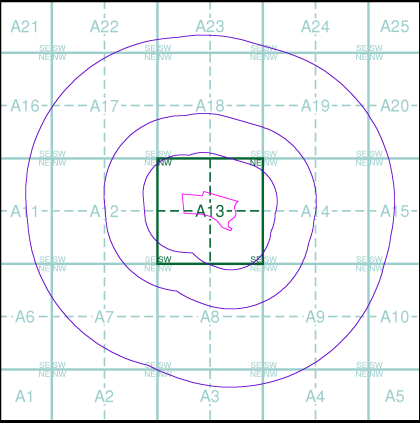
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

010NE
1938
1:10,560
010SE
1938
1:10,560

Historical Map - Slice A



Order Details

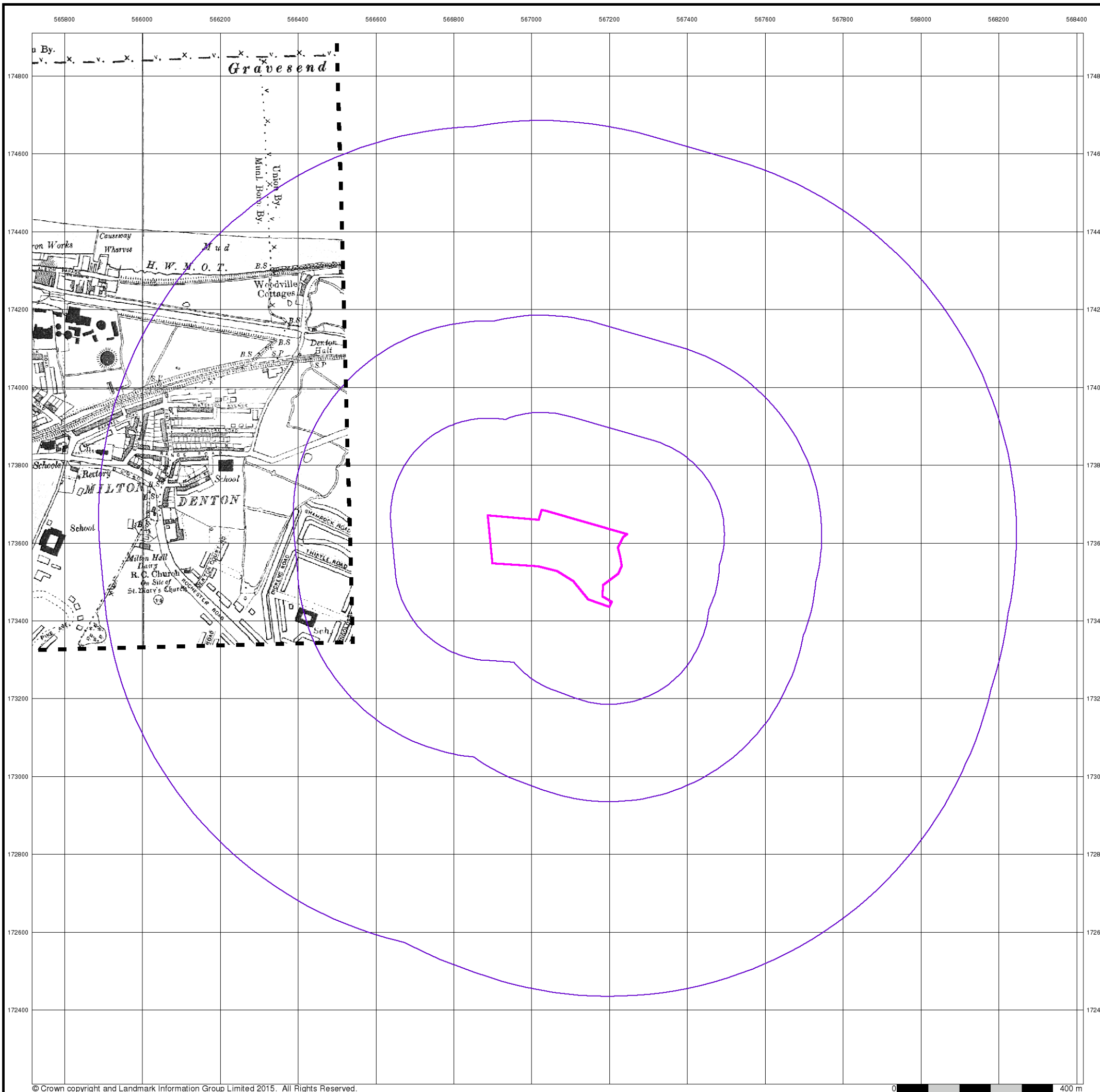
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Site Details

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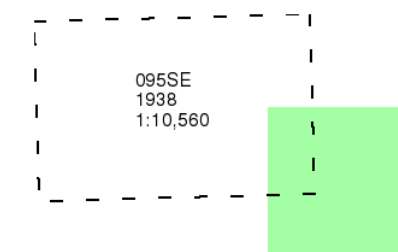
Geo-Environmental Essex

Published 1938

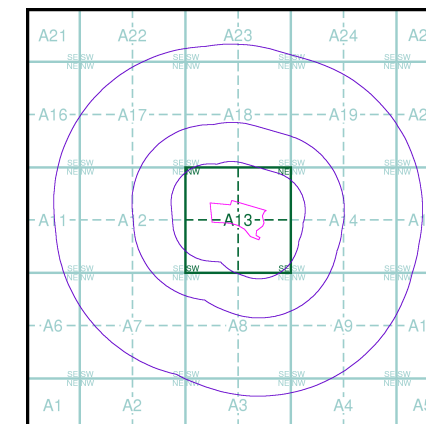
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps.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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

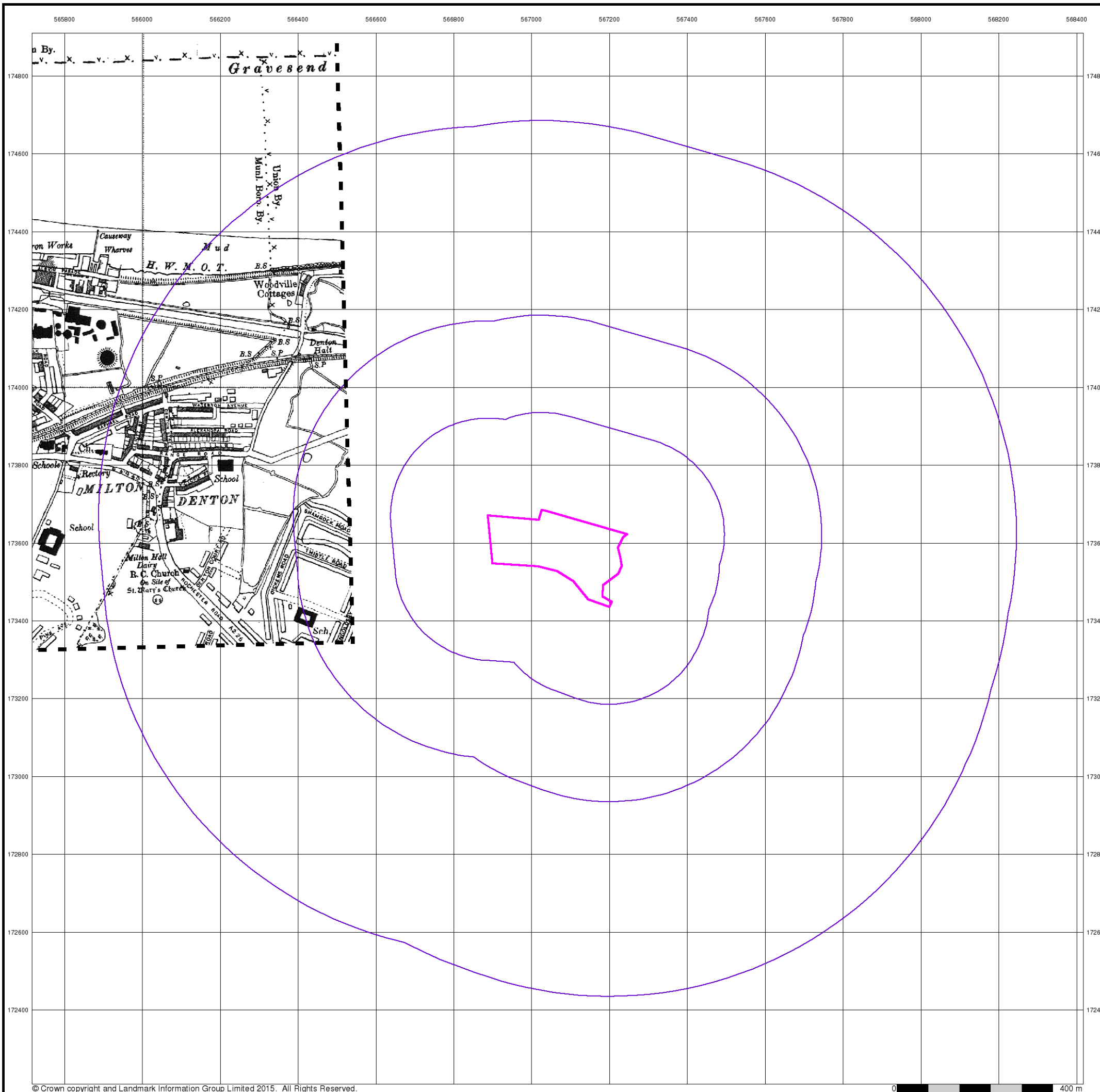
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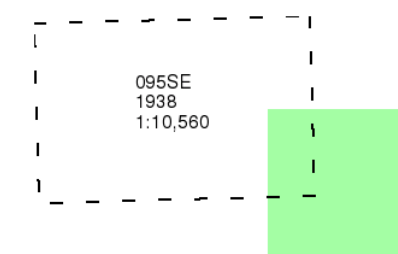
Geo-Environmental Essex

Published 1938

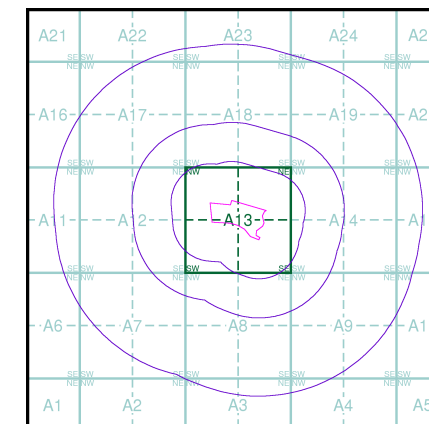
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

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Geo-Environmental Kent

Published 1946 - 1951

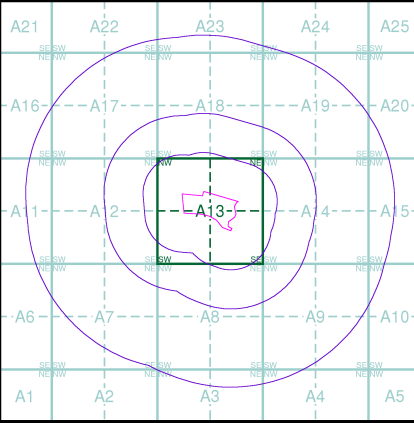
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Map Name(s) and Date(s)

010NE	1951
1:10,560	
010SE	1946
1:10,560	

Historical Map - Slice A



Order Details

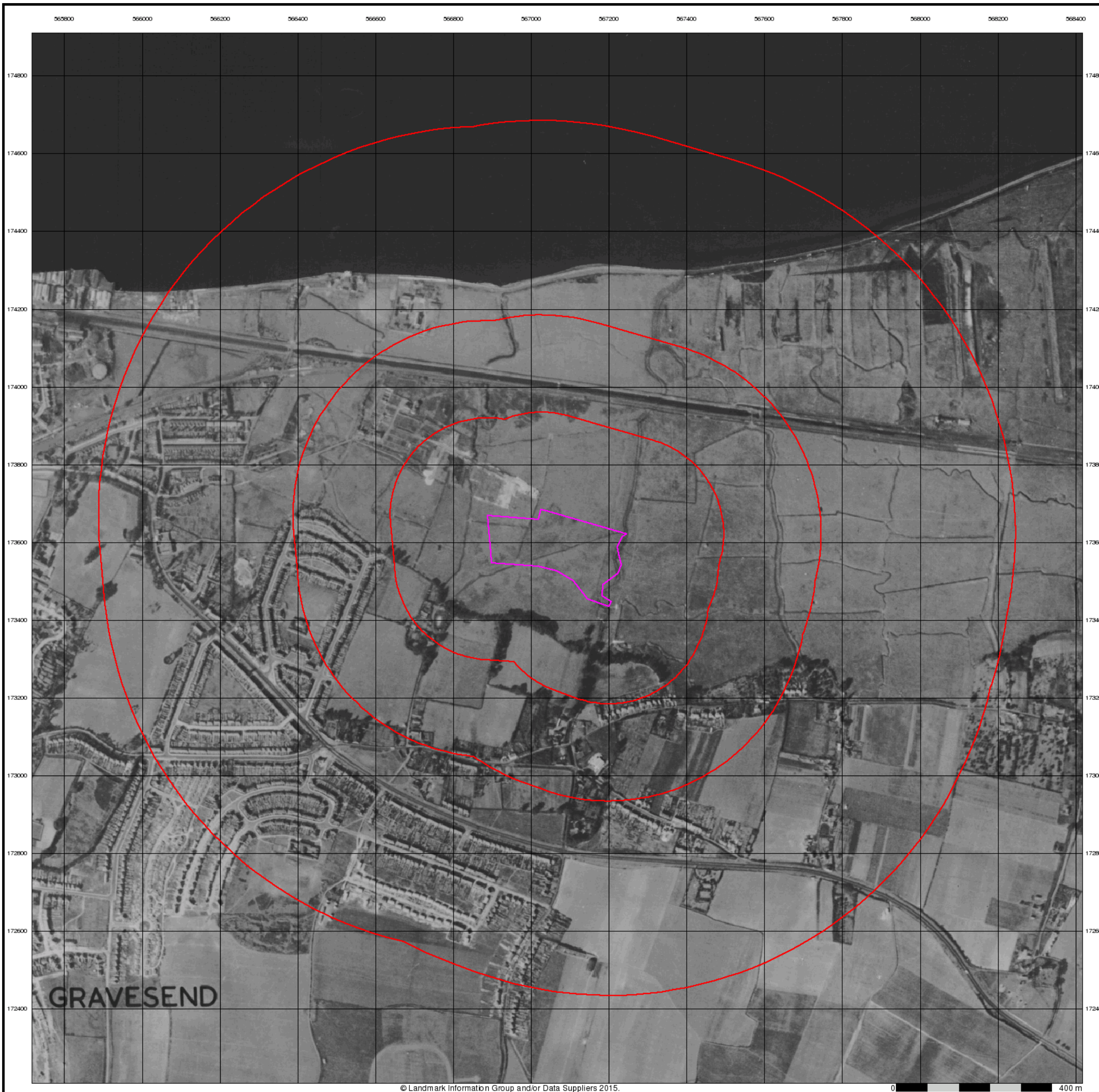
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0 400 m



Geo-Environmental Historical Aerial Photography

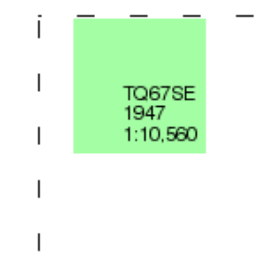
Published 1947

Source map scale - 1:10,560

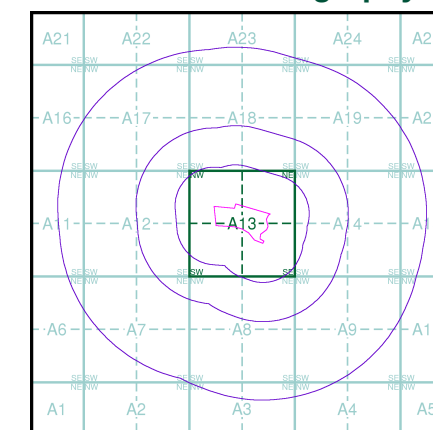
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



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Order Details

Order Number: 80691026_1_1
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National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

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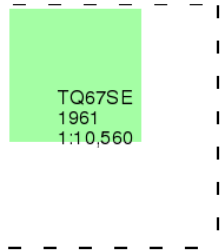
Geo-Environmental Ordnance Survey Plan

Published 1961

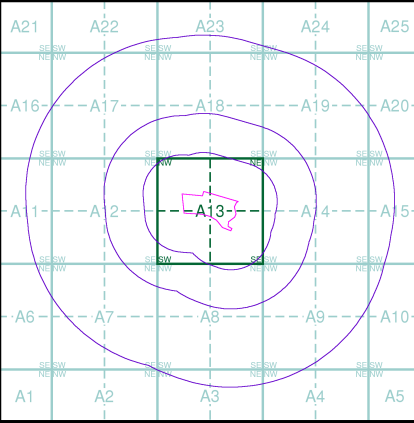
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

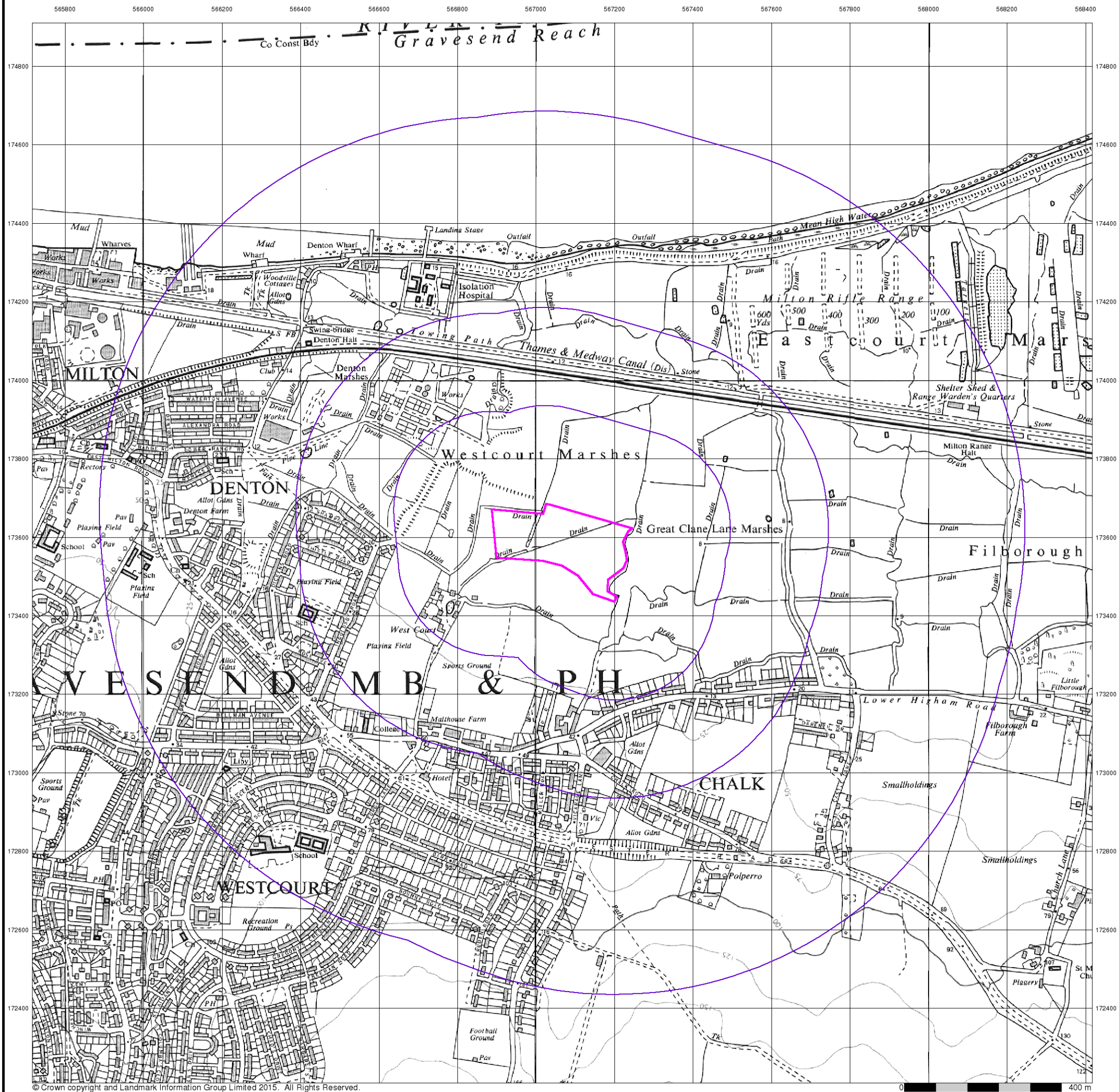
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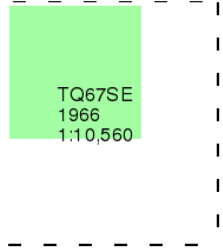
Geo-Environmental Ordnance Survey Plan

