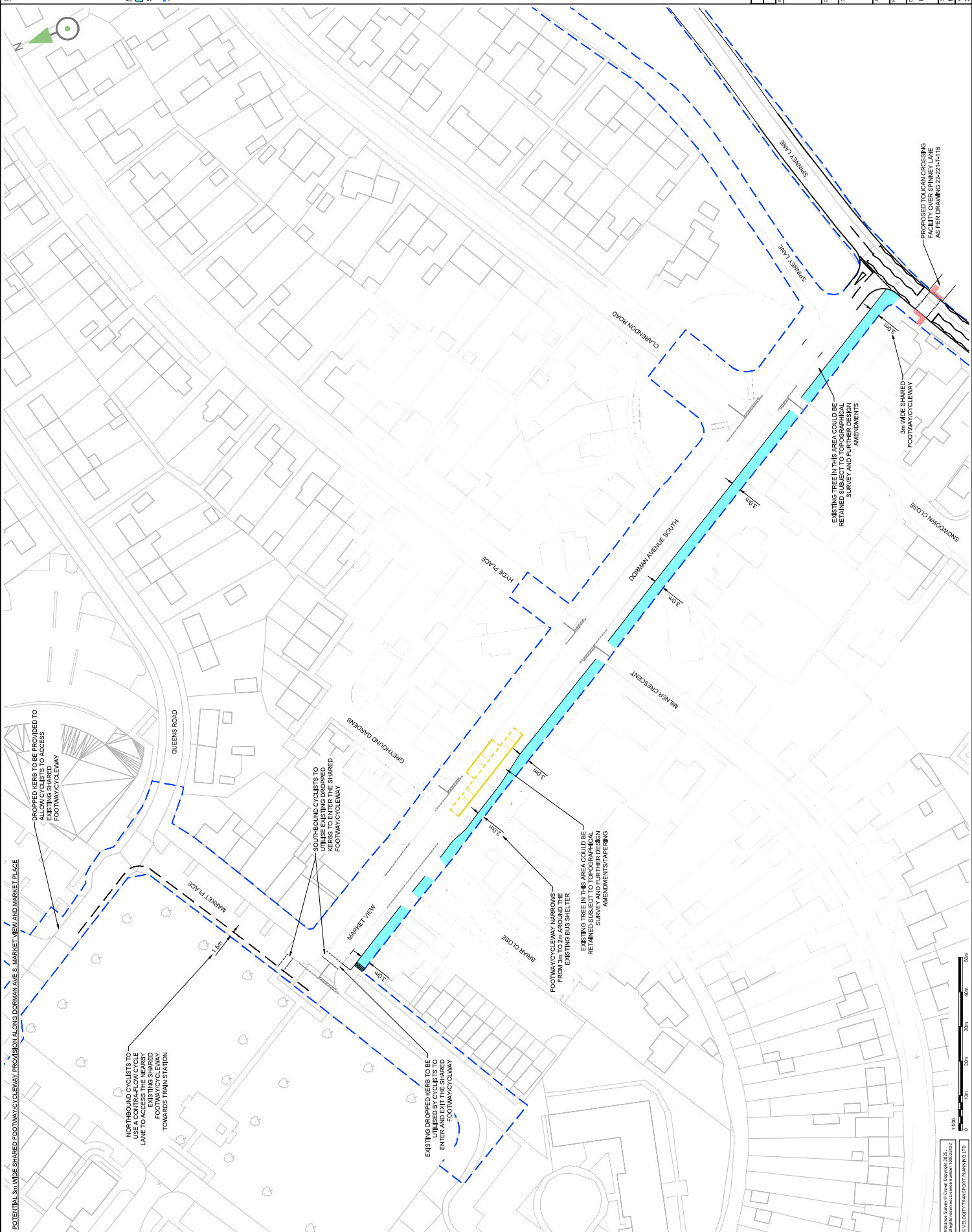


General Notes:

- 1. DO NOT SCALE FROM THIS DRAWING.
- 2. ALL DIMENSIONS AND LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
- 3. THE DRAWING IS TO BE PRINTED IN COLOUR.
- 4. THE DRAWING IS BASED ON OS MAPPING.
- 5. THE DRAWING IS FOR INFORMATION PURPOSES ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION.

Scale: 1:500
SHARED FOOTWAY / CYCLEWAY ARRANGEMENT
TRANSCRIBED HIGHWAY BOUNDARY



POTENTIAL 3m WIDE SHARED FOOTWAY / CYCLEWAY PROVISION ALONG DORMAN AVE S, MARKET VIEW AND MARKET PLACE

PROPOSED KERB TO BE PROVIDED TO ALLOW CYCLISTS TO ACCESS EXISTING SHARED FOOTWAY / CYCLEWAY

SOUTHBOUND CYCLISTS TO USE EXISTING DROPPED KERB TO ENTER AND EXIT THE SHARED FOOTWAY / CYCLEWAY

EXISTING DROPPED KERB TO BE PROVIDED TO ALLOW CYCLISTS TO ENTER AND EXIT THE SHARED FOOTWAY / CYCLEWAY

EXISTING TREE IN THIS AREA COULD BE RETAINED SUBJECT TO TOPOGRAPHICAL SURVEY AND FURTHER DESIGN AMENDMENTS

EXISTING TREE IN THIS AREA COULD BE RETAINED SUBJECT TO TOPOGRAPHICAL SURVEY AND FURTHER DESIGN AMENDMENTS

EXISTING TREE IN THIS AREA COULD BE RETAINED SUBJECT TO TOPOGRAPHICAL SURVEY AND FURTHER DESIGN AMENDMENTS

3m WIDE SHARED FOOTWAY / CYCLEWAY

PROPOSED TOULCAN CROSSING FACILITY OVER SPINNEY LANE AFTER DRAWING 22-23-14-16

EXISTING TREE IN THIS AREA COULD BE RETAINED SUBJECT TO TOPOGRAPHICAL SURVEY AND FURTHER DESIGN AMENDMENTS

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3m WIDE SHARED FOOTWAY / CYCLEWAY

Rev	Date	Description	Rev	Date	Description
1	24/07/25	First Issue	1	24/07/25	First Issue
2	24/07/25	Revised	2	24/07/25	Revised
3	24/07/25	Revised	3	24/07/25	Revised
4	24/07/25	Revised	4	24/07/25	Revised
5	24/07/25	Revised	5	24/07/25	Revised

Project Name	Project No.	Project Date	Project Location
AXIS	S1 - FOR COORDINATION	24/07/25	22-23-14-16

Client	Client Ref.	Client Contact	Client Email
VeLocity	S1 - FOR COORDINATION	24/07/25	22-23-14-16

Project Name	Project No.	Project Date	Project Location
AXIS	S1 - FOR COORDINATION	24/07/25	22-23-14-16

Project Name	Project No.	Project Date	Project Location
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Project Name	Project No.	Project Date	Project Location
AXIS	S1 - FOR COORDINATION	24/07/25	22-23-14-16

APPENDIX 2

BRE 365 SOIL INFILTRATION TEST RESULTS REPORT

Shaw Stephens
Consulting

Land to the South of Aylesham

BRE 365 Soil Infiltration Test Results

**For: Axis Land Partnerships Limited and Trustees of
the Lord Fitzwalter 1988 Settlements**

Job Number:		0108
Report Reference:		0108-01
Issue Status / Revision:	Final	
Date:	29 January 2025	
Written By:	Neville Shaw	
Previous Revisions and Date:		
Shaw Stephens Consulting, 6 Hewitt Street, Manchester Tel: +44 7471 877 617 Email: neville.shaw@shaw-stephens.com		

This report has been prepared for the sole use of Axis Land Partnerships Limited and Trustees of the Lord Fitzwalter 1988 Settlements. It must not be copied or passed onto any third party or used for any purpose other than which it was prepared without the permission of the author. This report is copyright.

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1.0	INTRODUCTION
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2.0	NOTES ON LIMITATIONS
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APPENDICES

APPENDIX 1 DRAWINGS

APPENDIX 2 INFILTRATION TEST WORKSHEETS

1.0 INTRODUCTION

- 1.1 Shaw Stephens Consulting has been commissioned by Axis Land Partnerships Limited and Trustees of the Lord Fitzwalter 1988 Settlements to undertake BRE 365 soil infiltration factual testing and reporting in relation to Land to the South of Spinney Lane, Aylesham, Kent, CT3.
- 1.2 The description of development is: 'Outline planning application (with all matters reserved apart from access) for development comprising residential units and flexible non-residential floor space and associated infrastructure and other works incidental to the proposed development'.
- 1.3 The key components of the proposed development are set out below:
- Up to 800 residential dwellings at an average density of 36.5 dph and maximum height of three storeys.
 - Up to 1,100 sq. m GIA flexible Class E/F2 floorspace for a mixed use local centre.
 - Hard and soft landscaping, including a variety of open space types, integrated green and blue infrastructure and Sustainable Drainage Systems (SuDS).
 - New infrastructure for pedestrians, cyclists, public transport and vehicles.
 - New vehicular and non-motorised (pedestrian and cycle) access from Spinney Lane and Aylesham Road and
 - Associated infrastructure and works
- 1.4 The proposed development falls within the administrative jurisdiction of **DOVER CITY COUNCIL** and Kent County Council Lead Local Flood Authority. The planning submission comprises an outline planning application (with all matters reserved apart from access) for development comprising residential units and flexible non residential floorspace and associated infrastructure and other works incidental to the proposed development.
- 1.5 This factual report presents the results of a series of infiltration tests undertaken in August and November 2023 at the site in line with the requirements of BRE 365 - the soakaway test locations are indicated on the site plan in Appendix 1 which is superimposed on the proposed conceptual masterplan for ease of reference and the associated calculated permeability test results are set out in Appendix 2.

2.0**NOTES ON LIMITATIONS**

- 2.1 Shaw Stephens Consulting has prepared this report solely for the use of Axis Land Partnerships Limited and Trustees of the Lord Fitzwalter 1988 Settlements .
- 2.2 Should any third party wish to use or rely on the contents of the report, written approval must be sought from Shaw Stephens Consulting and a charge may be levied against such approval.
- 2.3 Shaw Stephens Consulting accepts no responsibility or liability for:
- i) The consequences of this report being used for any purpose or project other than for which it was commissioned and/or
 - ii) The consequences of use of this document by any party with whom an agreement has not been executed.
- 2.4 The information and views cited in the report are based on data derived from numerous sources. Shaw Stephens Consulting do not accept any liability for the correctness or otherwise of any information provided by third parties.
- 2.5 It should be noted that some of the elements covered in this report may be subject to change over time. Therefore, if the development is delayed or postponed, it may be necessary to consider reviewing such matters to verify that there have been no changes either at the subject site or in relation to pertinent legislation.
- 2.6 Further consultations with statutory bodies will evidently be required as the project progresses. Where responses have been received from Regulators, it is noted that the nature of these responses could be subject to change in the future.

APPENDIX

APPENDIX 1

DRAWINGS

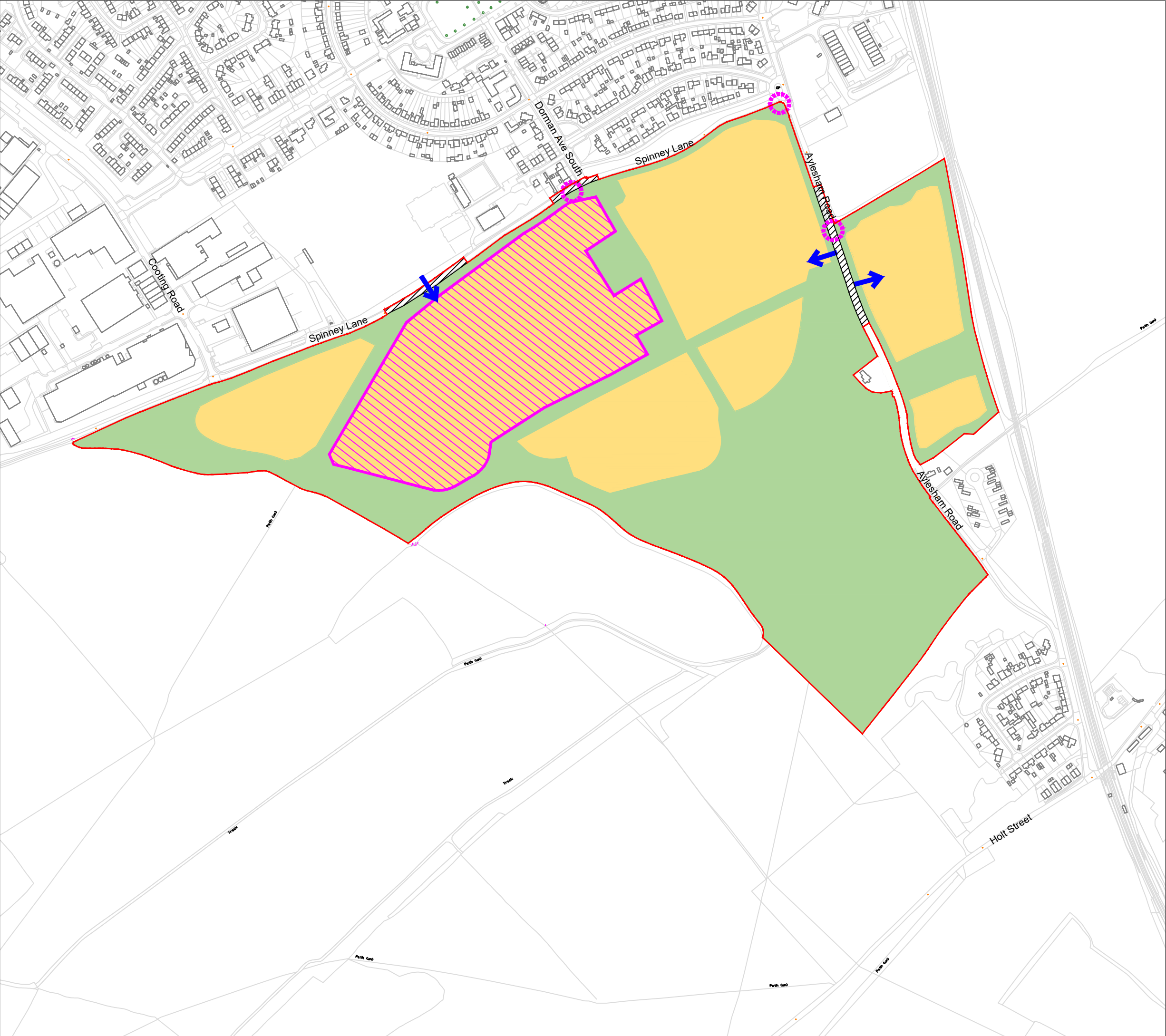


Project Land to the South of Aylesham

Site Location Plan

Date	Scale	Drawn by	Check by
05/12/2024	1:5,000 at A3	JB/JL	SR
Project No	Drawing No	Revision	
1284	001	D	

Mosaic



-  Site boundary
-  Residential uses including access roads, footpaths, cycle paths, private garden space, car parking, green corridors, incidental open spaces, landscaping, children's play areas, utility infrastructure and sustainable drainage systems (SuDS)
-  Mixed use building zone extends to include Use Class E, F.2 (as secured and subject to section 106 agreement) and residential uses including access roads, footpaths, cycle paths, private garden space, car parking, green corridors, incidental open spaces, landscaping, children's play areas, utility infrastructure and sustainable drainage systems (SuDS)
-  Green infrastructure including amenity greenspace, play space, allotments, community orchards, SUDS, access roads and utilities (refer to Green Infrastructure Parameter Plan drawing no. 005-05)
-  Road extents
-  Vehicular & pedestrian access points
-  Zone for pedestrian crossing points (refer to Detailed Plans)



Project
Land to the South of Aylesham

Drawing Title
Land Use Parameter Plan

Date	Scale	Drawn by	Check by
18/12/2024	1:5,000 at A3	JL/JB	SR
Project No	Drawing No	Revision	
1284	005-01	B	



Key

Site boundary

01 Vehicular access point

02 Pedestrian crossing

03 Sustainable drainage feature

04 Retained and enhanced vegetation

05 Tree belt and copse planting

06 Community orchard/garden

07 Allotments and associated parking

08 Village green

09 Destination children's play area

10 Species-rich grassland and meadow planting

11 Mixed-use local centre

12 Multi-functional green corridor with opportunities for play, community gardens, orchards, and the cultivation of edible trees and plants

13 Public right of way

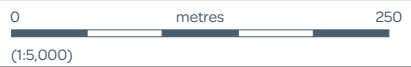
14 Five-a-side kickabout area

15 Pedestrian crossing point

16 Cycle, pedestrian and emergency access

Cycle and pedestrian path

Pedestrian path



CLIENT:
Axis Land

PROJECT:
Land to the South of Aylesham

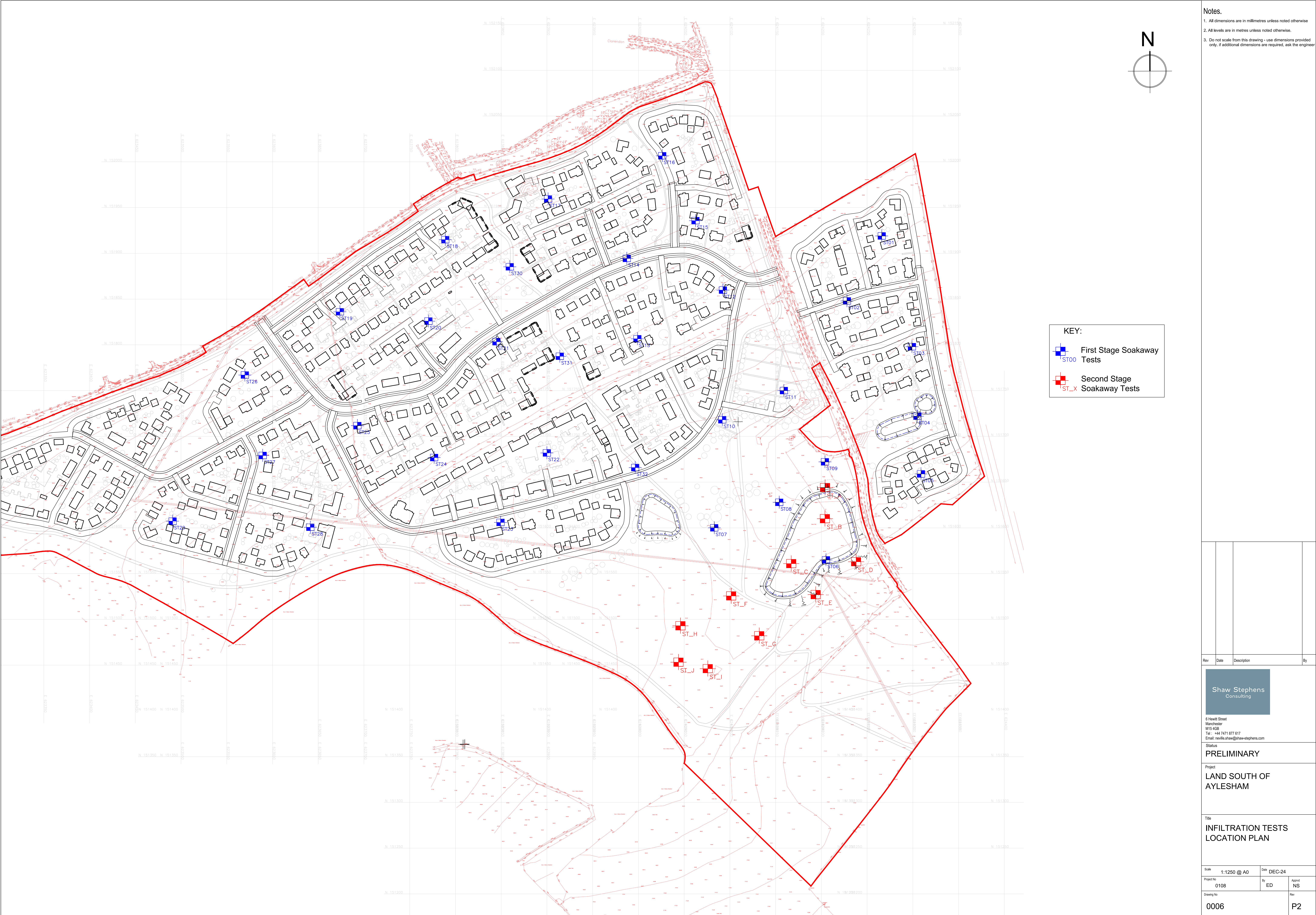
DRAWING:
Illustrative masterplan

PROJECT NUMBER:
1284

DRAWING NUMBER: SK003
CHECKED BY: SR

REVISION: v7
STATUS: Final

DATE: 13/01/2025
SCALE: 1:5,000



Notes.

1. All dimensions are in millimetres unless noted otherwise.

2. All levels are in metres unless noted otherwise.

3. Do not scale from this drawing - use dimensions provided only. If additional dimensions are required, ask the engineer.

KEY:

 First Stage Soakaway Tests

 Second Stage Soakaway Tests

Rev	Date	Description	By



6 Hewitt Street
Manchester
M15 4GB
Tel : +44 7471 877 617
Email: neville.shaw@shaw-stephens.com

Status
PRELIMINARY

Project
**LAND SOUTH OF
AYLESHAM**

Title
**INFILTRATION TESTS
LOCATION PLAN**

Scale	1:1250 @ A0	Date	DEC-24
Project No	0108	By	ED
Drawing No	0006	Appr	NS
		Rev	P2

APPENDIX 2

INFILTRATION TEST WORKSHEETS

Table 1: Soil Infiltration Summary Table (Initial Investigation)

Test No.	Geological Setting	Northern	Eastern	Soil Infiltration Rate ('f' value)
ST1	Margate Chalk Member	624266	151919	3.14×10^{-5}
ST2	Seaford Chalk Formation	624228	151848	1.99×10^{-5}
ST3	Seaford Chalk Formation	624299	151798	2.81×10^{-5}
ST4	Seaford Chalk Formation	624305	151722	5.15×10^{-5}
ST5	Seaford Chalk Formation	624309	151659	1.31×10^{-5}
ST6	Seaford Chalk Formation	624205	151565	7.36×10^{-6}
ST7	Seaford Chalk Formation	624083	151601	1.32×10^{-6} *
ST8	Seaford Chalk Formation	624154	151628	2.35×10^{-6}
ST9	Seaford Chalk Formation	624204	151672	8.31×10^{-6}
ST10	Seaford Chalk Formation	624109	151716	1.01×10^{-5}
ST11	Seaford Chalk Formation	624159	151750	1.27×10^{-5}
ST12	Margate Chalk Member	624109	151858	1.38×10^{-5}
ST13	Margate Chalk Member	624016	151805	9.55×10^{-6}
ST14	Margate Chalk Member	624004	151892	9.44×10^{-6}
ST15	Margate Chalk Member	624079	151933	1.07×10^{-5}
ST16	Margate Chalk Member	624043	152004	2.31×10^{-5}
ST17	Margate Chalk Member	623918	151957	1.73×10^{-5}
ST18	Margate Chalk Member	623805	151913	1.06×10^{-5}
ST19	Margate Chalk Member	623690	151834	1.10×10^{-5}
ST20	Margate Chalk Member	623787	151824	1.10×10^{-5}
ST21	Margate Chalk Member	623861	151801	1.08×10^{-5}
ST22	Seaford Chalk Formation	623916	151680	2.10×10^{-5}
ST23	Seaford Chalk Formation	623866	151603	1.63×10^{-5}
ST24	Seaford Chalk Formation	623774	151675	1.19×10^{-5}
ST25	Margate Chalk Member	623709	151709	1.13×10^{-5}
ST26	Margate Chalk Member	623587	151764	1.14×10^{-5}
ST27	Margate Chalk Member	623605	151677	1.14×10^{-5}
ST28	Seaford Chalk Formation	623657	151588	1.09×10^{-5}
ST29	Margate Chalk Member	623507	151595	1.17×10^{-5}
ST30	Margate Chalk Member	623876	151883	9.96×10^{-6}
ST31	Margate Chalk Member	623931	151785	3.48×10^{-6}
ST32	Seaford Chalk Formation	624013	151664	2.29×10^{-6}

Table 2: Soil Infiltration Summary Table (Supplementary Investigation)

Test No.	Geological Setting	Northern	Eastern	Soil Infiltration Rate ('f' value)
A	Seaford Chalk Formation	624204	151644	2.98×10^{-6}
B	Seaford Chalk Formation	624204	151610	1.53×10^{-6} *
C	Seaford Chalk Formation	624167	151561	2.08×10^{-6}
D	Seaford Chalk Formation	624238	151563	1.69×10^{-6} *
E	Seaford Chalk Formation	624194	151527	3.92×10^{-6}
F	Seaford Chalk Formation	624102	151525	2.14×10^{-6}
G	Seaford Chalk Formation	624133	151482	1.18×10^{-5}
H	Seaford Chalk Formation	624046	151493	4.81×10^{-5}
I	Seaford Chalk Formation	624076	151446	Test cancelled due to collapsing sidewalls
J	Seaford Chalk Formation	624044	151453	1.39×10^{-6} *

*This test was conducted in the head deposits – not in the chalk formation.

Section: **AYLESHAM, KENT - ST01**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

Page: **1 OF 1**

Date: **30/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.71
 storage volume between 75-25% 'V_p' [m³] = 0.53
 time for water to fall from 75-25% 't_p' [min] = 59.38
 soil infiltration rate 'f' [m/s] = 3.14E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **2.70**
 total depth from ground level 'D_{tb}' [m] = **2.10**
 depth to pipe invert level 'D_{tp}' [m] = **0.80**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.30
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.15mbgl - TOPSOIL

0.15 - 2.20mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90				
	depth to water [m] =	0.80	0.83	0.86	0.89	0.92	0.94	1.00	1.04	1.07	1.08	1.12	1.20	1.24	1.28	1.36				
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	210
	depth to water [m] =	0.75	0.76	0.77	0.79	0.81	0.82	0.84	0.86	0.87	0.88	0.89	0.92	0.93	0.94	0.96	0.99	1.04	1.10	1.15
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	300
	depth to water [m] =	0.80	0.81	0.82	0.84	0.86	0.86	0.87	0.88	0.89	0.89	0.90	0.91	0.92	0.93	0.94	0.97	1.01	1.03	1.13

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST02	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 30/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.59
 storage volume between 75-25% 'V_p' [m³] = 0.51
 time for water to fall from 75-25% 't_p' [min] = 93.13
 soil infiltration rate 'f' [m/s] = 1.99E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **2.70**
 total depth from ground level 'D_{tb}' [m] = **1.80**
 depth to pipe invert level 'D_{tp}' [m] = **0.54**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.26
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.15mbgl - TOPSOIL

0.15 - 1.80mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120			
	depth to water [m] =	0.55	0.58	0.61	0.63	0.65	0.68	0.73	0.77	0.80	0.84	0.88	0.93	0.99	1.03	1.10	1.19			
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120			
	depth to water [m] =	0.53	0.56	0.58	0.61	0.63	0.66	0.70	0.73	0.75	0.76	0.78	0.81	0.84	0.87	0.93	0.99			
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120			
	depth to water [m] =	0.54	0.57	0.56	0.58	0.60	0.62	0.73	0.75	0.76	0.77	0.78	0.80	0.82	0.83	0.85	0.86			

calculations are based on BRE Guidelines (Digest 365)

Section: **AYLESHAM, KENT - ST03**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

Page: **1 OF 1**

Date: **30/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 3.80
 storage volume between 75-25% 'V_p' [m³] = 0.40
 time for water to fall from 75-25% 't_p' [min] = 61.67
 soil infiltration rate 'f' [m/s] = 2.81E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.20**
 depth to pipe invert level 'D_{tp}' [m] = **1.32**
 soakage trial pit effective depth 'D_{teff}' [m] = 0.88
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.15mbgl - TOPSOIL

0.15 - 2.20mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20										
	depth to water [m] =	1.34	1.44	1.52	1.57	1.61	1.65	1.87	1.94	2.01										
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	30	40								
	depth to water [m] =	1.34	1.42	1.49	1.54	1.57	1.61	1.75	1.80	1.85	1.91	1.99								
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	30	40	50	60	70					
	depth to water [m] =	1.32	1.39	1.45	1.49	1.51	1.54	1.64	1.68	1.72	1.76	1.82	1.88	1.94	2.00					

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST04	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 30/08/23	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 7.89
 storage volume between 75-25% 'V_p' [m³] = 0.95
 time for water to fall from 75-25% 't_p' [min] = 38.75
 soil infiltration rate 'f' [m/s] = 5.15E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.50**
 total depth from ground level 'D_{tb}' [m] = **3.00**
 depth to pipe invert level 'D_{tp}' [m] = **1.20**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.80
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.2mbgl - Brown silty gravelly fine medium and coarse SAND

0.2 - 1.8mbgl - Brown very silty gravelly fine and medium SAND (Head Deposits)

1.8 - 3.0mbgl - Yellowish white CHALK recovered as silty gravelly sand. Gravels comprise of fine medium and coarse subrounded flint and chalk.

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60					
	depth to water [m] =	1.20	1.22	1.24	1.27	1.29	1.31	1.43	1.54	1.64	1.68	1.71	1.77	1.84	1.90					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120			
	depth to water [m] =	1.10	1.12	1.14	1.16	1.17	1.18	1.25	1.32	1.37	1.39	1.41	1.43	1.46	1.50	1.65	1.80			
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	180		
	depth to water [m] =	1.20	1.22	1.23	1.24	1.25	1.26	1.31	1.36	1.39	1.41	1.43	1.44	1.45	1.46	1.51	1.56	1.66		

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST05	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 30/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.41
 storage volume between 75-25% 'V_p' [m³] = 0.49
 time for water to fall from 75-25% 't_p' [min] = 140.00
 soil infiltration rate 'f' [m/s] = 1.31E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **2.70**
 total depth from ground level 'D_{tb}' [m] = **2.60**
 depth to pipe invert level 'D_{tp}' [m] = **1.40**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.3mbgl - Brown silty gravelly fine medium and coarse SAND

0.2 - 1.2mbgl - Brown very clayey gravelly fine and medium SAND (Head Deposits)

1.2 - 2.6mbgl - White CHALK recovered as silty gravelly sand. Gravels comprise of fine medium and coarse subrounded flint and chalk.

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	
	depth to water [m] =	1.40	1.41	1.42	1.44	1.46	1.48	1.51	1.56	1.60	1.62	1.64	1.70	1.76	1.80	1.92	2.04	2.16	2.30	
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	190	
	depth to water [m] =	1.42	1.43	1.44	1.45	1.46	1.47	1.48	1.51	1.52	1.53	1.54	1.56	1.60	1.64	1.74	1.85	1.96	2.30	
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	210	
	depth to water [m] =	1.40	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.51	1.52	1.53	1.54	1.55	1.56	1.66	1.85	1.93	2.30	

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST06	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 25/08/23 - 26/08/2023

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 251.67
 soil infiltration rate 'f' [m/s] = 7.36E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **3.70**
 depth to pipe invert level 'D_{tp}' [m] = **2.50**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.55mbgl - Brown very gravelly SAND. Gravel is fine to coarse sub-angular to sub-rounded flint

0.55 - 3.70mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	210	
	depth to water [m] =	2.50	2.54	2.55	2.56	2.60	2.64	2.70	2.75	2.80	2.82	2.90	2.94	2.98	3.00	3.11	3.20	3.29	3.47	
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	210	240
	depth to water [m] =	2.50	2.52	2.54	2.55	2.58	2.60	2.65	2.70	2.73	2.79	2.85	2.88	2.92	2.96	3.02	3.06	3.15	3.33	3.40
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	210	280
	depth to water [m] =	2.50	2.52	2.54	2.55	2.56	2.58	2.62	2.68	2.71	2.76	2.82	2.86	2.90	2.94	3.00	3.02	3.11	3.29	3.40

calculations are based on BRE Guidelines (Digest 365)

Section: **AYLESHAM, KENT - ST07**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision **1.00**

Page: **1 OF 1**

Date: **25/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 7.50
 storage volume between 75-25% 'V_p' [m³] = 0.90
 time for water to fall from 75-25% 't_p' [min] = 1513.81
 soil infiltration rate 'f' [m/s] = 1.32E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **3.80**
 depth to pipe invert level 'D_{tp}' [m] = **1.80**
 soakage trial pit effective depth 'D_{teff}' [m] = 2.00
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - TOPSOIL

0.20 - 3.80mbgl - Reddish brown very silty clayey gravelly SAND. Gravel is fine to coarse sub-rounded to sub-angular flint - HEAD DEPOSITS

* is for data that was extrapolated

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17*	18*	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	30	40	50	60	90	120	150	180	210	2010
	depth to water [m] =	1.80	1.81	1.81	1.81	1.81	1.81	1.83	1.83	1.84	1.85	1.86	1.87	1.88	1.93	1.96	1.99	2.02	2.05	3.80
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	30	40	50	60	90	120	150	180	210	2610
	depth to water [m] =	1.81	1.81	1.82	1.82	1.82	1.82	1.84	1.84	1.85	1.86	1.87	1.88	1.89	1.92	1.94	1.96	1.98	2.00	3.80
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	30	40	50	60	90	120	150	180	210	2950
	depth to water [m] =	1.80	1.81	1.81	1.81	1.81	1.81	1.83	1.83	1.84	1.85	1.86	1.87	1.88	1.91	1.93	1.95	1.97	1.99	3.80

calculations are based on **BRE Guidelines (Digest 365)**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 7.67
 storage volume between 75-25% 'V_p' [m³] = 0.92
 time for water to fall from 75-25% 't_p' [min] = 852.84
 soil infiltration rate 'f' [m/s] = 2.35E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **3.20**
 depth to pipe invert level 'D_{tp}' [m] = **1.15**
 soakage trial pit effective depth 'D_{teff}' [m] = 2.05
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.30mbgl - Brown slightly gravelly silty SAND with low cobble content. Gravel is fine to coarse angular to sub-rounded brick, metal and flint (MG)
 0.30 - 1.90mbgl - Brown very gravelly sandy SILT. Gravel is sub-angular to sub-rounded fine to coarse flint
 1.90 - 3.20mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17*	18*	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	60	90	120	180	240	300	360	420	480	1005
	depth to water [m] =	1.15	1.17	1.20	1.21	1.22	1.23	1.24	1.28	1.30	1.33	1.38	1.40	1.45	1.56	1.65	1.74	1.85	1.95	2.65
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	60	90	120	180	240	300	360	420	480	1335
	depth to water [m] =	1.15	1.15	1.17	1.17	1.18	1.18	1.19	1.22	1.23	1.25	1.28	1.29	1.32	1.39	1.46	1.52	1.59	1.66	2.65
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	60	90	120	180	240	300	360	420	480	1500
	depth to water [m] =	1.15	1.15	1.16	1.16	1.16	1.17	1.18	1.20	1.21	1.22	1.23	1.24	1.25	1.28	1.32	1.35	1.38	1.42	2.65

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST09	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 23/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 222.86
 soil infiltration rate 'f' [m/s] = 8.31E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **3.80**
 depth to pipe invert level 'D_{tp}' [m] = **2.60**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.60mbgl - Brown silty very sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded brick, ceramic and flint (MG)
 0.60 - 2.00mbgl - Brown very gravelly sandy SILT. Gravel is sub-angular to sub-rounded fine to coarse flint
 2.00 - 3.80mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	150	210	270	
	depth to water [m] =	2.58	2.60	2.60	2.60	2.62	2.62	2.66	2.69	2.71	2.72	2.75	2.79	2.83	2.87	3.01	3.30	3.42	3.54	
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	150	210	270	300
	depth to water [m] =	2.59	2.60	2.60	2.60	2.61	2.62	2.63	2.69	2.72	2.72	2.73	2.75	2.80	2.84	2.88	3.10	3.30	3.40	3.50
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	150	210	270	330
	depth to water [m] =	2.60	2.61	2.61	2.62	2.62	2.63	2.63	2.66	2.70	2.72	2.72	2.73	2.80	2.83	2.86	3.00	3.20	3.30	3.50

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST10	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 23/08/23	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 184.00
 soil infiltration rate 'f' [m/s] = 1.01E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.70**
 depth to pipe invert level 'D_{tp}' [m] = **0.50**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.40mbgl - Brown gravelly silty SAND with low cobble content. Gravel and cobbles are sub-rounded to sub-angular flint

0.40 - 1.40mbgl - White CHALK recovered as white silty sandy GRAVEL with high cobble content. Gravel is fine to coarse angular to sub-rounded chalk and flint

1.40 - 1.70mbgl - White slightly gravelly CHALK. Gravel is fine to coarse sub-angular to sub-rounded flint

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150		
	depth to water [m] =	0.50	0.53	0.55	0.60	0.65	0.72	0.82	0.94	1.01	1.08	1.12	1.15	1.22	1.27	1.42	1.57	1.70		
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	240
	depth to water [m] =	0.50	0.52	0.54	0.56	0.61	0.62	0.70	0.80	0.88	0.93	0.95	0.97	0.99	1.02	1.14	1.26	1.36	1.47	1.69
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	240
	depth to water [m] =	0.50	0.51	0.53	0.55	0.59	0.60	0.66	0.74	0.80	0.84	0.86	0.88	0.90	0.92	1.02	1.12	1.22	1.32	1.52

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST11	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 23/08/23	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 3.87
 storage volume between 75-25% 'V_p' [m³] = 0.41
 time for water to fall from 75-25% 't_p' [min] = 136.83
 soil infiltration rate 'f' [m/s] = 1.27E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.20**
 depth to pipe invert level 'D_{tp}' [m] = **1.30**
 soakage trial pit effective depth 'D_{teff}' [m] = 0.90
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0-0.2 Grassed topsoil

0.2-0.4 White sandy GRAVEL. Gravel is fine to coarse CHALK. (REWORKED GROUND)

0.4-1.0 Dark brown gravelly SAND. Gravel is fine to coarse sub-angular to subrounded flint, chalk and brick

1.0-2.2 White silty gravelly CHALK

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60					
	depth to water [m] =	1.30	1.34	1.38	1.43	1.48	1.53	1.63	1.68	1.73	1.78	1.83	1.90	1.97	2.04					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150		
	depth to water [m] =	1.30	1.33	1.34	1.37	1.40	1.43	1.48	1.50	1.52	1.54	1.58	1.64	1.67	1.71	1.83	1.95	2.07		
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	210
	depth to water [m] =	1.28	1.31	1.32	1.33	1.35	1.37	1.40	1.41	1.42	1.44	1.48	1.52	1.55	1.58	1.68	1.78	1.88	1.98	2.07

calculations are based on BRE Guidelines (Digest 365)

Section: **AYLESHAM, KENT - ST12**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

Page: **1 OF 1**

Date: **30/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.38
 storage volume between 75-25% 'V_p' [m³] = 0.48
 time for water to fall from 75-25% 't_p' [min] = 133.28
 soil infiltration rate 'f' [m/s] = 1.38E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **2.70**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.81**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.19
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - TOPSOIL (Brown silty gravelly fine and medium SAND with some gravels of chalk and flint)

0.40 - 1.80mbgl - White CHALK recovered as white silty sandy GRAVEL. Gravel is fine to coarse angular to sub-rounded chalk and flint

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	0.80	0.84	0.88	0.92	0.98	1.02	1.10	1.18	1.24	1.31	1.39	1.48	1.60	1.69	1.78				
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	0.79	0.82	0.85	0.88	0.91	0.94	1.00	1.16	1.20	1.23	1.26	1.29	1.36	1.39	1.45				
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	0.81	0.84	0.86	0.88	0.90	0.92	0.98	1.10	1.17	1.20	1.21	1.22	1.24	1.26	1.45				

calculations are based on **BRE Guidelines (Digest 365)**

Section: **AYLESHAM, KENT - ST13**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

Page: **1 OF 1**

Date: **30/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 194.00
 soil infiltration rate 'f' [m/s] = 9.55E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.50**
 depth to pipe invert level 'D_{tp}' [m] = **0.30**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - TOPSOIL (Brown silty gravelly fine and medium SAND with some gravels of chalk and flint)

0.40 - 1.50mbgl - White CHALK recovered as white silty sandy GRAVEL. Gravel is fine to coarse angular to sub-rounded chalk and flint

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120					
	depth to water [m] =	0.30	0.38	0.44	0.49	0.55	0.59	0.69	0.77	0.81	0.89	0.97	1.04	1.12	1.20					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.30	0.36	0.41	0.45	0.50	0.54	0.62	0.68	0.72	0.78	0.86	0.92	1.00	1.07	1.14	1.20			
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210		
	depth to water [m] =	0.30	0.35	0.39	0.44	0.48	0.50	0.57	0.62	0.65	0.70	0.76	0.80	0.86	0.92	0.98	1.04	1.10		

calculations are based on **BRE Guidelines (Digest 365)**

Section: **AYLESHAM, KENT - ST14**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

Page: **1 OF 1**

Date: **30/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.14
 storage volume between 75-25% 'V_p' [m³] = 0.45
 time for water to fall from 75-25% 't_p' [min] = 191.75
 soil infiltration rate 'f' [m/s] = 9.44E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **2.70**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.89**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.11
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - TOPSOIL (Brown silty gravelly fine and medium SAND with some gravels of chalk and flint)

0.20 - 2.00mbgl - White CHALK recovered as white silty sandy GRAVEL. Gravel is fine to coarse angular to sub-rounded chalk and flint

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100			
	depth to water [m] =	0.90	0.95	1.00	1.04	1.08	1.11	1.20	1.36	1.44	1.53	1.60	1.64	1.68	1.71	1.73	1.75			
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	120	180	
	depth to water [m] =	0.90	0.94	0.98	1.01	1.06	1.08	1.14	1.24	1.30	1.37	1.41	1.43	1.46	1.48	1.50	1.52	1.56	1.78	
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	120	180	210
	depth to water [m] =	0.89	0.94	0.96	1.00	1.05	1.06	1.11	1.21	1.26	1.31	1.33	1.34	1.36	1.38	1.40	1.42	1.45	1.64	1.73

calculations are based on BRE Guidelines (Digest 365)

Section: **AYLESHAM, KENT - ST15**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

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Date: **30/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.41
 storage volume between 75-25% 'V_p' [m³] = 0.49
 time for water to fall from 75-25% 't_p' [min] = 172.33
 soil infiltration rate 'f' [m/s] = 1.07E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **2.70**
 total depth from ground level 'D_{tb}' [m] = **1.80**
 depth to pipe invert level 'D_{tp}' [m] = **0.60**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - TOPSOIL (Brown silty gravelly fine and medium SAND with some gravels of chalk and flint)

0.40 - 1.80mbgl - White CHALK recovered as white silty sandy GRAVEL. Gravel is fine to coarse angular to sub-rounded chalk and flint

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120					
	depth to water [m] =	0.60	0.64	0.66	0.70	0.72	0.76	0.86	0.94	1.04	1.10	1.14	1.20	1.35	1.50					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.58	0.61	0.62	0.64	0.66	0.76	0.83	0.89	0.96	1.00	1.02	1.05	1.15	1.28	1.41	1.51			
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210		
	depth to water [m] =	0.60	0.61	0.62	0.64	0.65	0.72	0.78	0.83	0.89	0.95	0.97	0.99	1.10	1.20	1.30	1.42	1.52		

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST16	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 28/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.53
 storage volume between 75-25% 'V_p' [m³] = 0.50
 time for water to fall from 75-25% 't_p' [min] = 78.93
 soil infiltration rate 'f' [m/s] = 2.31E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.30**
 depth to pipe invert level 'D_{tp}' [m] = **1.20**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.10
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.15mbgl - Brown TOPSOIL with chalk and flint gravels

0.15 - 2.30mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90				
	depth to water [m] =	1.18	1.23	1.30	1.35	1.38	1.43	1.53	1.62	1.70	1.75	1.81	1.86	1.95	1.99	2.18				
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90				
	depth to water [m] =	1.20	1.23	1.28	1.32	1.34	1.38	1.46	1.53	1.59	1.63	1.67	1.70	1.77	1.80	1.92				
Soakage Trial 3	time [min] =	1.2	1	2	3	4	5	10	15	20	25	30	40	50	60	90				
	depth to water [m] =	1.18	1.22	1.26	1.30	1.33	1.37	1.47	1.55	1.71	1.65	1.71	1.75	1.85	1.88	2.06				

calculations are based on BRE Guidelines (Digest 365)

Section: **AYLESHAM, KENT - ST17**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

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Date: **28/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 3.57
 storage volume between 75-25% 'V_p' [m³] = 0.36
 time for water to fall from 75-25% 't_p' [min] = 98.02
 soil infiltration rate 'f' [m/s] = 1.73E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **1.19**
 soakage trial pit effective depth 'D_{teff}' [m] = 0.81
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.15 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60					
	depth to water [m] =	1.19	1.24	1.28	1.34	1.40	1.46	1.59	1.67	1.73	1.76	1.81	1.89	1.95	2.00					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	70	80	90	100	
	depth to water [m] =	1.20	1.24	1.27	1.31	1.34	1.38	1.45	1.51	1.54	1.56	1.59	1.65	1.69	1.72	1.75	1.79	1.83	1.87	
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	70	80	90	100	110
	depth to water [m] =	1.19	1.22	1.25	1.28	1.30	1.33	1.38	1.42	1.46	1.48	1.50	1.54	1.57	1.59	1.63	1.66	1.70	1.74	1.80

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST18	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 28/08/23	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 174.94
 soil infiltration rate 'f' [m/s] = 1.06E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.80**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.15 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100			
	depth to water [m] =	0.80	0.85	0.91	0.96	1.02	1.07	1.20	1.36	1.44	1.48	1.52	1.56	1.60	1.65	1.69	1.73			
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	120	150	160
	depth to water [m] =	0.81	0.85	0.89	0.93	0.97	1.01	1.09	1.19	1.25	1.28	1.31	1.34	1.37	1.40	1.44	1.48	1.56	1.68	1.72
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	120	150	190
	depth to water [m] =	0.80	0.83	0.87	0.91	0.98	1.02	1.09	1.17	1.21	1.23	1.25	1.27	1.28	1.30	1.32	1.36	1.42	1.51	1.72

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST19	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 07/09/2023	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.83
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 167.66
 soil infiltration rate 'f' [m/s] = 1.10E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.10**
 depth to pipe invert level 'D_{tp}' [m] = **0.91**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.19
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.15mbgl - Brown TOPSOIL with chalk and flint gravels

0.15 - 2.10mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	70	90	120		
	depth to water [m] =	0.91	0.97	1.04	1.08	1.14	1.18	1.29	1.37	1.43	1.48	1.51	1.57	1.61	1.65	1.69	1.73	1.80		
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	70	90	150	180	
	depth to water [m] =	0.90	0.95	1.02	1.06	1.10	1.14	1.25	1.32	1.37	1.41	1.45	1.50	1.54	1.59	1.64	1.69	1.77	1.82	
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	70	90	150	180	
	depth to water [m] =	0.91	0.94	0.98	1.02	1.06	1.10	1.17	1.25	1.31	1.36	1.40	1.45	1.49	1.53	1.58	1.63	1.72	1.80	

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST20	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 07/09/2023

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 169.00
 soil infiltration rate 'f' [m/s] = 1.10E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.80**
 depth to pipe invert level 'D_{tp}' [m] = **0.60**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Light grey gravelly TOPSOIL with chalk and flint gravels

0.20 - 1.80mbgl - White CHALK - recovered as slightly silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120					
	depth to water [m] =	0.60	0.71	0.74	0.80	0.85	0.89	0.95	1.10	1.19	1.27	1.31	1.34	1.42	1.50					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.62	0.71	0.73	0.78	0.82	0.86	0.91	1.04	1.12	1.19	1.23	1.26	1.33	1.40	1.47	1.54			
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.60	0.68	0.72	0.76	0.80	0.84	0.89	0.99	1.06	1.12	1.18	1.22	1.28	1.35	1.42	1.50			

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST21	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 07/09/2023	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 171.67
 soil infiltration rate 'f' [m/s] = 1.08E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.80**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.2 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	0.80	0.88	0.94	0.98	1.04	1.08	1.15	1.19	1.27	1.32	1.38	1.44	1.53	1.62	1.71				
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.81	0.89	0.95	0.99	1.04	1.09	1.15	1.19	1.26	1.31	1.36	1.41	1.49	1.57	1.65	1.73			
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.80	0.87	0.93	0.97	1.01	1.06	1.12	1.17	1.24	1.29	1.34	1.39	1.47	1.54	1.62	1.70			

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST22	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 07/09/2023	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 88.39
 soil infiltration rate 'f' [m/s] = 2.10E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.80**
 depth to pipe invert level 'D_{tp}' [m] = **0.60**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.40mbgl - Brown TOPSOIL with chalk and flint gravels

0.40 - 1.80mbgl - White CHALK recovered as white silty sandy GRAVEL. Gravel is fine with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90						
	depth to water [m] =	0.60	0.66	0.72	0.78	0.84	0.89	0.97	1.05	1.16	1.26	1.35	1.45	1.72						
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90						
	depth to water [m] =	0.62	0.67	0.71	0.77	0.83	0.87	0.94	1.02	1.12	1.21	1.30	1.39	1.63						
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120					
	depth to water [m] =	0.60	0.65	0.69	0.73	0.77	0.81	0.88	0.95	1.02	1.10	1.17	1.24	1.44	1.60					

calculations are based on BRE Guidelines (Digest 365)

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 5.22
 storage volume between 75-25% 'V_p' [m³] = 0.90
 time for water to fall from 75-25% 't_p' [min] = 176.00
 soil infiltration rate 'f' [m/s] = 1.63E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.60**
 soakage trial pit length 'L_t' [m] = **2.50**
 total depth from ground level 'D_{tb}' [m] = **2.20**
 depth to pipe invert level 'D_{tp}' [m] = **1.00**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.80mbgl - Brown gravelly silty SAND. Gravel(FC subangular)

0.80 - 2.50mbgl - White CHALK - recovered as very sandy silty GRAVEL with occasional flint (FC subangular- subrounded)

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90						
	depth to water [m] =	1.00	1.10	1.15	1.28	1.32	1.34	1.51	1.65	1.71	1.80	1.82	1.85	1.90						
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	1.02	1.09	1.17	1.29	1.33	1.35	1.45	1.54	1.60	1.68	1.75	1.77	1.81	1.85	1.90				
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	1.00	1.08	1.13	1.25	1.30	1.32	1.40	1.48	1.56	1.63	1.69	1.74	1.78	1.82	1.86	1.90			

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST24	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 07/09/2023

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 156.00
 soil infiltration rate 'f' [m/s] = 1.19E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.80**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.30mbgl - Brown TOPSOIL with chalk and flint gravels

0.30 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120					
	depth to water [m] =	0.80	0.85	0.89	0.93	0.97	1.00	1.08	1.14	1.20	1.28	1.36	1.44	1.58	1.72					
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	0.81	0.85	0.88	0.93	0.96	0.99	1.07	1.13	1.19	1.26	1.33	1.40	1.52	1.62	1.71				
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.80	0.84	0.87	0.90	0.93	0.96	1.04	1.08	1.13	1.19	1.24	1.28	1.38	1.47	1.56	1.70			

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST25	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 07/09/2023

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.83
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 163.67
 soil infiltration rate 'f' [m/s] = 1.13E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.81**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.19
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.15 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint and chalk

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120			
	depth to water [m] =	0.81	0.84	0.87	0.90	0.93	0.96	1.06	1.14	1.20	1.26	1.32	1.39	1.45	1.51	1.67	1.79			
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150		
	depth to water [m] =	0.82	0.85	0.88	0.90	0.92	0.95	1.02	1.07	1.13	1.18	1.23	1.28	1.33	1.38	1.52	1.62	1.72		
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	190
	depth to water [m] =	0.81	0.83	0.86	0.89	0.91	0.94	1.00	1.05	1.09	1.14	1.18	1.22	1.26	1.30	1.41	1.50	1.59	1.67	1.73

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST26	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 07/09/2023

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.89
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 162.17
 soil infiltration rate 'f' [m/s] = 1.14E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.10**
 depth to pipe invert level 'D_{tp}' [m] = **0.89**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.21
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.15 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	
	depth to water [m] =	0.89	0.92	0.95	1.01	1.03	1.06	1.16	1.20	1.24	1.28	1.30	1.32	1.38	1.42	1.57	1.68	1.78	1.86	
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	
	depth to water [m] =	0.91	0.95	0.98	1.03	1.05	1.07	1.15	1.19	1.22	1.25	1.27	1.29	1.34	1.40	1.52	1.62	1.73	1.84	
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	
	depth to water [m] =	0.89	0.91	0.93	0.99	1.01	1.04	1.12	1.18	1.21	1.24	1.28	1.33	1.36	1.40	1.50	1.61	1.70	1.80	

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST27	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 28/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 8.68
 storage volume between 75-25% 'V_p' [m³] = 2.02
 time for water to fall from 75-25% 't_p' [min] = 341.39
 soil infiltration rate 'f' [m/s] = 1.14E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.90**
 soakage trial pit length 'L_t' [m] = **3.30**
 total depth from ground level 'D_{tb}' [m] = **1.80**
 depth to pipe invert level 'D_{tp}' [m] = **0.44**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.36
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.30mbgl - Brown TOPSOIL with chalk and flint gravels

0.30 - 1.80mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	210
	depth to water [m] =	0.44	0.45	0.58	0.62	0.64	0.66	0.71	0.78	0.83	0.93	1.01	1.03	1.07	1.11	1.17	1.23	1.31	1.38	1.47
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	360
	depth to water [m] =	0.44	0.46	0.56	0.60	0.62	0.63	0.67	0.73	0.76	0.83	0.87	0.89	0.92	0.95	0.99	1.03	1.11	1.17	1.47
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	15	20	25	30	40	50	60	90	120	150	180	370
	depth to water [m] =	0.44	0.46	0.57	0.61	0.62	0.64	0.66	0.71	0.74	0.81	0.85	0.87	0.89	0.93	0.96	0.99	1.07	1.14	1.47

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST28	Job No: CCG-C-23-14164	Revision: 0	Page: 1 OF 1
	Prepared By: LT	Date: 07/09/2023	

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 6.30
 storage volume between 75-25% 'V_p' [m³] = 1.13
 time for water to fall from 75-25% 't_p' [min] = 274.17
 soil infiltration rate 'f' [m/s] = 1.09E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.60**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.90**
 depth to pipe invert level 'D_{tp}' [m] = **0.65**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.25
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.20 - 1.90mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210		
	depth to water [m] =	0.65	0.67	0.70	0.73	0.76	0.79	0.87	1.00	1.10	1.15	1.22	1.28	1.38	1.42	1.48	1.54	1.60		
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210	240	270
	depth to water [m] =	0.66	0.68	0.71	0.74	0.77	0.80	0.86	0.97	1.05	1.10	1.16	1.20	1.28	1.33	1.38	1.43	1.48	1.53	1.58
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210	240	300
	depth to water [m] =	0.65	0.67	0.69	0.72	0.74	0.76	0.81	0.91	1.00	1.04	1.08	1.12	1.19	1.26	1.33	1.37	1.42	1.46	1.58

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST29	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 07/09/2023

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 158.00
 soil infiltration rate 'f' [m/s] = 1.17E-05

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.90**
 depth to pipe invert level 'D_{tp}' [m] = **0.70**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.40mbgl - Brown TOPSOIL with chalk and flint gravels

0.40 - 1.90mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravel

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90						
	depth to water [m] =	0.70	0.78	0.82	0.86	0.90	0.94	1.00	1.05	1.14	1.19	1.24	1.31	1.53						
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150				
	depth to water [m] =	0.72	0.78	0.81	0.83	0.86	0.90	0.94	1.01	1.06	1.11	1.17	1.23	1.33	1.43	1.51				
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180			
	depth to water [m] =	0.70	0.76	0.80	0.83	0.86	0.89	0.93	0.99	1.04	1.08	1.12	1.16	1.26	1.36	1.44	1.50			

calculations are based on BRE Guidelines (Digest 365)

Section: **AYLESHAM, KENT - ST30**

Job No: **CCG-C-23-14164**

Prepared By: **LT**

Revision: **0**

Page: **1 OF 1**

Date: **28/08/23**

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 186.00
 soil infiltration rate 'f' [m/s] = 9.96E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **2.00**
 depth to pipe invert level 'D_{tp}' [m] = **0.80**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.20 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	110	120	150
	depth to water [m] =	0.78	0.85	0.90	0.96	1.00	1.04	1.10	1.24	1.33	1.41	1.46	1.52	1.54	1.56	1.58	1.60	1.62	1.64	1.70
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	110	120	180
	depth to water [m] =	0.78	0.83	0.88	0.92	0.98	1.01	1.07	1.19	1.28	1.36	1.41	1.46	1.48	1.50	1.52	1.57	1.58	1.60	1.72
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	70	80	90	100	120	150	220
	depth to water [m] =	0.80	0.83	0.85	0.89	0.95	0.99	1.04	1.10	1.16	1.22	1.25	1.28	1.29	1.34	1.37	1.40	1.45	1.54	1.74

calculations are based on **BRE Guidelines (Digest 365)**

Section: AYLESHAM, KENT - ST31	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 28/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.89
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 533.05
 soil infiltration rate 'f' [m/s] = 3.48E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **1.90**
 depth to pipe invert level 'D_{tp}' [m] = **0.69**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.21
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 0.20mbgl - Brown TOPSOIL with chalk and flint gravels

0.20 - 2.00mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210	240	270
	depth to water [m] =	0.70	0.78	0.82	0.84	0.87	0.90	0.97	1.04	1.08	1.15	1.21	1.24	1.32	1.39	1.44	1.48	1.52	1.56	1.61
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210	240	290
	depth to water [m] =	0.70	0.75	0.79	0.82	0.84	0.86	0.92	1.00	1.03	1.10	1.16	1.19	1.27	1.34	1.38	1.43	1.49	1.51	1.62
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	40	50	60	90	120	150	180	210	240	600
	depth to water [m] =	0.69	0.74	0.75	0.79	0.80	0.81	0.86	0.94	0.95	0.98	1.02	1.04	1.09	1.15	1.18	1.21	1.25	1.28	1.62

calculations are based on BRE Guidelines (Digest 365)

Section: AYLESHAM, KENT - ST32	Job No: CCG-C-23-14164	Revision: 0
Prepared By: LT	Page: 1 OF 1	Date: 23/08/23

SOIL INFILTRATION DATA

allowance for infiltration through soakaway base: **100%**
 available on-site infiltration test results: ☒ Yes ☐ No
 use soakage trial pit table below
 internal surface area of trial pit 'a_{p50}' [m²] = 4.86
 storage volume between 75-25% 'V_p' [m³] = 0.54
 time for water to fall from 75-25% 't_p' [min] = 810.00
 soil infiltration rate 'f' [m/s] = 2.29E-06

SOAKAGE TRIAL PIT DATA

soakage trial pit width 'W_t' [m] = **0.30**
 soakage trial pit length 'L_t' [m] = **3.00**
 total depth from ground level 'D_{tb}' [m] = **3.30**
 depth to pipe invert level 'D_{tp}' [m] = **2.10**
 soakage trial pit effective depth 'D_{teff}' [m] = 1.20
 free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

Soil Description

0.00 - 1.70mbgl - Brown gravelly silty SAND. Gravelis fine to coarse sub-angular to sub-rounded chalk and flint

1.70 - 3.30mbgl - White CHALK - recovered as v sandy silty GRAVEL (FMC subangular) with occasional flint gravels

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	1	2	3	4	5	10	20	30	60	90	120	180	240	300	360	420	480	560
	depth to water [m] =	2.10	2.11	2.12	2.12	2.12	2.12	2.15	2.18	2.20	2.26	2.32	2.38	2.50	2.56	2.62	2.68	2.74	2.80	3.00
Soakage Trial 2	time [min] =	0	1	2	3	4	5	10	20	30	60	90	120	180	240	300	360	420	480	840
	depth to water [m] =	2.10	2.11	2.12	2.13	2.13	2.14	2.17	2.20	2.22	2.27	2.32	2.37	2.42	2.47	2.52	2.57	2.62	2.67	3.00
Soakage Trial 3	time [min] =	0	1	2	3	4	5	10	20	30	60	90	120	180	240	300	360	420	480	1080
	depth to water [m] =	2.10	2.10	2.11	2.11	2.11	2.12	2.14	2.16	2.18	2.22	2.26	2.30	2.34	2.38	2.42	2.48	2.52	2.56	3.00

calculations are based on BRE Guidelines (Digest 365)

				Revision	0
		Job No:	CCG-C-23-14346	Page:	1 OF 1
Section: AYLESHAM, KENT - Soakaway Position - A		Prepared By:	KH	Date:	15/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	5.12
storage volume between 75-25% 'V _p ' [m ³] =	0.89
time for water to fall from 75-25% 't _p ' [min] =	973.61
soil infiltration rate 'f' [m/s] =	2.98E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	2.30
total depth from ground level 'D _{tb} ' [m] =	2.80
depth to pipe invert level 'D _{tp} ' [m] =	1.51
soakage trial pit effective depth 'D _{teff} ' [m] =	1.29
free volume in infill aggregate [%] =	100
<i>NOTE: faces of excavation assumed to be vertical</i>	

Soil Description

0.00 - 0.30mbgl - TOPSOIL

0.30 - 1.50mbgl - Brown silty very gravelly very sandy CLAY. Gravel is flint and chalk (Head Deposits)

1.50 - 2.80mbgl - White CHALK (Seaford Chalk Formation)

Note: Test terminated at 2 cycles due to slow rate of drainage

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																
water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15*
Soakage Trial 1	time [min] =	0	2	3	20	35	50	60	80	100	160	190	220	250	360	1300
	depth to water [m] =	1.51	1.52	1.53	1.58	1.61	1.64	1.66	1.67	1.69	1.72	1.74	1.76	1.78	1.85	2.48
Soakage Trial 2	time [min] =	0	2	5	20	40	50	60	80	100	160	190	220	250	360	1300
	depth to water [m] =	1.50	1.51	1.53	1.58	1.62	1.64	1.66	1.67	1.68	1.71	1.74	1.75	1.77	1.86	2.46
Soakage Trial 3	time [min] =															
	depth to water [m] =															

calculations are based on BRE Guidelines (Digest 365)

		Revision	0	
Job No:		CCG-C-23-14346	Page:	1 OF 1
Section:	AYLESHAM, KENT - Soakaway Position - B	Prepared By:	KH	Date: 15/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	6.95
storage volume between 75-25% 'V _p ' [m ³] =	1.43
time for water to fall from 75-25% 't _p ' [min] =	2238.75
soil infiltration rate 'f' [m/s] =	1.53E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.70
soakage trial pit length 'L _t ' [m] =	2.30
total depth from ground level 'D _{tb} ' [m] =	3.10
depth to pipe invert level 'D _{tp} ' [m] =	1.32
soakage trial pit effective depth 'D _{teff} ' [m] =	1.78
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.40mbgl - TOPSOIL

0.40 - 3.1mbgl - Brown silty gravelly sandy CLAY. Gravel is flint and chalk (Head Deposits)

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																				
water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18*	
Soakage Trial 1	time [min] =	0	5	10	15	20	25	30	40	50	60	90	140	155	180	220	280	340	2080	
	depth to water [m] =	1.32	1.37	1.48	1.56	1.64	1.69	1.74	1.79	1.81	1.83	1.89	1.98	2.00	2.02	2.04	2.06	2.08	2.66	
Soakage Trial 2	time [min] =	0	5	10	15	20	25	30	40	50	60	90	140	155	180	220	280	340	2100	
	depth to water [m] =	1.33	1.37	1.47	1.54	1.63	1.67	1.72	1.77	1.79	1.81	1.87	1.95	1.97	1.99	2.00	2.01	2.03	2.66	
Soakage Trial 3	time [min] =	0	5	10	15	20	25	30	40	50	60	90	140	155	180	220	280	340	2320	
	depth to water [m] =	1.32	1.35	1.43	1.50	1.59	1.63	1.67	1.72	1.73	1.75	1.81	1.88	1.90	1.92	1.91	1.92	1.94	2.66	

calculations are based on BRE Guidelines (Digest 365)

		Revision	0	
Job No:		CCG-C-23-14346	Page:	1 OF 1
Section:	AYLESHAM, KENT - Soakaway Position - C	Prepared By:	KH	Date: 15/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	6.80
storage volume between 75-25% 'V _p ' [m ³] =	1.28
time for water to fall from 75-25% 't _p ' [min] =	1514.06
soil infiltration rate 'f' [m/s] =	2.08E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	2.50
total depth from ground level 'D _{tb} ' [m] =	3.40
depth to pipe invert level 'D _{tp} ' [m] =	1.69
soakage trial pit effective depth 'D _{teff} ' [m] =	1.71
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.20mbgl - TOPSOIL

0.20 - 2.20mbgl - Light brown very sandy silty gravelly CLAY (Head Deposits)

2.20 - 3.40mbgl - White CHALK - very sandy and gravelly (Seaford Chalk Formation)

Note: Test terminated at 2 cycles due to slow rate of drainage

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																			
water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18*
Soakage Trial 1	time [min] =	0	3	5	10	20	30	40	50	90	125	140	155	185	200	230	260	320	1400
	depth to water [m] =	1.69	1.73	1.77	1.81	1.87	1.92	1.95	1.98	2.04	2.08	2.11	2.13	2.16	2.17	2.19	2.21	2.25	2.97
Soakage Trial 2	time [min] =	0	3	5	10	20	30	40	50	90	125	140	155	185	200	230	260	320	1700
	depth to water [m] =	1.70	1.72	1.76	1.80	1.86	1.91	1.93	1.96	1.99	2.05	2.07	2.10	2.13	2.15	2.16	2.28	2.21	2.98
Soakage Trial 3	time [min] =																		
	depth to water [m] =																		

calculations are based on BRE Guidelines (Digest 365)

		Revision	0	
Job No:		CCG-C-23-14346	Page:	1 OF 1
Section:	AYLESHAM, KENT - Soakaway Position - D	Prepared By:	KH	Date: 16/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	5.30
storage volume between 75-25% 'V _p ' [m ³] =	0.95
time for water to fall from 75-25% 't _p ' [min] =	1767.86
soil infiltration rate 'f' [m/s] =	1.69E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	1.80
total depth from ground level 'D _{tb} ' [m] =	2.90
depth to pipe invert level 'D _{tp} ' [m] =	1.14
soakage trial pit effective depth 'D _{teff} ' [m] =	1.76
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.30mbgl - Dark brown Clayey TOPSOIL

0.30 - 1.30mbgl - Light brown/white mottled silty sandy gravelly cobbly CLAY fill (REWORKED GROUND)

1.30 - 2.80mbgl - Light brown silty slightly gravelly very sandy CLAY (Head desposit)

Note: Test terminated at 2 cycles due to slow rate of drainage

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																
water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15*
Soakage Trial 1	time [min] =	0	3	5	10	15	20	65	95	120	170	220	290	335	350	2600
	depth to water [m] =	1.14	1.17	1.19	1.19	1.19	1.20	1.23	1.24	1.25	1.27	1.29	1.32	1.34	1.35	2.47
Soakage Trial 2	time [min] =	0	3	5	10	15	20	60	90	120	180	240	300	340	380	2600
	depth to water [m] =	1.15	1.17	1.19	1.19	1.19	1.20	1.23	1.24	1.24	1.27	1.30	1.32	1.33	1.34	2.46
Soakage Trial 3	time [min] =															
	depth to water [m] =															

calculations are based on BRE Guidelines (Digest 365)

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Section:	AYLESHAM, KENT - Soakaway Position - E	Prepared By:	KH	Date:	15/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	5.10
storage volume between 75-25% 'V _p ' [m ³] =	0.90
time for water to fall from 75-25% 't _p ' [min] =	750.00
soil infiltration rate 'f' [m/s] =	3.92E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	2.00
total depth from ground level 'D _{tb} ' [m] =	2.80
depth to pipe invert level 'D _{tp} ' [m] =	1.30
soakage trial pit effective depth 'D _{teff} ' [m] =	1.50
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.40mbgl - Clayey TOPSOIL

0.40 - 1.40mbgl - Light brown very sandy gravelly silty CLAY (Head Deposits)

1.40 - 2.80mbgl - White CHALK - Sandy and gravelly (Seaford Chalk Formation)

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																	
water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16*
Soakage Trial 1	time [min] =	0	3	5	10	25	30	40	50	70	80	100	120	160	320	380	980
	depth to water [m] =	1.30	1.35	1.38	1.41	1.44	1.45	1.47	1.49	1.52	1.53	1.55	1.57	1.61	1.77	1.83	2.43
Soakage Trial 2	time [min] =	0	3	5	10	25	30	40	50	70	80	100	120	160	320	380	990
	depth to water [m] =	1.29	1.34	1.37	1.40	1.43	1.44	1.46	1.48	1.51	1.52	1.54	1.57	1.60	1.68	1.81	2.42
Soakage Trial 3	time [min] =	0	3	5	10	25	30	40	50	70	80	100	120	160	320	380	1000
	depth to water [m] =	1.30	1.34	1.37	1.39	1.42	1.43	1.44	1.47	1.50	1.52	1.53	1.55	1.58	1.67	1.79	2.42

calculations are based on BRE Guidelines (Digest 365)

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Job No:		CCG-C-23-14346	Page:	1 OF 1
Section:	AYLESHAM, KENT - Soakaway Position - F	Prepared By:	KH	Date: 22/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	3.92
storage volume between 75-25% 'V _p ' [m ³] =	0.64
time for water to fall from 75-25% 't _p ' [min] =	1278.81
soil infiltration rate 'f' [m/s] =	2.14E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	1.70
total depth from ground level 'D _{tb} ' [m] =	2.80
depth to pipe invert level 'D _{tp} ' [m] =	1.54
soakage trial pit effective depth 'D _{teff} ' [m] =	1.26
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.30mbgl - TOPSOIL

0.30 - 1.60mbgl - Light brown silty very clayey gravelly SAND (Head Deposits)

1.60 - 2.80mbgl - White CHALK - recovered as very gravelly clayey SAND (Seaford Chalk Formation)

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																	
water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16*
Soakage Trial 1	time [min] =	0	3	5	10	25	30	70	80	110	120	190	240	260	270	300	1640
	depth to water [m] =	1.54	1.57	1.58	1.59	1.60	1.62	1.68	1.69	1.72	1.73	1.77	1.79	1.80	1.81	1.82	2.49
Soakage Trial 2	time [min] =	0	3	5	10	25	30	70	80	110	120	190	240	260	270	300	1660
	depth to water [m] =	1.55	1.58	1.59	1.60	1.61	1.63	1.69	1.70	1.73	1.74	1.76	1.78	1.80	1.81	1.82	2.49
Soakage Trial 3	time [min] =	0	3	5	10	25	30	70	80	110	120	190	240	260	270	300	1700
	depth to water [m] =	1.56	1.57	1.58	1.59	1.60	1.62	1.67	1.68	1.70	1.71	1.74	1.76	1.77	1.78	1.80	2.49

calculations are based on BRE Guidelines (Digest 365)

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Section: AYLESHAM, KENT - Soakaway Position - G		Prepared By:	KH	Date:	22/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	4.24
storage volume between 75-25% 'V _p ' [m ³] =	0.70
time for water to fall from 75-25% 't _p ' [min] =	234.58
soil infiltration rate 'f' [m/s] =	1.18E-05

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	2.00
total depth from ground level 'D _{tb} ' [m] =	2.80
depth to pipe invert level 'D _{tp} ' [m] =	1.63
soakage trial pit effective depth 'D _{teff} ' [m] =	1.17
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.40mbgl - TOPSOIL

0.40 - 1.80mbgl - Brown very sandy gravelly silty CLAY (Head deposits)

1.80 - 2.80mbgl - White CHALK - recovered as silty clayey sandy GRAVEL (Seaford Chalk Formation)

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																				
water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	5	25	35	50	60	70	80	90	120	150	180	210	240	270	300			
	depth to water [m] =	1.63	1.66	1.80	1.84	1.88	1.91	1.94	1.97	2.00	2.08	2.16	2.24	2.31	2.38	2.45	2.51			
Soakage Trial 2	time [min] =	0	5	25	35	50	60	70	80	90	120	150	180	210	240	270	300			
	depth to water [m] =	1.64	1.67	1.81	1.84	1.88	1.90	1.94	1.96	1.99	2.07	2.16	2.24	2.30	2.36	2.44	2.51			
Soakage Trial 3	time [min] =	0	5	25	35	50	60	70	80	90	120	150	180	210	240	270	300			
	depth to water [m] =	1.65	1.67	1.80	1.83	1.88	1.90	1.94	1.96	1.99	2.06	2.15	2.23	2.30	2.35	2.44	2.50			

calculations are based on BRE Guidelines (Digest 365)

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		Job No:	CCG-C-23-14346	Page:	1 OF 1
Section: AYLESHAM, KENT - Soakaway Position - H		Prepared By:	KH	Date:	22/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	4.97
storage volume between 75-25% 'V _p ' [m ³] =	0.87
time for water to fall from 75-25% 't _p ' [min] =	60.63
soil infiltration rate 'f' [m/s] =	4.81E-05

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	2.00
total depth from ground level 'D _{tb} ' [m] =	2.80
depth to pipe invert level 'D _{tp} ' [m] =	1.35
soakage trial pit effective depth 'D _{teff} ' [m] =	1.45
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.30mbgl - TOPSOIL

0.30 - 0.90mbgl - Light brown very sandy gravelly silty CLAY (Head Deposits)

0.90 - 2.80mbgl - White CHALK - silty, clayey and gravelly (Seaford Chalk Formation)

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																				
water level measurement N ^o :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*
Soakage Trial 1	time [min] =	0	3	5	10	15	20	25	30	40	45	50	55	60	65	70	75			
	depth to water [m] =	1.35	1.43	1.53	1.68	1.83	1.88	1.95	2.02	2.12	2.17	2.22	2.27	2.32	2.37	2.43	2.50			
Soakage Trial 2	time [min] =	0	5	10	20	30	40	50	60	70	75									
	depth to water [m] =	1.37	1.55	1.70	1.90	2.03	2.12	2.21	2.31	2.42	2.49									
Soakage Trial 3	time [min] =	0	5	10	20	30	40	50	60	70	75									
	depth to water [m] =	1.35	1.42	1.67	1.87	2.01	2.11	2.20	2.30	2.40	2.47									

calculations are based on BRE Guidelines (Digest 365)

		Revision	0	
Job No:		CCG-C-23-14346	Page:	1 OF 1
Section:	AYLESHAM, KENT - Soakaway Position - J	Prepared By:	KH	Date: 22/11/23

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	100%
available on-site infiltration test results:	☒ Yes ☐ No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	4.76
storage volume between 75-25% 'V _p ' [m ³] =	0.82
time for water to fall from 75-25% 't _p ' [min] =	2062.87
soil infiltration rate 'f' [m/s] =	1.39E-06

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.60
soakage trial pit length 'L _t ' [m] =	2.00
total depth from ground level 'D _{tb} ' [m] =	2.70
depth to pipe invert level 'D _{tp} ' [m] =	1.33
soakage trial pit effective depth 'D _{teff} ' [m] =	1.37
free volume in infill aggregate [%] =	100
NOTE: faces of excavation assumed to be vertical	

Soil Description

0.00 - 0.20mbgl - TOPSOIL

0.20 - 2.70mbgl - Light brown slightly gravelly very sandy SILT/CLAY (Head deposits)

Note: Test terminated at 1 cycles due to slow rate of drainage

* Results extrapolated from linear trend

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																	
water level measurement N ⁰ :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16*
Soakage Trial 1	time [min] =	0	3	5	10	15	20	25	30	40	50	60	90	120	240	480	3100
	depth to water [m] =	1.33	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.35	1.35	1.35	1.36	1.37	1.41	1.49	2.36
Soakage Trial 2	time [min] =																
	depth to water [m] =																
Soakage Trial 3	time [min] =																
	depth to water [m] =																

calculations are based on BRE Guidelines (Digest 365)

APPENDIX 3

CURRENT CONTAMINATED LAND GUIDANCE / LEGISLATION & RISK ASSESSMENT METHODOLOGIES

CURRENT CONTAMINATED LAND LEGISLATION / GUIDANCE & ENVIRONMENTAL RISK ASSESSMENT METHODOLOGY

LEGISLATION OVERVIEW

This report includes hazard identification and risk assessment in line with the risk-based methods referred to in relevant UK legislation and guidance. Government environmental policy is based upon a "suitable for use approach". When considering the current use of land, Part IIA of the Environment Protection Act 1990 (EPA 1990) provides the regulatory regime, which was introduced by Section 57 of the Environment Act 1995, which came into force in England on 1 April 2000. The main objective of introducing the Part IIA regime is to provide an improved system for the identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment given the current use and circumstances of the land.