Published 1966

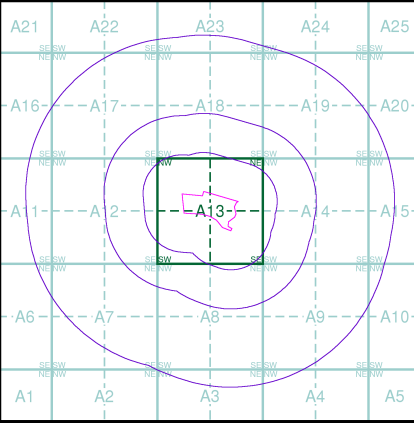
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

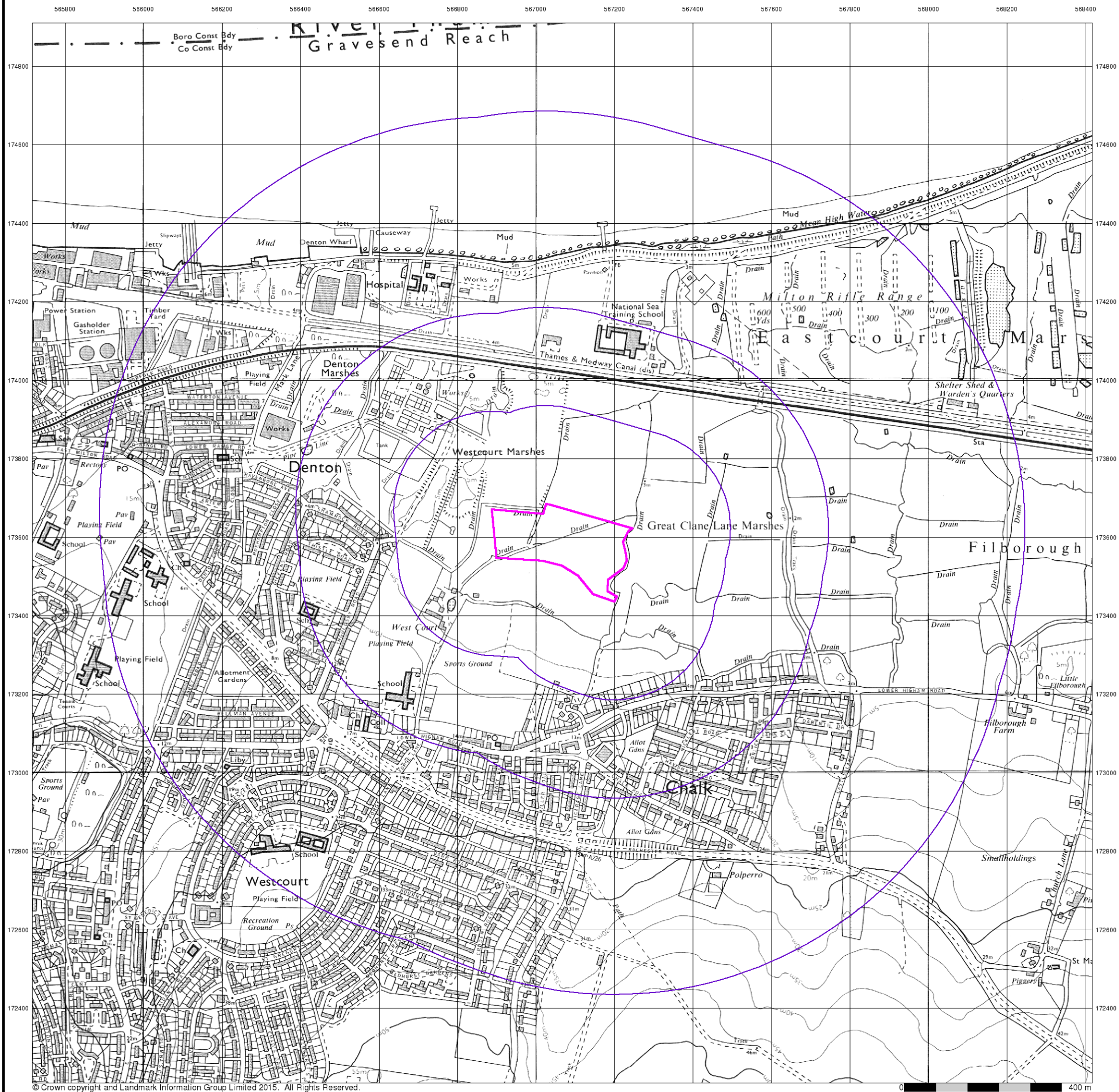
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Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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



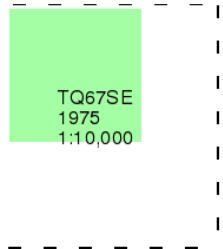
Geo-Environmental Ordnance Survey Plan

Published 1975

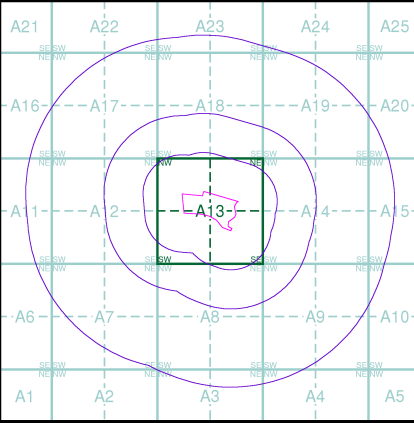
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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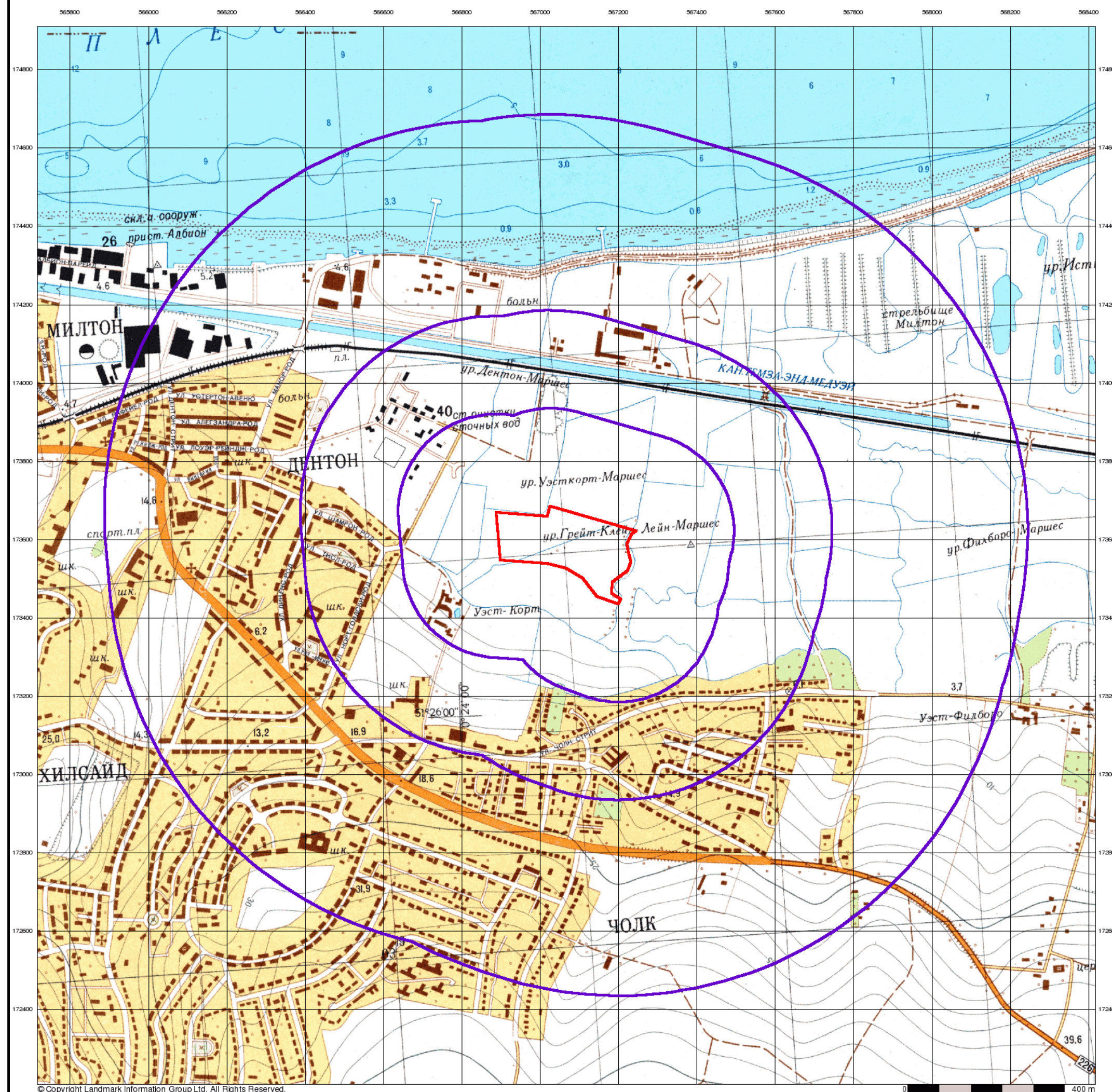
They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

TQ67SE
1977
1:10,000



Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
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Site at, Gravesend, Kent





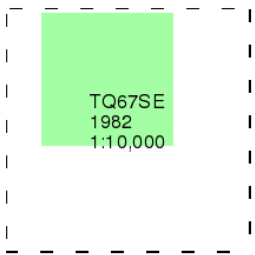
Geo-Environmental Ordnance Survey Plan

Published 1982

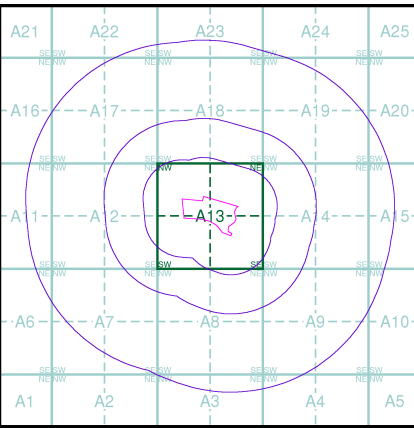
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 80691026_1_1
Customer Ref: GE15338
National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



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Fax: 0844 844 9951
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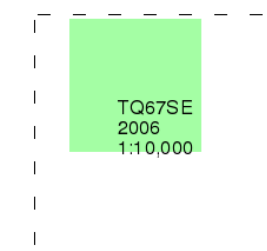
Geo-Environmental 10k Raster Mapping

Published 2006

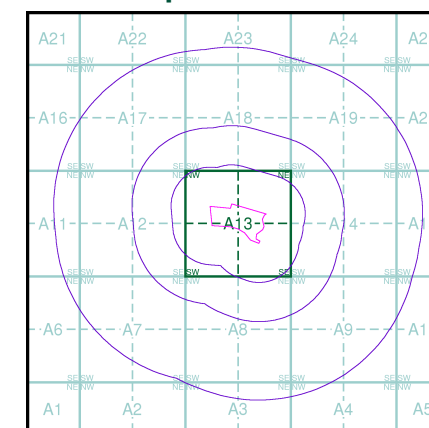
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

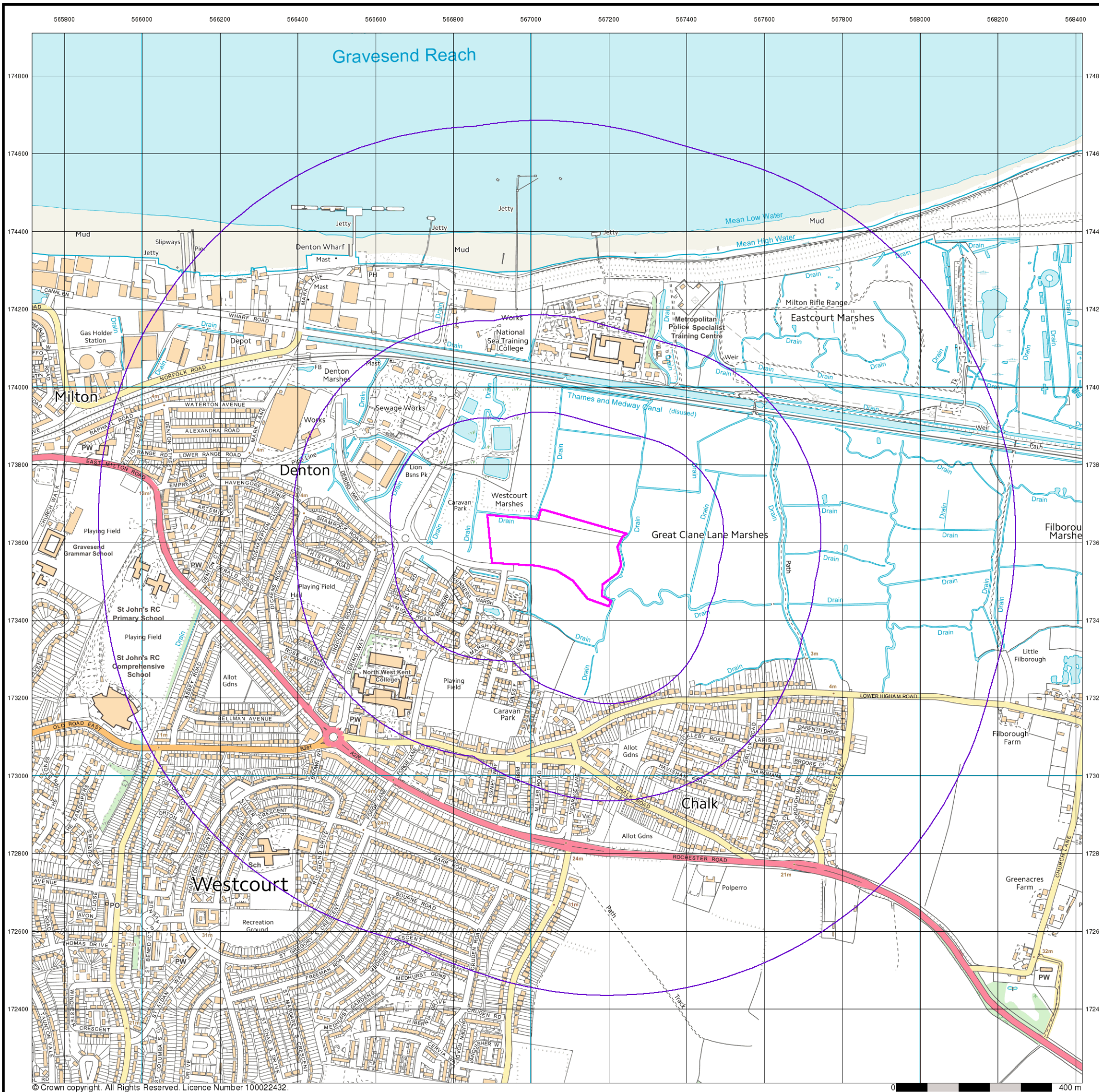
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Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



Tel: 0844 844 9952
Fax: 0844 844 9951
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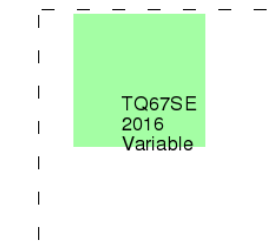
Geo-Environmental VectorMap Local

Published 2016

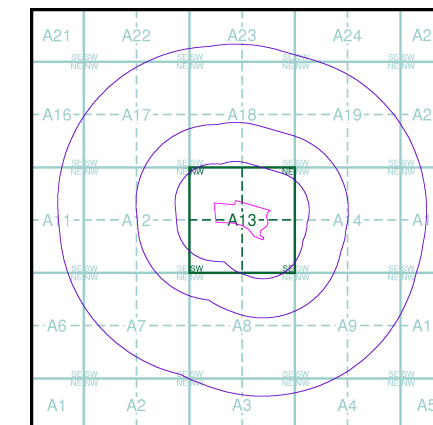
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

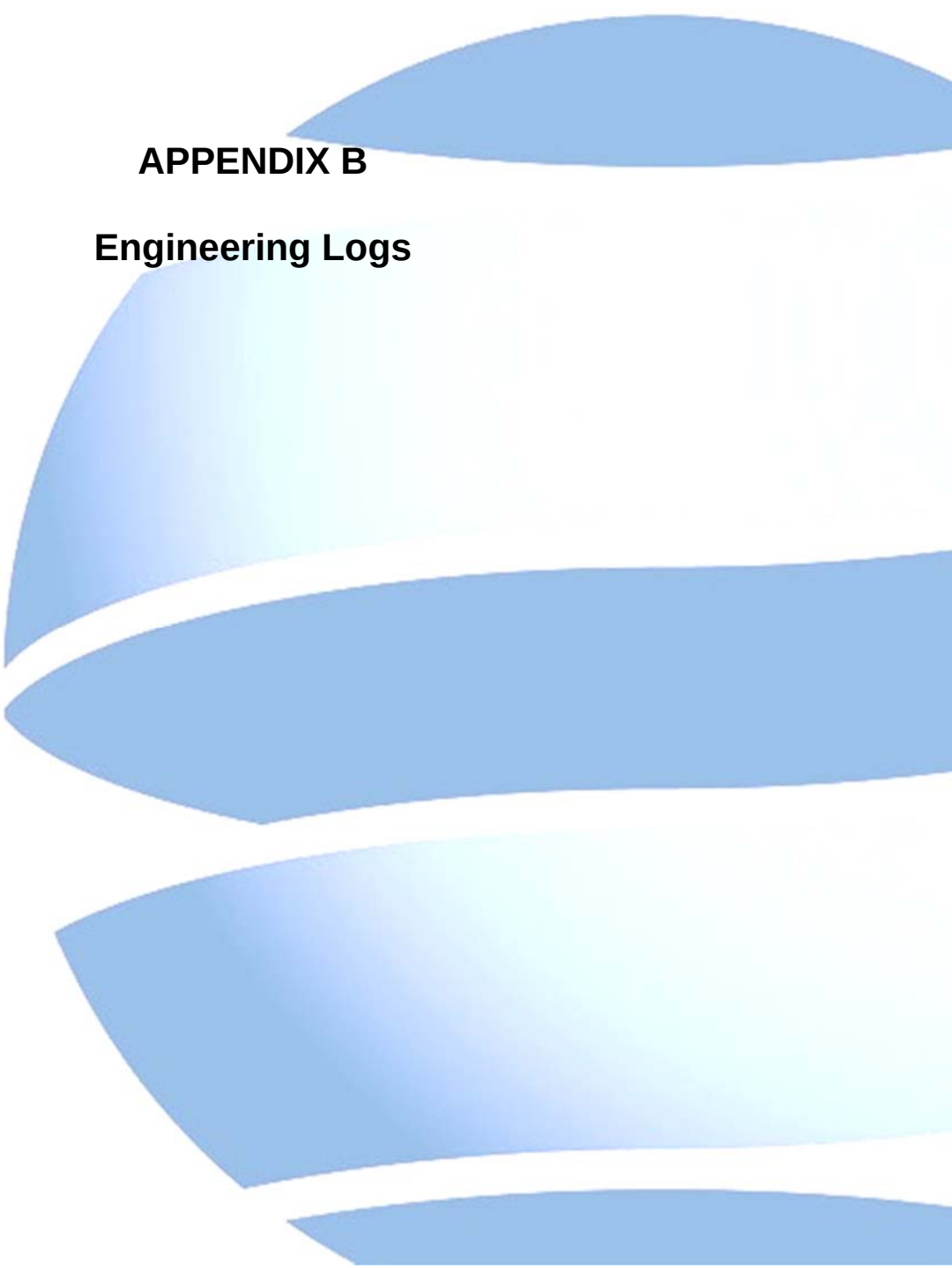
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National Grid Reference: 567070, 173570
Slice: A
Site Area (Ha): 4.87
Search Buffer (m): 1000

Site Details

Site at, Gravesend, Kent



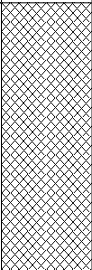
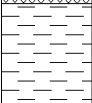
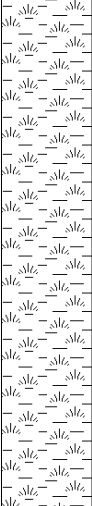
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



APPENDIX B

Engineering Logs

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log			Borehole No. BH1 Sheet 1 of 4	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 567057E - 173547N		Hole Type CP
Location: Gravesend, Kent				Level:		Scale 1:50
Client: Riverdale Developments				Dates: 22/02/2016		Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	D	N=11 (2,2/2,4,3,2)	1.80		 Grass overlying brown and off-white silty reworked chalk. MADE GROUND	1	
		1.50 1.50 - 1.95	S D						
		2.30	D						
		3.00 - 3.45	U	Ublow=25	3.00		 Firm dark grey CLAY. ALLUVIUM	3	
		3.50	D						
		4.50 4.50 - 4.95	S D						
		5.50	D	Ublow=15	6.70		 Very soft grey and orange brown mottled CLAY with occasional peat bands. ALLUVIUM	4	
		6.00 - 6.45	U						
		6.50 6.70	D D						
		7.50 7.50 - 7.95	S D	N=3 (1,0/1,1,0,1)	8.50		 Brown PEAT. ALLUVIUM	7	
		8.50	D						
		9.00 - 9.45	U						
		9.50 9.70	D D	Ublow=20	9.30		 Very soft amourfous PEAT. ALLUVIUM	9	
		9.50	D						
		9.70	D						
							 Very soft light grey slightly sandy CLAY. ALLUVIUM	10	
						 Flint COBBLES. ALLUVIUM			
Continued on Next Sheet									

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
150	10.00	16.80	10.10			Standing time and day works 14.5 hours. Four mobilisations. Groundwater at 16.8m bgl, rose to 10.10m bgl after 20 minutes, standing at 5m the following day	
200	12.00						
150	32.00						



www.gesl.net

Borehole Log

Borehole No.

BH1

Sheet 2 of 4

Project Name:	Land Off Dalefield Way, Gravesend
---------------	--------------------------------------

Project No.
Ge15338

Co-ords: 567057E - 173547N

Hole Type
CP

Location: Gravesend, Kent

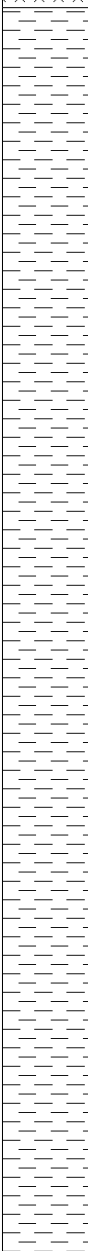
Level:

Scale
1:50

Client: Riverdale Developments

Dates: 22/02/2016

Logged By
AP

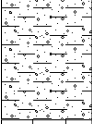
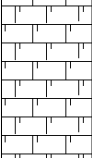
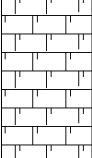
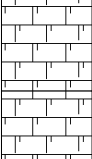
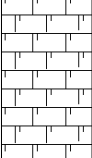
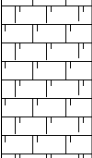
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.20	D	N=17 (2,1/2,4,4,7)	10.20			Loose blue grey SILT with flint cobbles. ALLUVIUM	11
		10.50	C						
		10.50 - 10.95	D						
		10.50 - 11.00	B						
		11.10	D		11.10		Soft light brown and blue grey mottled SILT. ALLUVIUM		
		11.50	D	11.50					
		12.00 - 12.45	U	Ublow=35		Soft to firm brown and grey mottled CLAY. ALLUVIUM	12		
		12.50	D					...becoming firm blue grey clay from 12.30m bgl.	13
		13.50	S	N=10 (1,2/2,2,3,3)					
		13.50 - 13.95	D						
		14.50	D		15				
		15.00 - 15.45	U	Ublow=40		...becoming grey silty clay from 15.30m bgl.	16		
		15.50	D						
		16.50	S	N=17 (1,2/3,4,4,6)			17		
		16.50 - 16.95	D						
		17.50	D		18				
		18.00 - 18.45	U	Ublow=25		19			
18.00 - 18.50	B								
18.50 - 18.95	U	Ublow=25	20						
19.50	S	N=26 (1,3/4,5,7,10)				Firm green grey mottled sandy CLAY with fine chalk			
19.50 - 19.95	D		19.80						
Continued on Next Sheet									

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to	
150	10.00	16.80	10.10			
200	12.00					
150	32.00					

Standing time and day works 14.5 hours. Four mobilisations. Groundwater at 16.8m bgl, rose to 10.10m bgl after 20 minutes, standing at 5m the following day



 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. BH1 Sheet 3 of 4	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 567057E - 173547N		Hole Type CP	
Location: Gravesend, Kent				Level:		Scale 1:50	
Client: Riverdale Developments				Dates: 22/02/2016		Logged By AP	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		20.50	D	N=9 (2,3/2,2,2,3)	20.80		fragments and flint gravel. ALLUVIUM	21		
		20.80	D							
		21.00	S							
		21.00 - 21.45	D							
		22.00	D	N=10 (1,3/2,3,2,3)	23.50			Recovered as structureless Chalk composed of sub-angular to rounded gravel. Clasts are very weak, low and medium density and off-white. Matrix is pale brown with occasional fine to coarse flint gravel. CHALK	22	
		22.50	S							
		22.50 - 22.95	D							
		23.50	D							
		24.00	S	N=31 (2,3/5,7,8,11)	24.00 - 24.45				Recovered as off-white weak, medium density CHALK infilled with off-white comminuted chalk and occasional fine to coarse flint gravel. CHALK	24
		24.00 - 24.45	D							
		25.00	D							
		25.50	S							
25.50 - 25.95	D	N=30 (2,4/6,6,8,10)	26.50		...with occasional fine to coarse flint gravel to 30.00m bgl.	25				
26.50	D									
27.00	S									
27.00 - 27.45	D									
28.50	S	N=44 (6,8/10,11,10,13)	28.50 - 28.95				26			
28.50 - 28.95	D									
29.00	S									
29.00 - 29.45	D									
30.00	S	N=40 (5,6/8,10,10,12)	30.00 - 30.45					27		
30.00 - 30.45	D									
30.50	S									
30.50 - 30.95	D									
									Continued on Next Sheet	30

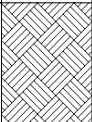
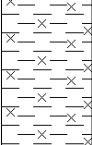
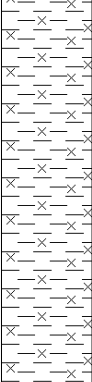
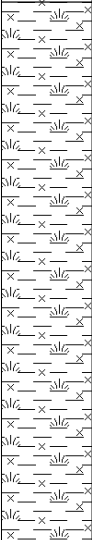
Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
150	10.00	16.80	10.10			Standing time and day works 14.5 hours. Four mobilisations. Groundwater at 16.8m bgl, rose to 10.10m bgl after 20 minutes, standing at 5m the following day	
200	12.00						
150	32.00						

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. BH1 Sheet 4 of 4	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 567057E - 173547N		Hole Type CP	
Location: Gravesend, Kent				Level:		Scale 1:50	
Client: Riverdale Developments				Dates: 22/02/2016		Logged By AP	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		31.50 31.50 - 31.95	S D	N=38 (4,6/9,8,10,11)	36.45				31
		33.00 33.00 - 33.45	S D	N=27 (4,5/6,6,6,9)		32			
		34.50 34.50 - 34.95	S D	N=34 (5,6/6,7,9,12)		33			
		36.00 36.00 - 36.45	S D	N=37 (4,6/7,9,9,12)		34			
									35
									36
									37
									38
									39
									40

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks Standing time and day works 14.5 hours. Four mobilisations. Groundwater at 16.8m bgl, rose to 10.10m bgl after 20 minutes, standing at 5m the following day	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
150	10.00	16.80	10.10				
200	12.00						

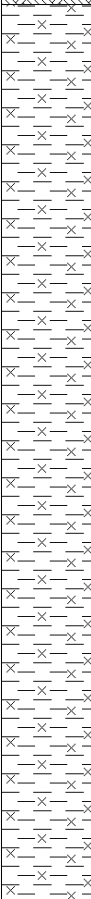
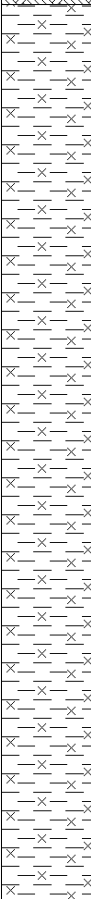
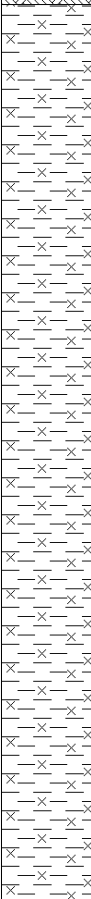
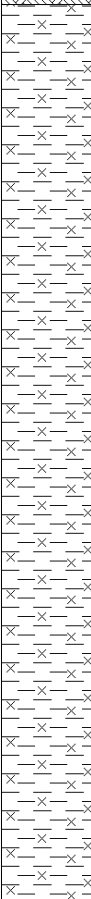
 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. WS1 Sheet 1 of 1	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 67135E - 73458N		Hole Type WS	
Location: Gravesend, Kent				Level:		Scale 1:25	
Client: Riverdale Developments				Dates: 22/02/2016		Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	PP	1.2kg/cm2	0.40		Dark brown silty clay with rootlets and occasional fine to medium subangular to angular flint gravels. TOPSOIL	1 2 3 4 5	
		0.30	D						
		0.50	D	2.8kg/cm2	0.90		Dark greyish brown soft silty CLAY. ALLUVIUM		
		1.00	D						
		1.00	PP						
		1.50	D						
		2.00	D	0.4kg/cm2	2.20		High to low strength light orangish grey soft silty CLAY. ALLUVIUM		
		2.00	PP						
		2.50	D	0.2kg/cm2	3.00		Extremely low strength light grey very softy silty CLAY with peat. ALLUVIUM		
		3.00	D						
		3.00	PP						
		3.50	D						
4.00	D	0.0kg/cm2	4.00		End of Borehole at 4.00m				
4.00	PP								

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
		0.50	0.50				

Ground water depth 0.5m bgl

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. WS2 Sheet 1 of 1	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 67119E - 73535N		Hole Type WS	
Location: Gravesend, Kent				Level:		Scale 1:25	
Client: Riverdale Developments				Dates: 22/02/2016		Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	PP	1.4kg/cm2	0.30		Dark brown silty clay with rootlets. TOPSOIL		
		0.30	D						
		0.50	D						
		0.80	PP	0.8kg/cm2			Low to extremely low strength light orangish grey soft to very soft silty CLAY. ALLUVIUM		
		1.00	D						
		1.50	D						
		1.50	PP	0.7kg/cm2					
		2.00	D						
		2.50	D						
		2.50	PP	0.0kg/cm2					
		3.00	D						
		3.50	D						
4.00	D		3.30		Extremely low strength dark blueish grey very soft silty CLAY with peat. ALLUVIUM				
4.00	PP	0.0kg/cm2							
				4.00		End of Borehole at 4.00m		4	
								5	

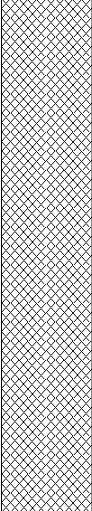
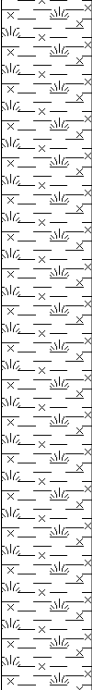
Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
		0.55	0.50			Ground water depth 0.55m bgl	

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. WS3 Sheet 1 of 1	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 67188E - 73605N		Hole Type WS	
Location: Gravesend, Kent				Level:		Scale 1:25	
Client: Riverdale Developments				Dates: 22/02/2016		Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
	▼	0.20	PP	1.2kg/cm2	0.30			Dark brown silty clay with rootlets. TOPSOIL		
		0.30	D							Low strength dark brown soft silty CLAY. ALLUVIUM
		0.50	D							
		0.80	PP	0.8kg/cm2	0.80			Low to extremely low strength dark orange mottled brown soft silty CLAY with peat. ALLUVIUM		
		1.00	D							
		1.50	D							
		1.50	PP	0.8kg/cm2						
		2.00	D							
		2.50	D							
		2.50	PP	0.0kg/cm2						
		3.00	D							
		3.50	D							
4.00	D		4.00							
4.00	PP	0.0kg/cm2								
							End of Borehole at 4.00m			

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks Ground water depth 0.73m bgl	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
		0.73	0.73				

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. WS4 Sheet 1 of 1	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 66913E - 73564N		Hole Type WS	
Location: Gravesend, Kent				Level:		Scale 1:25	
Client: Riverdale Developments				Dates: 23/02/2016		Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.20	PP	1.3kg/cm2				Dark greyish brown gravelly silty clay with frequent to abundant fragments of brick and rubble. Gravels were fine to medium angular to subangular chalk and flint. MADE GROUND		
		0.30	D							
		0.50	D							
		0.50	PP	1.6kg/cm2						
		1.00	D							
		1.00	PP	0.6kg/cm2						
		1.50	D							
		1.50	PP	0.0kg/cm2						
		2.00	D		1.70					
		2.50	D							
		3.00	D					Extremely low strength dark brownish grey soft silty CLAY with peat. ALLUVIUM		
		3.00	PP	0.0kg/cm2						
		3.50	D							
		4.00	D							
		4.00	PP	0.0kg/cm2	4.00					
							End of Borehole at 4.00m			

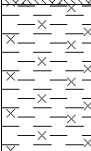
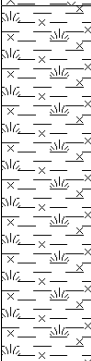
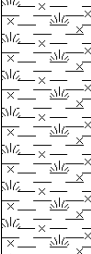
Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
		1.05	1.05			Ground water depth 1.05m bgl	

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. WS5 Sheet 1 of 1	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 66909E - 73672N		Hole Type WS	
Location: Gravesend, Kent				Level:		Scale 1:25	
Client: Riverdale Developments				Dates: 23/02/2016		Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	PP	1.8kg/cm2	0.30			Dark brown silty clay with rootlets. MADE GROUND	
		0.30	D						
		0.50	D		0.80			Medium strength dark greyish brown soft silty CLAY. ALLUVIUM	
		0.50	PP	1.5kg/cm2					
		1.00	D					Very low to extremely low strength dark bluish grey very soft silty CLAY with peat. ALLUVIUM	1
		1.50	D						
		1.50	PP	0.4kg/cm2					
		2.00	D						
		2.50	D						2
		2.50	PP	0.0kg/cm2					
		3.00	D						
		3.50	D						
		4.00	D		4.00				3
		4.00	PP	0.0kg/cm2					
								End of Borehole at 4.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to		
		0.50	0.50			Ground water depth 0.5m bgl	

 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net		Borehole Log				Borehole No. WS6 Sheet 1 of 1	
Project Name: Land Off Dalefield Way, Gravesend		Project No. Ge15338		Co-ords: 67004E - 73661N		Hole Type WS	
Location: Gravesend, Kent				Level:		Scale 1:25	
Client: Riverdale Developments				Dates: 23/02/2016		Logged By	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	PP	1.5kg/cm2	0.30		Dark brwo gravelly silty clay. Gravels were fine to medium angular to subangular chalk and flint. TOPSOIL		
		0.30	D						
		0.50	D						
		1.00	D		0.80		High to extremely low strength dark greyish brown soft silty CLAY. ALLUVIUM		
		1.00	PP	1.8kg/cm2					
		1.50	D						
		1.50	PP	3.0kg/cm2			Dark grey very soft silty CLAY with peat. ALLUVIUM		
		2.00	D						
		2.50	D						
		2.50	PP	0.2kg/cm2					
		3.00	D						
		3.50	D						
4.00	D		4.00						
4.00	PP	0.0kg/cm2							
End of Borehole at 4.00m									

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to	
		0.30	0.30			
						Ground water depth 0.3m bgl





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Borehole Log

Borehole No.