Part IIA provides a statutory definition of contaminated land under Section 78A(2) as:

"any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on, or under the land, that:

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

or

Pollution of controlled waters is being, or is likely to be, caused."

Part IIA provides a statutory definition of the pollution of controlled waters under Section 78A(9) as:

"the entry into controlled waters of **any** poisonous, noxious or polluting matter or **any** solid waste matter".

To assist in establishing if there is a "significant possibility of significant harm" there must be a "significant pollutant linkage" for potential harm to exist. That means there must be a source(s) of contamination, sensitive receptors present and a connection or pathway between the two. This combination of source-pathway-receptor is termed a "pollutant linkage or SPR linkage."

Part IIA of The Environmental Protection Act 1990 is supported by a substantial quantity of guidance and other Regulations, especially DEFRA Circular 01/2006 Contaminated Land (this replaces DETR Circular 02/2000). Part IIA defines the duties of Local Authorities in dealing with it. Except for situations of very high pollution risk, Part IIA places contaminated land responsibility on the planning and redevelopment process. In situations where there is very high pollution risk direct action from the Local Authority is usually necessary. Planning Policy Statement 23 (PPS23) provides guidance on the planning process and requires that sites which have been developed shall not be capable of being determined "contaminated land" under Part IIA.

The criteria for assessing levels of pollutants and hence determining whether a site represents a hazard are based on a range of techniques, models, and guidance. Within this context it is relevant to note that Government objectives are:

- (a) to identify and remove unacceptable risks to human health and the environment;
- (b) to seek to bring damaged land back into beneficial use;
- (c) to seek to ensure that the cost burdens faced by individuals, companies and society are proportionate, manageable, and economically sustainable.

These three objectives underlie the "suitable for use" approach to remediation of contaminated land. The "suitable for use" approach focuses on the risks caused by land contamination. The approach recognises that the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Risks therefore should be assessed on a site-by-site basis.

The "suitable for use" approach then consists of three elements:

- (a) ensuring that land is suitable for its current use - in other words, identifying any land where contamination is causing unacceptable risks to human health and the environment, assessed on the basis of the current use and circumstances of the land, and returning such land to a condition where such risks no longer arise; the contaminated land regime provides the regulatory mechanisms to achieve this;

- (b) ensuring that land is made suitable for any new use, as planning permission is given for that new use - in other words, assessing the potential risks from contamination, on the basis of the proposed future use and circumstances, before official permission is given for the development and, where necessary to avoid unacceptable risks to human health and the environment, remediating the land before the new use commences; this is the role of the town and country planning and building control regimes; and

- (c) limiting requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to the current use or future use of the land for which planning permission is being sought - in other words, recognising that the risks from contaminated land can be satisfactorily assessed only in the context of specific uses of the land (whether current or proposed), and that any attempt to guess what might be needed at some time in the future for other uses is likely to result either in premature work (thereby running the risk of distorting social, economic and environmental priorities) or in unnecessary work (thereby wasting resources).

The mere presence of pollutants does not therefore necessarily warrant action, and consideration must be given to the scale of risk involved for the current and proposed end use of the site.

RISK ASSESSMENT METHODOLOGY

Current practice recommends that the determination of potential liabilities that could arise from land contamination be carried out using the process of risk assessment, whereby “risk” is defined as:

- “(a) The probability, or frequency, or occurrence of a defined hazard; and
- (b) The magnitude (including the seriousness) of the consequences.”

The UK’s approach to the assessment of environmental risk is set out in by the Department of the Environment (2000) publication “A Guide to Risk Assessment and Risk Management for Environmental Protection.” This established an iterative, systematic staged process which comprises:

- (a) Hazard identification
- (b) Hazard assessment
- (c) Risk estimation
- (d) Risk evaluation
- (e) Risk Assessment

At each stage during the investigation process the above steps are repeated as more detailed information becomes available for the site.

CLR11- ‘Model Procedures for the Management of Land Contamination’, a document published by the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency (EA) outlines a tiered approach to the assessment of risks posed by contaminated land, as summarised hereunder:

Tier 1: Preliminary Risk Assessment

A Preliminary Risk Assessment is usually undertaken as part of a desk study, outlines potential risks posed by potential contamination to all receptors by defining plausible “pollution linkages” and developing a preliminary conceptual model (PCM). The purpose of this model is to define all possible complete pollution linkages, where the requisite source – pathway – target elements are present, and these elements being defined as:

- a contaminant (source) is a hazardous substance or agent, present at levels that have the potential to cause harm or damage a receptor
- a pathway is the means by or through which a contaminant meets, or otherwise affects, the receptor
- a receptor (target) is an entity (human being, aquatic environment, flora, and fauna etc) that is vulnerable to the adverse effects of the contaminant

This relationship is termed a “pollution linkage”. It should be recognised that for a health or environmental risk to exist, all three elements of the relationship or linkage must be present, i.e.

- if there is no contaminant, or contaminant present at levels below those considered to be harmful or damaging to a receptor, then there can be no adverse effect on a receptor
- if there is no receptor present that can be adversely affected by a contaminant, no harm or damage can arise
- even where both a contaminant and a receptor are present, no harm or damage will occur if there is no pathway by or through which a linkage between the two can be established

The absence of one or more of each component (source, pathway, receptor) would prevent a pollutant linkage being established and there would be no significant environmental risk.

The PCM is subject to continual refinement as additional data becomes available. As part of a Phase I Investigation (Desk Study and site walk over) a PCM is formed. Based on the PCM, potential pollutant linkages can be assessed. If the PCM and hazard assessment indicate that a pollution linkage is not of significance, then no further assessment or action is required due to this linkage. For each significant and possible linkage, a risk assessment is carried out. The linkages which potentially pose significant risks may require a variety of responses ranging from immediate remedial action or risk management or, more commonly, further investigation and risk assessment. This next stage is usually termed a Phase II Main Site Investigation and should provide additional data to allow refinement of the PCM and assess the level of risk from each pollutant linkage. Risk assessment will usually include Tier 2 Generic Quantitative Risk Assessment and / or, if necessary, a Tier 3 Detailed Quantitative Risk Assessment.

Tier 2: Generic Quantitative Risk Assessment (GQRA)

GQRA requires an intrusive investigation to characterise the site assisting in the re-assessment of the source-pathway receptor linkage. The conceptual model should be refined accordingly.

Upon completion of an intrusive investigation it must be decided whether Generic Assessment Criteria (GAC) are suitable for assessing the risk posed by potential contamination at the site. If GAC are deemed unacceptable for risk assessment purposes or cannot be developed a Tier 3 Detailed Quantitative Risk Assessment (DQRA) is required.

If GQRA reveals that unacceptable risks are not present, then no further action is required. If GQRA identifies a possibility of risk, a decision must be made whether further work is required or necessary for the purposes of risk assessment. If further risk assessment is deemed not suitable not required, an Options Appraisal should be undertaken. If further risk assessment is required, the scope nature of further risk assessment must be decided – it is possible that a Tier 3 DQRA will be undertaken in this scenario.

Tier 3: Detailed Quantitative Risk Assessment (DQRA)

DQRA is used when pollutant linkages require further assessment. DQRA is often undertaken for pollutant linkages where GAC are unavailable or inappropriate for or more conservative than the actual circumstances of the site. Site specific data is used to create Site Specific Assessment Criteria (SSAC) and enable a more accurate assessment of the risks. Further investigation may or may not be required to formulate SSAC depending on the site-specific conditions and information already obtained.

If DQRA reveals that unacceptable risks are not present, then no further action is required. If DQRA identifies a possibility of risk, a decision must be made whether further work is required or necessary for the purposes of risk assessment. If further risk assessment is deemed not suitable not required, an Options Appraisal should be undertaken. If further risk assessment is required, the scope and nature of further risk assessment must be decided at this point.

NOTE: A Tier 1 Preliminary Risk Assessment is undertaken as part of a Desk Study Report and a Preliminary Conceptual Model is developed for all pollutant linkages. However, the methodologies for assessing the risks to human health, risks to controlled waters and risk posed by ground gas using quantitative techniques vary considerably, therefore GQRA and DQRA for human health, controlled waters and ground gas must be undertaken separately. The risk assessment methodologies where quantitative assessment is used for risks to human health, risks to controlled waters and risks posed by ground gas, if relevant, are described hereunder.

BACKGROUND INFORMATION, CURRENT GUIDANCE AND RISK ASSESSMENT METHODOLOGY FOR RISKS POSED TO HUMAN HEALTH

Background

In March 2002, the Department for Environment, Food and Rural Affairs (DEFRA) and the EA published the Contaminated Land Exposure Assessment (CLEA) Model and a series of related reports. These were designed to provide a scientifically based framework for the assessment of chronic risks to human health from contaminated land. These reports (CLR7-10) together with associated “SGV” documents have since been withdrawn (August 2008) and the following documents have been published as revised guidance to the CLEA assessment:

Environment Agency : 2008: Updated Technical Background to the CLEA model Science Report SC050021/SR3

Environment Agency : 2008: Human Health Toxicological Assessment of Contaminants in Soil SC050021/SR2

Additional guidance on statistical assessment replacing CLR 7 is provided in:

CL:AIRE :2008 Guidance on Comparing Data with a Critical Concentration

Other guidance/software used in spatial / statistical assessment is provided in:

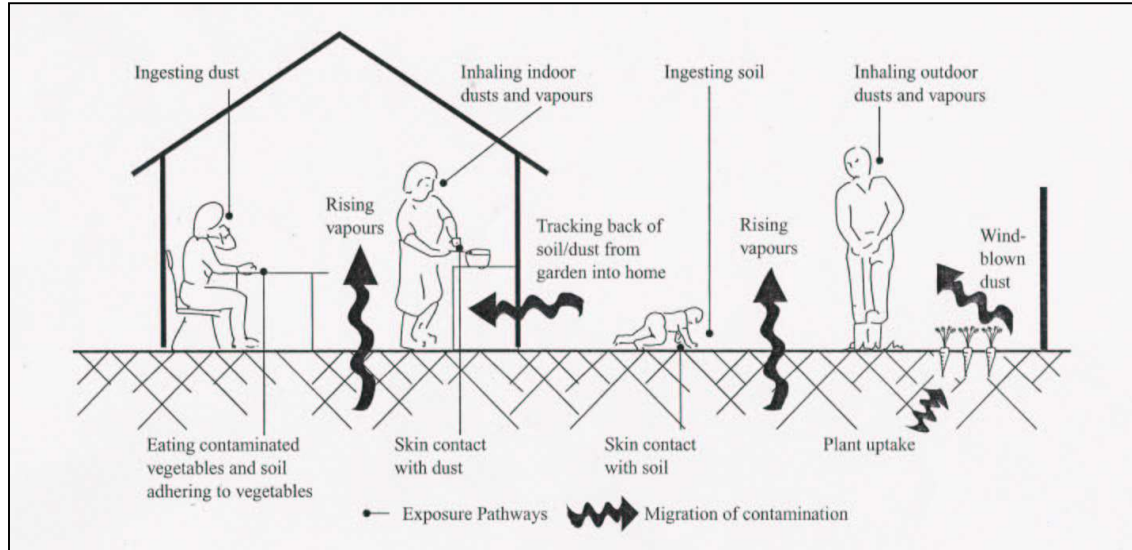
USEPA 2006: Data Quality Assessment: Statistical Methods for Practitioners

Spatial Analysis and Decision Assistance (SADA) – The University of Tennessee

A different approach to the statistical appraisal of data is required depending on whether the assessment of risk is to assess whether land is Contaminated Land in accordance with regulations, or whether the assessment is to determine whether the site is suitable for new development in according with Planning guidance. This is discussed further in CL:AIRE :2008 “Guidance on Comparing Data with a Critical Concentration”.

A program for the derivation of GAC’s based on the above guidance is provided by the Environment Agency and is entitled “CLEA Software Version 1.04”.

The CLEA model has been developed to calculate an estimated tolerable daily soil intake (TDSI) for site users given a set 'default' exposure pathway. Ten human exposure pathways are covered in the CLEA model as presented below:



Ingestion

- ingestion of outdoor soil
- ingestion of indoor dust
- ingestion of home grown produce
- ingestion of soil attached to home grown produce

Dermal Contact

- dermal contact with outdoor soil
- dermal contact with indoor dust

Inhalation

- inhalation of outdoor dust
- inhalation of indoor dust
- inhalation of outdoor soil vapour
- inhalation of indoor soil vapour

It should be noted that there are other potential exposure pathways on some sites not included in the CLEA model e.g. certain organic compounds can pass through plastic water pipes into drinking water supply.

Where contaminated water is present at a depth less than 2.00mbgl and there is a potential risk of inhalation of vapours (only when volatile compounds are present) the risk from inhalation of vapours from soil water will be assessed using a UK compliant version of BP Risc v4.02.

The presence and/or significance of each of the above exposure pathways are dependent on the type of land use being considered and the nature of the contaminant under scrutiny. Accordingly, the CLEA model considers for principle 'default' land use types and makes a series of 'default' assumptions about human exposure frequency, duration and critical human target groups for each land use considered:

- residential
- allotments
- commercial / industrial land use

The above land use categories defined in the CLEA are detailed below:

Residential: This generic scenario assumes a typical residential property consisting of a two-storey house built on a ground-bearing slab with a private garden consisting of lawn, flowerbeds, and a small fruit and vegetable patch. The occupants are assumed to be parents with young children, who make regular use of the garden area.

Allotments: This generic scenario assumes a plot of open space (about 250 m²), commonly made available by the local authority to tenants to grow fruit and vegetables for their own consumption. There are usually several plots to a site and the overall site area may cover more than a hectare. The tenants are assumed to be parents or grandparents and that young children make occasional

accompanied visits to the plot.

Commercial/Industrial: There are many kinds of workplace and work-related activities. This generic scenario assumes a typical commercial or light industrial property consisting of a three-storey building at which employees spend most time indoors and are involved in office based or relatively light physical work.

Human Health Risk Assessment Methodology

Assessment of risk for the protection of human health is undertaken using the methodology as outlined previously, and summarised hereunder:

Tier 1 Preliminary Risk Assessment

Tier 2 Generic Quantitative Risk Assessment

Tier 3 Detailed Quantitative Risk Assessment

The Tier 1 Preliminary Risk Assessment is undertaken as part of the desk study report and includes the development of a Preliminary Conceptual Model. Tier 2 and Tier 3 Quantitative Risk Assessments are undertaken to develop and refine the Preliminary Conceptual Model aiding a more detailed assessment of the risk posed by contaminants revealed by site investigation and soil / soil water chemical analyses.

The methods used by SHAW STEPHENS CONSULTING LTD to derive assessment criteria, to statistically analyse chemical data and to compare chemical data to the derived assessment criteria are discussed hereunder.

Derivation of Generic Assessment Criteria (GAC) and Site-Specific Assessment Criteria (SSAC)

GAC's are derived based on the proposed land use and the associated applicable exposure pathways. It should be noted that there are difficulties in establishing soil concentrations of contaminants beyond which risks from exposure to these contaminants would be 'unacceptable' and the GAC value does not necessarily equate to the level for "significant possibility of significant harm" as defined in Part IIA of The Environmental Protection Act (1990) to determine whether land is "contaminated." This ultimately requires detailed 'toxicological' information of the health effects of individual contaminants and a scientific judgement on what constitutes an 'unacceptable' risk. The primary purpose of the CLEA derived GAC's are as 'minimal risk thresholds' for the assessment of human health risks in relation to land use.

Minimal risk thresholds calculated using generic input parameters for each of the above land uses are termed Generic Assessment Criteria (GAC) and are used for Generic Quantitative Risk Assessment (GQRA). However, further assessment may be required taking into consideration site specific factors such as the way the land is used, the soil type, the building characteristics and the exact nature of the receptor, to determine whether there is a significant possibility of risk to human health to site users. Such an assessment is known as a Detailed Quantitative Risk Assessment (DQRA) and the resultant threshold concentrations are known as Site Specific Assessment Criteria (SSAC). Such assessments should be conducted with the agreement of the local authority (or the Environment Agency) since it is the authority that determines whether land is Contaminated Land or whether Planning Permission for a new development may be granted.

For the purposes of this report, assessment criteria have been derived in accordance with current guidance based on the conceptual model for the proposed land use using the CLEA v1.04 software. These criteria are not intended to indicate whether the site may be contaminated land, nor do they replace any published soil guideline values. However, the values are intended to provide guidance for the local authority on whether the site may be considered uncontaminated. If, based on the site's proposed future use, the site would be considered by the local authority to be uncontaminated and therefore, on the basis of soil concentrations, fit for purpose, then no further risk assessment based on soil concentrations and the risk to human health would be necessary. However, should these criteria be exceeded, or the conceptual site model vary from the model used in the risk assessment to derive these values then the risk assessment should be updated accordingly.

For contaminants routinely analysed where inhalation is a significant pathway (naphthalene, phenanthrene, Aromatic EC5-EC7, Aromatic EC7-EC8, Aromatic EC8-EC10, Aromatic EC10-EC12, Aromatic EC12-EC16, Aliphatic EC5-EC6, Aliphatic EC8-EC10, Aliphatic EC10-EC12, Aliphatic EC12-EC16), plots of the GAC as a function of Soil Organic Matter (SOM) are used to determine if they pose a potential risk to human health, which are presented hereunder. Where there is an exceedance further assessment may be undertaken.

Statistical Assessment of Soil Contamination Data & Comparison of Contamination Data to Threshold Values

In any site investigation only a small fraction of the soil on the site is analysed. Therefore, the mean derived from the contamination data for a contaminant may not be the same as the true mean for the contaminant distribution on the site. To improve the reliability of any assessment a statistical analysis is undertaken in line with the CL:AIRE document "Guidance on Comparing Soil Contamination Data with a Critical Concentration".

Statistical assessment of soil data is undertaken using programs based on the guidance in the CL:AIRE document or the USEPA software ProUCL v4.0.

Where the number of results in a dataset is less than four, a statistical assessment is not undertaken, and the assessment is performed by comparison of the maximum value(s) with a Health Criteria Value (HCV), such as Generic Assessment Criteria value(s).

For the Planning situation, the regulator needs to check whether the concentration of contaminants is low compared to the HCV. This decision is based on whether there is at least a 95% confidence level that the true mean of the dataset is lower than the HCV.

For the Part IIA scenario the regulator needs to determine whether the concentration of contaminants is greater than the HCV. This decision is based on whether there is at least a 95% confidence level that the true mean of the dataset is higher than the HCV. However, the regulator may proceed with determination if there is just a 51% probability, “on the balance of probabilities”.

The Outlier Test used in the statistical assessment may not be able identify separate populations if numerous populations are present. To ensure that this is not the case a spatial assessment of the data will be undertaken using SADA.

If the screening levels are exceeded, then more sophisticated quantitative risk assessment or remedial action may be undertaken. The benefits of undertaking a quantitative risk assessment must be weighed against the likelihood that it will bring about cost savings in the proposed remediation.

BACKGROUND INFORMATION, CURRENT GUIDANCE AND RISK ASSESSMENT METHODOLOGY FOR RISKS POSED TO CONTROLLED WATER

Definition of Controlled Waters

The term ‘controlled waters’ is defined in Section 104 of the Water Resources Act 1991 as:

“Territorial Waters...which extend seawards for three miles..., coastal waters..., inland freshwaters, waters in any relevant lake or pond or of so much of any relevant river or watercourse as is above the freshwater limit, and ground waters, that is to say, any waters contained in underground strata.”

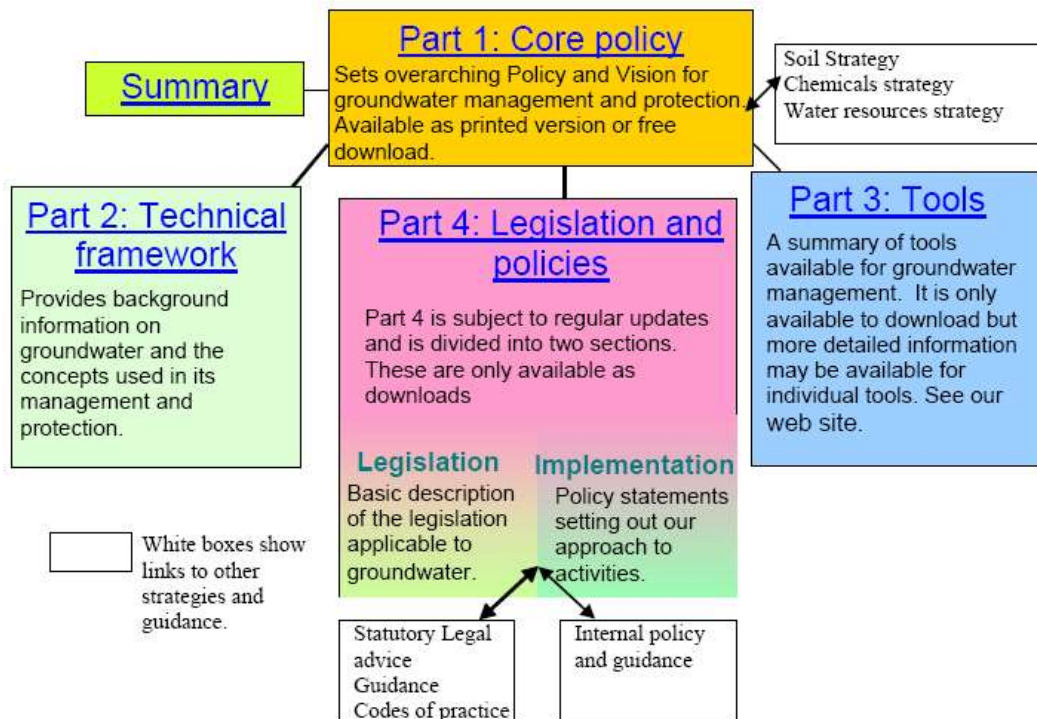
Note that the definition of groundwater under the Water Resources Act 1991 includes all water within underground strata (including soil / pore water in the unsaturated zone). The definition of groundwater under the Groundwater Directive however is limited to water in the saturated zone. For the purposes of Part IIA of the Environmental Protection Act 1990, the Environment Agency recommends that the groundwater within the saturated zone only is considered as the receptor (rather than soil / pore water).

Environment Agency Guidance

Legislation and guidance surrounding the protection of controlled waters in the UK is abundant and can be complex. The Environment Agency’s overall position on groundwater is “To protect and manage groundwater resources for present and future generation in ways that are appropriate for the risks that we identify” (Groundwater Protection : Policy and Practice GP3, 2006). In brief, the core objectives of the existing legislation serve to enforce this position.

In 1992, the National Rivers Authority published their Policy and Practice for the Protection of Groundwater (PPPG), this document was influential as it provided a focus for key developments such as Source Protection Zones (SPZs) and Groundwater Vulnerability Maps. The Policy was then revised in 1998, since which there have been substantial changes in legislation, driven by Europe. Key European Directives relating to groundwater include the Groundwater Directive (80/68/EEC) and the Water Framework Directive (2000/60/EC). Aspects of these directives are controlled by primary UK legislation such as the Water Resources Act 1991. Further to legislative changes, gaps identified in the 1998 PPPG required addressing. These changes are reflected in the forthcoming Environment Agency Policy document entitled Groundwater Protection : Policy and Practice (GP3), a draft version of which was available for public consultation (Parts 1 to 3) ending July 2006 with Part 4 issued in March 2008. Part 4 includes a section on key groundwater legislation and the Environment Agency’s interpretation of it.

The following gives a breakdown of the structure of the document (taken from the Environment Agency GP3 draft consultation document, 2006)



Controlled Water Risk Assessment Methodology

The risk posed to controlled water is assessed by SHAW STEPHENS CONSULTING LTD. in accordance with current guidance as outlined hereunder.

In order for a developer of a potentially contaminated site to fulfil their obligations under the legislation, a site assessment would be required to be undertaken in order to identify any potential risks to controlled waters and to derive suitable clean-up criteria if necessary to ensure the protection of controlled waters. The general approach for Groundwater Protection is detailed further in Part 3 of GP3.

When assessing groundwater impact the Environment Agency advocate the application of their framework methodology "Remedial Targets Methodology – Hydrogeological Risk Assessment for Land Contamination" Environment Agency (2006). The methodology has four levels of assessment as described below:

Level 1 considers whether contaminant concentrations in "pore water" in contaminated soil are enough to impact on the receptor, ignoring dilution, dispersion, and attenuation along the pathway. The "pore water" concentration is determined from: measured "pore water" concentrations or perched water quality

- ii) soil leaching tests
- iii) theoretical calculations based on soil/water partitioning equations

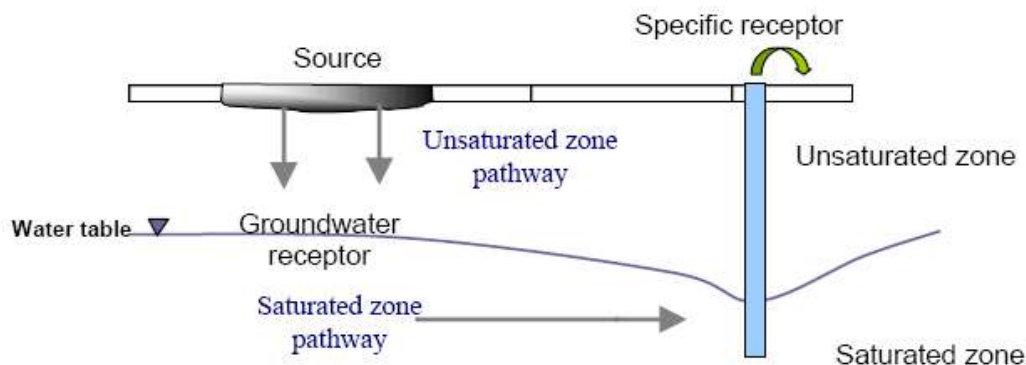
Level 2 considers dilution by the receiving groundwater or surface water body and whether this is enough to reduce contaminant concentrations to acceptable levels. The remedial target is defined as the target concentration multiplied by a dilution factor (DF).

Levels 3 and 4 consider whether natural attenuation (including dispersion, retardation, and degradation) of the contaminant as it moves through the unsaturated and saturated zones to the receptor are enough to reduce contaminant concentrations to acceptable levels. The remedial target is defined as target concentration multiplied by a dilution factor (DF) and attenuation factor (AF). In Level 3 simple analytical models are used to calculate the significance of attenuation. The Environment Agency has released a "Remedial targets worksheet v3.1" to carry out basic calculations using a conservative approach up to Level 3 using basic principles assuming a simple migration of contaminants from the source zone into the aquifer receptor. Level 4 assessment uses more sophisticated numerical models and allows for the introduction of additional geological horizons and is used mainly to determine whether soil contaminants will reach their target within a specified timeframe. Use of such software should only be used once agreement has been obtained from the Environment Agency.

Three main stages apply to any risk assessment of controlled waters, these are:

1. **Risk Screening (Tier 1 Preliminary Risk Assessment):** The understanding of the Conceptual Site Model (CSM) is the key to

assessing any site. Using a robust CSM, potential pathways or receptors may be screened out from any further assessment at an early stage. For example, if the pathway through the unsaturated zone is blocked by the presence of a significant thickness of low permeability clay. A greater understanding of the CSM is achieved with each tier of risk assessment. An example of a basic CSM is given below (taken from the Environment Agency GP3 draft consultation document, 2006):



2. Generic Hydrogeological Risk Assessment (EA Remedial Targets Methodology Level 1): When undertaking the Generic Hydrogeological Risk Assessment (EA Remedial Targets Methodology Tier 1), comparison of chemical analytical results is made with screening criteria. Published values of screening criteria with which chemical test results can be compared are published in the following guidance:

Water Supply (Water Quality) Regulations 2000
The Private Water Supplies Regulations 1991
Environmental Quality Standards for surface waters based on The EC Dangerous Substances Directive (76/464/EEC and Daughter Directives)
The Surface Waters (Abstraction for Drinking Water Classification) Regulations 1996
World Health Organisation Drinking Water Standards 2004

Should the Level 1 assessment indicate threshold levels to be exceeded, then there are three alternative ways in which to proceed:

To devise suitable remedial solutions
To carry out more investigation, sampling, and analysis
To conduct a site specific Detailed Quantitative Risk Assessment (DQRA) to determine if the materials are suitable for their proposed use, or devise site specific clean-up level

3. Detailed Quantitative Risk Assessment (EA Remedial Targets Methodology Levels 2 to 4): The decision to carry out a DQRA will be dependant on the extent and implications of the initial qualitative and generic assessment. The scope of any such assessment will be accurately defined by the outcomes of the previous levels of assessment. The conceptual model will be sufficiently refined by this stage that only certain contaminants of concern, certain pathways and certain receptors will require further assessment, the remainder having been screened out.

Additional site-specific data is normally required for this stage of assessment, as explained above, more processes that are capable of affecting contaminant concentrations are considered (such as dilution and attenuation).

Remediation criteria, if derived, will therefore be specific to each site and will be based on a detailed assessment of the potential impact at the identified receptor or compliance point. A greater level of confidence can be placed on the predicted impact on the compliance point following a DQRA.

BACKGROUND INFORMATION, CURRENT GUIDANCE AND RISK ASSESSMENT METHODOLOGY FOR RISKS POSED BY GROUND GAS

Origin of Ground and Landfill Gases

When carrying out a ground gas risk assessment, the origin or source of the gases is important as potential risks will vary depending on the source. This Appendix relates to the risk of the two main ground gases of concern; methane and carbon dioxide and does not apply to other ground gases (e.g. radon or vapours from hydrocarbon spills). Methane and carbon dioxide are major constituents of landfill gas but can also occur from a variety of anthropogenic and natural sources, as summarised in Table 5 below:

Gas	Source	Comments
Landfill Gas	Anaerobic decomposition of degradable waste within landfill sites. Typically,	Composition varies over time, particularly in early stages.

Gas	Source	Comments
	60% methane and 40% carbon dioxide during methanogenic phase.	Contains a range of minor constituents (particularly carbon monoxide and hydrogen sulphide).
Landfill Associated Gases	- Anaerobic degradation of leachate external to the site; - Degassing of dissolved gases in groundwater; - Evolution of gases following interaction between leachate and groundwater	Can result in secondary (external) production of methane or carbon dioxide.
Made Ground	Anaerobic degradation of organic components	Very variable depending on source
Sewer Gas, Cess Pits	Anaerobic degradation of organic components of sewage producing methane and carbon dioxide.	Often characterised by hydrogen sulphide odour.
Mains Gas	Leakage from underground pipework or storage tanks. Mainly methane but often contains higher alkanes.	An odourise is added to permit detection of leaks. Typically, 90% CH ₄ , but 1 to 27% C ₂ -C ₄ alkanes, May also contain other trace gases e.g. CO, helium and CO ₂ (from degradation of CH ₄ in the ground).
Other Anthropogenic Sources	- Degradation of leaked or spilled hydrocarbons or other industrial chemicals; - Anaerobic degradation of organic contaminants in groundwaters (e.g. silage liquor); - Reactions between monitoring well construction components and environment; - Burial grounds/cemeteries.	Hydrocarbon spillages often have an 'oily' odour. Fuel spillages common – Petrol or Diesel and can contain a wide range of VOC's. Can degrade to produce methane / carbon dioxide.
Alluvium / Marsh / Peat Gas	Anaerobic microbial degradation of organic material (usually waterlogged vegetation / peat). Often associated with the presence of alluvial deposits or dredging's.	
Geogenic Gas	Natural seepages of carbon dioxide and hydrocarbon gases derived from geologic sources such as coal seams and deep oil / gas source formations. Can be present in solution in groundwaters.	Methane most common but can contain carbon dioxide and higher alkanes.
Mine Gases	Various types. Most common is "fire damp" with high methane, produced by the desorption of gas trapped in coal. "Black damp" (Scythe gas) with high carbon dioxide and denser than air. "White damp" is high in carbon monoxide.	Methane most common. Can contain higher alkanes, carbon dioxide and carbon monoxide. Often low in oxygen.
Natural Shallow Ground Gas	Various types - high carbon dioxide formed by subsurface aerobic activity leading to depleted oxygen and elevated carbon dioxide; - chemical degradation of rocks (e.g. carbonates) producing carbon dioxide; - carbon dioxide production in root zone of soils by plants.	Gases can be emitted from ground under falling barometric pressure conditions.

Table 5. Potential Sources of Ground Gases

This Appendix does not provide guidance for the assessment of risk when other gases are present due to 'Other Sources' from the above table (particularly organic compounds such as BTEX and VOC's or for the risk from radon or hydrogen sulphide).

To determine the origin of the gas a range of factors must be considered together, including;

1. Proximity of likely sources
2. Ground conditions (geology, hydrogeology, anthropogenic pathways etc)
3. Properties of gases present including:
 - Chemical composition
 - Physical properties
 - Ratios of components e.g. methane : carbon dioxide
4. Timeframe of activities such as infilling periods, capping works, installation of gas control systems etc

Identification of the originating source may be problematic given that there may be more than one source present and trace gas analysis may be required. Identification of the sources of the gases encountered during monitoring is usually carried out through a process of eliminating the most unlikely potential sources (given the site setting) and selecting those which are most likely.

Hazards Associated with Presence of Methane

Methane gas is combustible and potentially explosive. When the concentration of methane in air is between the limits of 5.0%v/v and 15.0%v/v an explosive mixture is formed. The Lower Explosive Limit (LEL) of methane is 5.0%v/v, which is equivalent to 100% LEL. The 15.0%v/v limit is known as the Upper Explosive Limit (UEL), but concentrations above this level cannot be assumed to represent safe concentrations. Further, the LEL and UEL will vary (up and down) depending upon the proportion of other gases (including oxygen). However, the fact that methane is a colourless, odourless gas means that there is no simple indicator of the presence of the gas until such a time as explosive limits are reached, and an incident occurs. Methane is lighter than air and has a low toxicity. However, at high concentrations it can result in asphyxiation due to oxygen displacement.