WS7

Sheet 1 of 1

Project Name:	Land Off Dalefield Way, Gravesend
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Project No.
Ge15338

Co-ords: 66989E - 73553N

Hole Type	WS
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Location: Gravesend, Kent

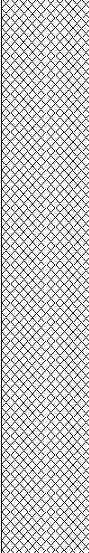
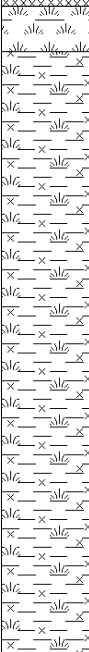
Level:

Scale
1:25

Client: Riverdale Developments

Dates: 23/02/2016

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	PP	1.5kg/cm2				Dark greyish brown gravelly silty clay with frequent to abundant fragments of brick and rubble. Gravels were fine to medium angular to subangular chalk and flint. MADE GROUND
		0.30	D					
		0.50	D					
		0.50	PP	2.2kg/cm2				
		1.00	D					
		1.20	PP	3.0kg/cm2				
		1.50	D					
		1.85						
		2.00	D					
		2.00	PP	0.8kg/cm2				
		2.50	D					
		3.00	D					
3.00	PP	0.0kg/cm2						
3.50	D							
4.00	D							
4.00	PP	0.0kg/cm2	4.00		Low to extremely low strength dark greyish black very soft clayey PEAT. ALLUVIUM Dark brownish grey very soft silty CLAY with peat. ALLUVIUM			
End of Borehole at 4.00m								

Casing		Water Strikes (mbgl)		Chiselling (mbgl)		Remarks
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to	
		2.05	2.05			

Ground water depth 2.05m bgl



Trial Pit Log

TrialPit No

TP1

Sheet 1 of 1

Project Name: Land Off Dalefield Way, Gravesend

Project No.
Ge15338

Co-ords: 66959.00 - 73624.00
Level:

Date
23/02/2016

Location: Gravesend, Kent

Dimensions
(m):

Scale
1:25

Client: Riverdale Developments

Depth
0.70

Logged
AP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES	PP=1.8kg/cm2	0.24		Grass overlying dark brown silty clay with roots and rootlets. TOPSOIL	
	0.20	PP				High Strength orange brown and grey mottled silty CLAY with fine roots. ALLUVIUM	
	0.50	D	PP=1.6kg/cm2	0.70		End of Pit at 0.70m	
	0.50	PP					
Water Strikes Depth Strike 0.60 None to (m) 0.55 Remarks Groundwater depth 0.60m bgl.							
Stability 							



Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP2

Sheet 1 of 1

Project Name: Land Off Dalefield Way, Gravesend

Project No.
Ge15338

Co-ords: 67098.00 - 73646.00
Level:

Date
23/02/2016

Location: Gravesend, Kent

Dimensions
(m):

Scale
1:25

Client: Riverdale Developments

Depth
0.50

Logged
AP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES					Grass overlying brown silty clay with roots and fine roots.	
	0.20	PP	PP=1.5kg/cm2	0.24			Medium to high strength brown silty CLAY with fine roots.	
	0.50	D					ALLUVIUM	
	0.50	PP	PP=3kg/cm2	0.50			End of Pit at 0.50m	
								1
								2
								3
								4
								5
Water Strikes								
Depth Strike	Rise to (m bgl)	Remarks						
0.45	0.40	Groundwater depth 0.45m bgl.						
		Stability						





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP3

Sheet 1 of 1

Project Name: Land Off Dalefield Way, Gravesend

Project No.
Ge15338

Co-ords: 67156.00 - 73626.00
Level:

Date
22/02/2016

Location: Gravesend, Kent

Dimensions
(m):

Scale
1:25

Client: Riverdale Developments

Depth
1.50

Logged
AP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
▼	0.20 0.20	ES PP	PP=1.5kg/cm2	0.50			Grass overlying dark brown silty clay with roots and rootlets. TOPSOIL	
	0.50 0.50	ES PP	PP=1.5kg/cm2				Grey CLAY with frequent black peat bands and frequent timber. MADE GROUND	
	1.00 1.00	ES PP	PP=0.5kg/cm2	1.50				1
	1.50 1.50	ES PP	PP=0kg/cm2				End of Pit at 1.50m	2
								3
								4
								5
Water Struck								
Depth Struck	Rose to (m bgl)							
0.20	0.20	Remarks Pit very unstable, Groundwater depth 0.20m bgl.						
		Stability						





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP4

Sheet 1 of 1

Project Name: Land Off Dalefield Way, Gravesend

Project No.
Ge15338

Co-ords: 67153.00 - 73526.00
Level:

Date
22/02/2016

Location: Gravesend, Kent

Dimensions
(m):



Scale
1:25

Client: Riverdale Developments

Depth
2.50

Logged
AP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20 0.20	ES PP	PP=1.5kg/cm2	0.55			Grass overlying dark brown silty clay with roots and rootlets. TOPSOIL	
	0.50 0.60	D PP	PP=1.5kg/cm2				High to extremely low strength light brown CLAY with frequent fine roots (to 1.80m) and occasional brown peat bands. ALLUVIUM	
	1.00 1.00	D PP	PP=0.8kg/cm2					
	1.50 1.50	D PP	PP=0.5kg/cm2					
	2.00 2.00	D PP	PP=0kg/cm2	2.50				2
	2.50 2.50	D PP	PP=0kg/cm2				End of Pit at 2.50m	
								3
								4
								5
Water Strike								
Depth Strike	Rose to (m/bgl)							
0.80	1.00	Remarks Pit very unstable, side of pit sheared at 2.50m bgl. Groundwater depth 0.80m bgl.						
		Stability						



 Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net				Trial Pit Log			TrialPit No TP5 Sheet 1 of 1		
Project Name: Land Off Dalefield Way, Gravesend				Project No. Ge15338		Co-ords: 67103.00 - 73592.00 Level:		Date 23/02/2016	
Location: Gravesend, Kent						Dimensions (m):		Scale 1:25	
Client: Riverdale Developments						Depth 0.50		Logged AP	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
▼ ☒	0.20	ES	PP=1.5kg/cm2	0.20		 	Grass overlying brown silty clay with roots. TOPSOIL		
	0.20	PP					Medium strength brown silty CLAY with frequent fine roots. ALLUVIUM		
	0.50	D	PP=1.5kg/cm2	0.50			End of Pit at 0.50m		
	0.50	PP							
1 2 3 4 5									
Water Strains		Remarks							
Depth Strike		Rise to (m bgl)		Groundwater depth 0.30m bgl					
0.30		0.20		Stability					





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP6

Sheet 1 of 1

Project Name: Land Off Dalefield Way, Gravesend

Project No.
Ge15338

Co-ords: 67034.00 - 73599.00
Level:

Date
23/02/2016

Location: Gravesend, Kent

Dimensions
(m):

Scale
1:25

Client: Riverdale Developments

Depth
0.50

Logged
AP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES					Grass overlying brown silty CLAY with fine roots. TOPSOIL	
	0.20	PP	PP=0.5kg/cm2	0.35				
	0.50	D		0.50			High strength brown and orange brown mottled silty CLAY.	
	0.50	PP	PP=2kg/cm2				ALLUVIUM	
							End of Pit at 0.50m	
								1
								2
								3
								4
								5
Water Strikes								
Depth Strike	Rose to (m bgl)							
0.45	0.40	Remarks Groundwater depth 0.45m bgl.						
		Stability						





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP7

Sheet 1 of 1

Project Name: Land Off Dalefield Way, Gravesend

Project No.
Ge15338

Co-ords: 67085.00 - 73525.00
Level:

Date
22/02/2016

Location: Gravesend, Kent

Dimensions
(m):

Scale
1:25

Client: Riverdale Developments

Depth
3.10

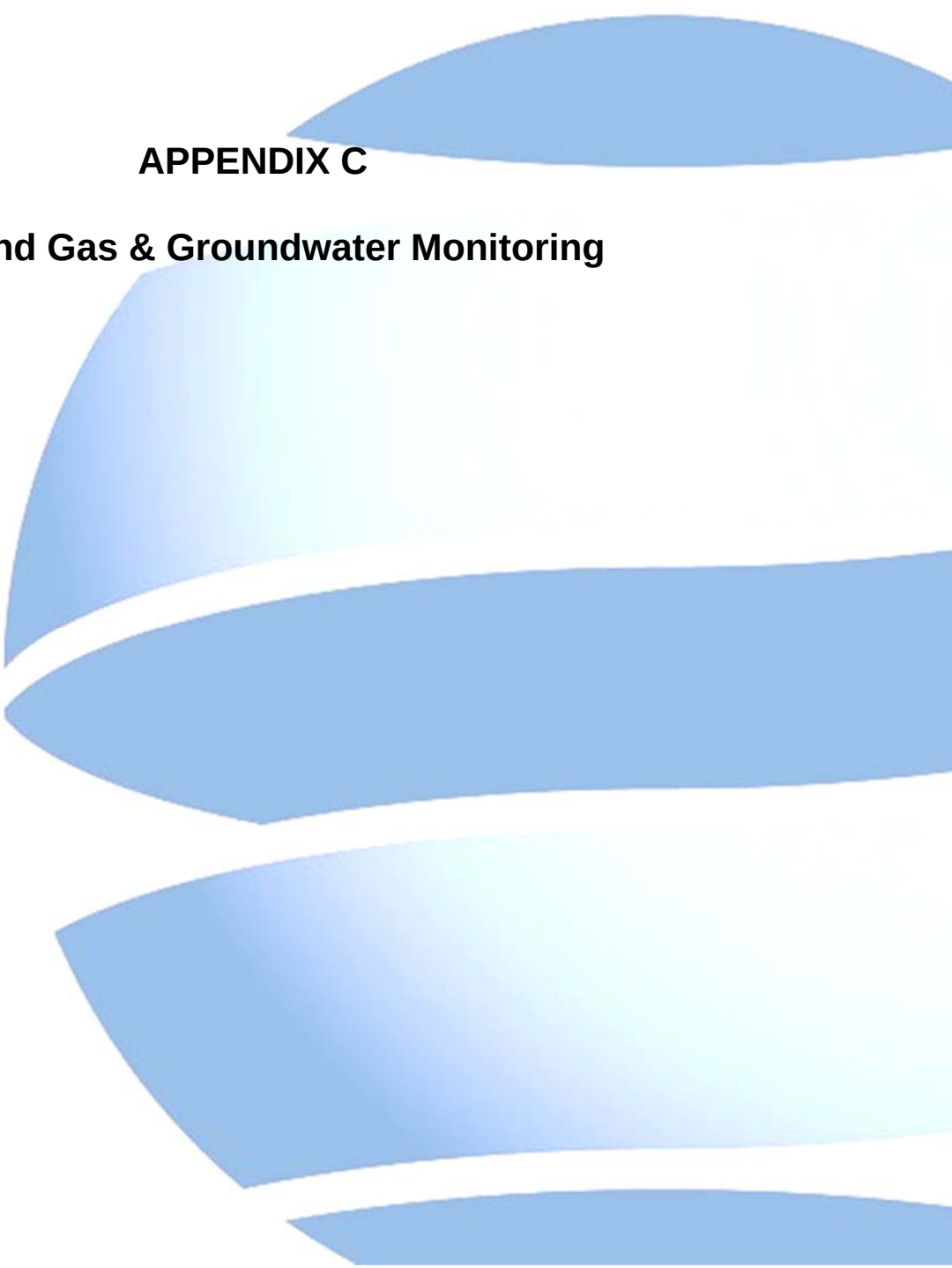
Logged
AP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES					Grass overlying grey sandy silt with frequent chalk fragments and rare brick, plastic, concrete, limestone cobbles and flint. MADE GROUND	
	0.50	ES						
	1.00	ES						1
	1.50	ES						
	2.00	ES						2
	2.20	PP	PP=3.5kg/cm2	2.20			High strength black and dark grey CLAY with occasional peat bands. ALLUVIUM	
	2.50 2.50	D PP	PP=2.2kg/cm2	2.70			Medium strength brown CLAY. ALLUVIUM	
	3.00 3.00	D PP	PP=1kg/cm2	3.10			End of Pit at 3.10m	3
								4
								5

Remarks Groundwater depth DRY.

Stability





APPENDIX C

Ground Gas & Groundwater Monitoring

Project: Dalefield Way, Gravesend
Ref: GE15338
Client:

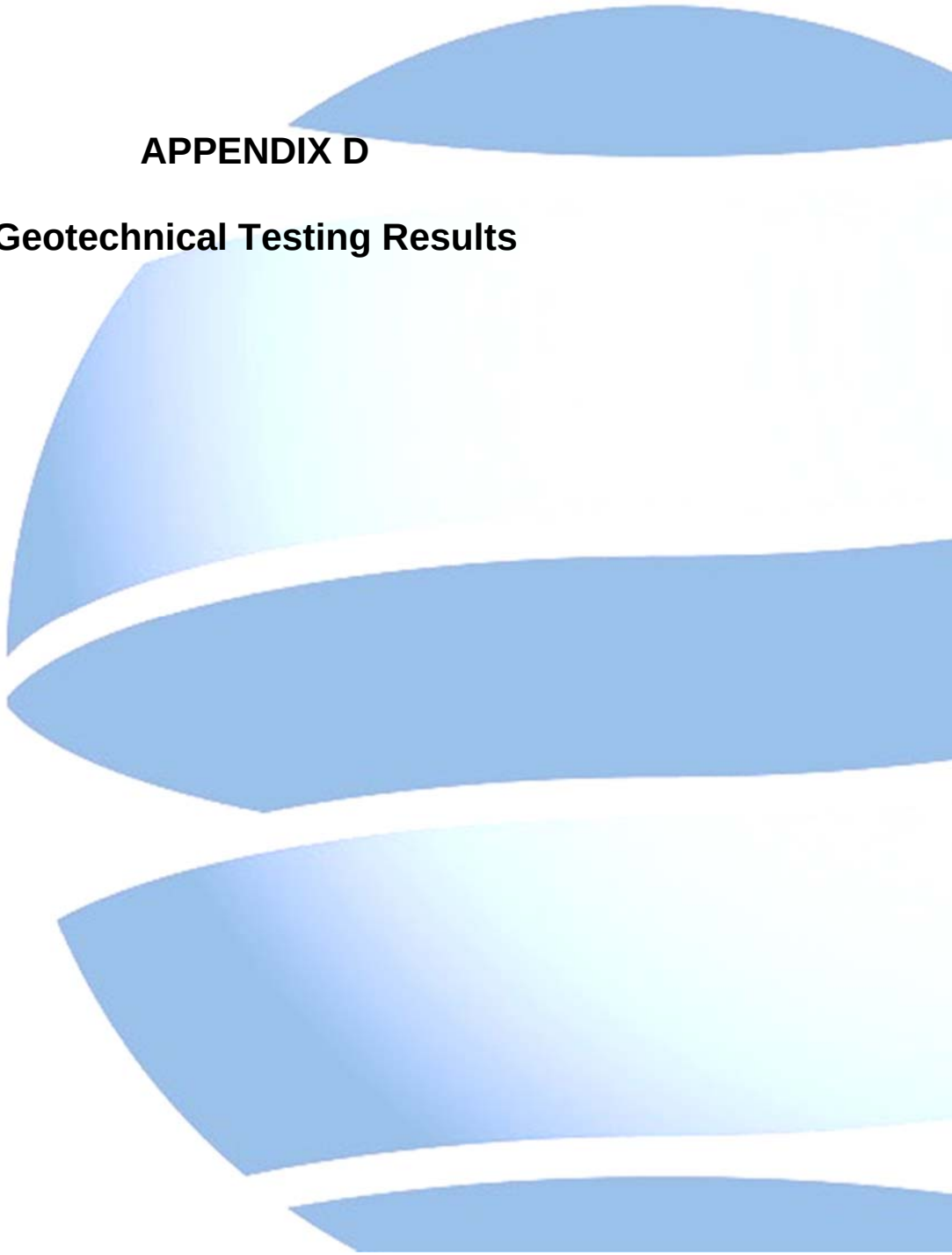


Location	Date	Time (sec)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
										CH ₄	CO ₂	BS8485 & C665		Flow	CH ₄	CO ₂	CH ₄		CO ₂	
												CH ₄	CO ₂				GSV	Conc.	GSV	Conc.
WS1	01/03/16	10	0.0	0.1	17.5	0.0	0.4	1004	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/03/16	20	0.0	0.0	9.6	0.0	0.40	1004	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/03/16	30	0.0	0.0	12.2	0.0	0.40	1004	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/03/16	60	0.0	0.0	21.8	0.0	0.40	1004	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/03/16	120	0.0	0.0	20.0	0.0	0.40	1004	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/03/16	10	0.0	0.0	23.2	0.0	0.2	1005	0.36	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/03/16	20	0.0	0.0	21.8	0.0	0.20	1005	0.36	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/03/16	30	0.0	0.0	22.5	0.0	0.20	1005	0.36	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/03/16	60	0.0	0.0	21.0	0.0	0.20	1005	0.36	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/03/16	120	0.0	0.0	21.0	0.0	0.20	1005	0.36	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	01/03/16	10	0.0	4.3	19.1	0.0	1.8	1004	1.08	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	01/03/16	20	0.0	0.3	21.7	0.0	1.80	1004	1.08	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	01/03/16	30	0.0	0.4	21.7	0.0	1.80	1004	1.08	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	01/03/16	60	0.0	0.8	18.6	0.0	1.80	1004	1.08	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	01/03/16	120	0.0	3.0	15.3	0.0	1.80	1004	1.08	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	01/03/16	10	0.0	0.0	24.3	0.0	0.0	1004	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	01/03/16	20	0.0	0.1	24.5	0.0	0.00	1004	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	01/03/16	30	0.0	0.1	25.3	0.0	0.00	1004	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	01/03/16	60	0.0	0.1	19.9	0.0	0.00	1004	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	01/03/16	120	0.0	0.1	21.2	0.0	0.00	1004	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01/03/16	10						1004	0.00	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01/03/16	20				-	-	1004	0.00	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01/03/16	30				-	-	1004	0.00	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01/03/16	60				-	-	1004	0.00	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01/03/16	120				-	-	1004	0.00	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	01/03/16	10	0.0	3.2	17.9	0.0	0.9	1004	1.36	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	01/03/16	20	0.0	4.5	16.1	0.0	0.90	1004	1.36	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	01/03/16	30	0.0	5.6	13.2	0.0	0.90	1004	1.36	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	01/03/16	60	0.0	5.7	14.2	0.0	0.90	1004	1.36	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	01/03/16	120	0.0	7.1	9.4	0.0	0.90	1004	1.36	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS1	07/03/16	10	0.1	0.2	20.9	0.0	0.0	1014	0.39	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	07/03/16	20	0.1	0.2	20.9	0.0	0.00	1014	0.39	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	07/03/16	30	0.1	0.2	20.9	0.0	0.00	1014	0.39	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	07/03/16	60	0.1	0.2	20.3	0.0	0.00	1014	0.39	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	07/03/16	120	0.1	0.2	20.0	0.0	0.00	1014	0.39	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	07/03/16	10	0.0	0.0	23.4	0.0	0.0	1014	0.31	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	07/03/16	20	0.0	0.0	22.3	0.0	0.00	1014	0.31	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	07/03/16	30	0.0	0.0	22.7	0.0	0.00	1014	0.31	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	07/03/16	60	0.0	0.0	21.0	0.0	0.00	1014	0.31	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	07/03/16	120	0.0	0.0	21.0	0.0	0.00	1014	0.31	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	07/03/16	10	0.0	0.8	20.8	0.0	0.0	1014	1.07	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	07/03/16	20	0.0	0.9	21.2	0.0	0.00	1014	1.07	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	07/03/16	30	0.0	1.0	21.7	0.0	0.00	1014	1.07	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	07/03/16	60	0.0	1.8	20.6	0.0	0.00	1014	1.07	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	07/03/16	120	0.0	3.0	20.0	0.0	0.00	1014	1.07	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	07/03/16	10	0.0	0.0	21.6	0.0	0.0	1014	0.28	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	07/03/16	20	0.0	0.0	21.8	0.0	0.00	1014	0.28	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN

Project: Dalefield Way, Gravesend
Ref: GE15338
Client:



Location	Date	Time (sec)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
										CH ₄	CO ₂	BS8485 & C665		Flow	CH ₄	CO ₂	CH ₄		CO ₂	
												CH ₄	CO ₂				GSV	Conc.	GSV	Conc.
WS5	07/03/16	30	0.0	0.0	21.9	0.0	0.00	1014	0.28	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	07/03/16	60	0.0	0.0	23.0	0.0	0.00	1014	0.28	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	07/03/16	120	0.0	0.0	22.6	0.0	0.00	1014	0.28	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	07/03/16	10	0.0	0.0	22.2	0.0	0.0	1014	0.19	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	07/03/16	20	0.0	0.0	23.0	0.0	0.00	1014	0.19	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	07/03/16	30	0.0	0.0	22.9	0.0	0.00	1014	0.19	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	07/03/16	60	0.0	0.0	21.8	0.0	0.00	1014	0.19	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	07/03/16	120	0.0	0.0	21.7	0.0	0.00	1014	0.19	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	07/03/16	10	0.0	3.5	21.1	0.0	0.0	1015	1.53	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	07/03/16	20	0.0	4.7	21.6	0.0	0.00	1015	1.53	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	07/03/16	30	0.0	5.9	21.7	0.0	0.00	1015	1.53	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	07/03/16	60	0.0	6.3	22.3	0.0	0.00	1015	1.53	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	07/03/16	120	0.0	7.8	21.5	0.0	0.00	1015	1.53	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS1	16/03/16	10	0.0	0.0	20.1	0.0	0.0	1026	0.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	16/03/16	20	0.0	0.0	20.1	0.0	0.00	1026	0.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	16/03/16	30	0.0	0.0	20.3	0.0	0.00	1026	0.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	16/03/16	60	0.0	0.0	20.4	0.0	0.00	1026	0.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	16/03/16	120	0.0	0.0	20.7	0.0	0.00	1026	0.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	16/03/16	10	0.0	0.0	20.3	0.0	0.0	1026	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	16/03/16	20	0.0	0.0	20.3	0.0	0.00	1026	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	16/03/16	30	0.0	0.0	20.3	0.0	0.00	1026	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	16/03/16	60	0.0	0.0	20.4	0.0	0.00	1026	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	16/03/16	120	0.0	0.0	20.6	0.0	0.00	1026	0.29	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	16/03/16	10	0.0	2.2	14.1	0.0	0.0	1026	1.06	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	16/03/16	20	0.0	3.9	9.2	0.0	0.00	1026	1.06	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	16/03/16	30	0.0	4.1	8.1	0.0	0.00	1026	1.06	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	16/03/16	60	0.0	4.3	7.6	0.0	0.00	1026	1.06	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS4	16/03/16	120	0.0	5.5	7.5	0.0	0.00	1026	1.06	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS5	16/03/16	10	0.0	0.0	20.0	0.0	0.0	1026	0.18	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	16/03/16	20	0.0	0.0	20.1	0.0	0.00	1026	0.18	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	16/03/16	30	0.0	0.0	20.1	0.0	0.00	1026	0.18	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	16/03/16	60	0.0	0.0	20.5	0.0	0.00	1026	0.18	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS5	16/03/16	120	0.0	0.0	20.8	0.0	0.00	1026	0.18	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	16/03/16	10	0.0	0.0	20.8	0.0	0.0	1026	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	16/03/16	20	0.0	0.0	20.8	0.0	0.00	1026	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	16/03/16	30	0.0	0.0	20.8	0.0	0.00	1026	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	16/03/16	60	0.0	0.0	20.9	0.0	0.00	1026	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	16/03/16	120	0.0	0.0	21.3	0.0	0.00	1026	0.15	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	16/03/16	10	0.0	2.0	19.0	0.0	0.0	1027	1.50	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS7	16/03/16	20	0.0	7.2	9.1	0.0	0.00	1027	1.50	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	16/03/16	30	0.0	7.9	6.9	0.0	0.00	1027	1.50	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	16/03/16	60	0.0	8.2	6.0	0.0	0.00	1027	1.50	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1
WS7	16/03/16	120	0.0	8.4	5.0	0.0	0.00	1027	1.50	0.000	0.000	CS1	CS1	NO	NO	CO2>CS1 limit	GREEN	GREEN	GREEN	AMBER 1



APPENDIX D

Geotechnical Testing Results



Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No. 20492	Project Name Land Off Dalefield Way, Gravesend	Programme	
		Samples received	29/02/2016
Project No. Ge15338	Client GESL	Schedule received	02/03/2016
		Project started	02/03/2016
		Testing Started	15/03/2016

Hole No.	Sample				Soil Description	NMC %	Passing 425µm %	LL %	PL %	PI %	Remarks
	Ref	Top	Base	Type							
BH1	3	2.30		D	Dark grey slightly organic sandy silty CLAY with rare fine gravel	46	99	88	41	47	
BH1	6	4.50		D	Black and brown organic CLAY	73	100	104	34	70	
BH1	11	7.50		D	Black partially amorphous and partially fibrous PEAT	372	100	607	395	212	
BH1	16	10.20		D	Greenish grey sandy claybound fmc flint GRAVEL	28	20	31	20	11	
BH1	23	13.50		D	Greenish grey silty CLAY	36	100	69	27	42	
BH1	33	20.50		D	Greenish grey and brown sandy claybound fmc flint GRAVEL	40	20	42	24	18	
TP4	4	1.50		D	Brown and grey organic CLAY with rare fine gravel	87	99	126	41	85	
TP7	6	2.50		D	Dark grey slightly organic slightly sandy silty CLAY with rare fine gravel	39	99	73	38	35	
WS1	3	1.00		D	Brown and grey CLAY	42	100	94	37	57	
WS2	4	1.50		D	Grey CLAY with rare fine gravel	81	99	87	32	55	
WS3	5	2.00		D	Grey and brown CLAY	81	100	95	36	59	
WS4	5	2.00		D	Grey and brown slightly sandy silty CLAY with rare fine gravel	41	99	88	36	52	

	Test Methods: BS1377: Part 2: 1990: Natural Moisture Content : clause 3.2 Atterberg Limits: clause 4.3 and 5.0	Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288 Email: James@k4soils.com	Checked and Approved Initials J.P Date: 17/03/2016
	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R1(b)



Saturation Moisture Content - Summary of Results
Tested in accordance with BS1377 : Part 2 : 1990, clause 3.3 unless annotated otherwise.

Job No.	Project Name	Programme	
20492	Land Off Dalefield Way, Gravesend	Samples received	29/02/2016
		Schedule received	02/03/2016
Project No.	Client	Project started	02/03/2016
Ge15338	GESL	Testing Started	16/03/2016

[illegible]

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials J.P

Date: 17/03/2016

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R18



Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen

Job Ref	20492
Borehole/Pit No.	BH1
Sample No.	4
Depth	3.00 m
Sample Type	U
Samples received	29/02/2016
Schedules received	02/03/2016
Date of test	16/03/2016

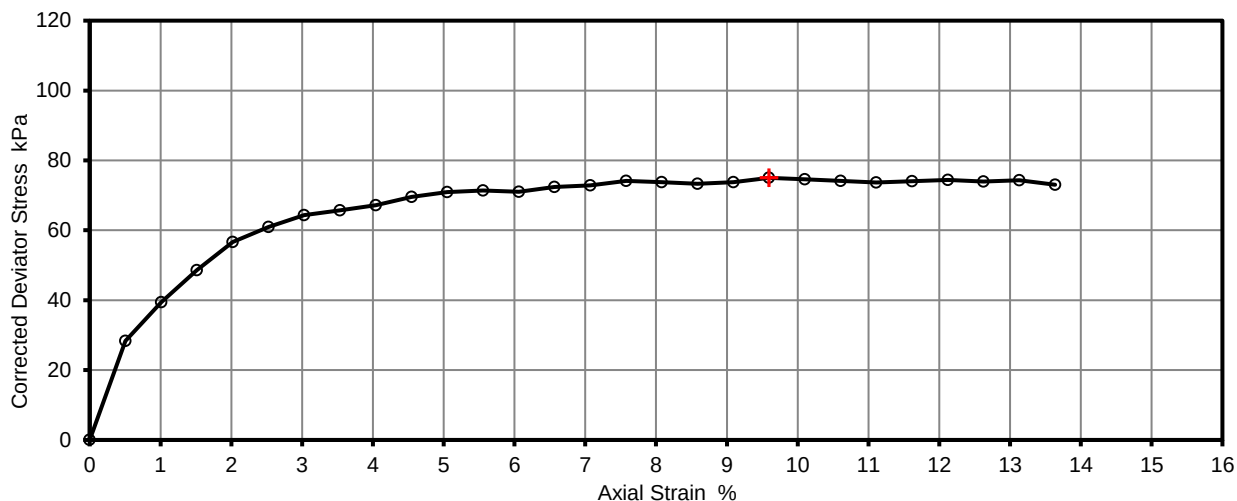
Site Name	Land Off Dalefield Way, Gravesend		
Project No.	Ge15338	Client	GESL
Soil Description	Low strength brown lightly mottled blue grey silty CLAY		
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen		

Remarks

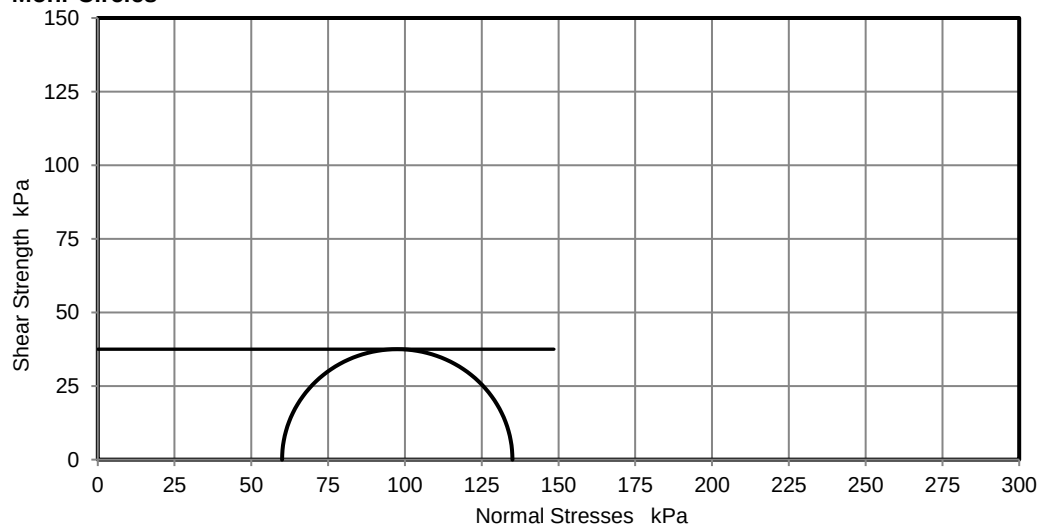
Position within sample

Test Number	1
Length	198.0 mm
Diameter	102.0 mm
Bulk Density	1.76 Mg/m3
Moisture Content	51 %
Dry Density	1.17 Mg/m3
Rate of Strain	2.0 %/min
Cell Pressure	60 kPa
Axial Strain	9.6 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	75 kPa
Undrained Shear Strength, cu	38 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.



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Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Checked and Approved

Initials: J.P

Date 17/03/2016

MSF-5 R7



Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen

Job Ref	20492
Borehole/Pit No.	BH1
Sample No.	8
Depth	6.00 m
Sample Type	U
Samples received	29/02/2016
Schedules received	02/03/2016
Date of test	16/03/2016

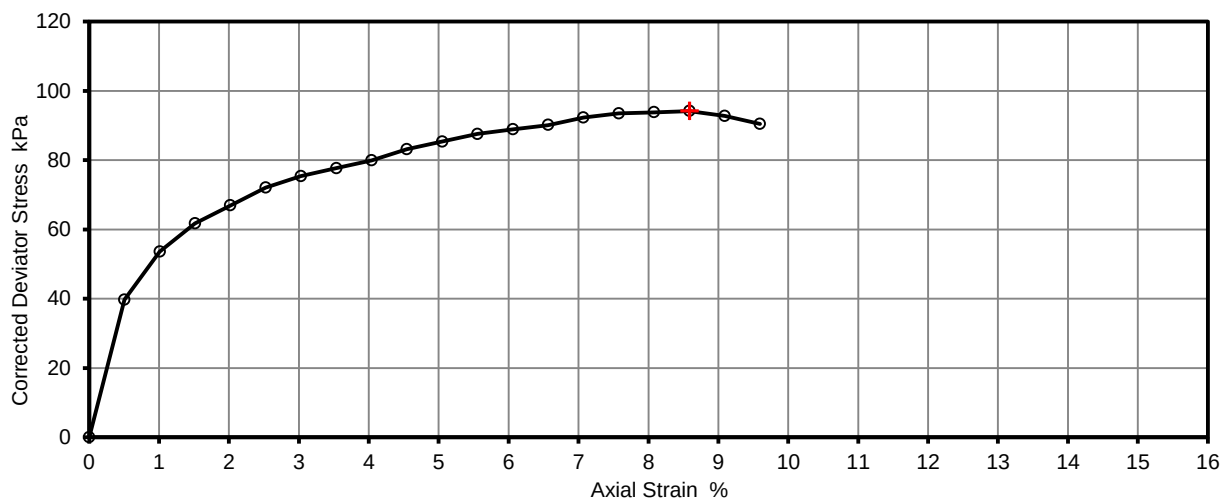
Site Name	Land Off Dalefield Way, Gravesend		
Project No.	Ge15338	Client	GESL
Soil Description	Medium strength dark grey slightly organic silty CLAY with fibrous deposits		
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen		

Remarks

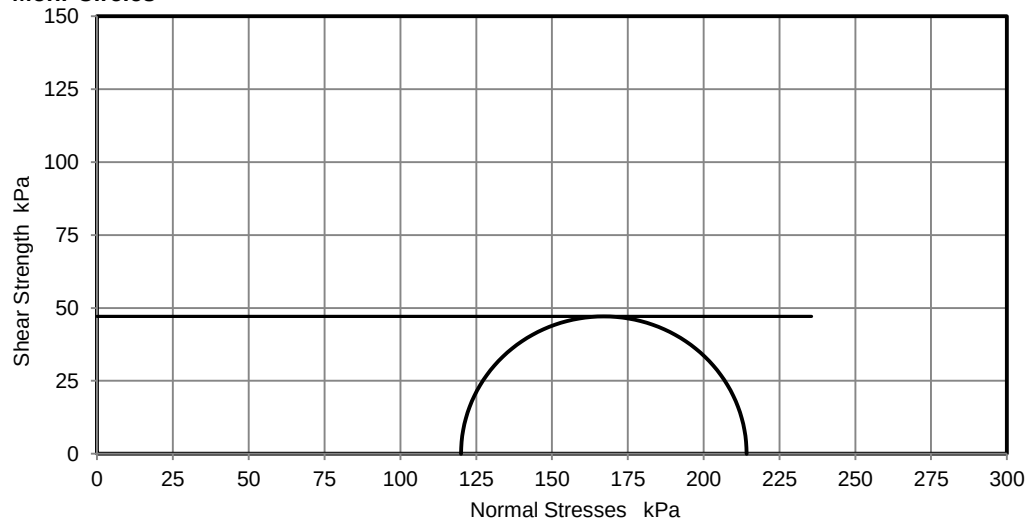
Position within sample

Test Number	1
Length	198.0 mm
Diameter	102.0 mm
Bulk Density	1.56 Mg/m3
Moisture Content	79 %
Dry Density	0.87 Mg/m3
Rate of Strain	2.0 %/min
Cell Pressure	120 kPa
Axial Strain	8.6 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	94 kPa
Undrained Shear Strength, cu	47 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.



2519

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Checked and Approved
Initials: J.P
Date 17/03/2016

MSF-5 R7



Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen

Job Ref	20492
Borehole/Pit No.	BH1
Sample No.	13
Depth	9.00 m
Sample Type	U
Samples received	29/02/2016
Schedules received	02/03/2016
Date of test	16/03/2016

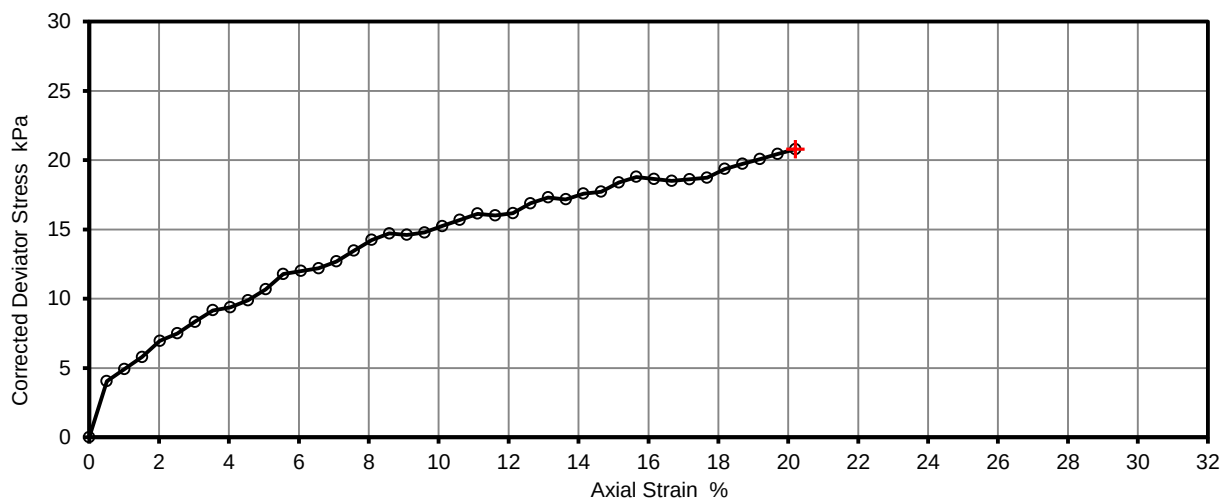
Site Name	Land Off Dalefield Way, Gravesend		
Project No.	Ge15338	Client	GESL
Soil Description	Very low strength dark grey organic silty CLAY		
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen		

Remarks

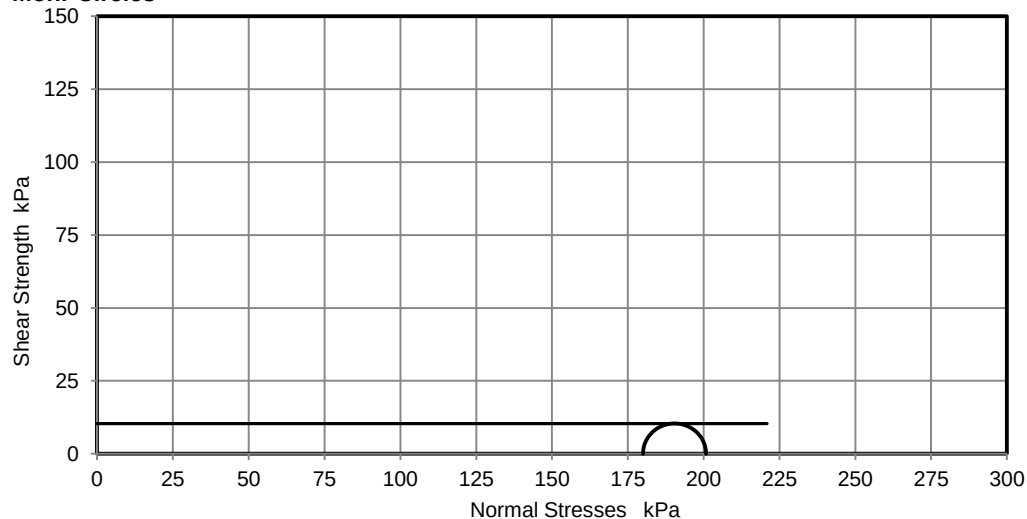
Position within sample

Test Number	1
Length	198.0 mm
Diameter	102.0 mm
Bulk Density	2.04 Mg/m3
Moisture Content	24 %
Dry Density	1.64 Mg/m3
Rate of Strain	2.0 %/min
Cell Pressure	180 kPa
Axial Strain	20.2 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	21 kPa
Undrained Shear Strength, cu	10 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Plastic

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.