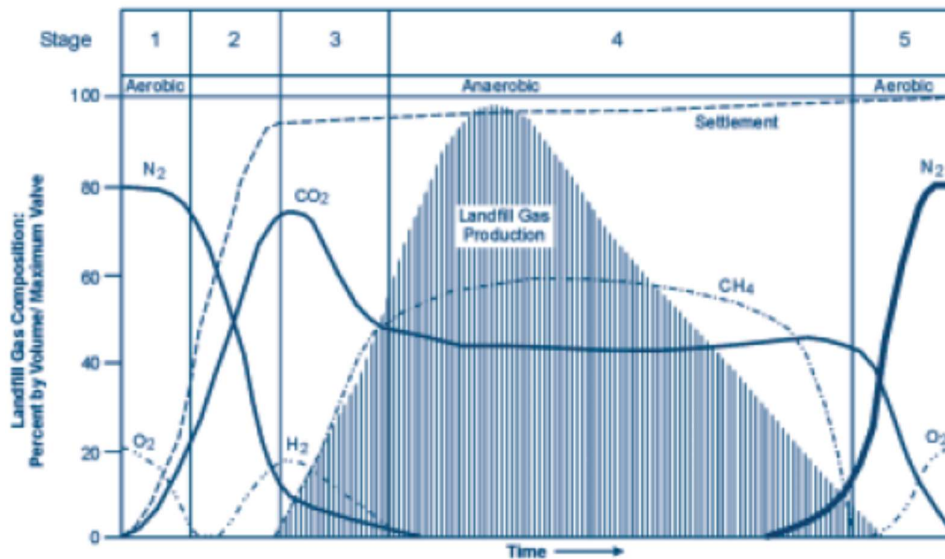
Hazards Associated with Presence of Carbon Dioxide

Carbon dioxide is a colourless, odourless gas, which, although non-flammable, is both toxic and an asphyxiant. As carbon dioxide is

denser than air, it will collect in low points and depressions. The UK Health & Safety Executive (HSE) has published information relating to concentrations of carbon dioxide that humans may be exposed to, which uses concentrations contained in the Control of Substances Hazardous to Health Regulations 2002 (as amended). These are the Long-Term Occupational Exposure Limit (LTOEL, 8-hour period) and the Short-Term Occupational Exposure Limit (STOEL, 15-minute period), which are 0.5% and 1.5% carbon dioxide, respectively.

Parameters Influencing the Rate of Ground Gas Production

The figure below is taken from EA guidance document LFTGN 03 illustrates typical ground gas generation curves from biodegradable materials:



The production of methane and carbon dioxide at a landfill site may be expected to be considerable and ongoing. Concentrations of methane will eventually decrease, followed by concentrations of carbon dioxide, but the duration and rate of gas production can vary markedly between sites. Five distinct phases of gas production occur during the process which are, in order of event as marked above, as follows:

1. An aerobic phase involving oxygen depletion and temperature increase through aerobic respiration;
2. The establishment of anaerobic conditions and the evolution of carbon dioxide and hydrogen through acidogenic activity;
3. Commencement of methanogenic activity; the establishment of populations of methanogenic bacteria;
4. A phase of stable methanogenic activity, which may go on for many tens of years;
5. A phase of decreasing methanogenic activity, representing depletion of the organic material and a return to aerobic conditions.

The time scale for the return to the normal ground gas concentrations will be highly variable, depending upon the types and quantities of materials present. In addition, the optimum parameters influencing the rate of decomposition and ground gas production within the ground at a site are as follows:

High water content with adequate rainfall and water infiltration to provide moisture content between approximately 20 to 26%;
Conditions that either are or are very close to anaerobic;
High proportion of biodegradable materials;
A pH between 6.5 and 8.5, ideally verging slightly on the acidic between pH 6 to 7;
Temperature between 25°C and 55°C;
The ratio of the biochemical and chemical oxygen demands (BOD:COD);
High permeability;
Small particle size, as finer subsurface materials possess a greater surface area to provide a growing 'face' for the micro-organisms, but high fines levels reduces permeability and reduces decomposition rate.

For this reason, it is vital that sources of methane and carbon dioxide are identified prior to the commencement of any work on a construction site, and that the ground gas regime is characterised at the worst temporal conditions a site may experience. From this, a risk assessment is carried out to identify the risk at the site from ground gases so that suitable protection measures can be designed and incorporated into a development to prevent a dangerous build-up of gas occurring.

Factors Influencing the Migration and Behaviour of Ground Gases

There are many factors that influence the migration of ground gases which can affect the risk from a gassing source:

driving force – pressure differential along a pathway, diffusion and dissolved in solution;

meteorological conditions – short term and seasonal conditions including atmospheric pressure changes (e.g. rapidly falling pressure causes gas to expand increasing emission rates), rainfall, frozen ground and thawing, temperature;
geological and groundwater conditions – these can have the overriding influence on the direction/pathways and quantity of migrating gas;
anthropogenic influences – man-made pathways include mine shafts, service runs/drains, foundation piles, underground voids/pits/basements, foundation/building design/construction

Current Guidance

Previous versions of Building Regulations Approved Document C provided statutory guidance stating that consideration should be given to appropriate action and / or specific solutions in situations where methane concentration exceeded 1%v/v or carbon dioxide concentrations exceeded 5%v/v. The latest Building Regulations Approved Document C (DoE 2004) no longer endorses this approach and recommends the use of a risk-based approach to interpreting a gas monitoring survey. This is in line with current EA guidance for landfill gas (LFTGN 03, 2004) which recommends the use of a structured risk-based approach like that outlined in CLR 11. On this basis, recent guidance has been produced in 2006 and 2007 with the aim of providing up to date advice in relation to residential and commercial development. The guidance does not address issues associated with gas derived from landfills, for this refer to “Guidance on the Management of Landfill Gas” (Environment Agency 2004) for an overview.

Recent guidance relevant to gas assessments for residential and commercial development includes;

Wilson et al. (CIRIA C665, December 2007) “Assessing Risks Posed by Hazardous Ground Gases for Buildings.”

This document provides up to date advice on all aspects of ground gas risk assessment such as investigation, monitoring programmes, data collection and interpretation. The guidance presents separate methodologies for the characterisation of:

All development types except low rise housing with gardens (Situation A)

Low rise housing with gardens (Situation B)

Boyle and Witherington (NHBC / RSK Group, Report 10627-R01(04) January 2007) “Guidance on the Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present.”

This document presents the “Traffic Lights System” detailed below and is relevant only for low rise properties (e.g. bungalows and town houses) that have a ventilated sub-floor void (i.e. Situation B as described in CIRIA C665).

British Standard (BS 8485, December 2007) “Code of Practice for the Characterization and Remediation from Ground Gas in Affected Developments”

This document provides an overview of gas characterisation and assessment. The Standard is intended to be used by designers of gas protection measures and regulators involved in the assessment of design solutions.

Further guidance, Wilson, and Card (CIEH) “Ground Gas Handbook for Designers and Regulators” providing practical guidance on ground gas assessments and the design and evaluation of protection measures, is expected to be published in March 2009.

Each of these documents continues to highlight the importance of, and give further guidance towards, carrying out a tiered risk-based decision-making process in accord with government policy on dealing with contamination from historic or natural sources and highlight the importance of the Conceptual Model in site characterisation.

Ground Gas Risk Assessment Methodology

Assessment of risk posed by ground gas is undertaken using the methodology as outlined previously, and summarised hereunder:

Tier 1 Preliminary Risk Assessment

Tier 2 Generic Quantitative Risk Assessment

Tier 3 Detailed Quantitative Risk Assessment

The methodology used in each of the above assessments with concern to ground gas is discussed hereunder.

Tier 1 Preliminary Risk Assessment

All potential sources of methane and carbon dioxide are identified in the Preliminary Conceptual Model and the generation potential determined. The background information discussed earlier is referred to in order to determine the potential for a source to generate ground gas.

CIRIA C665 provides idealised monitoring frequency / period dependant upon generation potential of gas source and sensitivity of the proposed land use as below:

Idealised Frequency and Period of Monitoring (after Table 5.5a and 5.5b, CIRIA C665)

		Generation Potential of Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity	Low (Commercial)	4/1	6/2	6/3	12/6	12/12

Moderate (Flats)	6/2	6/3	9/6	12/12	24/24
High (Residential with Gardens)	6/3	9/6	12/6	24/12	24/24

Notes

1. First number is the number of readings and the second is the minimum period in months (e.g. 6/2 – six sets of readings over two months).
2. At least two sets of readings must be at low (preferably under 1,000 mb) and falling pressure.

The monitoring programme is decided using the above table prior to the intrusive site investigation. However, if the intrusive investigation reveals that the potential source is better or worse than anticipated the monitoring programme should be modified accordingly. For example, if the made ground contains no evidence of organic material and comprises entirely granular brick fill, the potential for that made ground to generate ground gas is reduced considerably.

Tier 2 Generic Quantitative Risk Assessment

Generic Quantitative Risk Assessment is undertaken upon completion of the required gas monitoring period.

All three current guidance documents propose that both ground gas concentrations and flow rates are used to calculate the limiting gas well gas volume flow rates for methane and carbon dioxide, based on the ground gas conditions monitored for during the worse-case temporal conditions. This limiting gas well volume flow rate is termed the Gas Screening Value (GSV, note that this was termed borehole gas volume flow), and is calculated as follows:

$$\text{GSV (l/hr)} = \frac{[\text{gas well gas concentration (\%v/v)}] \times [\text{gas well flow rate (l/hr)}]}{100}$$

GSV's are compared to typical max concentrations and limiting gas screening values derived for either Situation A - All development except low rise housing with gardens, or Situation B low rise housing with gardens (NHBC Traffic Light System). Table 8.5 from CIRIA C665 is used for comparison of gas screening values for "Situation A Developments" and is presented hereunder:

Characteristic Situation (CIRIA R149)	Comparable Partners in Technology gas Regime (see Box 8.2)	Risk Classification	Gas Screening Value (CH ₄ or CO ₂) (l/hr) ¹	Additional Factors	Typical Source of Generation
1	A	Very low risk	<0.07	Typically, methane ≤ 1% and/or carbon dioxide ≤ 5%. Otherwise consider increase to Situation 2	Natural soils with low organic content "Typical" made ground
2	B	Low risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to characteristic Situation 3	Natural soil, high peat/organic content. "Typical" made ground
3	C	Moderate risk	<3.5		Old landfill, inert waste, mineworking flooded
4	D	Moderate to high risk	<15	Quantitative risk assessment required to evaluate scope of protective measures.	Mineworking susceptible to flooding, completed landfill (WMP 26B criteria)
5	E	High risk	<70		Mineworking unflooded inactive with shallow workings near surface
6	F	Very high risk	>70		Recent landfill site

Table 8.5 from CIRIA C665 Modified Wilson and Card Classification

Table 8.7 is used for comparison of gas screening values for "Situation B Developments" and is presented hereunder:

Traffic Light	Methane ¹		Carbon Dioxide ²	
	Typical max concentration ³ (% by volume)	Gas screening value ^{2,4} (litres/hour)	Typical max concentration ³ (% by volume)	Gas screening value ^{2,4} (litres/hour)
Green				
Amber 1	1	0.13	5	0.78

	5	0.63	10	1.60
Amber 2				
	20	1.60	30	3.10
Red				
Notes: 1. The worst-case ground gas regime identified on the site, either methane or carbon dioxide, at the worst-case temporal conditions that the site may be expected to encounter will be the decoder as to what Traffic Light is allocated; 2. Borehole Gas Volume Flow Rate, in litres per hour as defined in Wilson and Card (1999), is the borehole flow rate multiplied by the concentration in the air stream of the gas being considered; 3. The Typical Maximum Concentration can be exceeded in certain circumstances should the Conceptual Site Model indicate it is safe to do so; 4. The Gas Screening Value thresholds should not generally be exceeded without the completion of a detailed ground gas risk assessment considering site-specific conditions.				

Table 8.7 from CIRIA C665 - NHBC Traffic light system for 150 mm void

Dependant on the outcome of the assessment of risk posed by ground gas it is determined whether gas protection measures are required for the proposed development, and or whether a detailed quantitative risk assessment is required for the site.

Selection & Design of Protective Measures

Table 8.6 and Box 8.4 of CIRIA C665 contain information on the detailed design of protection measures and were initially intended for the purposes of determining then level of protection measures a development requires. These tables and related text include some useful information on the design of gas protection measures, however BS8485:2007, which supersedes the guidance included within CIRIA C665, is used for selection of gas protection measures.

BS8485: 2007 uses a scoring system dependant on the Characteristic Situation / NHBC Traffic Light and proposed end use of the site. The scoring system is summarised in BS8485:2007 Table 2 as presented hereunder:

Characteristic situation, CS	gas	NHBC traffic light	Required gas protection			
			Non-managed property e.g. private housing	Public building (a)	Commercial buildings	Industrial buildings (b)
1		Green	0	0	0	0
2		Amber 1	3	3	2	1 (c)
3		Amber 2	4	3	2	2
4		Red	6 (d)	5(d)	4	3
5				6(e)	5	4
6					7	6
NOTE Traffic light indications are taken from NHBC Report no.:10627-RO1 (04) and are mainly applicable to low-rise residential housing ¹ . These are for comparative purposes but the boundaries between the traffic light indications and CS values do not coincide.						
a) Public buildings include, for example, managed apartments, schools, and hospitals.						
b) Industrial buildings are generally open and well ventilated. However, areas such as office pods might require a separate assessment and may be classified as commercial buildings and require a different scope of gas protection to the main building.						
c) Maximum methane concentration 20% otherwise consider and increase to CS3.						
d) Residential building on higher traffic light/CS sites is not recommended unless the type of construction or site circumstances allow additional levels of protection to be incorporated, e.g. high-performance ventilation or pathway intervention measures, and an associated sustainable system of management of maintenance of the gas control system, e.g. in institutional and/or fully serviced contractual situations.						
e) Consideration of issues such as ease of evacuation and how false alarms will be handled are needed when completing the design specification of any gas protection scheme						
¹ The NHBC guidance and CIRIA C665 guidance refers to low rise housing (which is up to three storeys without lifts) that is constructed with a 150mm ventilated sub-floor void.						

BS8485:2007 Table 2 Required gas protection by characteristic gas situation and type of building

Once a score is assigned, a combination of protection systems / elements is chosen from BS8485:2007 Table 3 shown below:

PROTECTION ELEMENT/SYSTEM	SCORE	COMMENTS
a) Venting/dilution (See Annex A BS8485)		
Passive sub floor ventilation (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.)A	Very good performance	2.5
	Good performance	1
		Ventilation performance in accordance with Annex A (BS8485) If passive ventilation is poor this is generally unacceptable, and some form of active system will be required.

Subfloor ventilation with active abstraction/pressurization (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.)A	2.5	There must be robust management systems in place to ensure the continued maintenance of any ventilation system. Active ventilation can always be designed to meet good performance. Mechanically assisted systems come in two forms: extraction and positive pressurization.
Ventilated car park (basement or undercroft)	4	
b) Barriers		
Floor slabs		It is good practice to install ventilation in all foundation systems to effect pressure relief as a minimum. Breaches in floor slabs such as joints must be effectively sealed against gas ingress in order to maintain these performances.
Block and beam floor slab	0	
Reinforced concrete ground bearing slab	0.5	
Reinforced concrete ground bearing foundation raft with limited service penetrations that are cast into slab	1.5	
Reinforced concrete cast in situ suspended floor slab with minimal service penetrations and water bars around all slab penetrations and at joints	1.5	
Fully tanked basement	2	
c) Membranes		
Taped and sealed membrane to reasonable levels of workmanship/in line with current good practice with validation B,C	0.5	The performance of membranes is heavily dependent on the quality of design of the installation, resistance to damage after installation, and the integrity of joints.
Proprietary gas resistant membrane to reasonable levels of workmanship /in line with good practice under independent inspection (CQA)B,C	1	
Proprietary gas resistant membrane installed to reasonable levels of workmanship/in line with current good practice under CQA with integrity testing and independent validation	2	
d) Monitoring and detection (not applicable to non-managed property, or in isolation)		
Intermittent monitoring using handheld equipment	0.5	Where fitted, permanent monitoring systems ought to be installed in the underfloor venting/dilution system in the first instance but can also be provided within the occupied space as a fail safe.
Permanent monitoring and alarm system A	2	
Installed in the underfloor venting/dilution system		
Installed in the building	1	
e) Pathway Intervention		
Pathway intervention	-	This can consist of site protection measures for off-site or on-site sources (see Annex A, BS8485)
NOTE In practice the choice of materials might well rely on factors such as construction method and the risk of damage after installation. It is important to ensure that the chosen combination gives an appropriate level of protection		
It is possible to test ventilation systems by installing monitoring probes for post installation validation. If a 1 200g DPM material is to function as a gas barrier it should be installed according to BRE 212 /BRE 414 being taped and sealed to all penetrations Polymeric Materials> 1200 g (proportional to thickness) but their physical properties mean that they are more robust and resistant to damage.		

BS8485:2007 Table 3 Solution Scores

Where the gas situation is 4 or more (and for NHBC Red situations) the site requires a comprehensive risk assessment to confirm the scope of protection measures. These are higher risk sites and reliance on Table 2 and 3 alone is not enough.

For a site which is impacted by migratory gases from an off-site source, the development may be protected by imposing pathway intervention methods, which if successfully validated, could also remove the need for further analysis. It is essential that the gas regime in these circumstances has been fully characterised and that the only source impacting the site is located off site and that the pathway is clearly defined and its interception equally proven before construction commences. Pathway intervention methods may include vertical membrane installations, venting trenches, rows of stone columns, activated trenches and various proprietary systems. These systems are particularly relevant to domestic housing where there is limited scope for foundation type solutions.

CURRENT GUIDANCE ON REMEDIATION

When risk assessment of the site has been completed and it indicates that remedial works are required, the main guidance in managing this process is set out in the DEFRA/EA publication CLR11 (2004) "Model Procedures for the Management of Land Contamination." The stages of managing remediation are as follows:

- Options Appraisal and develop Remediation Strategy;
- Develop Implementation Plan and Verification Plan;
- Remediation, Verification and Monitoring.

The Remediation Strategy sets out the remediation targets, identifies technically feasible remedial solutions and presents an evaluation of the options so that these can be assessed enabling that the most suitable solution is adopted. An outline of the proposed remedial method should be presented. Agreement should be sought of the appropriate statutory bodies for the Remediation Strategy before proceeding to the next stage.

The Implementation Plan is a detailed method statement setting out how the remediation is to be carried out including stating how the site will be managed, welfare procedures, health and safety considerations together with practical measures such as details of temporary works, programme of works, waste management licences and regulatory consents required. Agreement should again be sought of the appropriate statutory bodies for this Plan.

The Verification Plan sets out the requirements for gathering data to demonstrate that the remediation has met the required remediation objectives and criteria. The Verification Plan presents the requirements for a wide range of issues including the level of supervision, sampling and testing regimes for treated materials, waste and imported materials, required monitoring works during and post remediation, how compliance with all licenses and consents will be checked etc. Agreement should again be sought of the appropriate statutory bodies for the Verification Plan. On completion of the remediation a Verification Report should be produced to provide a complete record of all remediation activities on site and the data collected as required in the Verification Plan. The Verification Report should demonstrate that the remediation has met the remedial targets to show that the site is suitable for the proposed use.

APPENDIX 4
GROUNDSURE DATA

Aylesham Welfare Leisure Centre, Spinney Lane, Canterbury, Aylesham, CT3 3BE

Order Details

Date: 08/08/2023
Your ref: CMAPS-AAG-1119275-4165-080823
Our Ref: CMAPS-AAG-1119275-4165-080823EDRGEO

Site Details

Location: 623883 151580
Area: 69.27 ha
Authority: [Canterbury City Council](#) ↗, [Dover District Council](#) ↗



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Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	3	11	20	43	-
17 >	1.2 >	Historical tanks >	0	0	13	12	-
19 >	1.3 >	Historical energy features >	0	0	7	8	-
19	1.4	Historical petrol stations	0	0	0	0	-
20 >	1.5 >	Historical garages >	0	0	2	0	-
20	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
21 >	2.1 >	Historical industrial land uses >	4	12	21	47	-
25 >	2.2 >	Historical tanks >	0	0	16	16	-
26 >	2.3 >	Historical energy features >	0	0	10	14	-
27	2.4	Historical petrol stations	0	0	0	0	-
27 >	2.5 >	Historical garages >	0	0	4	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
29	3.1	Active or recent landfill	0	0	0	0	-
29	3.2	Historical landfill (BGS records)	0	0	0	0	-
30	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
30	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
30 >	3.5 >	Historical waste sites >	0	0	1	0	-
30 >	3.6 >	Licensed waste sites >	0	2	1	0	-
32 >	3.7 >	Waste exemptions >	2	0	6	39	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
36 >	4.1 >	Recent industrial land uses >	0	1	19	-	-
38	4.2	Current or recent petrol stations	0	0	0	0	-
38	4.3	Electricity cables	0	0	0	0	-
38	4.4	Gas pipelines	0	0	0	0	-
38	4.5	Sites determined as Contaminated Land	0	0	0	0	-



38 >	4.6 >	Control of Major Accident Hazards (COMAH) >	0	0	1	0	-
39	4.7	Regulated explosive sites	0	0	0	0	-
39 >	4.8 >	Hazardous substance storage/usage >	0	0	1	0	-
39	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
40 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	1	0	-
40 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	2	4	-
41	4.12	Radioactive Substance Authorisations	0	0	0	0	-
41 >	4.13 >	Licensed Discharges to controlled waters >	0	0	2	1	-
42	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.15	Pollutant release to public sewer	0	0	0	0	-
42	4.16	List 1 Dangerous Substances	0	0	0	0	-
43	4.17	List 2 Dangerous Substances	0	0	0	0	-
43 >	4.18 >	Pollution Incidents (EA/NRW) >	0	1	2	0	-
43	4.19	Pollution inventory substances	0	0	0	0	-
44	4.20	Pollution inventory waste transfers	0	0	0	0	-
44	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
45 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
47 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
48 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
52 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
53	5.5	Groundwater vulnerability- local information	None (within 0m)				
54	5.6	Groundwater abstractions	0	0	0	0	0
55	5.7	Surface water abstractions	0	0	0	0	0
55	5.8	Potable abstractions	0	0	0	0	0
55 >	5.9 >	Source Protection Zones >	2	0	0	0	-
55	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
56	6.1	Water Network (OS MasterMap)	0	0	0	-	-



56	6.2	Surface water features	0	0	0	-	-
57 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
57 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
58 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
59	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
59	7.2	Historical Flood Events	0	0	0	-	-
59	7.3	Flood Defences	0	0	0	-	-
60	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
60	7.5	Flood Storage Areas	0	0	0	-	-
61	7.6	Flood Zone 2	None (within 50m)				
61	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
62 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
64 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
65 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
66	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
66	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
66	10.4	Special Protection Areas (SPA)	0	0	0	0	0
66	10.5	National Nature Reserves (NNR)	0	0	0	0	0
67	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
67 >	10.7 >	Designated Ancient Woodland >	1	1	0	4	26
68	10.8	Biosphere Reserves	0	0	0	0	0
69	10.9	Forest Parks	0	0	0	0	0
69	10.10	Marine Conservation Zones	0	0	0	0	0
69	10.11	Green Belt	0	0	0	0	0
69	10.12	Proposed Ramsar sites	0	0	0	0	0



69	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
70	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
70	10.15	Nitrate Sensitive Areas	0	0	0	0	0
70 >	10.16 >	Nitrate Vulnerable Zones >	4	0	0	0	0
71 >	10.17 >	SSSI Impact Risk Zones >	4	-	-	-	-
73 >	10.18 >	SSSI Units >	0	0	0	0	8
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
77	11.1	World Heritage Sites	0	0	0	-	-
77	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
77	11.3	National Parks	0	0	0	-	-
77	11.4	Listed Buildings	0	0	0	-	-
78	11.5	Conservation Areas	0	0	0	-	-
78	11.6	Scheduled Ancient Monuments	0	0	0	-	-
78	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	12.1 >	Agricultural Land Classification >	Grade 3a (within 250m)				
81	12.2	Open Access Land	0	0	0	-	-
82	12.3	Tree Felling Licences	0	0	0	-	-
82 >	12.4 >	Environmental Stewardship Schemes >	2	1	0	-	-
82 >	12.5 >	Countryside Stewardship Schemes >	0	1	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	13.1 >	Priority Habitat Inventory >	5	2	5	-	-
84	13.2	Habitat Networks	0	0	0	-	-
84 >	13.3 >	Open Mosaic Habitat >	0	0	1	-	-
85	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
86 >	14.1 >	10k Availability >	Identified (within 500m)				
87	14.2	Artificial and made ground (10k)	0	0	0	0	-
88	14.3	Superficial geology (10k)	0	0	0	0	-

88	14.4	Landslip (10k)	0	0	0	0	-
89	14.5	Bedrock geology (10k)	0	0	0	0	-
89	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	<u>Geology 1:50,000 scale</u> >	On site	0-50m	50-250m	250-500m	500-2000m
<u>90</u> >	<u>15.1</u> >	<u>50k Availability</u> >	Identified (within 500m)				
91	15.2	Artificial and made ground (50k)	0	0	0	0	-
91	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<u>92</u> >	<u>15.4</u> >	<u>Superficial geology (50k)</u> >	5	0	3	5	-
<u>93</u> >	<u>15.5</u> >	<u>Superficial permeability (50k)</u> >	Identified (within 50m)				
94	15.6	Landslip (50k)	0	0	0	0	-
94	15.7	Landslip permeability (50k)	None (within 50m)				
<u>95</u> >	<u>15.8</u> >	<u>Bedrock geology (50k)</u> >	2	0	0	0	-
<u>96</u> >	<u>15.9</u> >	<u>Bedrock permeability (50k)</u> >	Identified (within 50m)				
<u>96</u> >	<u>15.10</u> >	<u>Bedrock faults and other linear features (50k)</u> >	0	0	0	1	-
Page	Section	<u>Boreholes</u> >	On site	0-50m	50-250m	250-500m	500-2000m
<u>97</u> >	<u>16.1</u> >	<u>BGS Boreholes</u> >	2	0	4	-	-
Page	Section	<u>Natural ground subsidence</u> >					
<u>99</u> >	<u>17.1</u> >	<u>Shrink swell clays</u> >	Very low (within 50m)				
<u>101</u> >	<u>17.2</u> >	<u>Running sands</u> >	Very low (within 50m)				
<u>103</u> >	<u>17.3</u> >	<u>Compressible deposits</u> >	Negligible (within 50m)				
<u>104</u> >	<u>17.4</u> >	<u>Collapsible deposits</u> >	Very low (within 50m)				
<u>105</u> >	<u>17.5</u> >	<u>Landslides</u> >	Low (within 50m)				
<u>107</u> >	<u>17.6</u> >	<u>Ground dissolution of soluble rocks</u> >	Low (within 50m)				
Page	Section	<u>Mining and ground workings</u> >	On site	0-50m	50-250m	250-500m	500-2000m
<u>109</u> >	<u>18.1</u> >	<u>BritPits</u> >	1	1	0	7	-
<u>111</u> >	<u>18.2</u> >	<u>Surface ground workings</u> >	2	7	8	-	-
<u>112</u> >	<u>18.3</u> >	<u>Underground workings</u> >	0	0	0	4	0
113	18.4	Underground mining extents	0	0	0	0	-
113	18.5	Historical Mineral Planning Areas	0	0	0	0	-



113 >	18.6 >	Non-coal mining >	1	0	0	0	4
114 >	18.7 >	JPB mining areas >	Identified (within 0m)				
114	18.8	The Coal Authority non-coal mining	0	0	0	0	-
115 >	18.9 >	Researched mining >	0	0	0	8	-
115	18.10	Mining record office plans	0	0	0	0	-
115	18.11	BGS mine plans	0	0	0	0	-
116 >	18.12 >	Coal mining >	Identified (within 0m)				
116	18.13	Brine areas	None (within 0m)				
116	18.14	Gypsum areas	None (within 0m)				
116	18.15	Tin mining	None (within 0m)				
116	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
117 >	19.1 >	Natural cavities >	0	1	1	1	-
118 >	19.2 >	Mining cavities >	0	0	0	0	1
119	19.3	Reported recent incidents	0	0	0	0	-
119	19.4	Historical incidents	0	0	0	0	-
119	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
120 >	20.1 >	Radon >	Greater than 30% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
122 >	21.1 >	BGS Estimated Background Soil Chemistry >	45	7	-	-	-
125	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
125	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
126	22.1	Underground railways (London)	0	0	0	-	-
126	22.2	Underground railways (Non-London)	0	0	0	-	-
127	22.3	Railway tunnels	0	0	0	-	-
127	22.4	Historical railway and tunnel features	0	0	0	-	-
127	22.5	Royal Mail tunnels	0	0	0	-	-

127	22.6	Historical railways	0	0	0	-	-
127 >	22.7 >	Railways >	0	10	6	-	-
128	22.8	Crossrail 1	0	0	0	0	-
128	22.9	Crossrail 2	0	0	0	0	-
129	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 23/04/2021

Site Area: 69.27ha



Recent site history - 2018 aerial photograph



Capture Date: 05/05/2018

Site Area: 69.27ha



Recent site history - 2012 aerial photograph



Capture Date: 27/05/2012

Site Area: 69.27ha



Recent site history - 2008 aerial photograph



Capture Date: 20/09/2008

Site Area: 69.27ha



Recent site history - 1999 aerial photograph

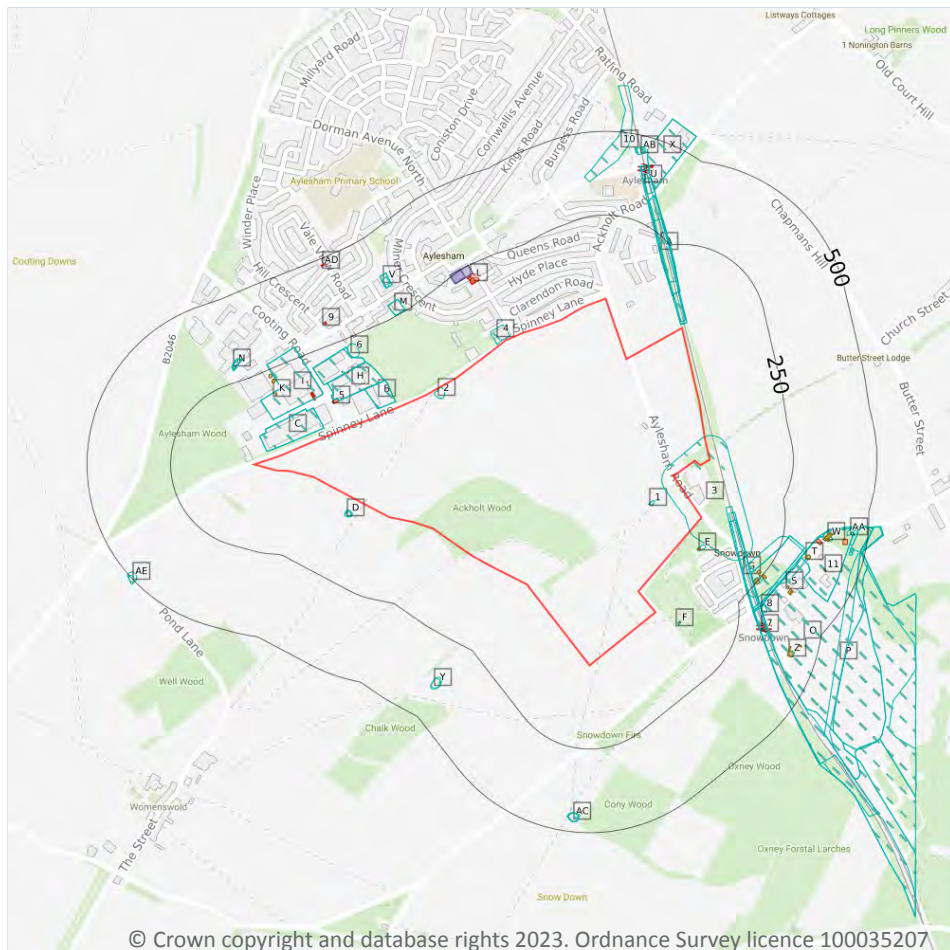


Capture Date: 28/08/1999

Site Area: 69.27ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

77

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
1	On site	Old Chalk Pit	1896	2350195



ID	Location	Land use	Dates present	Group ID
2	On site	Unspecified Heap	1938	2351429
3	On site	Nursery	1896 - 1906	2352726
4	4m N	Rescue Station	1938	2346829
A	9m NE	Cuttings	1872	2359689
A	13m NE	Cuttings	1896	2359789
A	13m NE	Cuttings	1938	2363649
B	19m NW	Unspecified Depot	1976	2358891
B	19m NW	Unspecified Depot	1988	2359990
A	20m NE	Cuttings	1906	2352140
C	25m W	Unspecified Factory	1988	2358752
C	25m W	Unspecified Factory	1976	2359946
D	38m W	Unspecified Pit	1906 - 1938	2360516
D	40m W	Old Chalk Pit	1896	2350197
E	51m SE	Unspecified Tank	1938	2348191
F	75m SE	Pump House	1938	2348750
G	78m E	Cuttings	1872	2354079
G	84m E	Cuttings	1906	2354090
G	85m E	Cuttings	1896	2357959
G	85m E	Cuttings	1938	2364146
H	86m W	Unspecified Works	1988	2353351
H	86m W	Unspecified Works	1976	2355736
A	102m NE	Cuttings	1976	2354571
A	102m NE	Cuttings	1988	2362717
I	107m W	Unspecified Factories	1988	2353458
I	107m W	Unspecified Factories	1976	2360860
A	141m NE	Cuttings	1960	2355676
H	146m W	Cannery	1976	2354790
H	146m W	Cannery	1988	2361523



ID	Location	Land use	Dates present	Group ID
6	188m NW	Unspecified Pit	1960	2345978
G	194m SE	Sewing Works	1938	2348892
G	220m SE	Unspecified Works	1988	2361684
G	220m SE	Unspecified Works	1960 - 1976	2363128
G	242m SE	Unspecified Tank	1938	2348189
M	252m NW	Police Station	1988	2354503
M	252m NW	Police Station	1960 - 1976	2356577
N	285m W	Unspecified Ground Workings	1906	2347052
N	287m W	Unspecified Pit	1938	2345975
N	287m W	Old Chalk Pit	1896	2350198
O	292m SE	Railway Sidings	1988	2355596
O	292m SE	Railway Sidings	1976	2361184
P	294m SE	Unspecified Mine	1960	2349035
Q	294m SE	Railway Sidings	1938 - 1960	2360343
7	294m SE	Cuttings	1938	2361458
Q	303m SE	Colliery	1938	2355662
R	305m SE	Colliery	1976	2361887
R	305m SE	Colliery	1988	2365109
8	308m SE	Railway Building	1938	2349682
U	335m N	Cuttings	1938	2364458
T	336m E	Unspecified Tank	1960	2348190
V	336m NW	Fire Station	1976	2353472
V	336m NW	Fire Station	1988	2355688
V	336m NW	Fire Station	1960	2358607
10	352m N	Railway Sidings	1938	2351669
X	355m N	Unspecified Factory	1988	2353759
X	355m N	Unspecified Factory	1960 - 1976	2355931
Y	366m SW	Old Chalk Pit	1896	2350196



ID	Location	Land use	Dates present	Group ID
W	370m E	Unspecified Tank	1938	2348175
Y	371m SW	Unspecified Pit	1872	2345977
U	397m N	Railway Building	1976	2358892
U	397m N	Railway Building	1988	2363883
Z	416m SE	Unspecified Tank	1938	2348188
AA	437m E	Unspecified Heap	1938	2351431
AB	441m N	Railway Sidings	1938	2351668
AC	443m S	Old Chalk Pit	1896	2350169
AC	443m S	Unspecified Pit	1906 - 1938	2362398
AC	443m S	Unspecified Pit	1872	2353019
AB	444m N	Railway Building	1960	2349678
AB	450m N	Railway Building	1960	2349679
AA	454m E	Unspecified Tanks	1976	2352599
AA	454m E	Unspecified Tanks	1988	2359180
AA	455m E	Unspecified Tanks	1988	2352026
AA	455m E	Unspecified Tanks	1976	2363378
AA	456m E	Cuttings	1938	2347648
P	475m E	Refuse Heap	1938	2359628
AE	484m W	Unspecified Ground Workings	1938	2347168
AE	492m W	Old Chalk Pit	1896	2350132

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

25

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)



ID	Location	Land use	Dates present	Group ID
E	51m SE	Unspecified Tank	1937	422826
E	55m SE	Unspecified Tank	1956	422825
F	77m SE	Unspecified Tank	1975	423442
F	77m SE	Unspecified Tank	1956	425731
F	77m SE	Unspecified Tank	1995	425459
H	152m NW	Unspecified Tank	1972	422859
J	170m W	Unspecified Tank	1972	422860
K	171m W	Unspecified Tank	1972	422861
K	208m W	Unspecified Tank	1983 - 1993	425657
K	225m W	Unspecified Tank	1983 - 1993	425359
G	231m SE	Tanks	1956 - 1975	424017
G	241m SE	Unspecified Tank	1937	422823
G	244m SE	Unspecified Tank	1956	422824
G	251m SE	Tanks	1975	421584
S	329m SE	Unspecified Tank	1937	422822
T	331m E	Unspecified Tank	1937 - 1956	424177
S	341m SE	Tanks	1956	424506
S	347m SE	Tanks	1975 - 1995	425905
W	368m E	Unspecified Tank	1937	425186
W	373m E	Unspecified Tank	1956 - 1995	424591
W	382m E	Unspecified Tank	1937	424673
11	397m E	Unspecified Tank	1937	422819
Z	413m SE	Unspecified Tank	1937	422821
Z	415m SE	Tanks	1937	421583
Z	442m SE	Unspecified Tank	1937	422820