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Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date 17/03/2016

MSF-5 R7



Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen

Job Ref	20492
Borehole/Pit No.	BH1
Sample No.	21
Depth	12.00 m
Sample Type	U
Samples received	29/02/2016
Schedules received	02/03/2016
Date of test	16/03/2016

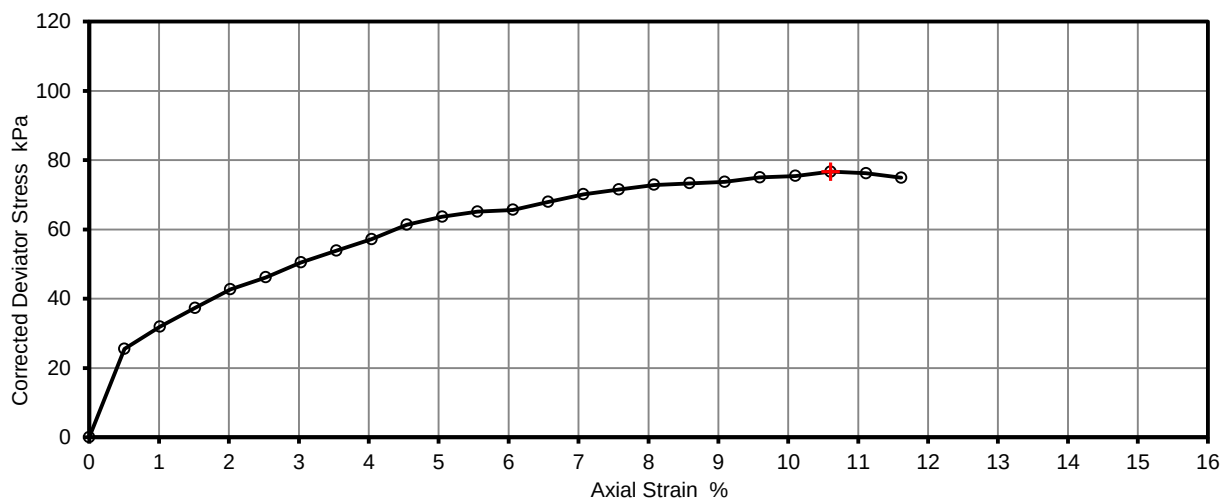
Site Name	Land Off Dalefield Way, Gravesend		
Project No.	Ge15338	Client	GESL
Soil Description	Low strength slightly fissured greenish blue grey silty CLAY		
Test Method	BS1377 : Part 7 : 1990, clause 8, single specimen		

Remarks

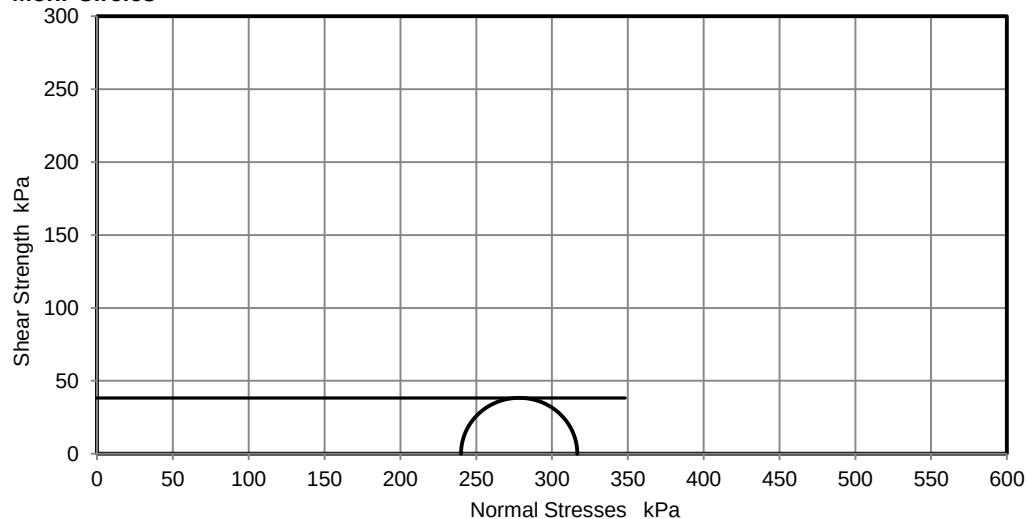
Position within sample

Test Number	1
Length	198.0 mm
Diameter	102.0 mm
Bulk Density	1.88 Mg/m3
Moisture Content	43 %
Dry Density	1.32 Mg/m3
Rate of Strain	2.0 %/min
Cell Pressure	240 kPa
Axial Strain	10.6 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	77 kPa
Undrained Shear Strength, cu	38 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.



2519

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Checked and Approved
Initials: J.P
Date 17/03/2016

MSF-5 R7



Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen

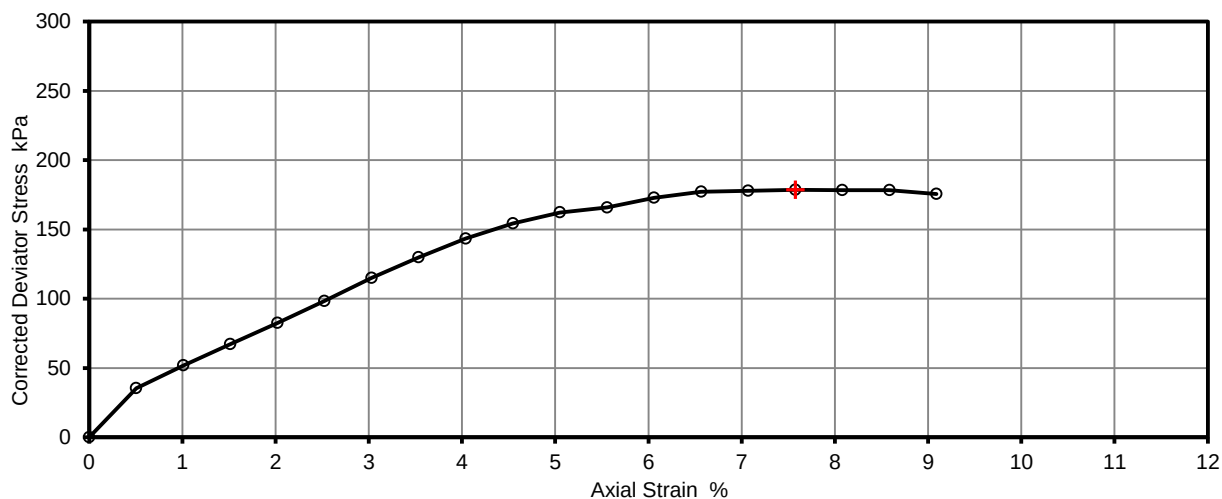
Job Ref	20492
Borehole/Pit No.	BH1
Sample No.	25
Depth	15.00 m
Sample Type	U
Samples received	29/02/2016
Schedules received	02/03/2016
Date of test	16/03/2016

Remarks

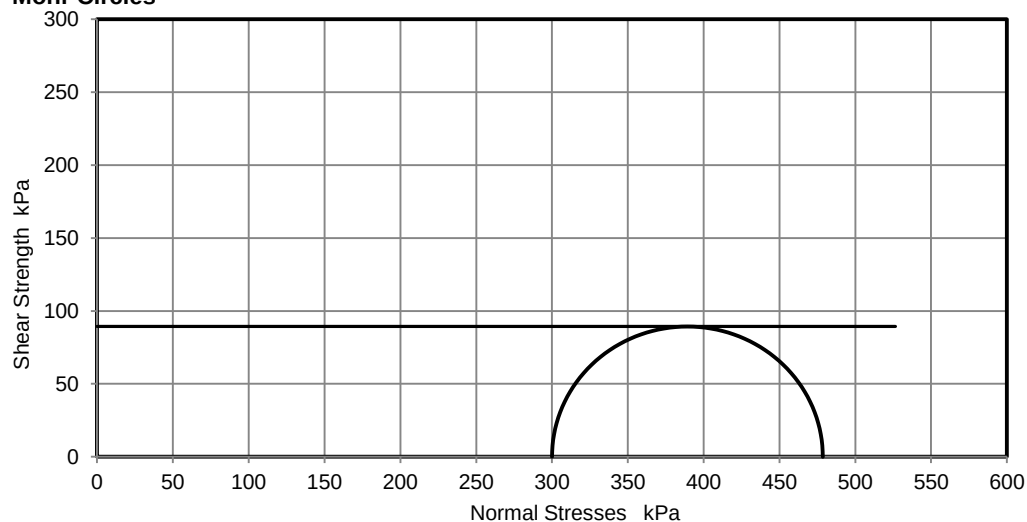
Position within sample

Test Number	1
Length	198.0 mm
Diameter	102.0 mm
Bulk Density	1.91 Mg/m3
Moisture Content	36 %
Dry Density	1.40 Mg/m3
Rate of Strain	2.0 %/min
Cell Pressure	300 kPa
Axial Strain	7.6 %
Deviator Stress, ($\sigma_1 - \sigma_3$)f	179 kPa
Undrained Shear Strength, cu	89 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f
Mode of Failure	Compound

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.



2519

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU
Tel: 01923 711 288
Email: James@k4soils.com

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Checked and Approved
Initials: J.P
Date 17/03/2016

MSF-5 R7

Unconsolidated Undrained Triaxial Compression tests without measurement of pore pressure

Summary of Results

Tests carried out in accordance with BS1377:Part 7 : 1990 clause 8 or 9 as appropriate to test

Job No.	Project Name	Programme	
20492	Land Off Dalefield Way, Gravesend	Samples received	29/02/2016
		Schedule received	28/03/2016
Project No.	Client	Project started	02/03/2016
Ge15338	GESL	Testing Started	16/03/2016

[illegible]

Legend	UU - single stage test (single and multiple specimens)	σ_3	Cell pressure	Mode of failure ;	B - Brittle
	UUM - Multistage test on a single specimen	$\sigma_1 - \sigma_3$	Maximum corrected deviator stress		P - Plastic
	suffix R - remoulded or recompacted	cu	Undrained shear strength, $\frac{1}{2}(\sigma_1 - \sigma_3)$		C - Compound



Test Report by K4 SOILS LABORATORY

Unit 8 Olds Close Olds Approach

Watford Herts WD18 9RU

Tel: 01923 711 288

Email: james@k4soils.com

Checked and Approved

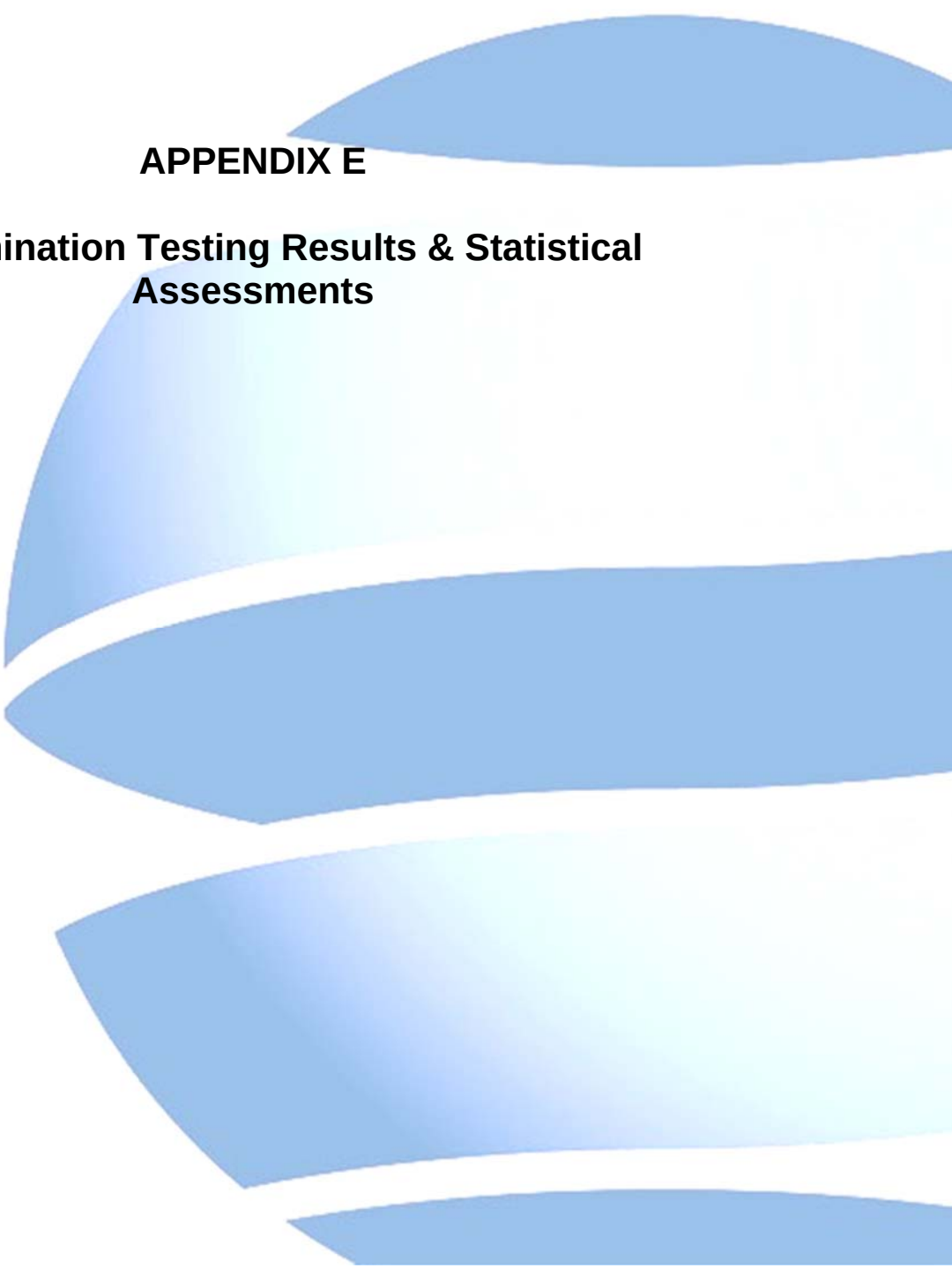
Initials: J.P

Date: 17/03/2016

MSF-5-R7b

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

					Sulphate Content (Gravimetric Method) for 2:1 Soil: Water Extract and pH Value - Summary of Results Tested in accordance with BS1377 : Part 3 : 1990, clause 5.3 and clause 9						
Job No. 20492		Project Name Land Off Dalefield Way, Gravesend						Programme			
								Samples received	29/02/2016		
								Schedule received	02/03/2016		
Project No. Ge15338		Client GESL						Project started	02/03/2016		
								Testing Started	11/03/2016		
Hole No.	Sample				Soil description	Dry Mass passing 2mm %	SO3 Content g/l	SO4 Content g/l	pH	Remarks	
	Ref	Top	Base	Type							
BH1	3	2.30		D	Dark grey slightly organic sandy silty CLAY with rare fine gravel	99	0.37	0.45	7.80		
BH1	11	7.50		D	Black partially amorphous and partially fibrous PEAT	100	0.48	0.58	7.61		
BH1	23	13.50		D	Greenish grey silty CLAY	100	0.69	0.83	7.69		
BH1	33	20.50		D	Greenish grey and brown sandy claybound fmc flint GRAVEL	20	0.28	0.34	7.82		
BH1	-	20.80		D	FMC CHALK fragments and FMC flint gravel in a pale brown and off white chalk slurry	15	0.03	0.04	7.89		
BH1	41	25.50		D	Off white putty CHALK	100	0.18	0.21	7.79		
BH1	49	36.00		D	Off white putty CHALK with rare fm intact chalk fragments	97	0.08	0.10	7.90		
TP4	4	1.50		D	Brown and grey organic CLAY with rare fine gravel	99	0.74	0.88	7.62		
TP7	6	2.50		D	Dark grey slightly organic slightly sandy silty CLAY with rare fine gravel	99	0.60	0.72	7.48		
WS2	4	1.50		D	Grey CLAY with rare fine gravel	99	1.04	1.24	7.60		
WS4	5	2.00		D	Grey and brown slightly sandy silty CLAY with rare fine gravel	99	0.40	0.48	7.72		
										Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288 Email: James@k4soils.com	Checked and Approved Initials J.P Date: 17/03/2016
2519		Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)							MSF-5-R29		



APPENDIX E

Contamination Testing Results & Statistical Assessments



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618
Facsimile: (01424) 729911
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 16-05847

Issue: 1

Date of Issue: 07/03/2016

Contact: Anthony Potter

Customer Details: GESL
Unit 7
Danworth Farm
Hurstpierpoint
West Sussex BN6 9GL

Quotation No: Q14-00021

Order No: Not Supplied

Customer Reference: GE15338

Date Received: 26/02/2016

Date Approved: 04/03/2016

Details: Dalefield Way, Gravesend

Approved by:

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 16-05847

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
55079	WS1 0.30	22/02/2016	26/02/2016	Silty loam	
55080	WS2 0.30	22/02/2016	26/02/2016	Silty loam	
55081	WS3 0.30	22/02/2016	26/02/2016	Silty loam	
55082	WS4 0.50	22/02/2016	26/02/2016	Silty loam + chalk	
55083	WS5 0.30	22/02/2016	26/02/2016	Silty loam	
55084	WS6 0.30	22/02/2016	26/02/2016	Silty loam	
55085	WS7 0.50	22/02/2016	26/02/2016	Silty loam + chalk	
55086	TP1 0.20	22/02/2016	26/02/2016	Silty loam	
55087	TP2 0.20	22/02/2016	26/02/2016	Silty loam	
55088	TP3 1.00	22/02/2016	26/02/2016	Silty loam	
55089	TP4 0.20	22/02/2016	26/02/2016	Silty loam + chalk	
55090	TP5 0.20	22/02/2016	26/02/2016	Silty loam	
55091	TP6 0.20	22/02/2016	26/02/2016	Silty loam	
55092	TP7 0.50	22/02/2016	26/02/2016	Silty loam	
55093	TP7 1.00	22/02/2016	26/02/2016	Silty loam + chalk	
55094	TP3 0.50	22/02/2016	26/02/2016	Silty loam	

Results Summary

Report No.: 16-05847

ELAB Reference	55079	55080	55081	55082	55083	55084
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	WS1	WS2	WS3	WS4	WS5	WS6
Sample Depth (m)	0.30	0.30	0.30	0.50	0.30	0.30
Sampling Date	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016