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m	15
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
5	84m W	Electricity Substation	1972 - 1993	301852
J	113m W	Electricity Substation	1993	302741
J	123m W	Electricity Substation	1983	302978
J	124m W	Electricity Substation	1972	301803
L	195m N	Electricity Substation	1991	302059
L	198m N	Electricity Substation	1956 - 1972	301492
L	217m N	Electricity Substation	1989	302284
9	313m NW	Electricity Substation	1972 - 1991	302967
W	349m E	Electricity Substation	1956	300683
W	382m E	Electricity Substation	1995	300682
U	415m N	Electricity Substation	1975 - 1993	302118
U	416m N	Electricity Substation	1956	302624
AA	428m E	Electricity Substation	1956 - 1975	301600
AD	477m NW	Electricity Substation	1989	302252
AD	477m NW	Electricity Substation	1972 - 1991	302803

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or

succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

2

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
L	222m N	Garage	1956 - 1972	89564
L	225m N	Garage	1989	89111

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

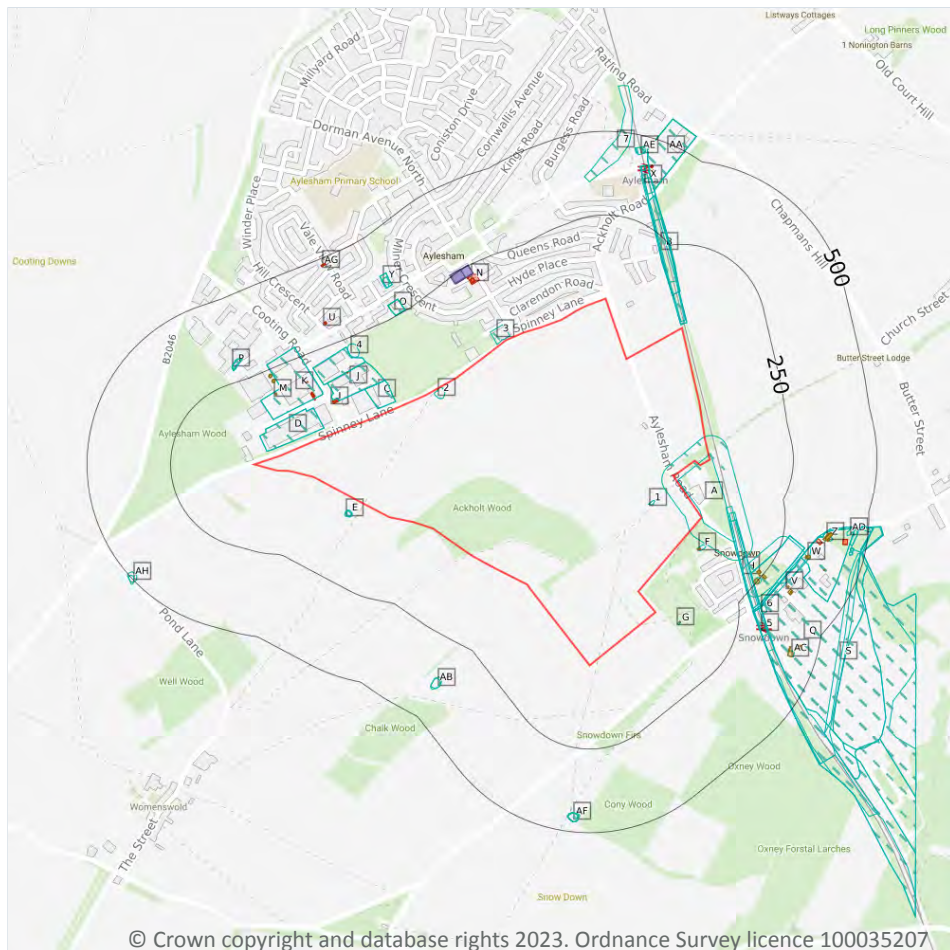
Records within 500m

0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

84

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 21](#) >

ID	Location	Land Use	Date	Group ID
1	On site	Old Chalk Pit	1896	2350195
2	On site	Unspecified Heap	1938	2351429
A	On site	Nursery	1896	2352726

ID	Location	Land Use	Date	Group ID
A	On site	Nursery	1906	2352726
3	4m N	Rescue Station	1938	2346829
B	9m NE	Cuttings	1872	2359689
B	13m NE	Cuttings	1896	2359789
B	13m NE	Cuttings	1938	2363649
C	19m NW	Unspecified Depot	1988	2359990
C	19m NW	Unspecified Depot	1976	2358891
B	20m NE	Cuttings	1906	2352140
D	25m W	Unspecified Factory	1988	2358752
D	25m W	Unspecified Factory	1976	2359946
E	38m W	Unspecified Pit	1938	2360516
E	38m W	Unspecified Pit	1906	2360516
E	40m W	Old Chalk Pit	1896	2350197
F	51m SE	Unspecified Tank	1938	2348191
G	75m SE	Pump House	1938	2348750
H	78m E	Cuttings	1872	2354079
H	84m E	Cuttings	1906	2354090
H	85m E	Cuttings	1896	2357959
H	85m E	Cuttings	1938	2364146
J	86m W	Unspecified Works	1988	2353351
J	86m W	Unspecified Works	1976	2355736
B	102m NE	Cuttings	1988	2362717
B	102m NE	Cuttings	1976	2354571
K	107m W	Unspecified Factories	1988	2353458
K	107m W	Unspecified Factories	1976	2360860
B	141m NE	Cuttings	1960	2355676
J	146m W	Cannery	1988	2361523
J	146m W	Cannery	1976	2354790



ID	Location	Land Use	Date	Group ID
4	188m NW	Unspecified Pit	1960	2345978
H	194m SE	Sewage Works	1938	2348892
H	220m SE	Unspecified Works	1988	2361684
H	220m SE	Unspecified Works	1976	2363128
H	220m SE	Unspecified Works	1960	2363128
H	242m SE	Unspecified Tank	1938	2348189
O	252m NW	Police Station	1988	2354503
O	252m NW	Police Station	1976	2356577
O	252m NW	Police Station	1960	2356577
P	285m W	Unspecified Ground Workings	1906	2347052
P	287m W	Unspecified Pit	1938	2345975
P	287m W	Old Chalk Pit	1896	2350198
Q	292m SE	Railway Sidings	1988	2355596
Q	292m SE	Railway Sidings	1976	2361184
R	294m SE	Railway Sidings	1960	2360343
S	294m SE	Unspecified Mine	1960	2349035
5	294m SE	Cuttings	1938	2361458
R	294m SE	Railway Sidings	1938	2360343
R	303m SE	Colliery	1938	2355662
T	305m SE	Colliery	1988	2365109
T	305m SE	Colliery	1976	2361887
6	308m SE	Railway Building	1938	2349682
X	335m N	Cuttings	1938	2364458
W	336m E	Unspecified Tank	1960	2348190
Y	336m NW	Fire Station	1988	2355688
Y	336m NW	Fire Station	1976	2353472
Y	336m NW	Fire Station	1960	2358607
7	352m N	Railway Sidings	1938	2351669

ID	Location	Land Use	Date	Group ID
AA	355m N	Unspecified Factory	1988	2353759
AA	355m N	Unspecified Factory	1976	2355931
AA	355m N	Unspecified Factory	1960	2355931
AB	366m SW	Old Chalk Pit	1896	2350196
Z	370m E	Unspecified Tank	1938	2348175
AB	371m SW	Unspecified Pit	1872	2345977
X	397m N	Railway Building	1988	2363883
X	397m N	Railway Building	1976	2358892
AC	416m SE	Unspecified Tank	1938	2348188
AD	437m E	Unspecified Heap	1938	2351431
AE	441m N	Railway Sidings	1938	2351668
AF	443m S	Old Chalk Pit	1896	2350169
AF	443m S	Unspecified Pit	1938	2362398
AF	443m S	Unspecified Pit	1906	2362398
AF	443m S	Unspecified Pit	1872	2353019
AE	444m N	Railway Building	1960	2349678
AE	450m N	Railway Building	1960	2349679
AD	454m E	Unspecified Tanks	1988	2359180
AD	454m E	Unspecified Tanks	1976	2352599
AD	455m E	Unspecified Tanks	1988	2352026
AD	455m E	Unspecified Tanks	1976	2363378
AD	456m E	Cuttings	1938	2347648
S	475m E	Refuse Heap	1938	2359628
AH	484m W	Unspecified Ground Workings	1938	2347168
AH	492m W	Old Chalk Pit	1896	2350132

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m	32
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Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 21 >](#)

ID	Location	Land Use	Date	Group ID
F	51m SE	Unspecified Tank	1937	422826
F	55m SE	Unspecified Tank	1956	422825
G	77m SE	Unspecified Tank	1975	423442
G	77m SE	Unspecified Tank	1956	425731
G	77m SE	Unspecified Tank	1995	425459
J	152m NW	Unspecified Tank	1972	422859
L	170m W	Unspecified Tank	1972	422860
M	171m W	Unspecified Tank	1972	422861
M	208m W	Unspecified Tank	1993	425657
M	210m W	Unspecified Tank	1983	425657
M	225m W	Unspecified Tank	1993	425359
M	227m W	Unspecified Tank	1983	425359
H	231m SE	Tanks	1975	424017
H	231m SE	Tanks	1956	424017
H	241m SE	Unspecified Tank	1937	422823
H	244m SE	Unspecified Tank	1956	422824
H	251m SE	Tanks	1975	421584
V	329m SE	Unspecified Tank	1937	422822
W	331m E	Unspecified Tank	1937	424177
W	336m E	Unspecified Tank	1956	424177
V	341m SE	Tanks	1956	424506
V	347m SE	Tanks	1975	425905
V	347m SE	Tanks	1995	425905



ID	Location	Land Use	Date	Group ID
Z	368m E	Unspecified Tank	1937	425186
Z	373m E	Unspecified Tank	1995	424591
Z	374m E	Unspecified Tank	1975	424591
Z	374m E	Unspecified Tank	1956	424591
Z	382m E	Unspecified Tank	1937	424673
8	397m E	Unspecified Tank	1937	422819
AC	413m SE	Unspecified Tank	1937	422821
AC	415m SE	Tanks	1937	421583
AC	442m SE	Unspecified Tank	1937	422820

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

24

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 21 >](#)

ID	Location	Land Use	Date	Group ID
I	84m W	Electricity Substation	1993	301852
I	86m W	Electricity Substation	1983	301852
I	87m W	Electricity Substation	1972	301852
L	113m W	Electricity Substation	1993	302741
L	123m W	Electricity Substation	1983	302978
L	124m W	Electricity Substation	1972	301803
N	195m N	Electricity Substation	1991	302059
N	198m N	Electricity Substation	1972	301492
N	201m N	Electricity Substation	1956	301492
N	217m N	Electricity Substation	1989	302284
U	313m NW	Electricity Substation	1972	302967



ID	Location	Land Use	Date	Group ID
U	313m NW	Electricity Substation	1991	302967
U	314m NW	Electricity Substation	1989	302967
U	314m NW	Electricity Substation	1989	302967
Z	349m E	Electricity Substation	1956	300683
Z	382m E	Electricity Substation	1995	300682
X	415m N	Electricity Substation	1993	302118
X	415m N	Electricity Substation	1975	302118
X	416m N	Electricity Substation	1956	302624
AD	428m E	Electricity Substation	1975	301600
AD	428m E	Electricity Substation	1956	301600
AG	477m NW	Electricity Substation	1989	302252
AG	477m NW	Electricity Substation	1972	302803
AG	477m NW	Electricity Substation	1991	302803

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

4

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 21](#) >

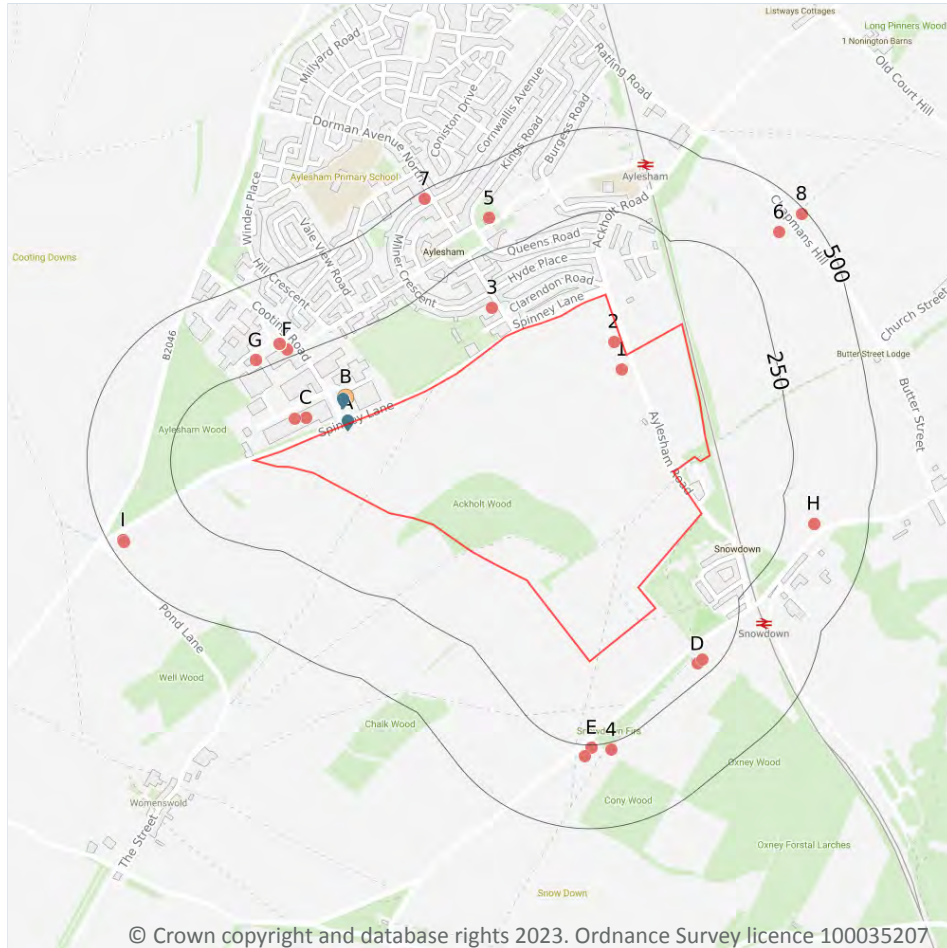


ID	Location	Land Use	Date	Group ID
N	222m N	Garage	1965	89564
N	222m N	Garage	1972	89564
N	222m N	Garage	1956	89564
N	225m N	Garage	1989	89111

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical waste sites
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m**1**

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on [page 29 >](#)

ID	Location	Address	Further Details	Date
B	51m W	Site Address: East Kent Recycling Limited, Aylesham Industrial Estate, Cooting Road, Canterbury, Kent, CT3 3EL	Type of Site: Waste Management Facility Planning application reference: 18/01104 Description: Scheme comprises redevelopment of an existing industrial site into waste management use to provide for a fully enclosed waste management facility. Ref kcc/do/0474/2018. The associated works include infrastructure, access roads. Data source: Historic Planning Application Data Type: Point	10/10/201 8

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m**3**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on [page 29 >](#)



ID	Location	Details		
A	2m W	Site Name: Clearers South East Ltd Site Address: Aylesham Industrial Estate, Aylesham, Canterbury, Kent, CT3 3EL Correspondence Address: Aylesham Industrial Estate, Aylesham, Canterbury, Kent, CT3 3EL	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAM001 EPR reference: - Operator: Clearers South East Ltd Waste Management licence No: 19451 Annual Tonnage: 0	Issue Date: 01/11/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
A	2m W	Site Name: Clearers South East Ltd Site Address: Land/ Premises At, Aylesham Ind Est, Aylesham, Canterbury, Kent, CT3 3EL Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAM001 EPR reference: EA/EPR/EP3098HW/V003 Operator: Clearers South East Limited Waste Management licence No: 19451 Annual Tonnage: 24999	Issue Date: 01/11/1994 Effective Date: - Modified: 24/02/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
B	68m W	Site Name: Clearers (South East) Limited Site Address: Land/ Premises At, Aylesham Ind Est, Aylesham, Canterbury, Kent, CT3 3EL Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: EAS148 EPR reference: EA/EPR/BB3205UC/T001 Operator: East Kent Recycling Limited Waste Management licence No: 19451 Annual Tonnage: 24999	Issue Date: 01/11/1994 Effective Date: 17/02/2014 Modified: 24/02/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

This data is sourced from the Environment Agency and Natural Resources Wales.



3.7 Waste exemptions

Records within 500m	47
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 29](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
1	On site	-	WEX233184	Storing waste exemption	On a Farm	Storage of sludge
2	On site	-	WEX309353	Storing waste exemption	On a farm	Storage of sludge
C	63m W	AYLESHAM INDUSTRIAL ESTATE, AYLESHAM, CANTERBURY, CT3 3EF	WEX133729	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
C	63m W	AYLESHAM INDUSTRIAL ESTATE, AYLESHAM, CANTERBURY, CT3 3EF	WEX281049	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
C	73m W	Covert Road Aylesham Industrial Estate CANTERBURY Kent CT3 3EF	EPR/GF0002TF /A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste to manufacture finished goods
3	95m N	12, DORMAN AVENUE SOUTH, AYLESHAM, CANTERBURY, CT3 3AD	WEX243896	Using waste exemption	Not on a farm	Use of waste in construction
D	208m SE	WOOLAGE FARM, WOOLAGE GREEN, CANTERBURY, CT4 6SG	WEX107805	Storing waste exemption	On a farm	Storage of sludge
D	209m SE	Woolage Farm CANTERBURY Kent CT4 6SG	EPR/GF0206FT /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
E	259m S	-	WEX224256	Storing waste exemption	On a Farm	Storage of sludge
E	259m S	-	WEX350098	Storing waste exemption	On a farm	Storage of sludge
F	272m NW	Unit 4 Cooting Road Aylesham Kent CT3 3EQ	EPR/UF0603G S/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
4	273m S	WOOLAGE FARM, WOOLAGE GREEN, CANTERBURY, CT4 6SG	WEX167632	Storing waste exemption	On a farm	Storage of sludge
G	280m W	Unit 1B, Cooting Road, Aylesham, Canterbury, CT3 3DW	WEX274717	Storing waste exemption	Not on a farm	Storage of waste in a secure place
G	282m W	Karllee Construction Ltd, Karllee Construction Ltd, rear cermatco, Aylesham, ct3 3ep	WEX183402	Using waste exemption	Not on a farm	Use of waste in construction
G	282m W	-	WEX287413	Storing waste exemption	Not on a farm	Storage of waste in a secure place
G	282m W	-	WEX287413	Storing waste exemption	Not on a farm	Storage of waste in secure containers
G	282m W	-	WEX287413	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	284m S	Holt Street Farm Butter Street DOVER Kent CT15 4JQ	EPR/LF0334EN /A001	Storing waste exemption	Non- Agricultura l Waste Only	Storage of sludge
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of waste in construction
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of baled end-of-life tyres in construction
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of waste derived biodiesel as fuel
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of waste for a specified purpose
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of mulch



ID	Location	Site	Reference	Category	Sub-Category	Description
F	296m NW	-	WEX362454	Using waste exemption	Not on a farm	Use of depolluted end-of-life vehicles for vehicle parts
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Recovery of scrap metal
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Sorting mixed waste
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Manual treatment of waste
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Crushing and emptying waste vehicle oil filters
F	296m NW	-	WEX362454	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
F	296m NW	-	WEX362454	Disposing of waste exemption	Not on a farm	Burning waste in the open
F	296m NW	-	WEX362454	Storing waste exemption	Not on a farm	Storage of sludge
H	336m E	WOOLAGE FARM, WOOLAGE GREEN, CANTERBURY, CT4 6SG	WEX111722	Storing waste exemption	On a farm	Storage of sludge
H	336m E	Woolage Farm CANTERBURY Kent CT4 6SG	EPR/RF0503C W/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
H	336m E	-	WEX284082	Storing waste exemption	On a Farm	Storage of sludge
5	345m N	-	WEX269479	Disposing of waste exemption	Not on a farm	Burning waste in the open
6	398m NE	-	WEX226620	Storing waste exemption	On a Farm	Storage of sludge

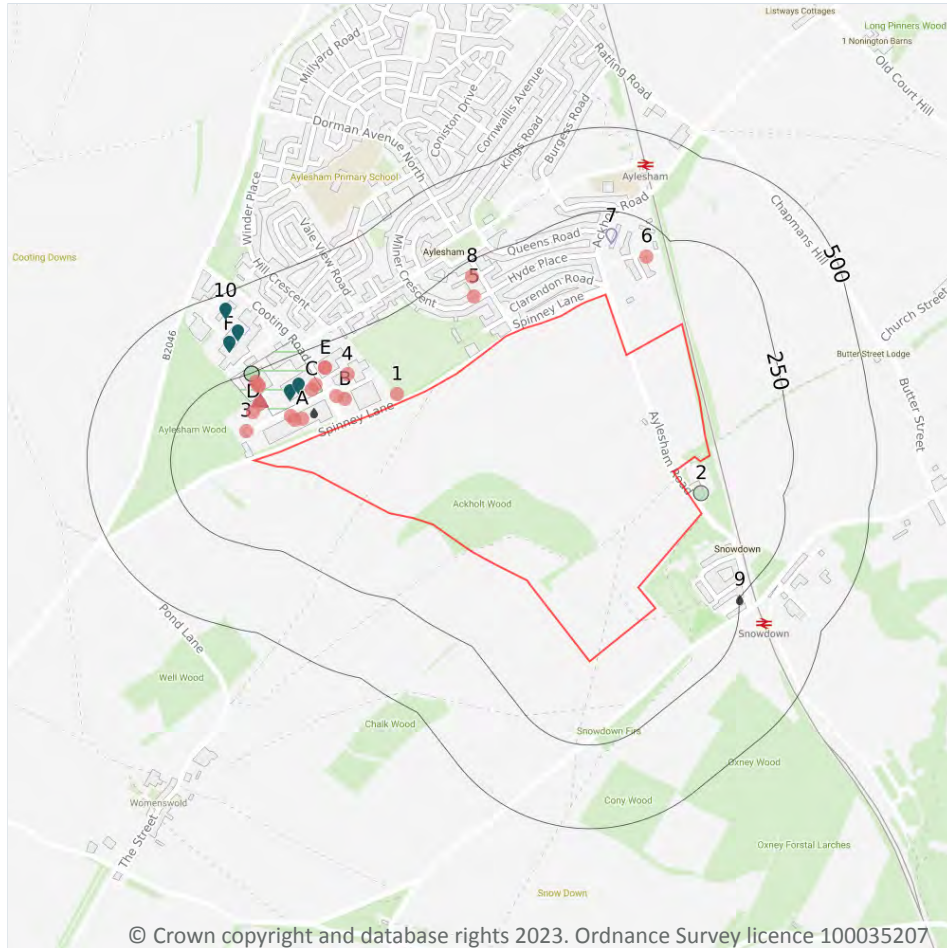


ID	Location	Site	Reference	Category	Sub-Category	Description
I	460m W	-	WEX159557	Storing waste exemption	On a Farm	Storage of sludge
I	460m W	-	WEX161133	Storing waste exemption	On a Farm	Storage of sludge
I	462m W	-	WEX315499	Storing waste exemption	On a farm	Storage of sludge
7	476m NW	1, DORMAN AVENUE NORTH, AYLESHAM, CANTERBURY, CT3 3BL	WEX221394	Treating waste exemption	Not on a farm	Screening and blending of waste
8	485m NE	-	WEX306311	Storing waste exemption	On a farm	Storage of sludge

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Control of Major Accident Hazards
- ▲ Hazardous substance storage/usage
- ⬮ Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

20

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Company	Address	Activity	Category
1	26m NW	Mast	Kent, CT3	Telecommunications Features	Infrastructure and Facilities
A	65m W	Factory	Kent, CT3	Unspecified Works Or Factories	Industrial Features
A	72m W	Groupe Guillin	Sharp Interpack Ltd, Covert Road, Aylesham, Kent, CT3 3EF	Packaging	Industrial Products



ID	Location	Company	Address	Activity	Category
B	72m W	East Kent Recycling Ltd	East Kent Recycling Ltd, Cooting Road, Aylesham, Kent, CT3 3EL	Recycling, Reclamation and Disposal	Recycling Services
A	87m W	Electricity Sub Station	Kent, CT3	Electrical Features	Infrastructure and Facilities
B	90m W	Electricity Sub Station	Kent, CT3	Electrical Features	Infrastructure and Facilities
3	92m W	Woods Commercial Services Ltd	Unit 7 Aylesham Industrial Estate, Covert Road, Aylesham, Kent, CT3 3EQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	136m W	Electricity Sub Station	Kent, CT3	Electrical Features	Infrastructure and Facilities
D	139m W	Y M S Travel	Unit 1, Aylesham Industrial Estate, Covert Road, Aylesham, Kent, CT3 3EQ	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
4	139m NW	Cermatpro Ltd	Granimar House, Cooting Road, Aylesham, Kent, CT3 3EP	Bricks, Tiles, Clay and Ceramic Products	Industrial Products
C	145m W	Skelton Group	Unit 4 Aylesham Industrial Estate, Cooting Road, Aylesham, Kent, CT3 3EP	Construction and Tool Hire	Hire Services
5	152m N	Gillie's Coaches	The Manse, Milner Crescent, Aylesham, Kent, CT3 3BH	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
D	157m W	J C's Commercial Sprayers Ltd	Unit 3 Aylesham Industrial Estate, Covert Road, Aylesham, Kent, CT3 3EQ	Industrial Coatings and Finishings	Industrial Products
6	168m NE	Electricity Sub Station	Kent, CT3	Electrical Features	Infrastructure and Facilities
E	181m NW	Armstrong's Paint Specialist	Unit 2 Intex House, Cooting Road, Aylesham, Kent, CT3 3EP	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	181m NW	Jackson Joinery	Intex House, Cooting Road, Aylesham, Kent, CT3 3EP	Building and Component Suppliers	Construction Services
D	206m W	A Salvatori & Son Ltd	Unit 4 Aylesham Industrial Estate, Covert Road, Aylesham, Kent, CT3 3EQ	Distribution and Haulage	Transport, Storage and Delivery
8	206m N	Electricity Sub Station	Kent, CT3	Electrical Features	Infrastructure and Facilities
D	206m W	Salvatori Transport	Covert Road, Aylesham, Canterbury, Kent, CT3 3EQ	Distribution and Haulage	Transport, Storage and Delivery



ID	Location	Company	Address	Activity	Category
D	221m W	Factory	Kent, CT3	Unspecified Works Or Factories	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
----------------------------	----------

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
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Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	1
----------------------------	----------

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Company	Address	Operational status	Tier
C	107m W	Salvatori Group of Companies Limited (The)	Salvatori Group of Companies Limited (The), Aylesham, 4 Covert Road, Aylesham Industrial Estate, Aylesham, Kent, CT3 3EQ	Current COMAH Site	COMAH Upper Tier Operator

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0
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Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	1
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Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Details	
D	165m W	Application reference number: No Details Application status: Approved Application date: No Details Address: The Salvatori Group of Companies Ltd, 4 Covert Road, Aylesham Industrial Estate, Aylesham, Canterbury, Kent, England, CT3 3EQ	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0
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Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

1

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Details	
7	176m N	Operator: ENVIROGROUP Installation Name: AYLESHAM BIODIESEL PLANT Process: ORGANIC CHEMICALS; OXYGEN CONTAINING COMPOUNDS EG ALCOHOLS Permit Number: PP3934UY Original Permit Number: PP3934UY	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 03/10/2007 Status: DETERMINATION

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

6

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Address	Details	
C	151m W	Unit 4, Covert Road, Aylesham Industrial Estate, Aylesham, Canterbury, Kent, CT3 3EQ	Process: Bitumen and Tar Processes Status: Historical Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified
C	159m W	Marley Waterproofing Ltd, Unit 4, Covert Road Aylesham Industrial Estate, Aylesham Canterbury, Kent, CT3 3EQ	Process: Bitumen and Tar Processes Status: Historical Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified
F	354m W	R H Ovenden Limited, Ovenden House, Wilcocks Close, Aylesham Industrial Estate, Canterbury, Kent, CT3 3EP	Process: Other Mineral Processes Status: Surrendered Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified



ID	Location	Address	Details	
F	354m W	Ovenden Earth Moving Co Limited, Wellhead Farm, Wingham Well, Canterbury, Kent, CT3 1NS	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified
F	376m NW	Goody Demolition Ltd, Ovenden House, Wilcox Close, Aylesham, Kent, CT3 3EP	Process: Other Mineral Processes Status: Current Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified
10	451m NW	Ovenden Plant Hire, Wilcox Close, Aylesham Industrial Estate, Aylesham, Canterbury, CT3 3EP	Process: Other Mineral Processes Status: Current Permit Permit Type: Part B	Enforcement: No enforcements notified Date of enforcement: No enforcements notified Comment: No enforcements notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0
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Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	3
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Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Address	Details	
A	67m W	SHARP INTERPACK LTD, SHARP INTERPACK LTD, COVERT ROAD, AYLESHAM, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: P00283L Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 18/11/1985 Effective Date: 18/11/1985 Revocation Date: 31/03/1997

ID	Location	Address	Details	
A	67m W	SHARP INTERPACK LIMITED, SHARP INTERPACK LIMITED, COVERT ROAD, AYLESHAM, KENT	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: P06737R Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 01/04/1997 Effective Date: 01/04/1997 Revocation Date: -
9	253m SE	SNOWDOWN WORKING MEN'S CLUB, AYLESHAM ROAD, SNOWDOWN, DOVER, KENT, CT15 4JL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRDB3696WF Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 22/03/2016 Effective Date: 22/03/2016 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0
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Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0
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Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0
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Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

3

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Details	
2	33m E	Incident Date: 30/10/2002 Incident Identification: 117778 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	248m W	Incident Date: 25/08/2007 Incident Identification: 525992 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
D	248m W	Incident Date: 25/08/2007 Incident Identification: 525992 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m
0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

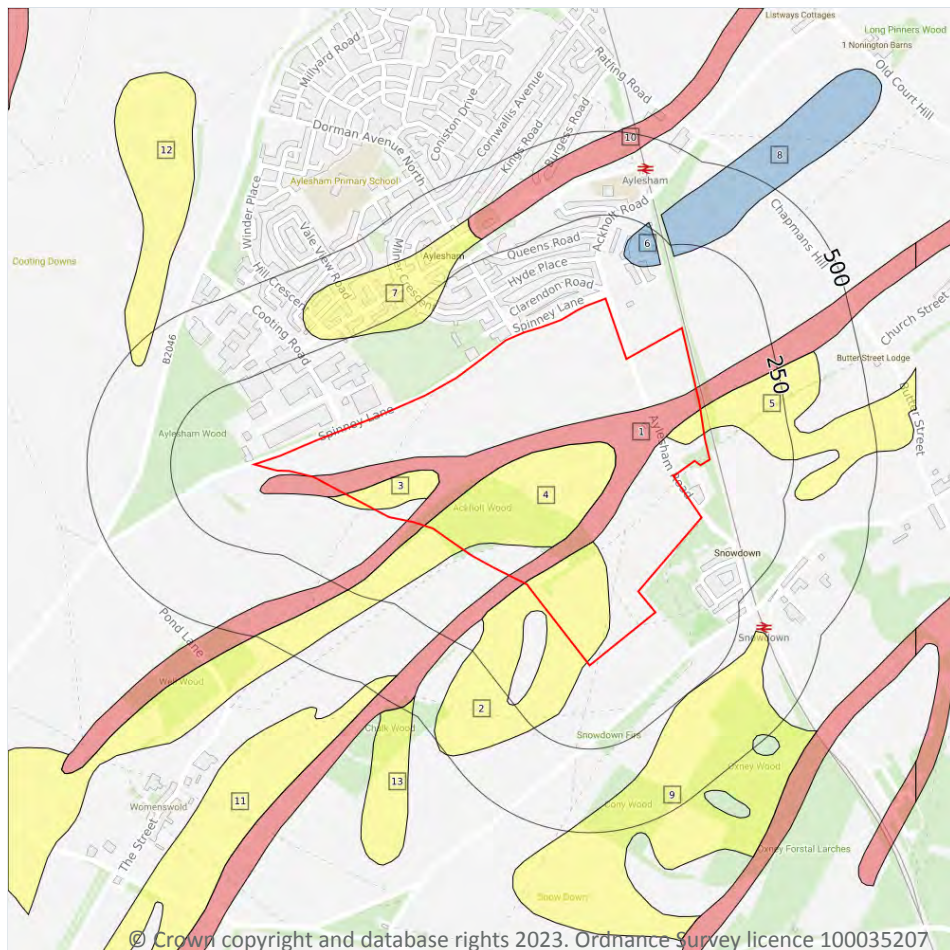
4.21 Pollution inventory radioactive waste

Records within 500m
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

13

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 45 >](#)

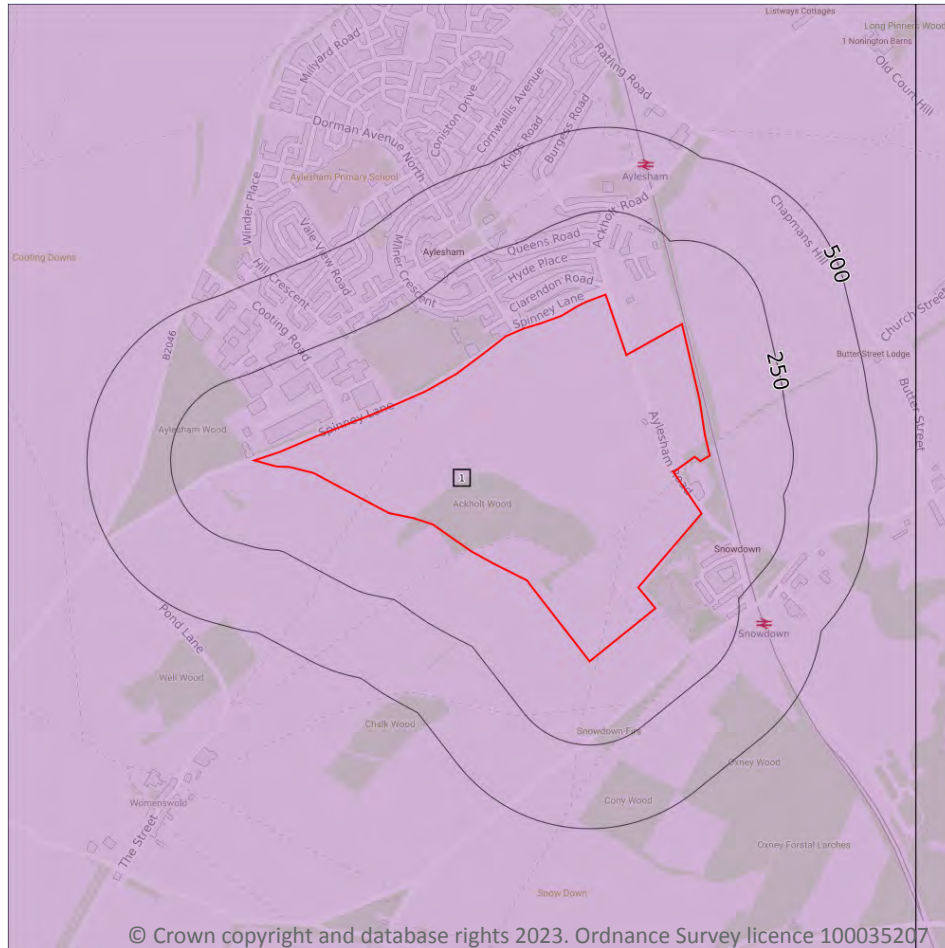
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

ID	Location	Designation	Description
3	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
5	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	131m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
7	194m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	216m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
9	250m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
10	306m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
11	423m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
12	448m W	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
13	452m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

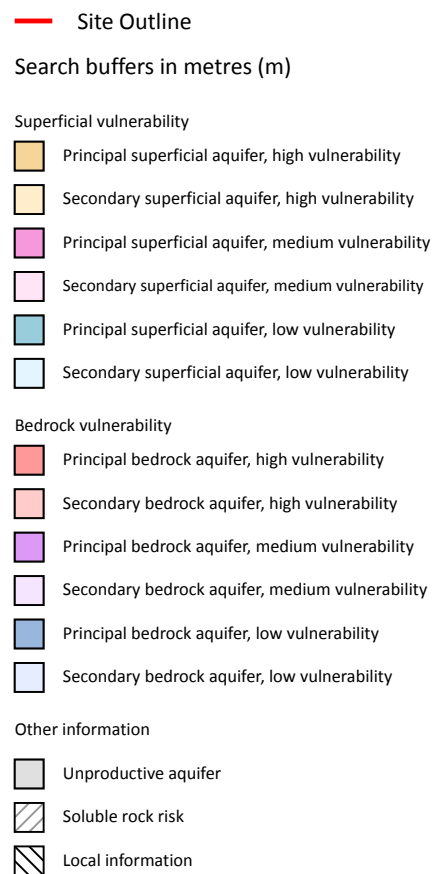
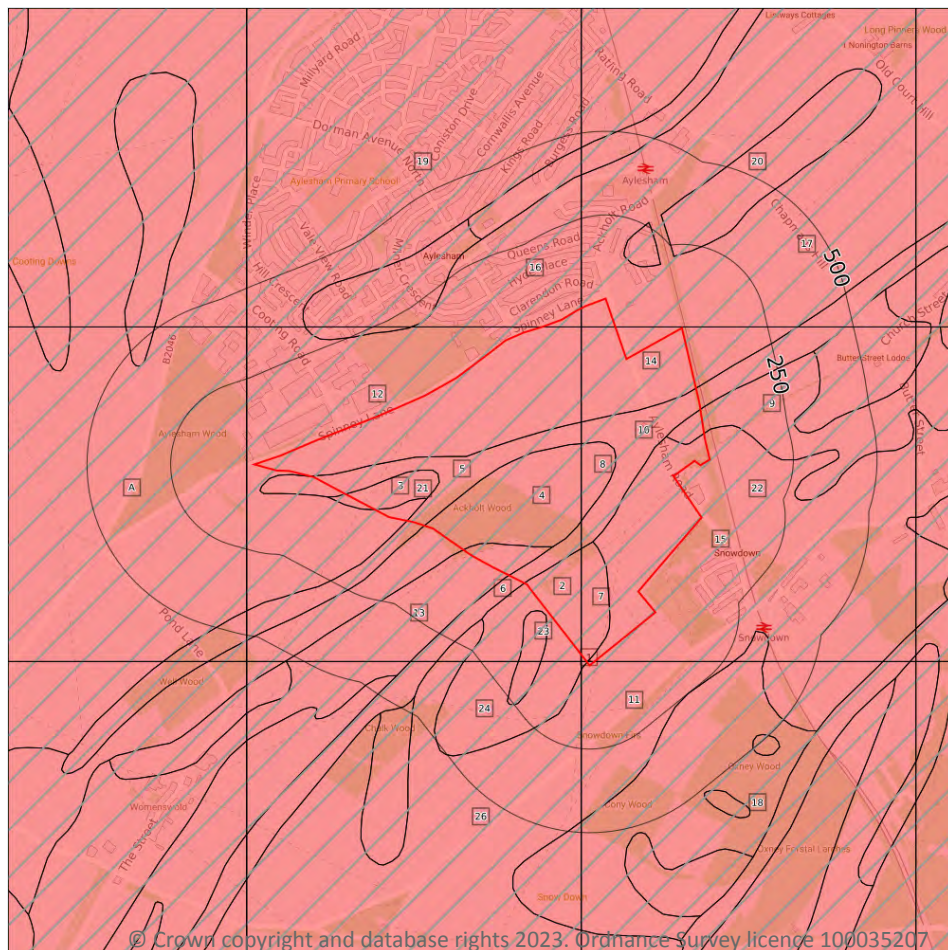
Features are displayed on the Bedrock aquifer map on [page 47](#) >

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

21

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 48](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
4	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
5	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
6	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
8	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
9	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
10	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
11	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
12	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
13	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
14	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
15	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
16	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
17	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
23	11m S	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
24	12m S	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
A	23m W	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
26	29m S	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	5
------------------------	----------

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
18	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	47.0%
19	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	11.0%
20	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	12.0%
21	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	0.0%
22	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	26.0%

This data is sourced from the British Geological Survey and the Environment Agency.