Determinand	Codes	Units	LOD						
Metals									
Arsenic	M	mg/kg	1	18.0	15.1	23.7	^ 6.3	26.1	22.4
Barium	M	mg/kg	10	129	96.8	73.1	^ 58.0	87.8	60.2
Beryllium	U	mg/kg	1	1.0	1.0	1.4	< 1.0	1.4	1.2
Cadmium	M	mg/kg	0.5	< 0.5	0.6	< 0.5	^ < 0.5	1.1	< 0.5
Chromium	M	mg/kg	5	28.2	39.5	40.0	^ 14.0	43.3	42.0
Copper	M	mg/kg	5	48.5	29.5	27.6	^ 10.7	24.9	23.8
Lead	M	mg/kg	5	159	70.9	90.0	^ 23.6	59.8	67.8
Mercury	M	mg/kg	0.5	1.1	< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	25.0	31.7	28.3	^ 13.7	32.4	29.7
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	41.6	49.0	70.6	^ 19.3	77.0	73.5
Zinc	M	mg/kg	5	142	131	122	^ 33.0	129	112
Anions									
Water Soluble Chloride	M	mg/l	20	25	22	58	n/t	77	67
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	^ < 40	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	0.05	0.09	0.14	^ 0.14	0.18	0.16
Inorganics									
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	2	2	3	2	3	3
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	^ < 1.0	1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.06	0.09	0.07	0.08	0.10	0.12
Water Soluble Boron	N	mg/kg	0.5	2.3	2.3	4.2	0.9	5.3	5.4
Miscellaneous									
pH	M	pH units	0.1	8.1	8.0	7.6	^ 8.2	7.6	7.8
Total Organic Carbon	N	%	0.01	2.6	1.4	4.1	0.15	4.4	3.1
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.7	0.3	0.1	^ 0.3	< 0.1	0.1
Pyrene	M	mg/kg	0.1	0.6	0.2	0.1	^ 0.3	< 0.1	0.1
Benzo(a)anthracene	M	mg/kg	0.1	0.4	0.1	< 0.1	^ 0.2	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	0.6	0.2	0.1	^ 0.3	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	1.0	< 0.1	< 0.1	^ 0.5	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	0.5	< 0.1	< 0.1	^ 0.3	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	0.5	0.2	0.1	^ 0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	0.4	0.2	< 0.1	^ 0.2	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.3	0.1	< 0.1	^ 0.2	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	5.5	1.5	< 0.4	^ 2.8	< 0.4	< 0.4

Results Summary

Report No.: 16-05847

ELAB Reference	55079	55080	55081	55082	55083	55084
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	WS1	WS2	WS3	WS4	WS5	WS6
Sample Depth (m)	0.30	0.30	0.30	0.50	0.30	0.30
Sampling Date	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016

Determinand	Codes	Units	LOD						
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	[^] < 10.0	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	[^] < 10.0	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	[^] < 10.0	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	[^] < 10.0	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	3.5	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	2.6	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	6.1	n/t	n/t
Total Petroleum Hydrocarbons									
Total TPH (>C8-C40)	M	mg/kg	5	< 5	< 5	< 5	n/t	< 5	< 5
OrganoChlorine Pesticides									
alpha-HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
beta_HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
gamma-HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
delta-HCH	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Heptachlor	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Aldrin	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Heptachlor expoxide	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
trans-Chlordane	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
alpha cis-Chlordane	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
p,p-DDE	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Dieldrin	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Endrin	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
p,p-DDD	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Endosulfan II	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Endrin aldehyde	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
p,p-DDT	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Endosulphan sulphate	M	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Methoxychlor	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t
Endrin ketone	N	ug/kg	10	< 10	n/t	n/t	n/t	< 10	n/t

Results Summary

Report No.: 16-05847

ELAB Reference	55085	55086	55087	55088	55089	55090
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	WS7	TP1	TP2	TP3	TP4	TP5
Sample Depth (m)	0.50	0.20	0.20	1.00	0.20	0.20
Sampling Date	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016

Determinand	Codes	Units	LOD						
Metals									
Arsenic	M	mg/kg	1	^ 7.9	24.8	26.1	33.9	^ 10.1	24.4
Barium	M	mg/kg	10	^ 68.1	59.5	50.3	45.8	^ 96.7	65.2
Beryllium	U	mg/kg	1	< 1.0	1.2	1.3	1.5	< 1.0	1.4
Cadmium	M	mg/kg	0.5	^ < 0.5	< 0.5	< 0.5	< 0.5	^ < 0.5	< 0.5
Chromium	M	mg/kg	5	^ 21.7	47.6	50.0	48.7	^ 25.9	41.0
Copper	M	mg/kg	5	^ 15.9	21.4	20.7	17.1	^ 13.0	31.3
Lead	M	mg/kg	5	^ 43.4	52.3	44.2	35.0	^ 27.4	83.2
Mercury	M	mg/kg	0.5	^ < 0.5	< 0.5	< 0.5	< 0.5	^ < 0.5	< 0.5
Nickel	M	mg/kg	5	^ 17.6	29.7	34.2	33.7	^ 31.6	30.7
Selenium	M	mg/kg	1	^ < 1.0	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0
Vanadium	M	mg/kg	5	^ 27.1	85.6	88.3	90.2	^ 33.0	74.7
Zinc	M	mg/kg	5	^ 54.2	105	106	110	^ 52.0	116
Anions									
Water Soluble Chloride	M	mg/l	20	n/t	562	83	n/t	^ 35	n/t
Water Soluble Chloride	M	mg/kg	40	^ 123	n/t	n/t	981	n/t	228
Water Soluble Sulphate	M	g/l	0.02	^ 0.31	0.89	0.18	1.50	^ 0.13	0.33
Inorganics									
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	2	3	3	3	5	3
Total Cyanide	M	mg/kg	1	^ < 1.0	< 1.0	< 1.0	< 1.0	^ < 1.0	1.1
Acid Soluble Sulphate (SO4)	U	%	0.02	0.11	0.18	0.05	0.36	0.13	0.15
Water Soluble Boron	N	mg/kg	0.5	1.2	6.4	3.2	3.4	0.9	2.6
Miscellaneous									
pH	M	pH units	0.1	^ 9.2	8.2	7.3	7.2	^ 8.3	7.6
Total Organic Carbon	N	%	0.01	0.50	2.2	2.4	2.0	0.21	3.6
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	^ 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Fluorene	M	mg/kg	0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	^ 1.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Anthracene	M	mg/kg	0.1	^ 0.3	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	^ 2.2	0.2	< 0.1	0.1	^ 0.1	0.2
Pyrene	M	mg/kg	0.1	^ 1.9	0.2	< 0.1	0.1	^ < 0.1	0.1
Benzo(a)anthracene	M	mg/kg	0.1	^ 1.1	0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Chrysene	M	mg/kg	0.1	^ 1.2	0.2	< 0.1	< 0.1	^ < 0.1	0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	^ 1.5	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	^ 1.0	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	^ 1.1	0.2	< 0.1	< 0.1	^ < 0.1	0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	^ 0.8	0.2	< 0.1	< 0.1	^ < 0.1	0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	^ 0.2	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	^ 0.7	0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	^ 13.3	1.3	< 0.4	< 0.4	^ < 0.4	0.5

Results Summary

Report No.: 16-05847

ELAB Reference	55085	55086	55087	55088	55089	55090
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	WS7	TP1	TP2	TP3	TP4	TP5
Sample Depth (m)	0.50	0.20	0.20	1.00	0.20	0.20
Sampling Date	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016	22/02/2016

Determinand	Codes	Units	LOD						
BTEX									
Benzene	M	ug/kg	10	^ < 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Toluene	M	ug/kg	10	^ < 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Ethylbenzene	M	ug/kg	10	^ < 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Xylenes	M	ug/kg	10	^ < 10.0	n/t	n/t	< 10.0	n/t	< 10.0
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	11.6	n/t	n/t	< 1.0	n/t	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	3.0	n/t	n/t	< 1.0	n/t	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	15.8	n/t	n/t	< 1.0	n/t	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	3.9	n/t	n/t	< 1.0	n/t	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	34.3	n/t	n/t	< 1.0	n/t	< 1.0
Total Petroleum Hydrocarbons									
Total TPH (>C8-C40)	M	mg/kg	5	n/t	< 5	< 5	n/t	^ < 5	n/t
OrganoChlorine Pesticides									
alpha-HCH	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
beta_HCH	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
gamma-HCH	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
delta-HCH	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Heptachlor	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Aldrin	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Heptachlor expoxide	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
trans-Chlordane	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
alpha cis-Chlordane	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
p,p-DDE	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Dieldrin	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Endrin	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
p,p-DDD	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Endosulfan II	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Endrin aldehyde	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
p,p-DDT	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Endosulphan sulphate	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Methoxychlor	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Endrin ketone	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 16-05847

ELAB Reference	55091	55092	55093	55094
Customer Reference				
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	TP6	TP7	TP7	TP3
Sample Depth (m)	0.20	0.50	1.00	0.50
Sampling Date	22/02/2016	22/02/2016	22/02/2016	22/02/2016

Determinand	Codes	Units	LOD				
Metals							
Arsenic	M	mg/kg	1	22.0	11.8	^ 9.6	24.8
Barium	M	mg/kg	10	43.6	84.3	^ 97.8	65.7
Beryllium	U	mg/kg	1	1.5	< 1.0	< 1.0	1.6
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	^ < 0.5	< 0.5
Chromium	M	mg/kg	5	44.4	28.3	^ 25.5	61.3
Copper	M	mg/kg	5	17.9	18.1	^ 16.6	21.2
Lead	M	mg/kg	5	33.9	60.5	^ 59.7	43.5
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	^ < 0.5	< 0.5
Nickel	M	mg/kg	5	30.4	23.7	^ 19.8	36.8
Selenium	M	mg/kg	1	< 1.0	< 1.0	^ < 1.0	< 1.0
Vanadium	M	mg/kg	5	76.9	41.9	^ 35.6	104
Zinc	M	mg/kg	5	96.8	77.7	^ 67.7	117
Anions							
Water Soluble Chloride	M	mg/l	20	n/t	n/t	n/t	n/t
Water Soluble Chloride	M	mg/kg	40	388	47	^ 47	502
Water Soluble Sulphate	M	g/l	0.02	0.56	0.24	^ 1.19	0.60
Inorganics							
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	3	2	2	3
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	^ < 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.18	0.16	0.28	0.15
Water Soluble Boron	N	mg/kg	0.5	5.3	1.1	1.4	5.4
Miscellaneous							
pH	M	pH units	0.1	7.8	9.8	^ 9.4	8.2
Total Organic Carbon	N	%	0.01	1.8	0.69	0.73	2.2
Phenols							
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	^ < 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	0.5	^ < 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	0.3	^ < 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	5.3	^ 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	0.9	^ < 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	7.2	^ 0.3	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	5.8	^ 0.3	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	2.6	^ 0.2	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	2.9	^ 0.2	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	2.4	^ 0.4	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	2.0	^ 0.2	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	2.3	^ 0.2	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	1.8	^ 0.2	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.4	^ < 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	1.5	^ 0.3	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	36.0	^ 2.7	< 0.4

Results Summary

Report No.: 16-05847

ELAB Reference	55091	55092	55093	55094
Customer Reference				
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	TP6	TP7	TP7	TP3
Sample Depth (m)	0.20	0.50	1.00	0.50
Sampling Date	22/02/2016	22/02/2016	22/02/2016	22/02/2016

Determinand	Codes	Units	LOD				
BTEX							
Benzene	M	ug/kg	10	< 10.0	< 10.0	^ < 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	^ < 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	^ < 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	^ < 10.0	< 10.0
TPH CWG							
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	2.8	6.8	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	1.4	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	6.3	12.3	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	2.8	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	9.2	23.2	< 1.0
Total Petroleum Hydrocarbons							
Total TPH (>C8-C40)	M	mg/kg	5	n/t	n/t	n/t	n/t
OrganoChlorine Pesticides							
alpha-HCH	M	ug/kg	10	n/t	n/t	n/t	n/t
beta_HCH	M	ug/kg	10	n/t	n/t	n/t	n/t
gamma-HCH	M	ug/kg	10	n/t	n/t	n/t	n/t
delta-HCH	N	ug/kg	10	n/t	n/t	n/t	n/t
Heptachlor	N	ug/kg	10	n/t	n/t	n/t	n/t
Aldrin	M	ug/kg	10	n/t	n/t	n/t	n/t
Heptachlor expoxide	N	ug/kg	10	n/t	n/t	n/t	n/t
trans-Chlordane	N	ug/kg	10	n/t	n/t	n/t	n/t
alpha cis-Chlordane	N	ug/kg	10	n/t	n/t	n/t	n/t
p,p-DDE	M	ug/kg	10	n/t	n/t	n/t	n/t
Dieldrin	M	ug/kg	10	n/t	n/t	n/t	n/t
Endrin	N	ug/kg	10	n/t	n/t	n/t	n/t
p,p-DDD	M	ug/kg	10	n/t	n/t	n/t	n/t
Endosulfan II	N	ug/kg	10	n/t	n/t	n/t	n/t
Endrin aldehyde	N	ug/kg	10	n/t	n/t	n/t	n/t
p,p-DDT	M	ug/kg	10	n/t	n/t	n/t	n/t
Endosulphan sulphate	M	ug/kg	10	n/t	n/t	n/t	n/t
Methoxychlor	N	ug/kg	10	n/t	n/t	n/t	n/t
Endrin ketone	N	ug/kg	10	n/t	n/t	n/t	n/t



Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY
Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 16-05847

Asbestos Qualitative Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Result
55079	0.30	WS1	Silty loam	No asbestos detected
55080	0.30	WS2	Silty loam	No asbestos detected
55081	0.30	WS3	Silty loam	No asbestos detected
55082	0.50	WS4	Silty loam + chalk	No asbestos detected
55083	0.30	WS5	Silty loam	No asbestos detected
55084	0.30	WS6	Silty loam	No asbestos detected
55085	0.50	WS7	Silty loam + chalk	No asbestos detected
55086	0.20	TP1	Silty loam	No asbestos detected
55087	0.20	TP2	Silty loam	No asbestos detected
55088	1.00	TP3	Silty loam	No asbestos detected
55089	0.20	TP4	Silty loam + chalk	No asbestos detected
55090	0.20	TP5	Silty loam	No asbestos detected
55091	0.20	TP6	Silty loam	No asbestos detected
55092	0.50	TP7	Silty loam	No asbestos detected
55093	1.00	TP7	Silty loam + chalk	No asbestos detected
55094	0.50	TP3	Silty loam	No asbestos detected

Method Summary

Report No.: 16-05847

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	02/03/2016	109	Colorimetry
Hexavalent chromium	N	As submitted sample	01/03/2016	110	Colorimetry
pH	M	Air dried sample	04/03/2016	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	03/03/2016	115	Ion Chromatography
Total Petroleum Hydrocarbons in solids	M	As submitted sample	29/02/2016	117	GC-FID
Aqua regia extractable metals	M	Air dried sample	03/03/2016	118	ICPMS
Phenols in solids	M	As submitted sample	01/03/2016	121	HPLC
Elemental Sulphur	N	Air dried sample	02/03/2016	122	HPLC
PAH (GC-FID)	M	As submitted sample	29/02/2016	133	GC-FID
Water soluble anions	M	Air dried sample	02/03/2016	172	Ion Chromatography
Organochlorine Pesticides in solids	M	As submitted sample	29/02/2016	173	GC-MS
BTEX in solids	M	As submitted sample	02/03/2016	181A	GC-MS
Water soluble boron	N	Air dried sample	02/03/2016	202	Colorimetry
Total cyanide	M	As submitted sample	02/03/2016	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	02/03/2016	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	29/02/2016	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	02/03/2016	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	29/02/2016	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	02/03/2016	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	02/03/2016	214	GC-MS
Asbestos identification	U	As submitted sample	01/03/2016	PMAN	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 16-05847

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618
Facsimile: (01424) 729911
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 16-05909

Issue: 1

Date of Issue: 09/03/2016

Contact: Anthony Potter

Customer Details: GESL
Unit 7
Danworth Farm
Hurstpierpoint
West Sussex BN6 9GL

Quotation No: Q14-00021

Order No: Not Supplied

Customer Reference: GE15338

Date Received: 02/03/2016

Date Approved: 09/03/2016

Details: Dalefield Way, Gravesend

Approved by:

Mike Varley,

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 16-05909

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
55731	WS1 0.29	01/03/2016	02/03/2016		
55732	WS3 1.08	01/03/2016	02/03/2016		
55733	WS4 0.24	01/03/2016	02/03/2016		
55734	WS5 0.15	01/03/2016	02/03/2016		
55735	WS6 0.00	01/03/2016	02/03/2016		
55736	WS7 1.36	01/03/2016	02/03/2016		
55737	WS1 0.10	01/03/2016	02/03/2016		
55738	WS4 0.15	01/03/2016	02/03/2016		
55739	WS6 1.53	01/03/2016	02/03/2016		

Results Summary

Report No.: 16-05909

ELAB Reference	55731	55732	55733	55734	55735	55736
Customer Reference						
Sample ID						
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
Sample Location	WS1	WS3	WS4	WS5	WS6	WS7
Sample Depth (m)	0.29	1.08	0.24	0.15	0.00	1.36
Sampling Date	01/03/2016	01/03/2016	01/03/2016	01/03/2016	01/03/2016	01/03/2016

Determinand	Codes	Units	LOD						
Dissolved Metals									
Arsenic	U	ug/l	5	< 5	< 5	< 5	< 5	6	< 5
Boron	N	ug/l	5	1230	1480	1800	1910	1370	1290
Barium	U	ug/l	5	258	68	39	64	68	206
Beryllium	U	ug/l	5	< 5	< 5	< 5	< 5	< 5	< 5
Cadmium	U	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
Chromium	U	ug/l	5	< 5	< 5	< 5	< 5	< 5	< 5
Copper	U	ug/l	5	15	< 5	5	< 5	< 5	< 5
Mercury	U	ug/l	0.1	0.3	0.5	< 0.1	< 0.1	0.2	0.1
Nickel	U	ug/l	5	20	12	28	53	21	43
Lead	U	ug/l	1	3	< 1	4	< 1	2	< 1
Selenium	U	ug/l	5	24	17	21	15	13	18
Vanadium	N	ug/l	5	9	< 5	< 5	< 5	12	< 5
Zinc	U	ug/l	5	27	8	21	36	8	14
Anions									
Chloride	U	mg/l	0.5	2800	2010	1450	2000	1370	1650
Sulphate	U	mg/l	0.5	2280	2960	2030	1760	1260	1130
Inorganics									
Elemental Sulphur	N	mg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexavalent Chromium	U	ug/l	100	< 100	< 100	< 100	< 100	< 100	< 100
Sulphide	N	mg/l	0.1	1.5	1.3	1.8	2.0	1.5	2.2
Miscellaneous									
Dissolved organic carbon	U	mg/l	1.5	43	13	24	16	22	25
pH	U	pH units	0.1	7.1	7.3	7.1	6.6	7.1	7.0
Phenols									
Phenol	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
M,P-Cresol	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
O-Cresol	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
3,4-Dimethylphenol	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
2,3-Dimethylphenol	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
2,3,5-trimethylphenol	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
Total Monohydric Phenols	N	ug/l	1	< 1	< 1	< 1	< 1	< 1	< 1
Polyaromatic hydrocarbons									
Naphthalene GCMS	N	ug/l	0.01	1.35	0.21	0.11	0.14	0.16	0.24
Acenaphthylene GCMS	N	ug/l	0.01	3.26	0.09	0.09	0.05	0.05	0.43
Acenaphthene GCMS	N	ug/l	0.01	0.56	0.02	0.02	0.02	0.02	0.08
Fluorene GCMS	N	ug/l	0.01	1.08	0.06	0.05	0.06	0.05	0.16
Phenanthrene GCMS	N	ug/l	0.01	11.2	0.32	0.41	0.32	0.36	1.27
Anthracene GCMS	N	ug/l	0.01	4.01	0.10	0.14	0.09	0.13	0.54
Fluoranthene GCMS	N	ug/l	0.01	28.0	0.77	1.03	0.58	0.68	3.94
Pyrene GCMS	N	ug/l	0.01	23.7	0.60	0.84	0.44	0.53	3.25
Benzo (a) anthracene GCMS	N	ug/l	0.01	17.0	0.39	0.60	0.31	0.39	2.73
Chrysene GCMS	N	ug/l	0.01	15.4	0.34	0.56	0.28	0.35	2.10
Benzo (b) fluoranthene GCMS	N	ug/l	0.01	17.2	0.37	0.56	0.23	0.29	2.57
Benzo (k) fluoranthene GCMS	N	ug/l	0.01	15.6	0.37	0.57	0.23	0.31	2.01
Benzo (a) pyrene GCMS	N	ug/l	0.01	20.2	0.50	0.84	0.33	0.40	3.31
Indeno (1,2,3-cd) pyrene GCMS	N	ug/l	0.01	14.8	0.36	0.58	0.23	0.23	2.30
Dibenzo(a,h)anthracene GCMS	N	ug/l	0.01	6.23	0.09	0.18	0.06	0.08	0.79
Benzo(ghi)perylene GCMS	N	ug/l	0.01	15.2	0.33	0.53	0.23	0.25	2.21
Total PAH(16) GCMS	N	ug/l	0.01	195	4.93	7.11	3.61	4.28	27.9
TPH CWG									
>C5-C6 Aliphatic	N	ug/l	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 16-05909