5.5 Groundwater vulnerability- local information

Records on site

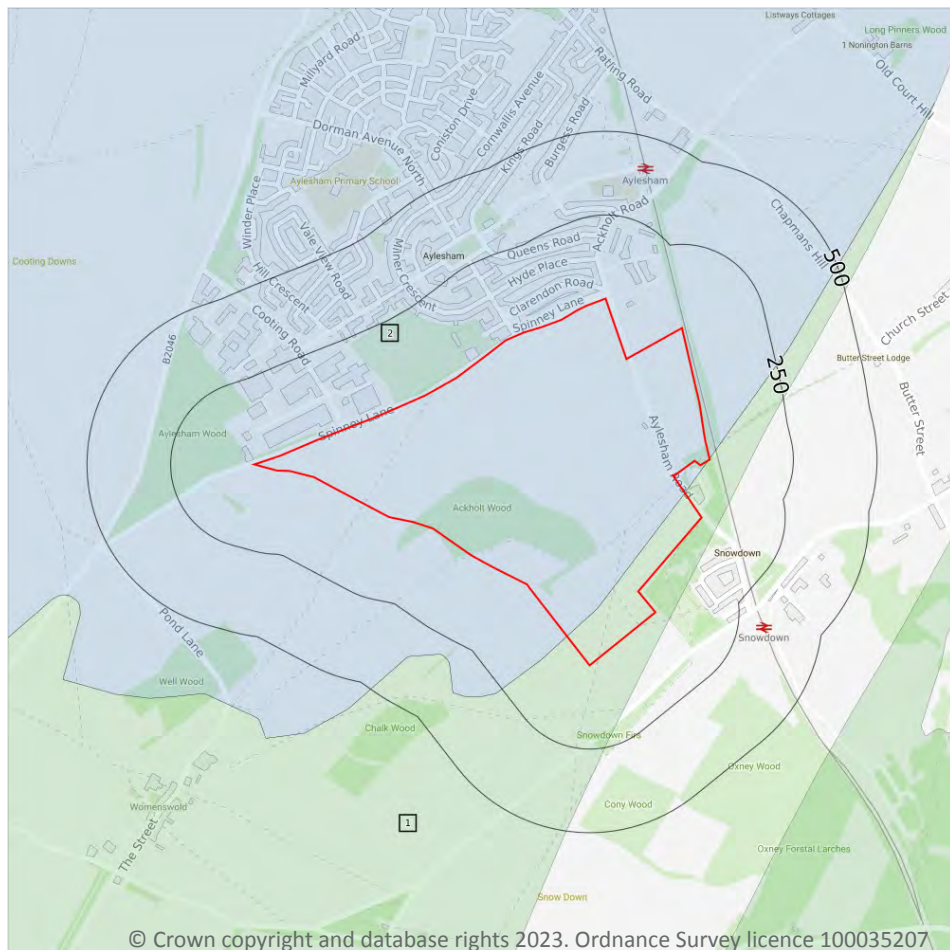
0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

0

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m**0**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m**0**

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m**2**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 54](#) >

ID	Location	Type	Description
1	On site	3	Total catchment
2	On site	2	Outer catchment

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m**0**

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
------------------------	----------

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 56 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Wingham and Little Stour	GB107040019570	Little Stour and Wingham	Stour

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1
---------------------------	----------

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 56 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	5503m N	River	Wingham and Little Stour	GB107040019570 ↗	Poor	Fail	Poor	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on [page 56](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	East Kent Chalk - Stour	GB40701G501500 ↗	Poor	Poor	Poor	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m**0**

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m**0**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m**0**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

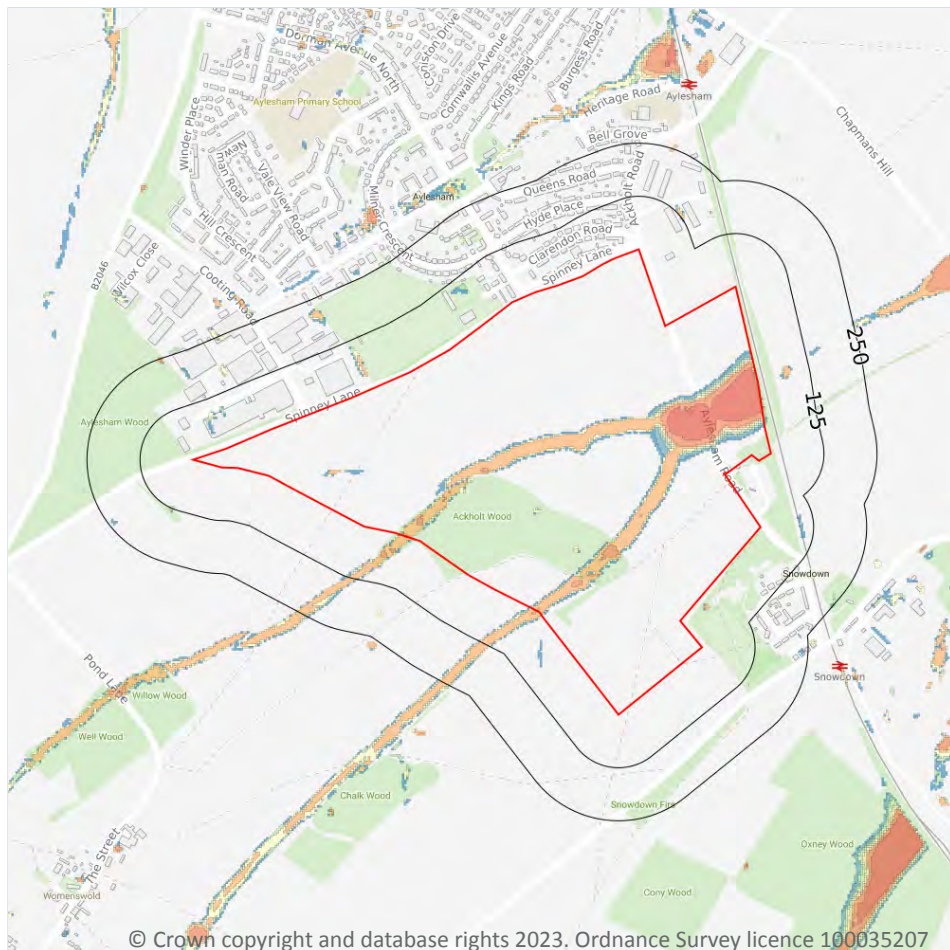
Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 62 >](#)

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

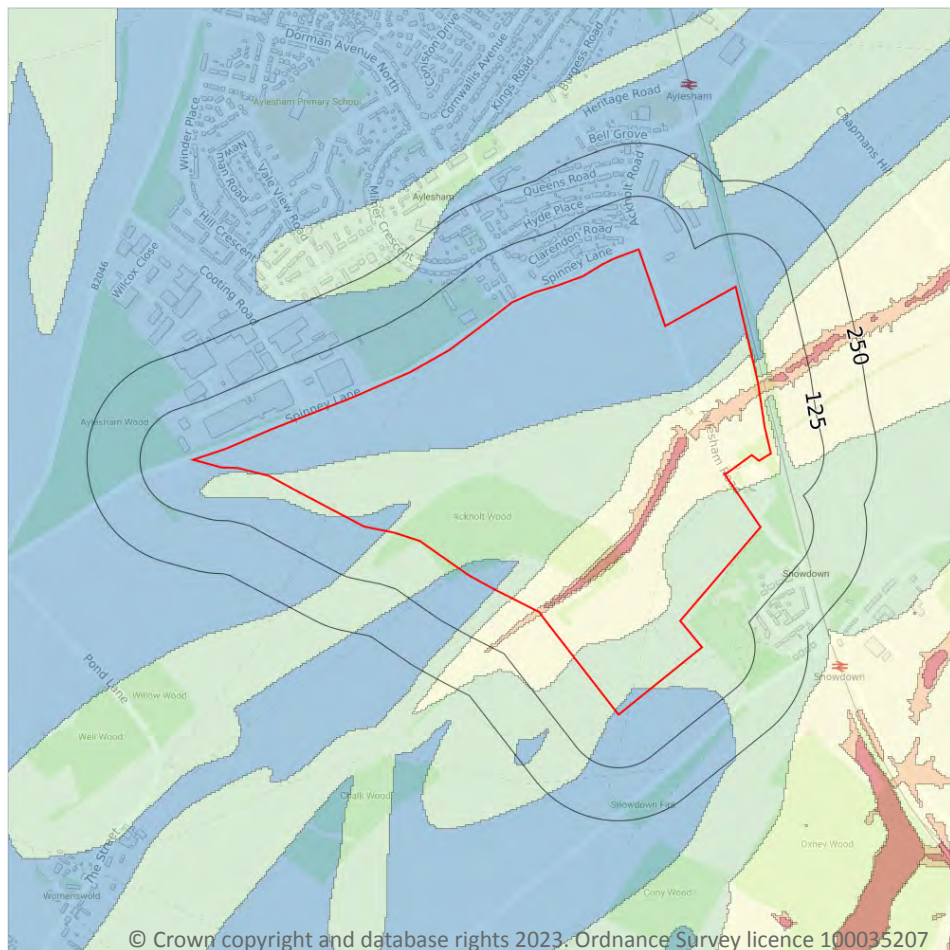
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

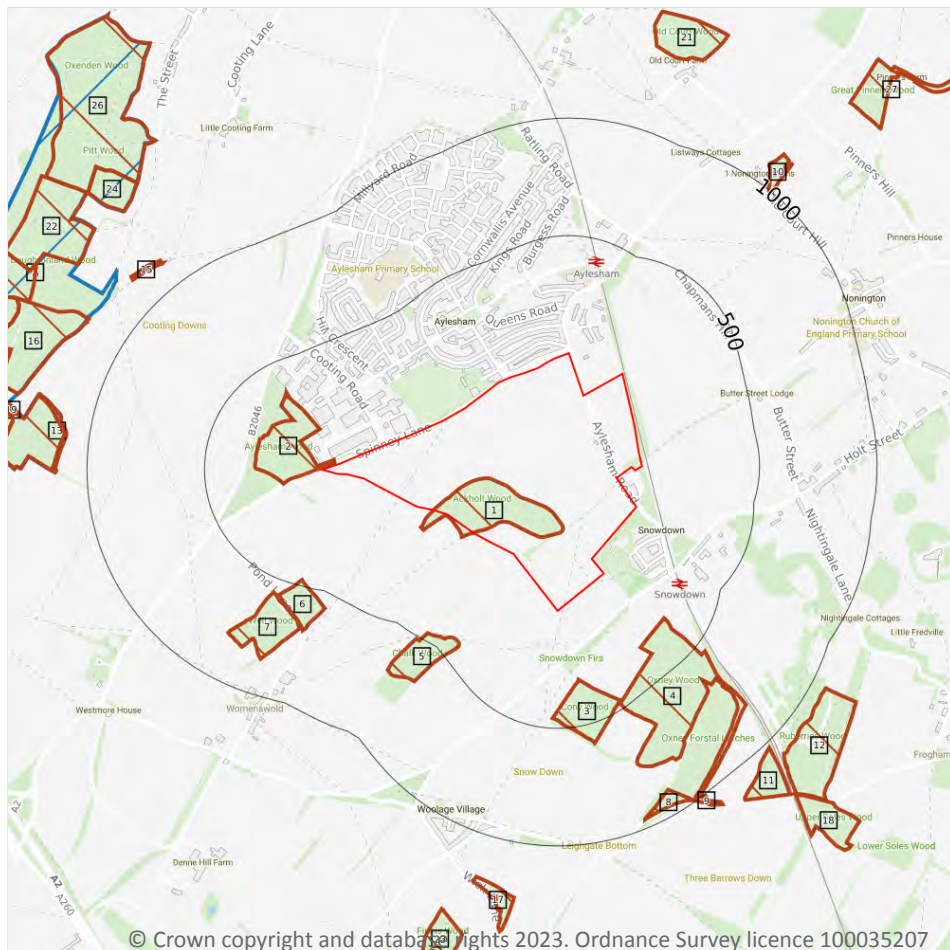
High

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 64](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on [page 65](#) >

ID	Location	Name	Data source
A	1100m W	Ileden and Oxenden Woods	Natural England



This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m

0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

32

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 65 >](#)

ID	Location	Name	Woodland Type
1	On site	Ackholt Wood	Ancient & Semi-Natural Woodland
2	7m W	Aylesham Wood	Ancient Replanted Woodland
3	306m S	Unknown	Ancient & Semi-Natural Woodland
4	319m SE	Oxney Wood	Ancient & Semi-Natural Woodland
5	415m S	Chalk Wood	Ancient & Semi-Natural Woodland
6	474m SW	Well/willow Woods	Ancient & Semi-Natural Woodland
7	560m SW	Well/willow Woods	Ancient & Semi-Natural Woodland
8	894m SE	Oxney Wood	Ancient & Semi-Natural Woodland
9	983m SE	Unknown	Ancient & Semi-Natural Woodland
10	995m NE	Unknown	Ancient & Semi-Natural Woodland
11	1022m SE	Rubberies Wood-West	Ancient & Semi-Natural Woodland
12	1059m SE	Rubberies Wood-West	Ancient & Semi-Natural Woodland
13	1098m W	Unknown	Ancient & Semi-Natural Woodland
14	1105m W	Gore Wood	Ancient & Semi-Natural Woodland
15	1109m NW	Unknown	Ancient & Semi-Natural Woodland
16	1181m W	Oxenden/ilenden Woods	Ancient & Semi-Natural Woodland



ID	Location	Name	Woodland Type
17	1183m S	Unknown	Ancient & Semi-Natural Woodland
18	1249m SE	Rubberies Wood-West	Ancient & Semi-Natural Woodland
19	1286m W	Unknown	Ancient & Semi-Natural Woodland
20	1333m W	Gore Wood	Ancient Replanted Woodland
21	1337m N	Old Court Wood	Ancient Replanted Woodland
22	1357m NW	Oxenden/ilenden Woods	Ancient & Semi-Natural Woodland
23	1360m S	Unknown	Ancient & Semi-Natural Woodland
24	1385m NW	Oxenden/ilenden Woods	Ancient Replanted Woodland
25	1418m W	Oxenden/ilenden Woods	Ancient Replanted Woodland
A	1436m W	Oxenden/ilenden Woods	Ancient & Semi-Natural Woodland
26	1451m NW	Oxenden/ilenden Woods	Ancient & Semi-Natural Woodland
27	1506m NE	Great Pinners Wood	Ancient Replanted Woodland
B	1614m S	Unknown	Ancient & Semi-Natural Woodland
B	1616m S	Unknown	Ancient & Semi-Natural Woodland
-	1671m NE	Unknown	Ancient Replanted Woodland
-	1729m NW	Oxenden/ilenden Woods	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m**4**

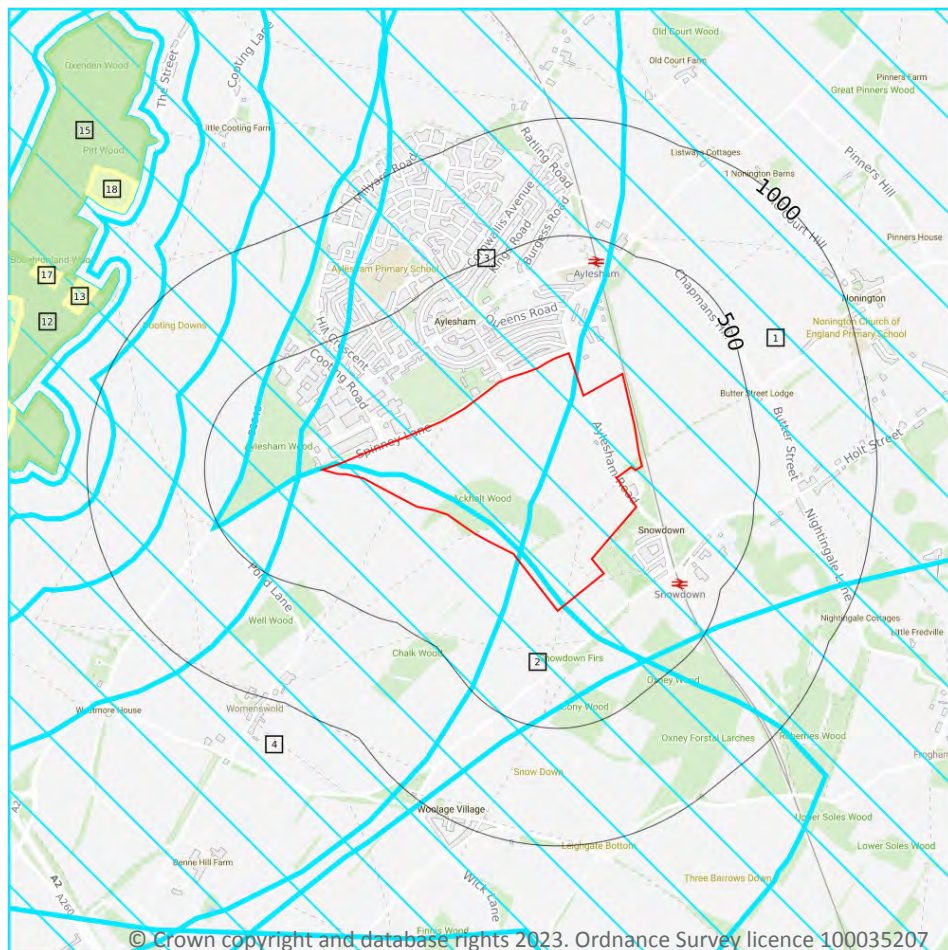
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Wingham River NVZ	Surface Water	512	Existing
On site	Wingham River NVZ	Surface Water	512	Existing
On site	East Kent	Groundwater	67	Existing
On site	East Kent	Groundwater	67	Existing

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

4

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 71](#) >

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Residential - Residential development of 500 units or more. Rural residential - Any residential development of 500 or more houses outside existing settlements/urban areas. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t. Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Notes: For new residential development in this area financial contributions are required to mitigate increased recreational disturbance on coastal SPAs and Ramsar Sites. Check with Local Planning Authority. NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.
2	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t. Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.
3	On site	Infrastructure - Airports, helipads and other aviation proposals. Residential - Residential development of 500 units or more. Rural residential - Any residential development of 500 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Notes: For new residential development in this area financial contributions are required to mitigate increased recreational disturbance on coastal SPAs and Ramsar Sites. Check with Local Planning Authority. NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.

ID	Location	Type of developments requiring consultation
4	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Notes: NUTRIENT IMPACT AREA. For new development with overnight accommodation Reg 63 of the Conservation of Habitats and Species Regulations 2017 must be applied and additional measures required. LPA to refer to Natural England's Nutrient Neutrality advice.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	8
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on [page 71 >](#)

ID:	11
Location:	1100m W
SSSI name:	Ileden and Oxenden Woods
Unit name:	Ileden Wood
Broad habitat:	Broadleaved, Mixed And Yew Woodland - Lowland
Condition:	Favourable
Reportable features:	

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	01/10/2010

ID: 12
 Location: 1169m NW
 SSSI name: Ileden and Oxenden Woods
 Unit name: Well Wood
 Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	01/10/2010

ID: 13
 Location: 1230m W
 SSSI name: Ileden and Oxenden Woods
 Unit name: Conifer Blocks - South
 Broad habitat: Coniferous Woodland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Unfavourable - Recovering	30/03/2012
Lowland mixed deciduous woodland	Unfavourable - Recovering	30/03/2012

ID: 14
 Location: 1332m W
 SSSI name: Ileden and Oxenden Woods
 Unit name: Conifer Blocks - South
 Broad habitat: Coniferous Woodland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Unfavourable - Recovering	30/03/2012
Lowland mixed deciduous woodland	Unfavourable - Recovering	30/03/2012

ID: 15
 Location: 1355m NW
 SSSI name: Ileden and Oxenden Woods
 Unit name: Pitt Wood
 Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Favourable	01/10/2010

ID: 17
 Location: 1380m W
 SSSI name: Ileden and Oxenden Woods
 Unit name: Conifer Blocks - South
 Broad habitat: Coniferous Woodland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Unfavourable - Recovering	30/03/2012
Lowland mixed deciduous woodland	Unfavourable - Recovering	30/03/2012

ID: 18
 Location: 1385m NW
 SSSI name: Ileden and Oxenden Woods
 Unit name: Conifer Block - North
 Broad habitat: Coniferous Woodland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Not Recorded	01/01/1900
Lowland mixed deciduous woodland	Unfavourable - Recovering	01/10/2010

ID: 19
Location: 1419m W
SSSI name: Ileden and Oxenden Woods
Unit name: Conifer Blocks - South
Broad habitat: Coniferous Woodland
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Scrub, Woodland	Unfavourable - Recovering	30/03/2012
Lowland mixed deciduous woodland	Unfavourable - Recovering	30/03/2012

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

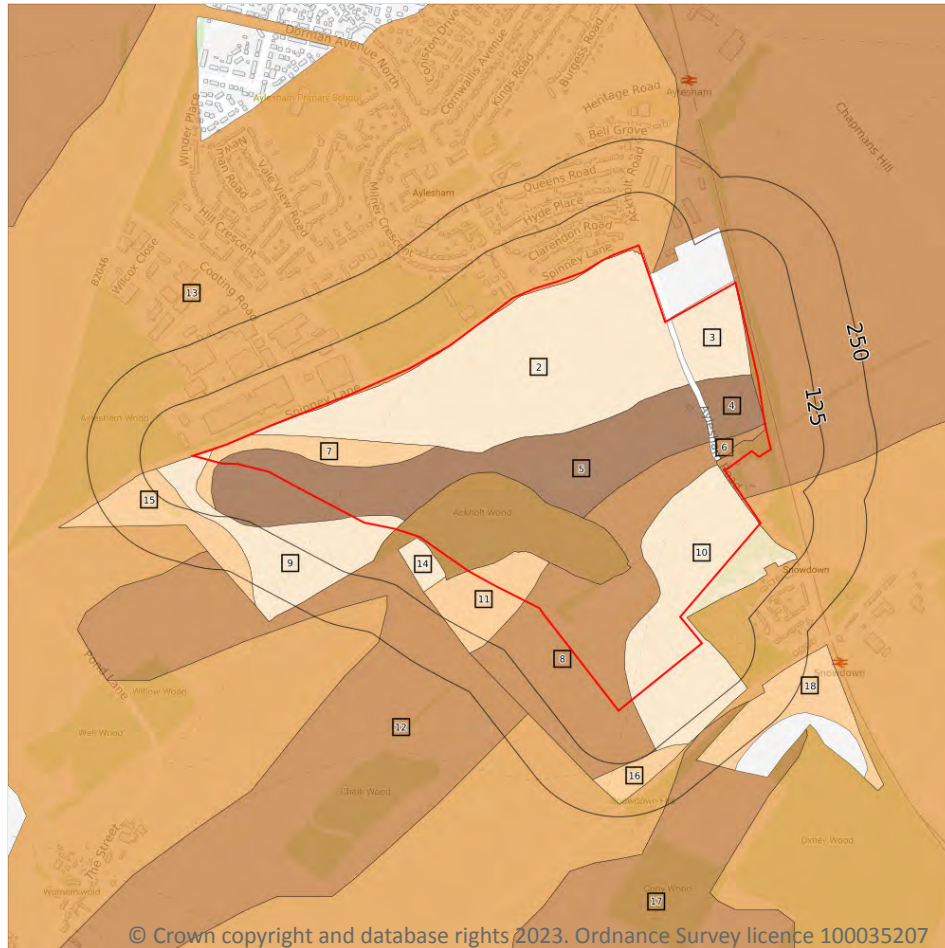
Records within 250m

0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

17

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 79](#) >

ID	Location	Classification	Description
2	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

ID	Location	Classification	Description
3	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
4	On site	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
5	On site	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
6	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
7	On site	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
8	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
9	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
10	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
11	On site	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
12	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.



ID	Location	Classification	Description
13	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
14	4m SW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
15	85m W	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
16	123m S	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
17	161m SE	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
18	174m SE	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0
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The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

3

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

Location	Reference	Scheme	Start Date	End date
On site	AG00376638	Entry Level plus Higher Level Stewardship	01/08/2011	31/07/2021
On site	AG00376638	Entry Level plus Higher Level Stewardship	01/08/2011	31/07/2021
20m NE	AG00587952	Entry Level plus Higher Level Stewardship	01/09/2010	31/08/2021

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

1

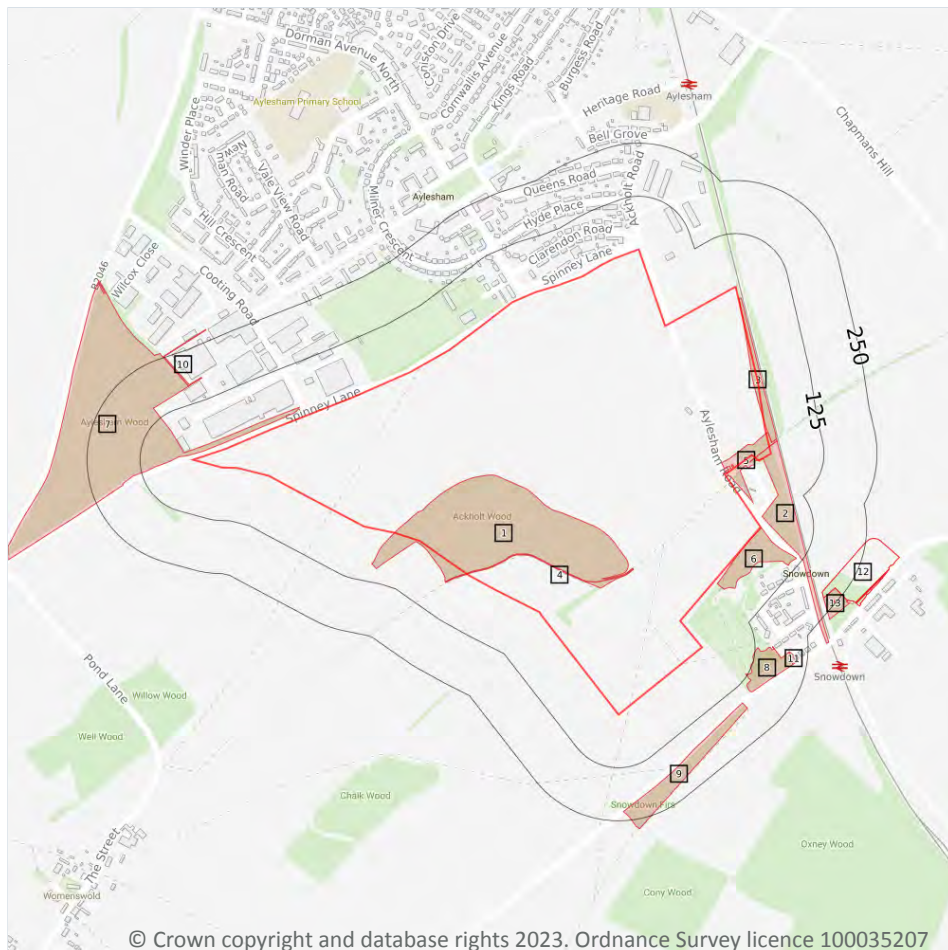
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
20m NE	1003521	Countryside Stewardship (Higher Tier)	01/01/2021	31/12/2030

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

12

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 83](#) >

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	0m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	12m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	121m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	162m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	168m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	205m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	222m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

1

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

Features are displayed on the Habitat designations map on [page 83](#) >

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
12	210m SE	NLUD Ref: 222000048	Low	National Land Use Database - Previously Developed Land	British Geological Survey BRITPITS database	UK Perspectives Aerial Photography

This data is sourced from Natural England.



13.4 Limestone Pavement Orders

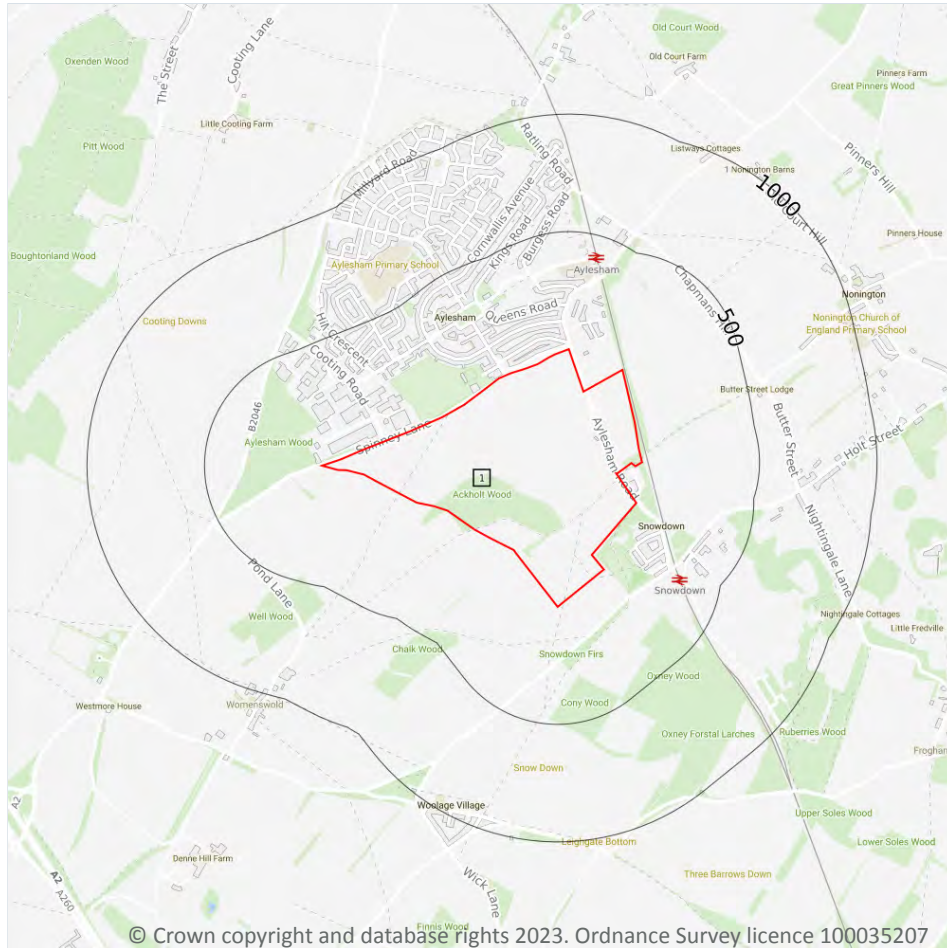
Records within 250m**0**

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 86](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	No coverage	No coverage	No coverage	NoCov

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

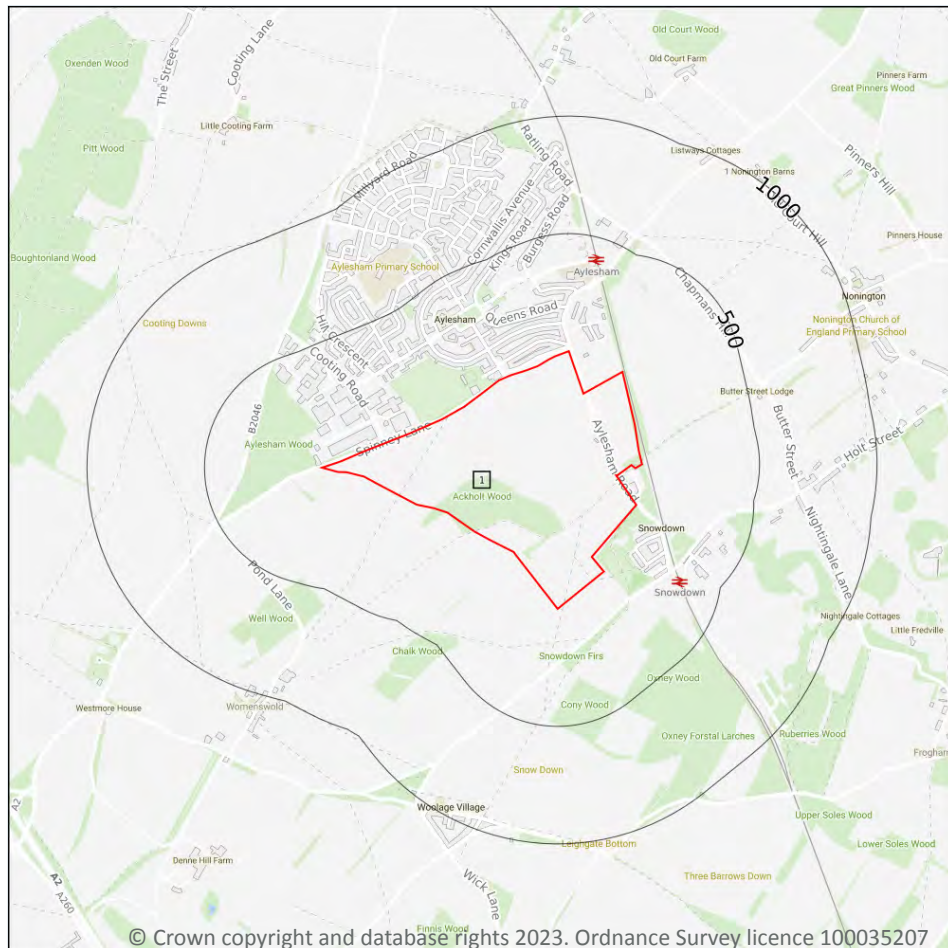
0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 90](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW289_canterbury_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

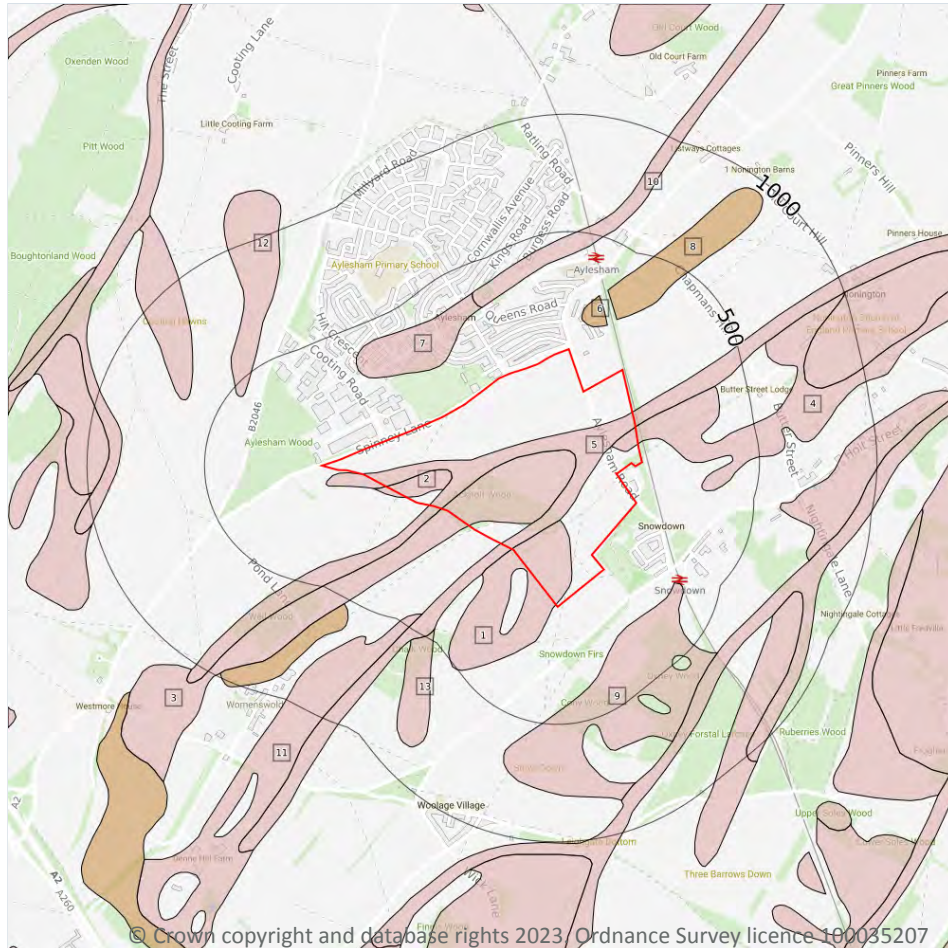
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

13

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 92](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
2	On site	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
3	On site	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
4	On site	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
5	On site	HEAD-XZV	HEAD	SILT AND GRAVEL
6	131m NE	CWF-XCZSV	CLAY-WITH-FLINTS FORMATION	CLAY, SILT, SAND AND GRAVEL
7	194m NW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
8	216m NE	CWF-XCZSV	CLAY-WITH-FLINTS FORMATION	CLAY, SILT, SAND AND GRAVEL
9	250m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
10	306m N	HEAD-XZV	HEAD	SILT AND GRAVEL
11	423m SW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
12	448m W	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
13	452m SW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	5
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	Moderate
On site	Mixed	High	Very Low
On site	Mixed	High	Very Low
On site	Mixed	High	Very Low
On site	Mixed	High	Very Low

This data is sourced from the British Geological Survey.



15.6 Landslip (50k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

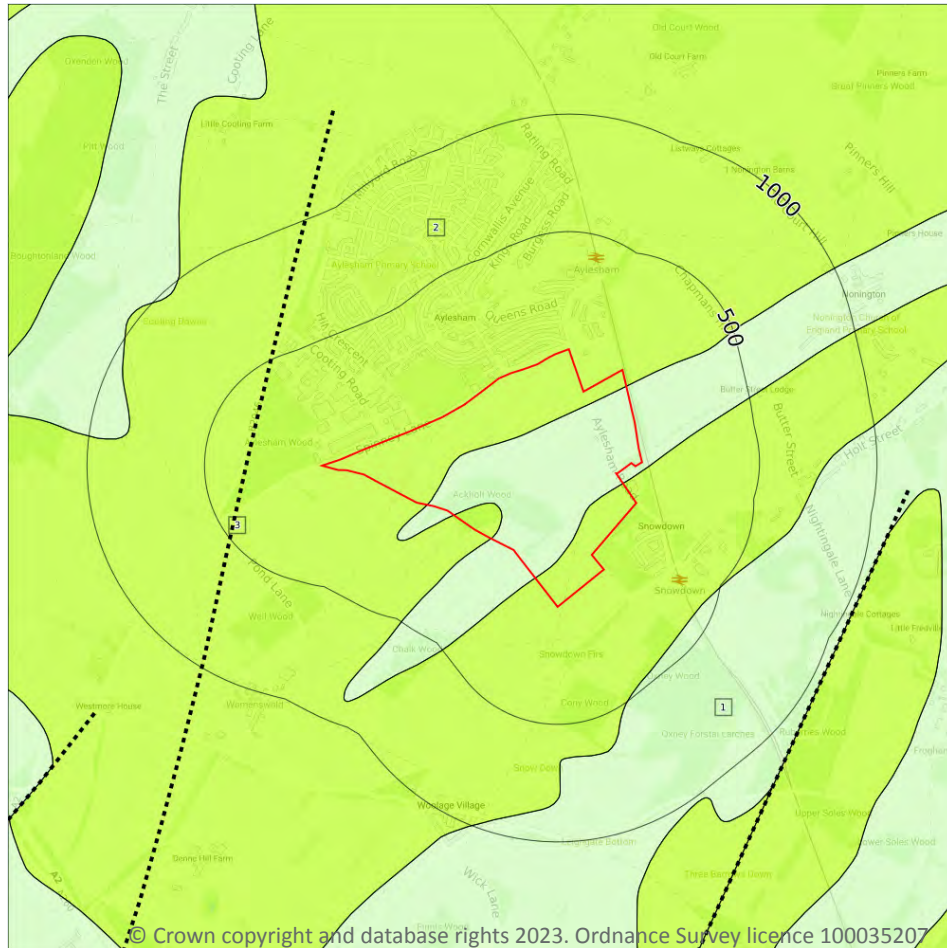
Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

2

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 95 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	SECK-CHLK	SEAFORD CHALK FORMATION - CHALK	CONIACIAN
2	On site	MACK-CHLK	MARGATE CHALK MEMBER - CHALK	SANTONIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

2

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Very High	Very High
On site	Fracture	Very High	Very High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

1

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

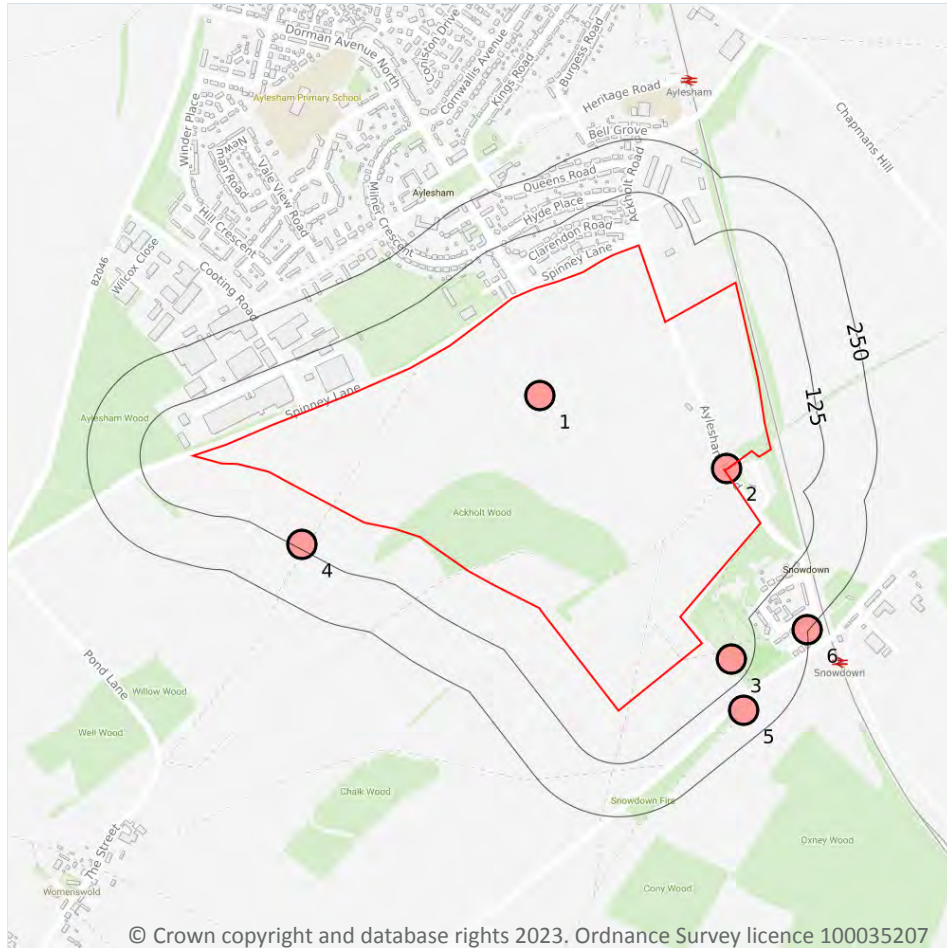
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 95 >](#)

ID	Location	Category	Description
3	315m W	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.



16 Boreholes



- Site Outline**
- Search buffers in metres (m)**
- Confidential
 - 0 - 10m
 - 10 - 30m
 - 30m+
 - Unknown

16.1 BGS Boreholes

Records within 250m

6

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on [page 97](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	623840 151730	SNOWDOWN COLLIERY U/G 8	135.94	N	631183 ↗
2	On site	624280 151560	ACKHOLT FARM COTTAGES, AYLESHAM	38.71	N	631203 ↗
3	78m SE	624290 151110	SNOWDOWN COLLIERY	53.87	N	631173 ↗

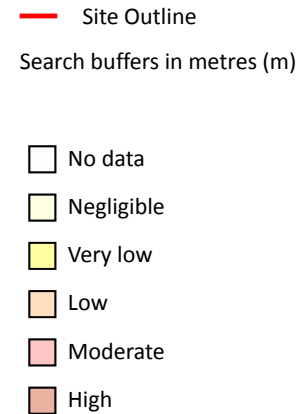
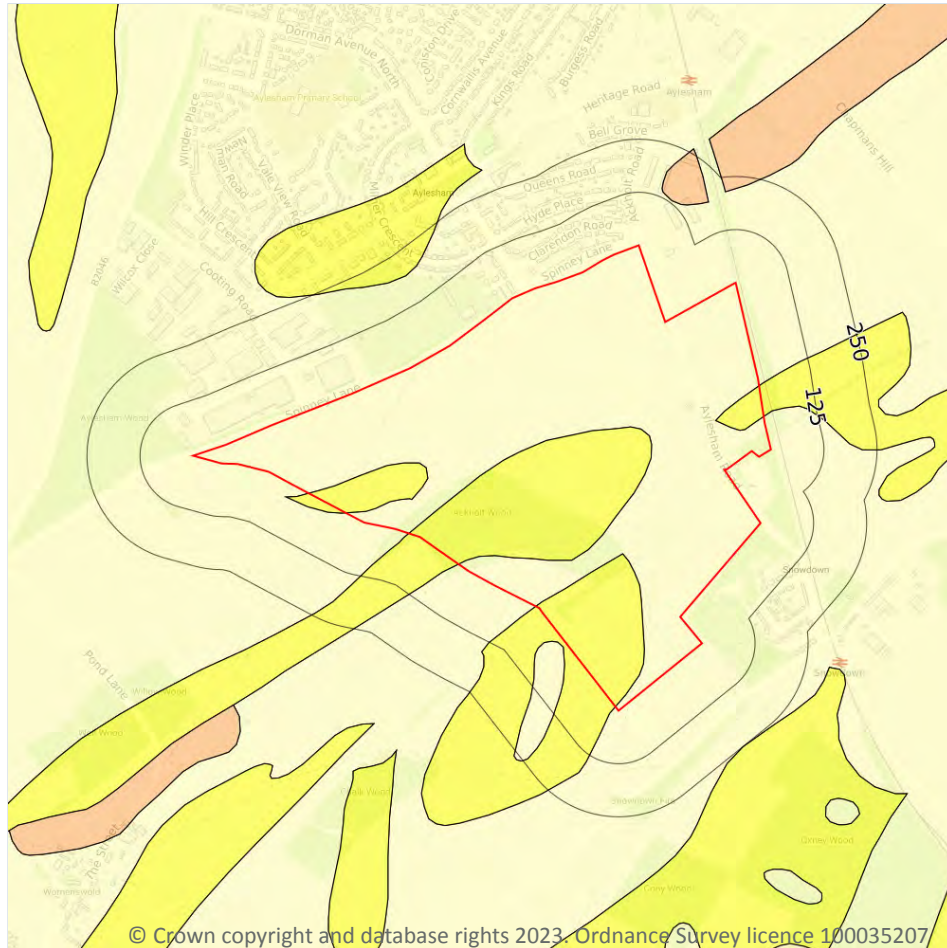


ID	Location	Grid reference	Name	Length	Confidential	Web link
4	114m W	623280 151380	SNOWDOWN COLLIERY U/G 6	114.0	N	631178 ↗
5	184m SE	624320 150990	SNOWDOWN COLLIERY 62'S UG	128.09	N	631174 ↗
6	247m SE	624470 151180	FREDVILLE NONINGTON	559.31	N	631169 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

3

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

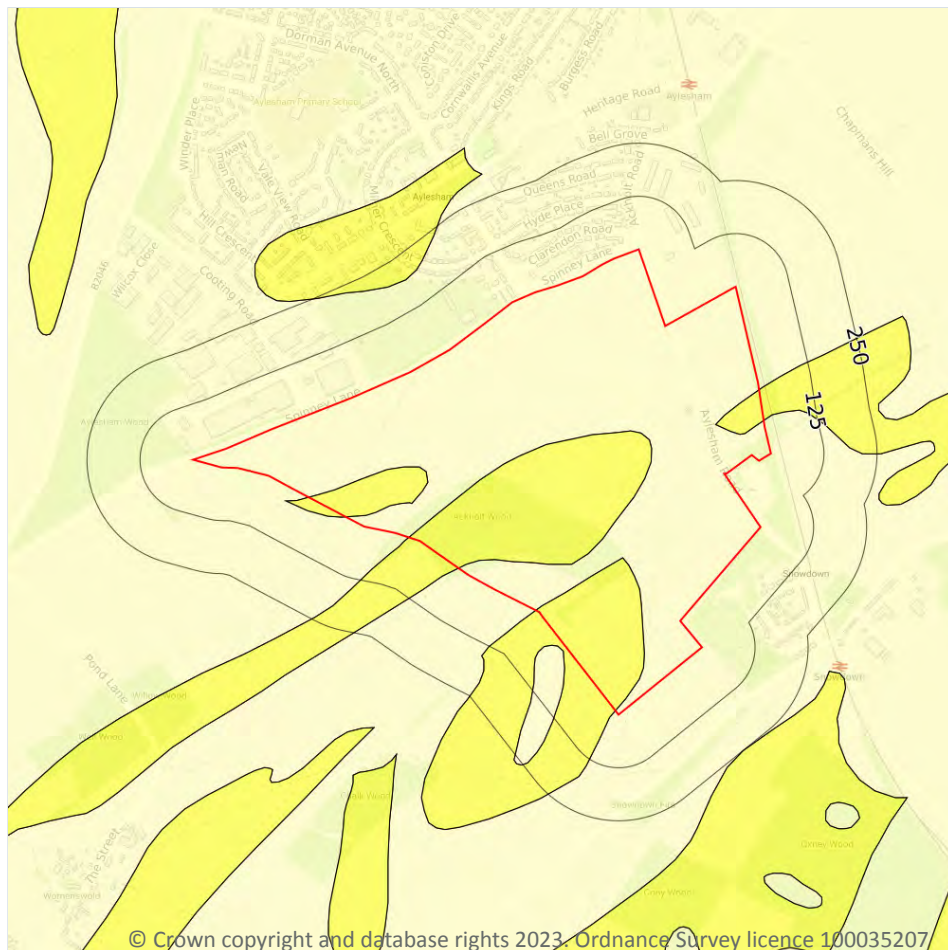
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 99 >](#)

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
11m S	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

3

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on [page 101](#) >

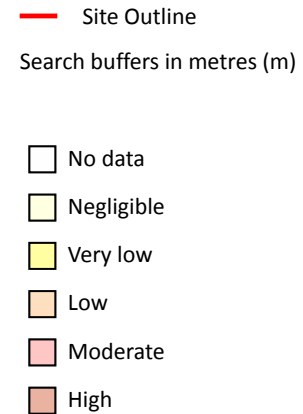
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
11m S	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

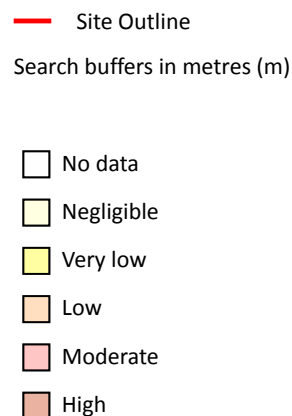
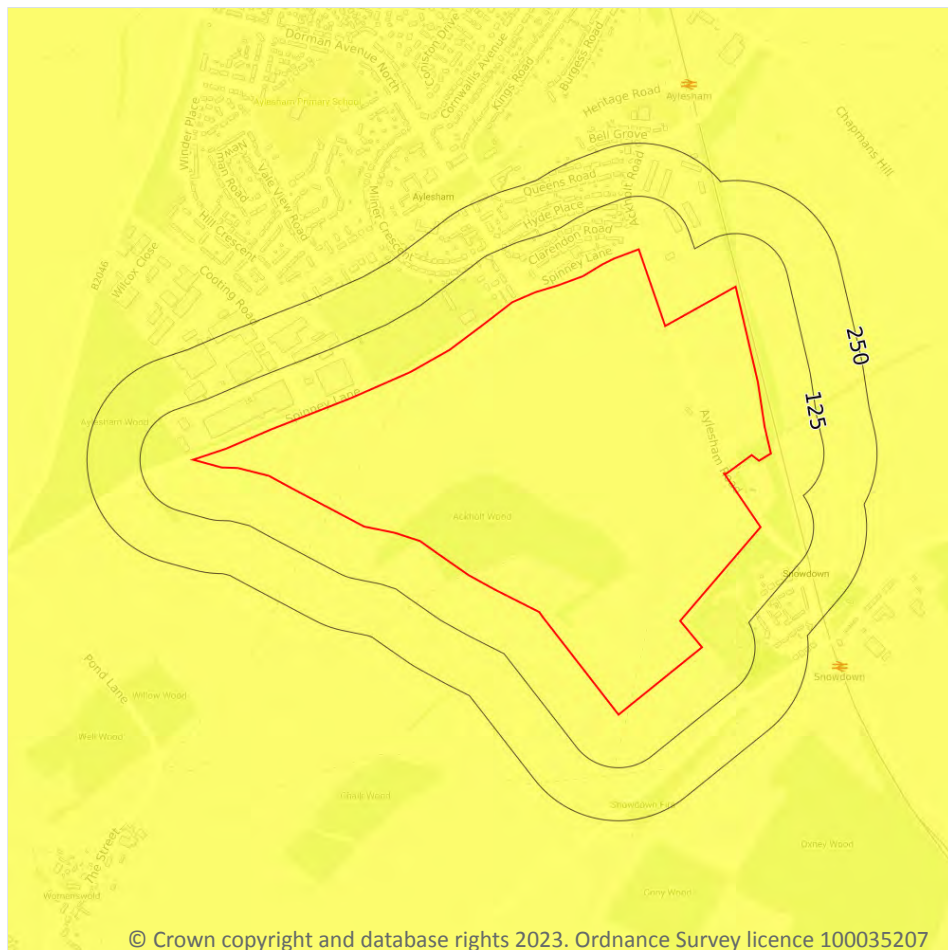
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 103](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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17.4 Collapsible deposits

Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

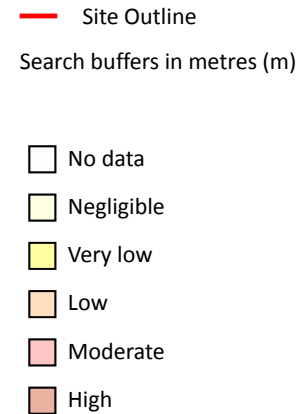
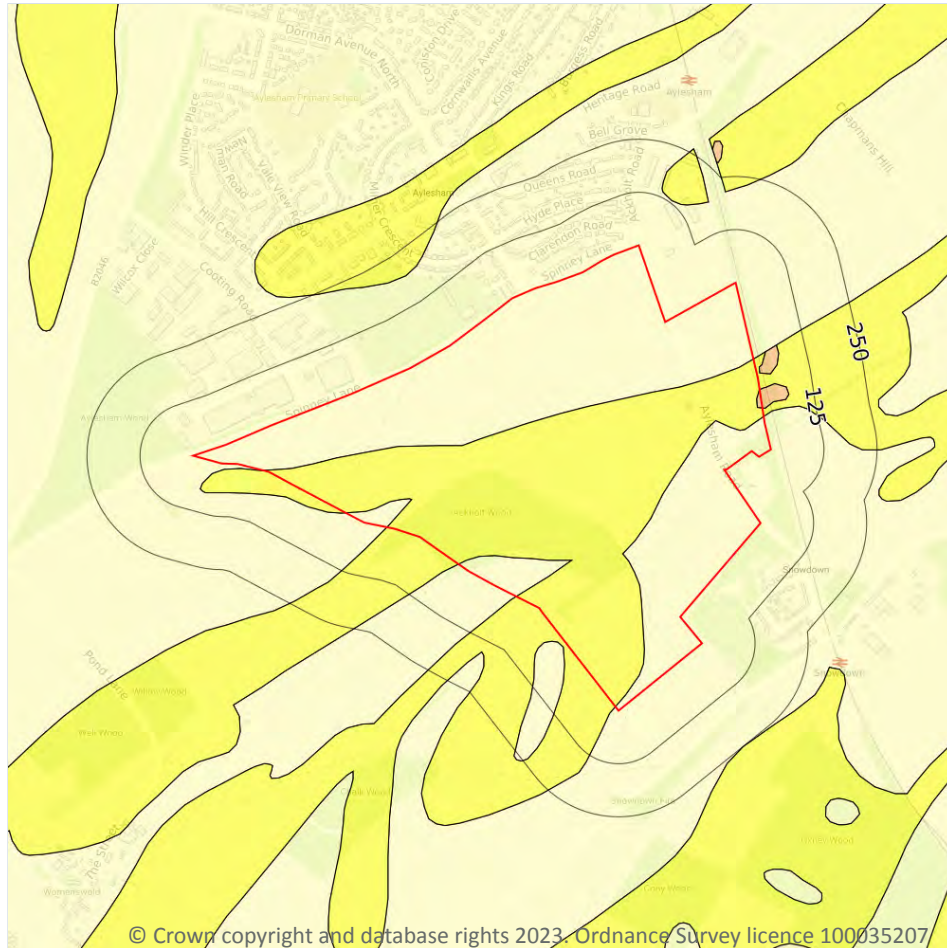
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 104 >](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

5

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on [page 105 >](#)

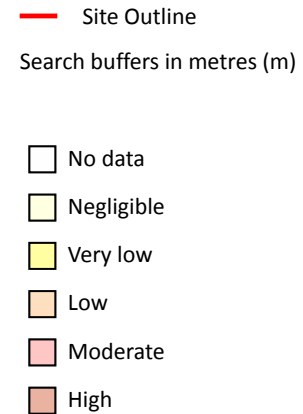
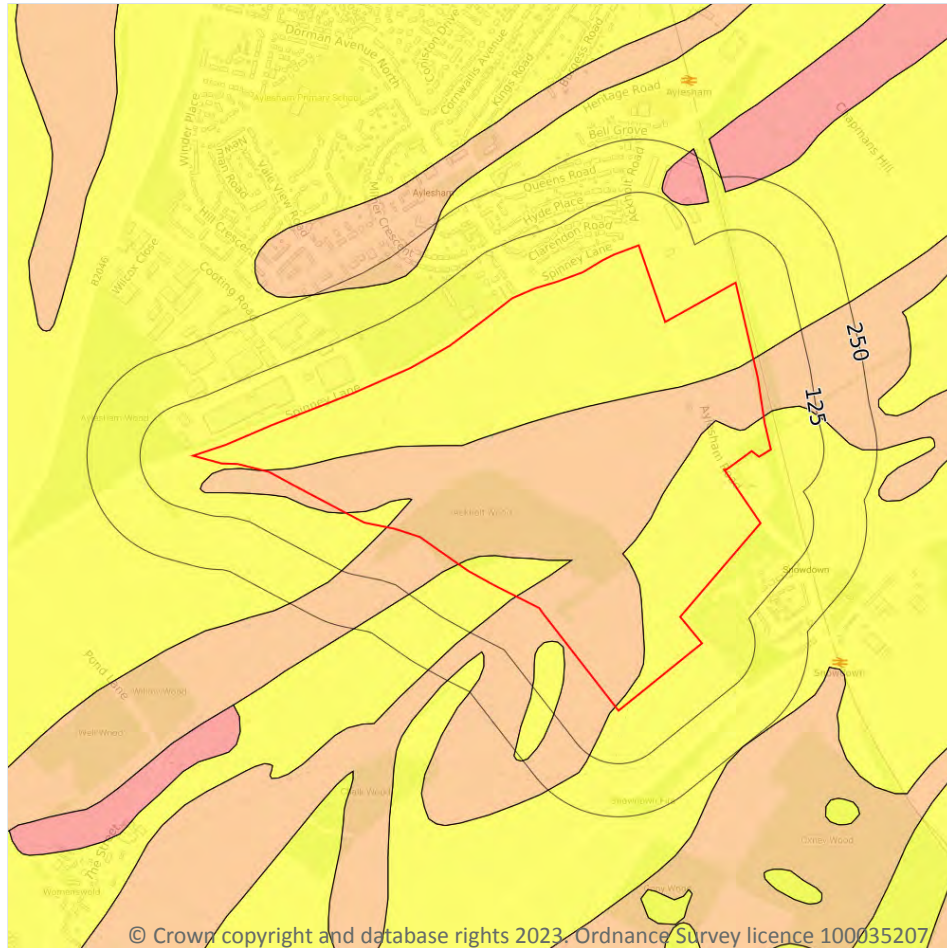
Location	Hazard rating	Details
On site	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
7m NE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
11m S	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

3

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 107](#) >

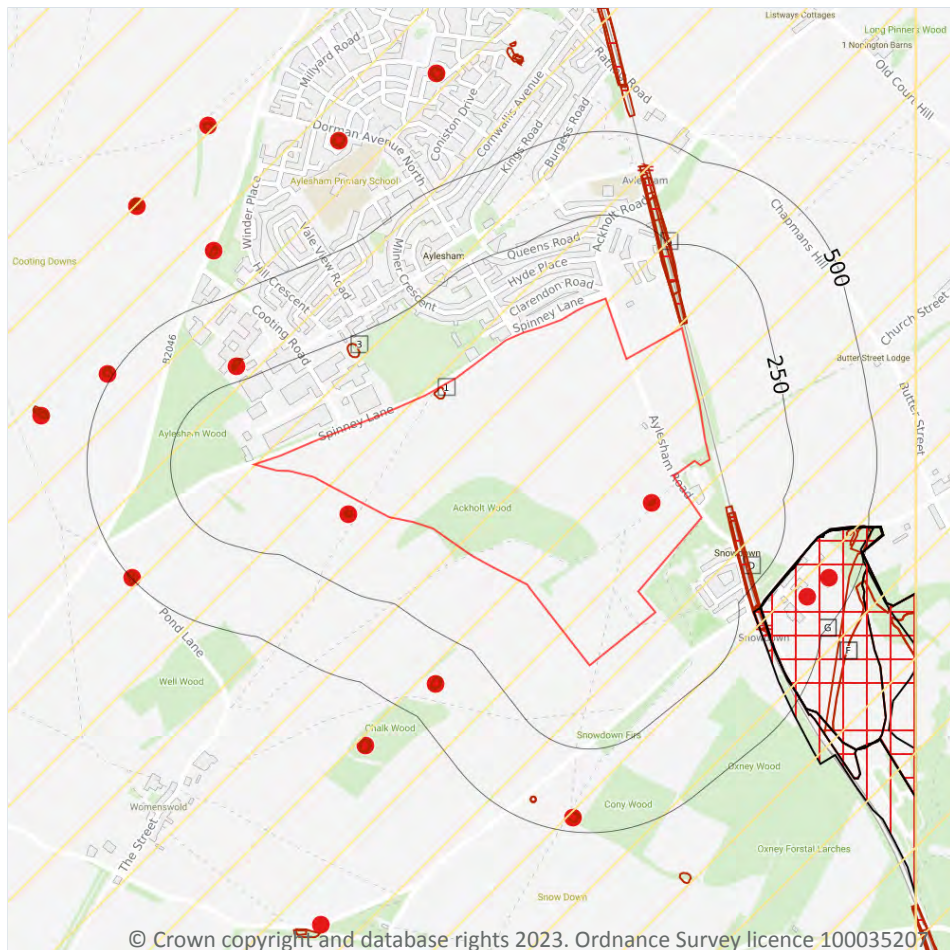
Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

Location	Hazard rating	Details
On site	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.
11m S	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

9

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on [page 109](#) >

ID	Location	Details	Description
A	On site	Name: Ackholt Chalk Pit Address: Aylesham, CANTERBURY, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	48m W	Name: Aylesham Wood Chalk Pit Address: Aylesham, CANTERBURY, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	293m W	Name: Cooting Downs Chalk Pits Address: Aylesham, CANTERBURY, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
I	387m SW	Name: Chalk Wood Chalk Pit Address: Snowdown, Aylesham, CANTERBURY, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
6	395m SE	Name: Snowdown Colliery, No. 3 Shaft Address: Nonington, DOVER, Kent Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
J	409m SE	Name: Snowdown Colliery, No. 2 Shaft Address: Nonington, DOVER, Kent Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
J	421m E	Name: Snowdown Colliery, No. 1 Shaft Address: Nonington, DOVER, Kent Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
M	458m S	Name: Cony Wood Chalk Pit Address: Snowdown, Aylesham, CANTERBURY, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
N	498m W	Name: Aylesham Wood Chalk Pit Address: Aylesham, CANTERBURY, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	17
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Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 109 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Unspecified Heap	1938	1:10560
A	On site	Old Chalk Pit	1896	1:10560
B	9m NE	Cuttings	1872	1:10560
B	13m NE	Cuttings	1896	1:10560
B	13m NE	Cuttings	1938	1:10560
B	20m NE	Cuttings	1906	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
C	38m W	Unspecified Pit	1938	1:10560
C	38m W	Unspecified Pit	1906	1:10560
C	40m W	Old Chalk Pit	1896	1:10560
D	78m E	Cuttings	1872	1:10560
D	84m E	Cuttings	1906	1:10560
D	85m E	Cuttings	1896	1:10560
D	85m E	Cuttings	1938	1:10560
B	102m NE	Cuttings	1988	1:10000
B	102m NE	Cuttings	1976	1:10000
B	141m NE	Cuttings	1960	1:10560
3	188m NW	Unspecified Pit	1960	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

4

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on [page 109 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
F	294m SE	Unspecified Mine	1960	1:10560
G	303m SE	Colliery	1938	1:10560
H	305m SE	Colliery	1988	1:10000
H	305m SE	Colliery	1976	1:10000

This is data is sourced from Ordnance Survey/Groundsure.



18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

5

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining and ground workings map on [page 109 >](#)

ID	Location	Name	Commodity	Class	Likelihood
2	On site	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
8	616m E	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	839m NE	Church Street	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

ID	Location	Name	Commodity	Class	Likelihood
-	889m NE	Church Street	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	989m S	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	1
------------------------	----------

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

Location	Details
On site	In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk ↗.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0
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This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

8

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
296m SE	Stone
304m E	Stone
314m E	Stone
319m E	Stone
320m E	Stone
386m SE	Stone
393m SE	Stone
407m E	Stone

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.



18.12 Coal mining

Records on site	1
-----------------	---

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0
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The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
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Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).



19 Ground cavities and sinkholes



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- Mining cavities
- Reported recent incidents
- Historical incidents
- BGS karst database (Point)
- BGS karst database (Line)
- BGS karst database (Area)

19.1 Natural cavities

Records within 500m

3

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

Features are displayed on the Ground cavities and sinkholes map on [page 117](#) >

ID	Location	Details	Source
1	8m NE	Type: Solution Widened Joint or Fissure x 4 Superficial Geology: Clay-with-Flints Bedrock Geology: Chalk Group	Simple Bibliography: - Full Bibliography: WHITAKER, W., The geology of the London Basin, Volume 4, Part 1., HMSO, London., 1872; British Geological Survey Memoir (Sheet 220,221,240),; SMART, J.G.O., BISSON, G. AND WORSSAM, B.C., Geology of the country around Canterbury and Folkestone., HMSO, London., 1966; British Geological Survey Memoir (Sheet 289, 305 and 306) Confidentiality: Data source can be revealed, data can be used freely
2	51m E	Type: Solution Widened Joint or Fissure x 4 Superficial Geology: Head Bedrock Geology: Chalk Group	Simple Bibliography: - Full Bibliography: SMART, J.G.O., BISSON, G. AND WORSSAM, B.C., Geology of the country around Canterbury and Folkestone., HMSO, London., 1966; British Geological Survey Memoir (Sheet 289, 305 and 306),; WHITAKER, W., The geology of the London Basin, Volume 4, Part 1., HMSO, London., 1872; British Geological Survey Memoir (Sheet 220,221,240) Confidentiality: Data source can be revealed, data can be used freely
3	441m SE	Type: Solution Widened Joint or Fissure x 1 Superficial Geology: - Bedrock Geology: Chalk Group	Simple Bibliography: - Full Bibliography: OSBORNE-WHITE, H.J., The geology of the country near Ramsgate and Dover., HMSO, London., 1928; British Geological Survey Memoir (Sheets 274 and 290) Confidentiality: Data source can be revealed, data can be used freely

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	1
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Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

Features are displayed on the Ground cavities and sinkholes map on [page 117 >](#)

ID	Location	Mine Address	Mineral	Data source	Publisher
-	922m NE	Nonington, Kent	Chalk	-	Chelsea Speleological Society

This data is sourced from Stantec UK Ltd.



19.3 Reported recent incidents

Records within 500m**0**

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m**0**

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m**0**

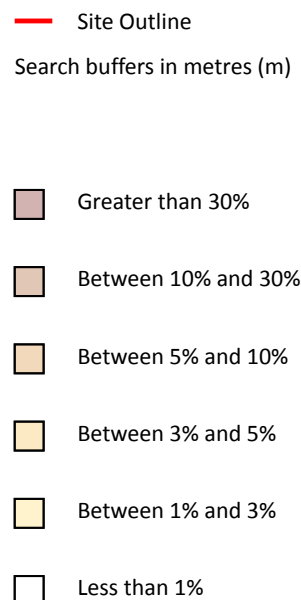
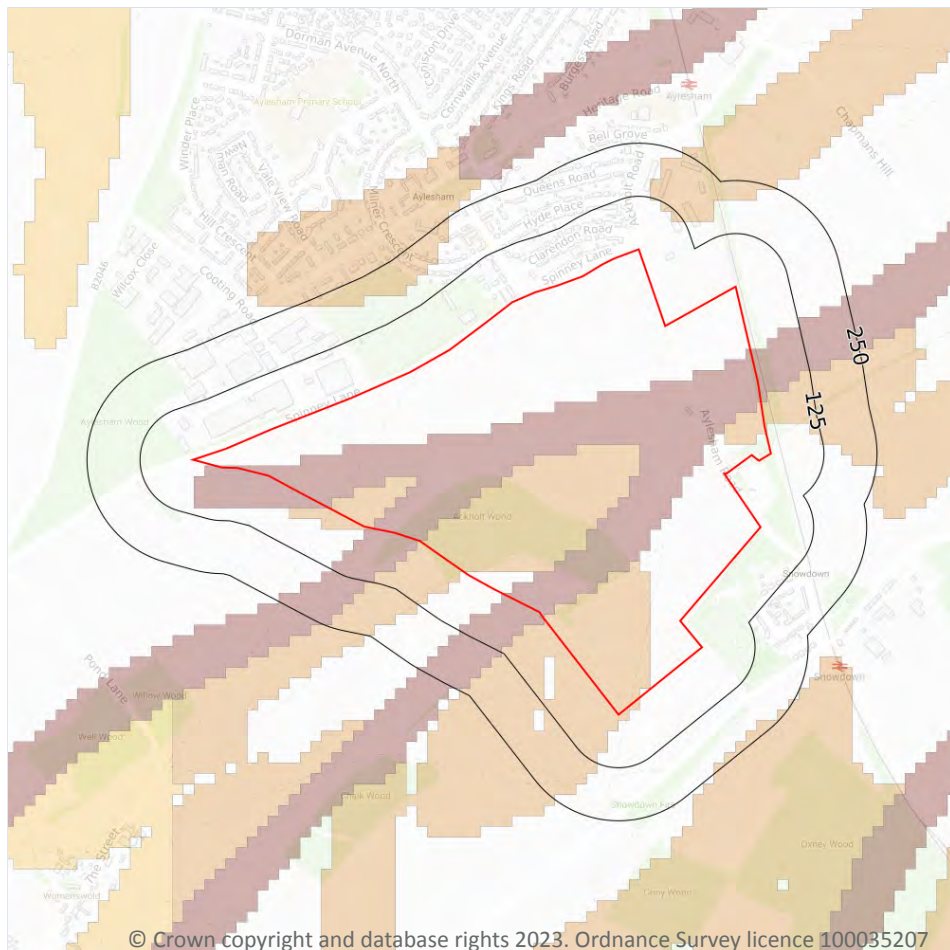
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 Radon



20.1 Radon

Records on site

3

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 120](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 5% and 10%	Basic



Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None
On site	Greater than 30%	Full

This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

52

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
2m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
11m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
13m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
23m W	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
29m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
40m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

16

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on [page 126](#) >



Location	Name	Type
5m NE		rail
8m NE		rail
9m NE	Not given	Multi Track
10m NE	Not given	Multi Track
12m E		rail
15m E		rail
21m E		rail
21m E		rail
24m E		rail
25m E		rail
87m E		rail
91m E	Not given	Multi Track
91m E		rail
139m NE		rail
139m NE		rail
231m SE	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.