ELAB Reference	55731	55732	55733	55734	55735	55736
Customer Reference						
Sample ID						
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
Sample Location	WS1	WS3	WS4	WS5	WS6	WS7
Sample Depth (m)	0.29	1.08	0.24	0.15	0.00	1.36
Sampling Date	01/03/2016	01/03/2016	01/03/2016	01/03/2016	01/03/2016	01/03/2016

Determinand	Codes	Units	LOD						
>C6-C8 Aliphatic	N	ug/l	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C8-C10 Aliphatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C10-C12 Aliphatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C12-C16 Aliphatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C16-C21 Aliphatic	N	ug/l	5	24.0	< 5.0	< 5.0	25.6	< 5.0	31.4
>C21-C35 Aliphatic	N	ug/l	5	282	146	17.5	676	39.4	1000
>C35-C40 Aliphatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total (>C5-C40) Aliphatic	N	ug/l	5	306	146	17.5	702	39.4	1030
>C5-C7 Aromatic	N	ug/l	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C7-C8 Aromatic	N	ug/l	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C8-C10 Aromatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C10-C12 Aromatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C12-C16 Aromatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C16-C21 Aromatic	N	ug/l	5	23.7	15.0	< 5.0	< 5.0	< 5.0	22.9
>C21-C35 Aromatic	N	ug/l	5	202	121	34.7	468	55.9	686
>C35-C40 Aromatic	N	ug/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total (>C5-C40) Aromatic	N	ug/l	5	226	136	34.7	468	55.9	709
Total (>C5-C40) Ali/Aro	N	ug/l	5	532	282	52.2	1170	95.3	1740
PCB (ICES 7 congeners)									
PCB 28	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB 52	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB 101	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB118	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB 153	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB 138	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB 180	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PCB (7 Congeners)	N	ug/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Method Summary

Report No.: 16-05909

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Water					
Aliphatic/Aromatic hydrocarbons in water	N		08/03/2016		GC-FID
Aromatic hydrocarbons in water	N		08/03/2016		GC-FID
Phenols in waters	N		03/03/2016		HPLC
Dissolved metals by ICP in waters	U		03/03/2016	101	ICPMS
Dissolved organic carbon	U		04/03/2016	102	IR
pH of waters	U		03/03/2016	113	Electromeric
Chromium Hexavalent in waters	U		08/03/2016	123	Colorimetry
Anions	U		03/03/2016	131	Ion Chromatography
PAHs and/or PCBs in waters	N		04/03/2016	135	GC-MS
Elemental Sulphur by HPLC in waters	N	As submitted sample	04/03/2016	206	HPLC
Aliphatic hydrocarbons in water	N		03/03/2016	215	GC-FID
Aromatic hydrocarbons in water	N		03/03/2016	215	GC-FID
Low range Aliphatic hydrocarbons water	N		08/03/2016	215	GC-MS
Low range Aromatic hydrocarbons water	N		08/03/2016	215	GC-MS

Tests marked N are not UKAS accredited



Report Information

Report No.: 16-05909

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618
Facsimile: (01424) 729911
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 16-06122

Issue: 2

Date of Issue: 23/03/2016

Contact: Anthony Potter

Customer Details: GESL
Unit 7
Danworth Farm
Hurstpierpoint
West Sussex BN6 9GL

Quotation No: Q14-00021

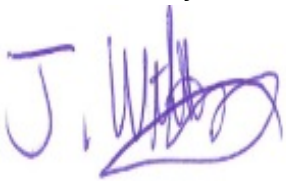
Order No: GE15338

Customer Reference: GE15338

Date Received: 17/03/2016

Date Approved: 23/03/2016

Details: Dalefield Way, Gravesend

Approved by: 

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 16-06122

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
57249	Upstream Ditch	16/03/2016	17/03/2016		
57250	Downstream Ditch	16/03/2016	17/03/2016		



Results Summary

Report No.: 16-06122

ELAB Reference	57249	57250
Customer Reference	Ditch	Ditch
Sample ID		
Sample Type	WATER	WATER
Sample Location	Upstream	Downstream
Sample Depth (m)		
Sampling Date	16/03/2016	16/03/2016

Determinand	Codes	Units	LOD		
Dissolved Metals					
Arsenic	U	ug/l	5	< 5	< 5
Boron	N	ug/l	5	291	272
Barium	U	ug/l	5	21	18
Beryllium	U	ug/l	5	< 5	< 5
Cadmium	U	ug/l	1	< 1	< 1
Chromium	U	ug/l	5	< 5	< 5
Copper	U	ug/l	5	< 5	< 5
Mercury	U	ug/l	0.1	< 0.1	< 0.1
Nickel	U	ug/l	5	< 5	< 5
Lead	U	ug/l	1	< 1	< 1
Selenium	U	ug/l	5	< 5	< 5
Vanadium	N	ug/l	5	< 5	< 5
Zinc	U	ug/l	5	< 5	< 5
Anions					
Chloride	U	mg/l	0.5	265	226
Sulphate	U	mg/l	0.5	284	241
Inorganics					
Elemental Sulphur	N	mg/l	0.1	< 0.1	< 0.1
Hexavalent Chromium	U	ug/l	100	< 100	< 100
Sulphide	N	mg/l	0.1	0.8	0.2
Miscellaneous					
Dissolved organic carbon	U	mg/l	1.5	12	10
pH	U	pH units	0.1	7.7	8.0
Phenols					
Phenol	N	ug/l	1	< 1	< 1
M,P-Cresol	N	ug/l	1	< 1	< 1
O-Cresol	N	ug/l	1	< 1	< 1
3,4-Dimethylphenol	N	ug/l	1	< 1	< 1
2,3-Dimethylphenol	N	ug/l	1	< 1	< 1
2,3,5-trimethylphenol	N	ug/l	1	< 1	< 1
Total Monohydric Phenols	N	ug/l	1	< 1	< 1
Polyaromatic hydrocarbons					
Naphthalene GCMS	N	ug/l	0.01	0.08	0.08
Acenaphthylene GCMS	N	ug/l	0.01	0.02	0.25
Acenaphthene GCMS	N	ug/l	0.01	0.03	0.12
Fluorene GCMS	N	ug/l	0.01	0.05	0.30
Phenanthrene GCMS	N	ug/l	0.01	0.19	1.86
Anthracene GCMS	N	ug/l	0.01	0.05	0.49
Fluoranthene GCMS	N	ug/l	0.01	0.16	1.68
Pyrene GCMS	N	ug/l	0.01	0.11	1.14
Benzo (a) anthracene GCMS	N	ug/l	0.01	0.06	0.50
Chrysene GCMS	N	ug/l	0.01	0.08	0.57
Benzo (b) fluoranthene GCMS	N	ug/l	0.01	0.05	0.22
Benzo (k) fluoranthene GCMS	N	ug/l	0.01	0.05	0.28
Benzo (a) pyrene GCMS	N	ug/l	0.01	0.06	0.28
Indeno (1,2,3-cd) pyrene GCMS	N	ug/l	0.01	0.04	0.13
Dibenzo(a,h)anthracene GCMS	N	ug/l	0.01	0.02	0.03
Benzo(ghi)perylene GCMS	N	ug/l	0.01	0.04	0.14
Total PAH(16) GCMS	N	ug/l	0.01	1.10	8.05
TPH CWG					
>C5-C6 Aliphatic	N	ug/l	1	< 1.0	< 1.0

Tests marked N are not UKAS accredited.



Results Summary

Report No.: 16-06122

ELAB Reference	57249	57250
Customer Reference	Ditch	Ditch
Sample ID		
Sample Type	WATER	WATER
Sample Location	Upstream	Downstream
Sample Depth (m)		
Sampling Date	16/03/2016	16/03/2016

Determinand	Codes	Units	LOD		
>C6-C8 Aliphatic	N	ug/l	1	< 1.0	< 1.0
>C8-C10 Aliphatic	N	ug/l	5	< 5.0	< 5.0
>C10-C12 Aliphatic	N	ug/l	5	< 5.0	< 5.0
>C12-C16 Aliphatic	N	ug/l	5	< 5.0	< 5.0
>C16-C21 Aliphatic	N	ug/l	5	< 5.0	5.6
>C21-C35 Aliphatic	N	ug/l	5	8.6	13.6
>C35-C40 Aliphatic	N	ug/l	5	< 5.0	< 5.0
Total (>C5-C40) Aliphatic	N	ug/l	5	8.6	19.1
>C5-C7 Aromatic	N	ug/l	1	< 1.0	< 1.0
>C7-C8 Aromatic	N	ug/l	1	< 1.0	< 1.0
>C8-C10 Aromatic	N	ug/l	5	< 5.0	< 5.0
>C10-C12 Aromatic	N	ug/l	5	< 5.0	< 5.0
>C12-C16 Aromatic	N	ug/l	5	< 5.0	< 5.0
>C16-C21 Aromatic	N	ug/l	5	6.1	5.4
>C21-C35 Aromatic	N	ug/l	5	19.1	15.0
>C35-C40 Aromatic	N	ug/l	5	< 5.0	< 5.0
Total (>C5-C40) Aromatic	N	ug/l	5	25.2	20.4
Total (>C5-C40) Ali/Aro	N	ug/l	5	33.8	39.5

Method Summary

Report No.: 16-06122

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Water					
Aliphatic/Aromatic hydrocarbons in water	N		22/03/2016		GC-FID
Aromatic hydrocarbons in water	N		22/03/2016		GC-FID
Phenols in waters	N		18/03/2016		HPLC
Dissolved metals by ICP in waters	U		21/03/2016	101	ICPMS
Dissolved organic carbon	U		22/03/2016	102	IR
pH of waters	U		22/03/2016	113	Electromeric
Chromium Hexavalent in waters	U		22/03/2016	123	Colorimetry
Anions	U		21/03/2016	131	Ion Chromatography
PAHs and/or PCBs in waters	N		18/03/2016	135	GC-MS
Elemental Sulphur by HPLC in waters	N	As submitted sample	21/03/2016	206	HPLC
Aliphatic hydrocarbons in water	N		18/03/2016	215	GC-FID
Aromatic hydrocarbons in water	N		18/03/2016	215	GC-FID
Low range Aliphatic hydrocarbons water	N		22/03/2016	215	GC-MS
Low range Aromatic hydrocarbons water	N		22/03/2016	215	GC-MS

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Report Information

Report No.: 16-06122

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Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage

[illegible]



		Assessment Criterion (mg kg ⁻¹)			Ratio of ADE to HCV			Saturation Limit (mg kg ⁻¹)	50% rule?	
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal
1	Arsenic	6.35E+02	6.95E+02	NR	1.00	0.91	NR	NR	No	No
2	Cadmium	3.99E+02	3.87E+02	2.30E+02	0.41	0.59	1.00	NR	Yes	No
3	Chromium III	3.31E+05	3.34E+04	3.04E+04	0.09	0.91	1.00	NR	No	No
4	Mercury, inorganic	4.41E+03	2.09E+04	3.64E+03	0.83	0.17	1.00	NR	No	No
5	Nickel	2.22E+04	1.79E+03	NR	0.07	1.00	NR	NR	No	No
6	Copper	1.78E+05	9.60E+04	7.17E+04	0.25	0.75	1.00	NR	Yes	No
7	Zinc	6.67E+05	2.09E+08	6.65E+05	1.00	0.00	1.00	NR	Yes	No
8	Selenium	1.30E+04	NR	NR	1.00	NR	NR	NR	No	No
9	Chromium VI	2.01E+03	NR	NR	1.00	NR	NR	NR	No	No
10	Barium	2.21E+04	NR	NR	1.00	NR	NR	NR	Yes	No
11	Beryllium	3.97E+03	4.17E+02	3.78E+02	0.09	0.91	1.00	NR	No	No
12	Vanadium	5.94E+03	6.76E+03	3.16E+03	0.53	0.47	1.00	NR	No	No
13	Phenol	1.54E+06	3.74E+04	3.65E+04	0.02	0.98	1.00	7.54E+04 (vap)	No	No
14	Acenaphthylene	1.10E+05	1.08E+06	9.96E+04	0.91	0.09	1.00	1.71E+02 (sol)	No	No
15	Acenaphthene	1.10E+05	1.16E+06	1.00E+05	0.91	0.09	1.00	1.13E+02 (sol)	No	No
16	Flourene	7.31E+04	1.33E+06	6.93E+04	0.95	0.05	1.00	6.16E+01 (sol)	No	No
17	Phenanthrene	2.28E+04	1.30E+06	2.24E+04	0.98	0.02	1.00	7.18E+01 (sol)	No	No
18	Anthracene	5.49E+05	2.80E+07	5.38E+05	0.98	0.02	1.00	2.33E+00 (vap)	No	No
19	Flouranthene	2.29E+04	2.99E+06	2.27E+04	0.99	0.01	1.00	3.79E+01 (vap)	No	No
20	Pyrene	5.49E+04	7.10E+06	5.44E+04	0.99	0.01	1.00	4.40E+00 (vap)	No	No

[illegible]

Client/client ref: Riverdale Developments Ltd
Project ref: GE15338
Site ref: Dalefield Way, Gravesend
Data description:
Contaminant(s):
Test scenario: Planning
Date: 11 March 2016
User details: AP

Client/client ref: Riverdale Developments Ltd Project ref: GE15338 Site ref: Dalefield Way, Gravesend Data description: Contaminant(s): Test scenario: Planning Date: 11 March 2016 User details: AP		Lead (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium III (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Copper (mg/kg)	Zinc (mg/kg)	Selenium (mg/kg)	Chromium VI (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Vanadium (mg/kg)	Phenol (mg/kg)
Critical concentration, C _c	2330	640	410	30400	3640	1790	71700	665000	13000	49	22100	378	3160	36500	
Notes															
Full dataset size	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
Outliers present?	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	
Number of outliers temporarily excluded	0														
Number removed by filter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sample size, n	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
Sample mean, $\bar{x}$	59.6375	19.1875	0.325	37.5875	0.303125	28.0625	22.3875	98.2125	0.5	0.4	73.86875	1.09375	61.76875	3	
Standard deviation, s	32.627021	8.08899458	0.22435092	12.4514992	0.2125	6.4323013	9.01619839	31.9273524	0	5.7332E-17	23.1553513	0.39743972	26.063991	0	
Number of non-detects	0	0	14	0	15	0	0	0	16	16	0	4	0	16	
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	
Distribution	Non-normal	Normal	Non-normal	Normal	Non-normal	Normal	Non-normal	Normal	Single value	Non-normal	Normal	Non-normal	Normal	Single value	
Statistical approach	Auto: Chebychev	Auto: One-sample t	Auto: Chebychev	Auto: One-sample t	Auto: Chebychev	Auto: One-sample t	Auto: Chebychev	Auto: One-sample t	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t	Auto: Chebychev	Auto: One-sample t	Auto: Chebychev	

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Back to data

Go to outlier test

Go to normality test

Show individual summary

Client/client ref: Riverdale Developments Ltd
Project ref: GE15338
Site ref: Dalefield Way, Gravesend
Data description:
Contaminant(s):
Test scenario: Planning
Date: 11 March 2016
User details: AP

Benzo(a)pyrene (mg/kg)						
Critical concentration, C _c	76					
Notes						
Full dataset size	16	0	0	0	0	0
Outliers present?	Yes					
Number of outliers temporarily excluded						
Number removed by filter	0	0	0	0	0	0
Sample size, n	16	0	0	0	0	0
Sample mean, $\bar{X}$	0.33125	No Data	No Data	No Data	No Data	No Data
Standard deviation, s	0.59072695					
Number of non-detects	8	0	0	0	0	0
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal					
Statistical approach	Auto: Chebychev	Auto	Auto	Auto	Auto	Auto

Test scenario:					
t statistic, t ₀ (or k ₀)	-512.3771623				
Upper confidence limit (on true mean concentration, μ)	0.97497977				
Evidence level	100%				
Base decision on:	evidence level				
Result	$\mu < C_c$				
Select dataset	☐ Y	☐ Y	☐ Y	☐ Y	☐ Y

Back to data

Client/client ref: Riverdale Developments Ltd
Project ref: GE15338
Site ref: Dalefield Way, Gravesend
Data description:
Contaminant(s):
Test scenario: Planning
Date: 14 March 2016
User details: AP

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Back to data

Go to outlier test

Go to normality test

Show individual summary

Client/client ref: Riverdale Developments Ltd
Project ref: GE15338
Site ref: Dalefield Way, Gravesend
Data description:
Contaminant(s):
Test scenario: Planning
Date: 14 March 2016
User details: AP

	AI EC35-EC44 (mg/kg)					
Critical concentration, C _c	1910000					
Notes						
Full dataset size	8	0	0	0	0	0
Outliers present?	Yes					
Number of outliers temporarily excluded						
Number removed by filter	0	0	0	0	0	0
Sample size, n	8	0	0	0	0	0
Sample mean, $\bar{X}$	0.925	No Data	No Data	No Data	No Data	No Data
Standard deviation, s	0.89562428					
Number of non-detects	6	0	0	0	0	0
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal					
Statistical approach	Auto: Chebychev	Auto	Auto	Auto	Auto	Auto

Test scenario:					
t statistic, t ₀ (or k ₀)	-6031874.405				
Upper confidence limit (on true mean concentration, μ)	2.30524972				
Evidence level	100%				
Base decision on:	evidence level				
Result	$\mu < C_c$				
Select dataset	☐ Y	☐ Y	☐ Y	☐ Y	☐ Y

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