22.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



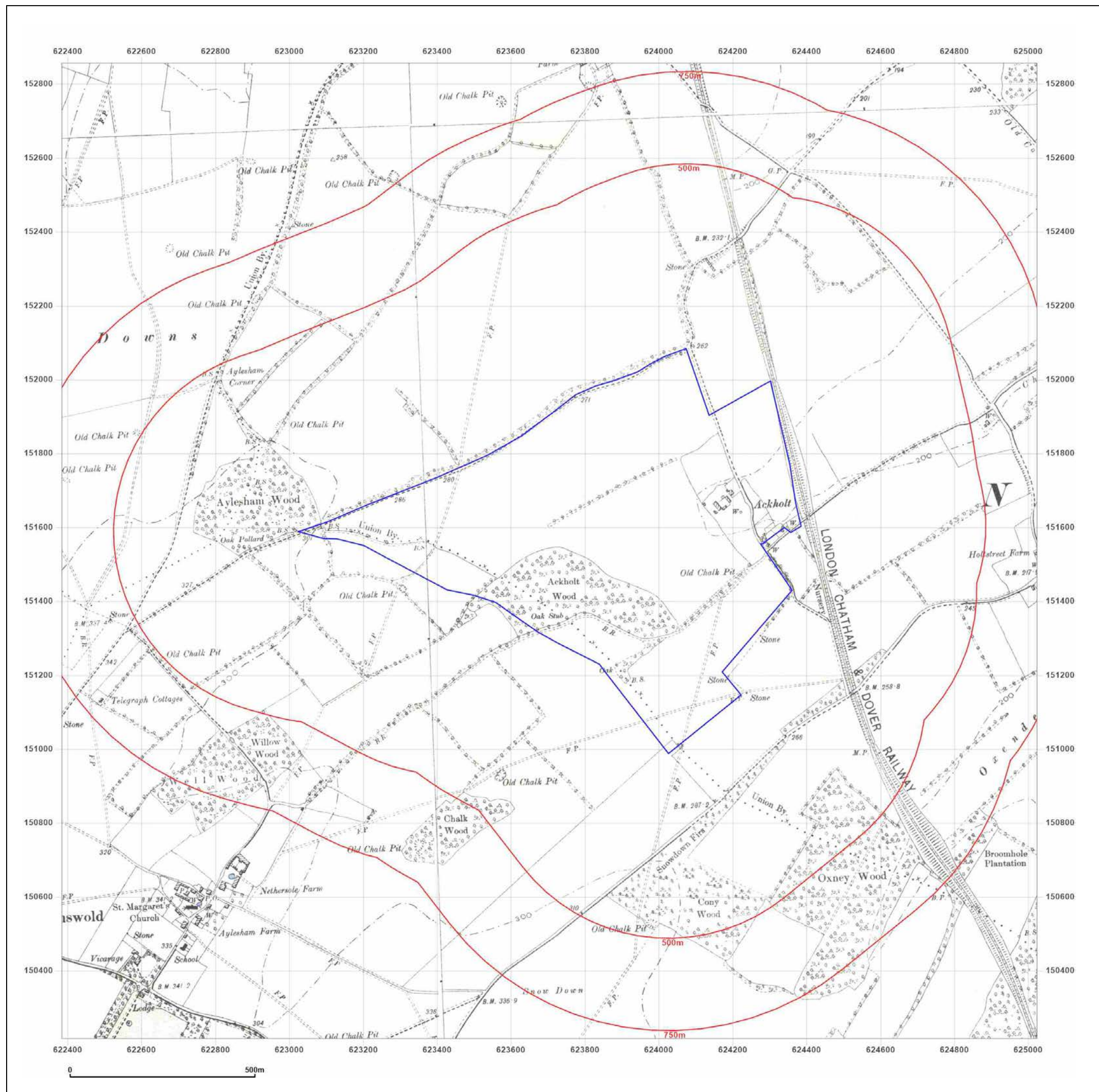
Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference> ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-april-2023/> ↗.





Site Details:

Aylesham Welfare Leisure
Centre, Spinney Lane,
Canterbury, Aylesham, CT3 3BE

Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: County Series

Map date: 1896

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1873
Revised 1896
Edition N/A
Copyright N/A
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Surveyed 1872
Revised 1896
Edition N/A
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Surveyed 1872
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Surveyed 1872
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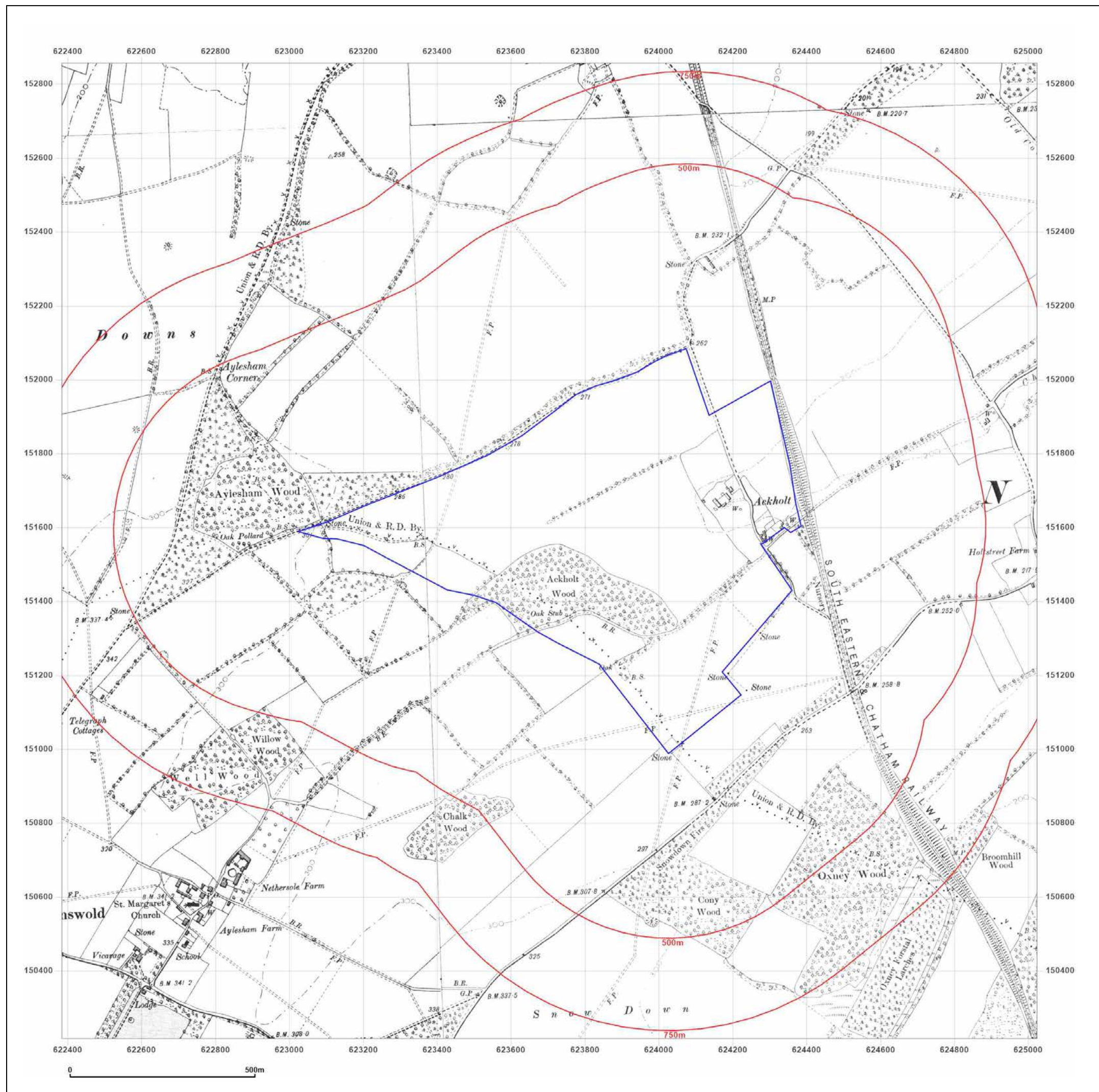


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Site Details:

Aylesham Welfare Leisure
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Canterbury, Aylesham, CT3 3BE

Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: County Series

Map date: 1906

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1872
Revised 1906
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Surveyed 1872
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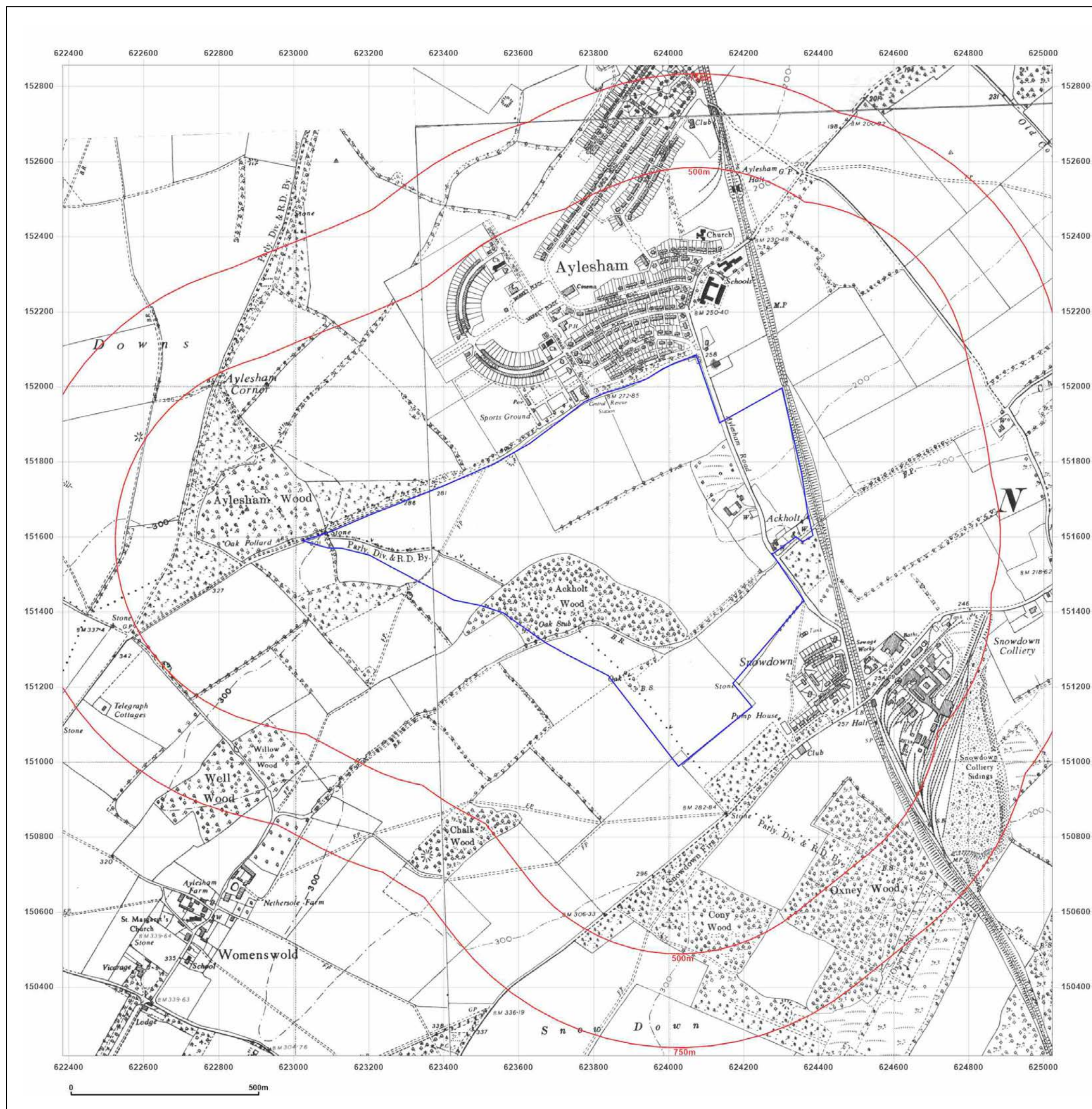


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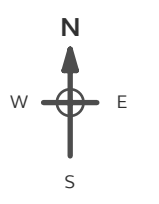


Site Details:

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Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: County Series
Map date: 1938
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1872
Revised 1938
Edition N/A
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Levelled N/A

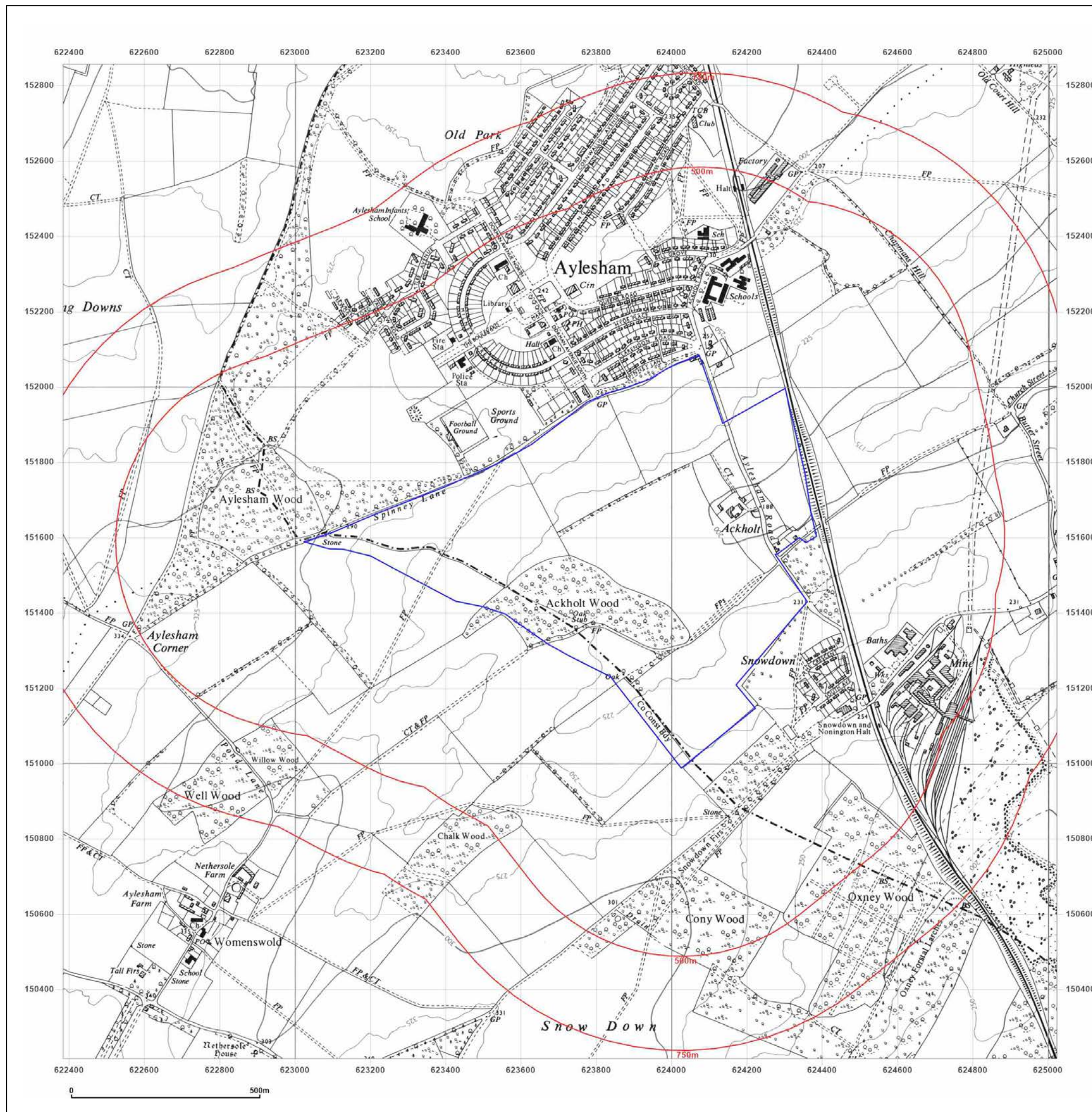
Surveyed 1872
Revised 1938
Edition N/A
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Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: Provisional

Map date: 1960

Scale: 1:10,560

Printed at: 1:10,560



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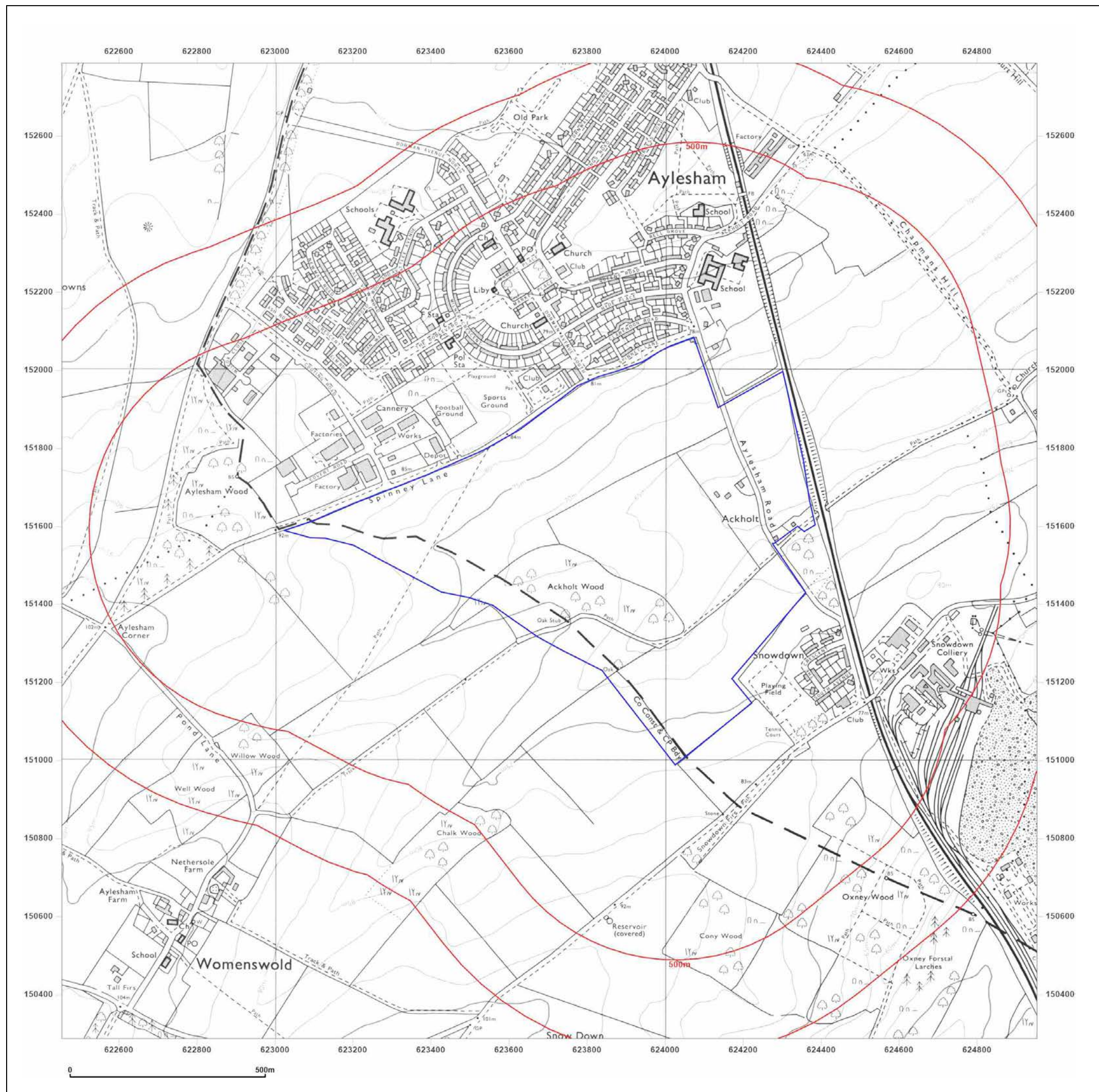


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Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: National Grid

Map date: 1977

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
Revised 1977
Edition N/A
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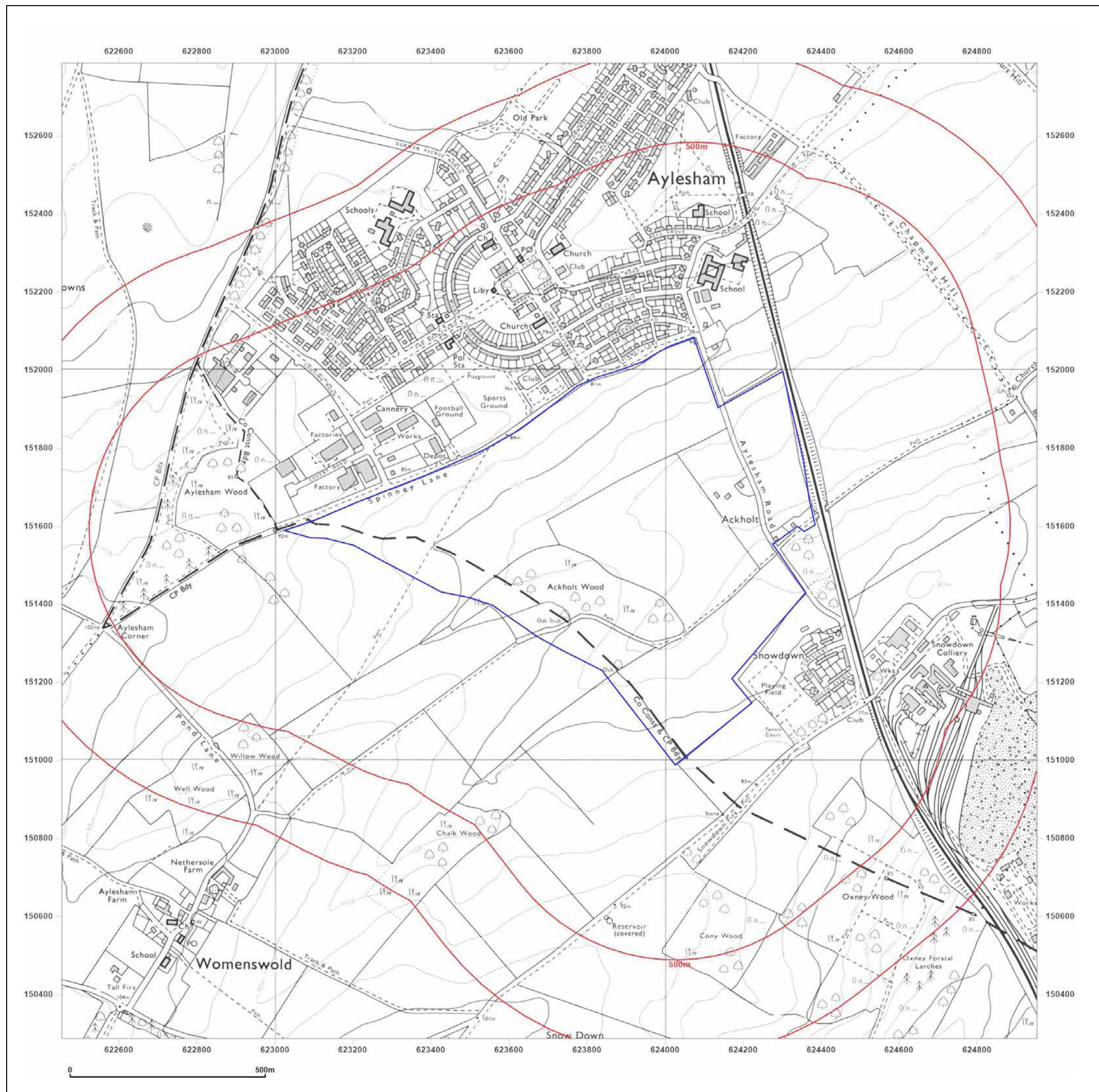


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Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: National Grid

Map date: 1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
Revised 1988
Edition N/A
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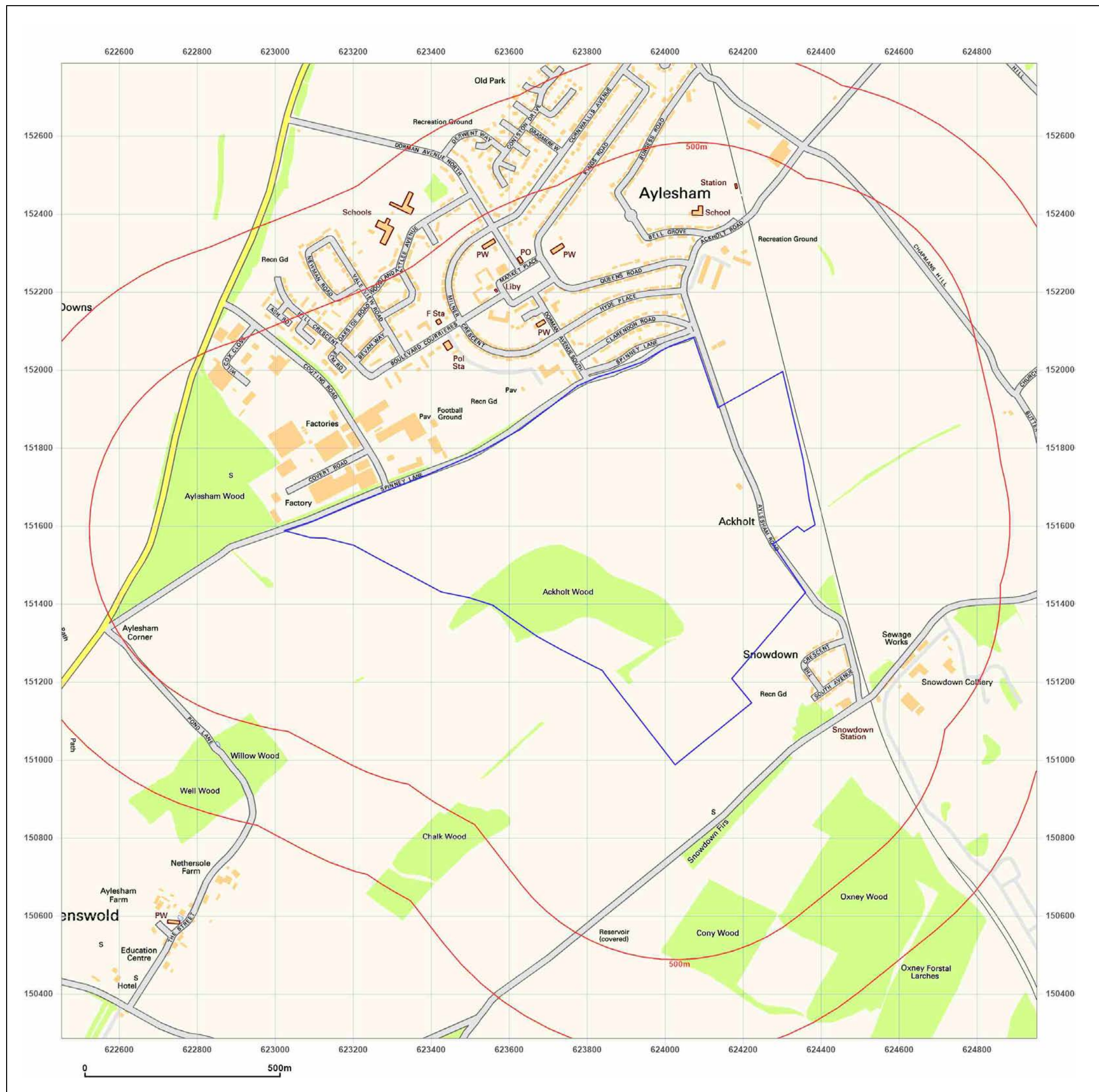


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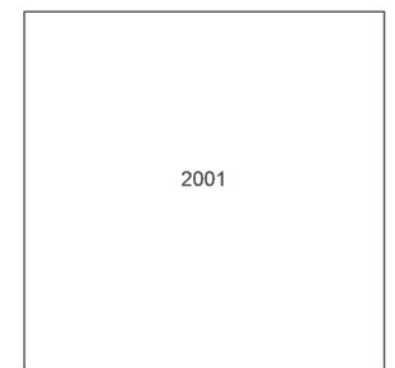
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Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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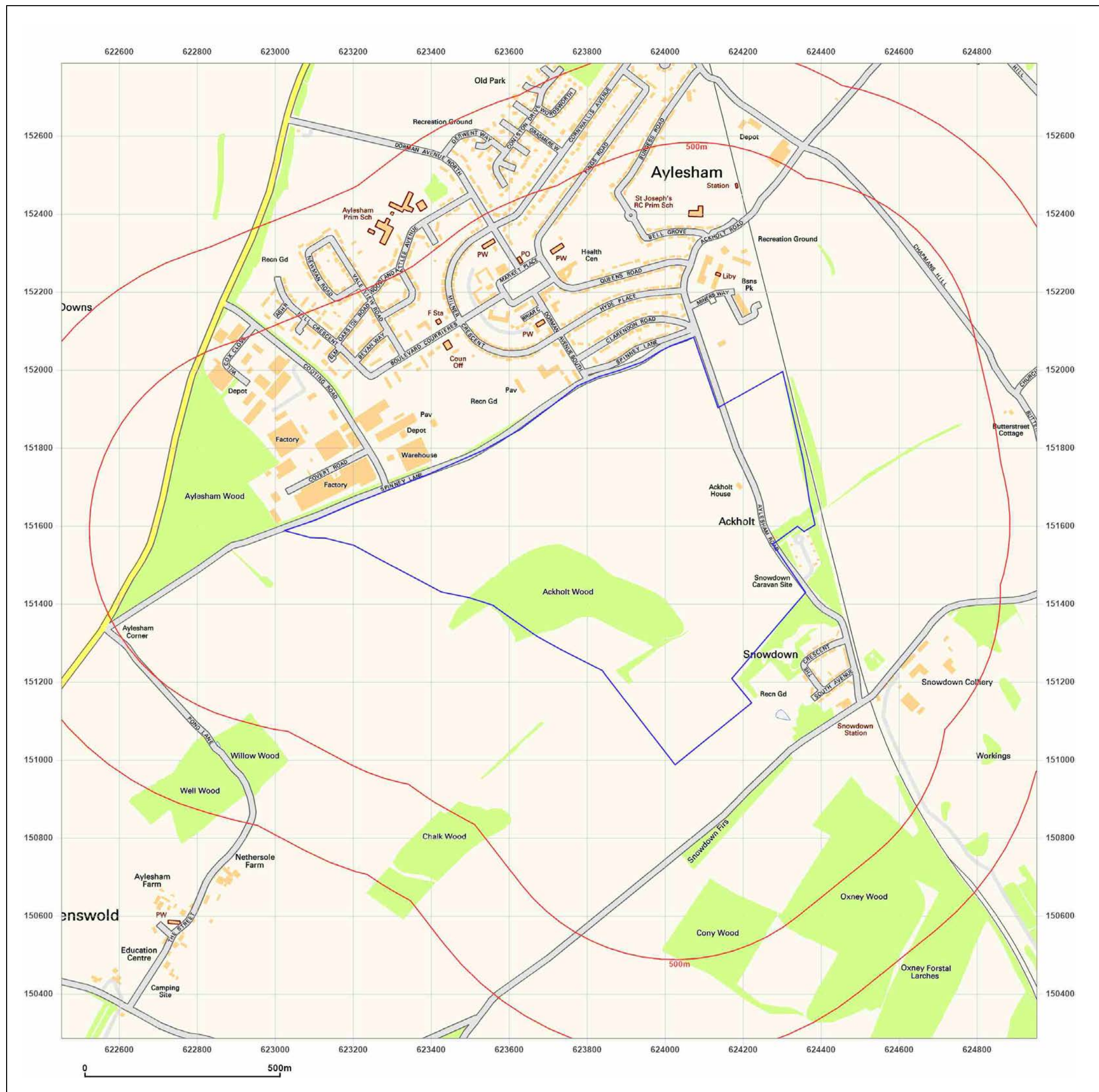


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Client Ref: CMAPS-AAG-1119275-4165-080823
Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010



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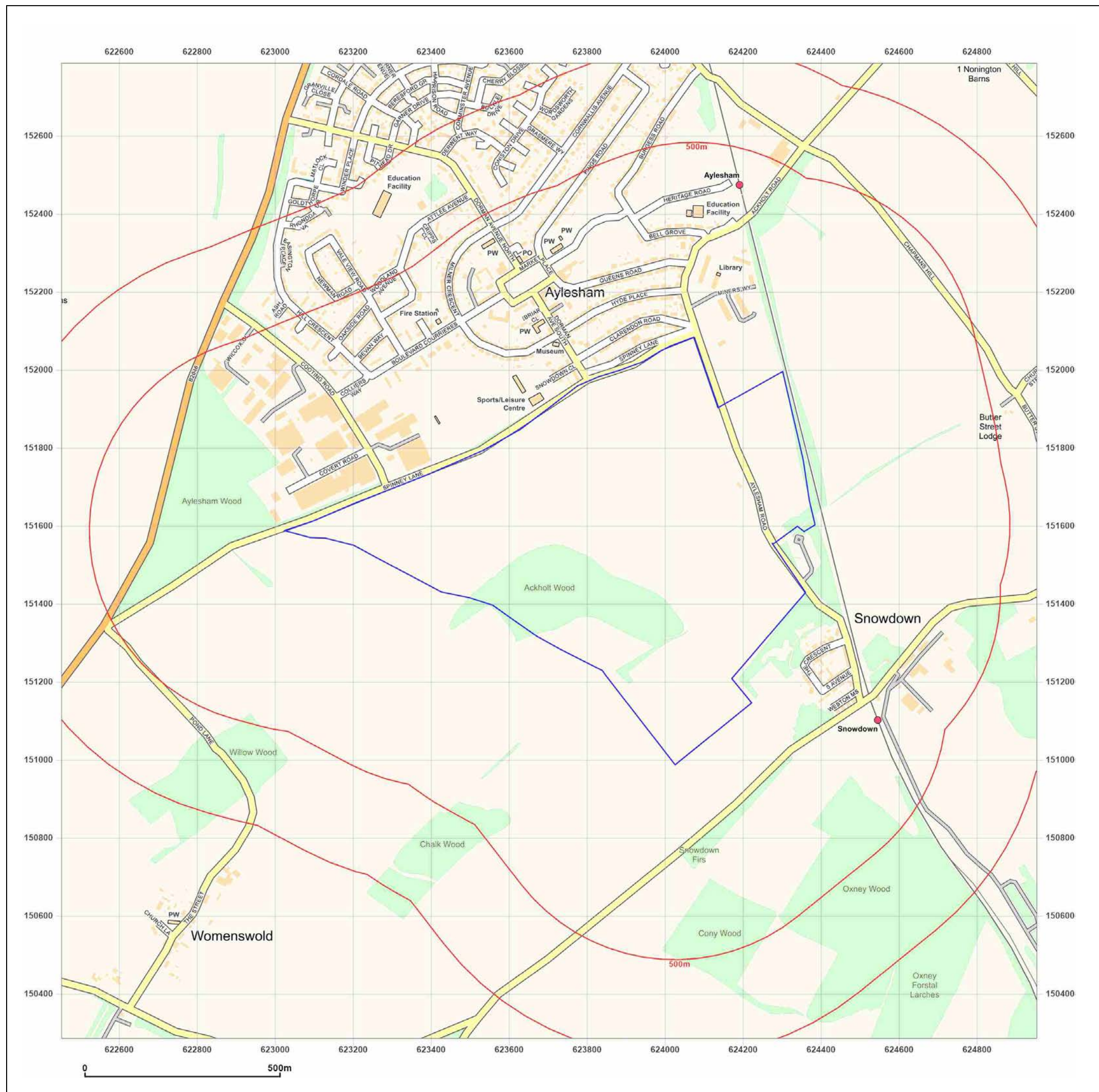


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Report Ref: CMAPS-AAG-1119275-4165-080823HIS
Grid Ref: 623703, 151536

Map Name: National Grid

Map date: 2023

Scale: 1:10,000

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2023



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