

Appendix B

GroundSure Geology Report



GroundSure GeoInsight

Address: ,
Date: 25 Apr 2014
Reference: EMS-247852_332984
Client: EmapSite

NW

N

NE



W

E

SW

S

SE

Aerial Photograph Capture date: 27-Sep-2009
Grid Reference: 403030,079272
Site Size: 1.74ha

Contents Page

Contents Page	3
Overview of Findings.....	4
1 Geology.....	6
1.1 Artificial Ground Map.....	6
1.1 Artificial Ground.....	7
1.1.1 Artificial/ Made Ground.....	7
1.1.2 Permeability of Artificial Ground.....	7
1.2 Superficial Deposits and Landslips Map.....	8
1.2 Superficial Deposits and Landslips.....	9
1.2.1 Superficial Deposits/ Drift Geology.....	9
1.2.2 Permeability of Superficial Ground.....	9
1.2.3 Landslip.....	9
1.2.4 Landslip Permeability.....	9
1.3 Bedrock and Faults Map.....	10
1.3 Bedrock, Solid Geology & Faults.....	11
1.3.1 Bedrock/ Solid Geology.....	11
1.3.2 Permeability of Bedrock Ground.....	11
1.3.3 Faults.....	11
1.4 Radon Data.....	12
1.4.1 Radon Affected Areas.....	12
1.4.2 Radon Protection.....	12
2 Ground Workings Map.....	13
2 Ground Workings.....	14
2.1 Historical Surface Ground Working Features derived from Historical Mapping.....	14
2.2 Historical Underground Working Features derived from Historical Mapping.....	14
2.3 Current Ground Workings.....	16
3 Mining, Extraction & Natural Cavities Map.....	19
3 Mining, Extraction & Natural Cavities.....	20
3.1 Historical Mining.....	20
3.2 Coal Mining.....	21
3.3 Johnson Poole and Bloomer.....	22
3.4 Non-Coal Mining.....	22
3.5 Non-Coal Mining Cavities.....	22
3.6 Natural Cavities.....	23
3.7 Brine Extraction.....	23
3.8 Gypsum Extraction.....	23
3.9 Tin Mining.....	23
3.10 Clay Mining.....	23
4 Natural Ground Subsidence.....	24
4.1 Shrink-Swell Clay Map.....	24
4.2 Landslides Map.....	25
4.3 Ground Dissolution Soluble Rocks Map.....	26
4.4 Compressible Deposits Map.....	27
4.5 Collapsible Deposits Map.....	28
4.6 Running Sand Map.....	29
4 Natural Ground Subsidence.....	30
4.1 Shrink-Swell Clays.....	30
4.2 Landslides.....	30
4.3 Ground Dissolution of Soluble Rocks.....	31
4.4 Compressible Deposits.....	31
4.5 Collapsible Deposits.....	32
4.6 Running Sands.....	32
5 Borehole Records Map.....	33
5 Borehole Records.....	34
6 Estimated Background Soil Chemistry.....	35

Overview of Findings

The GroundSure GeoInsight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

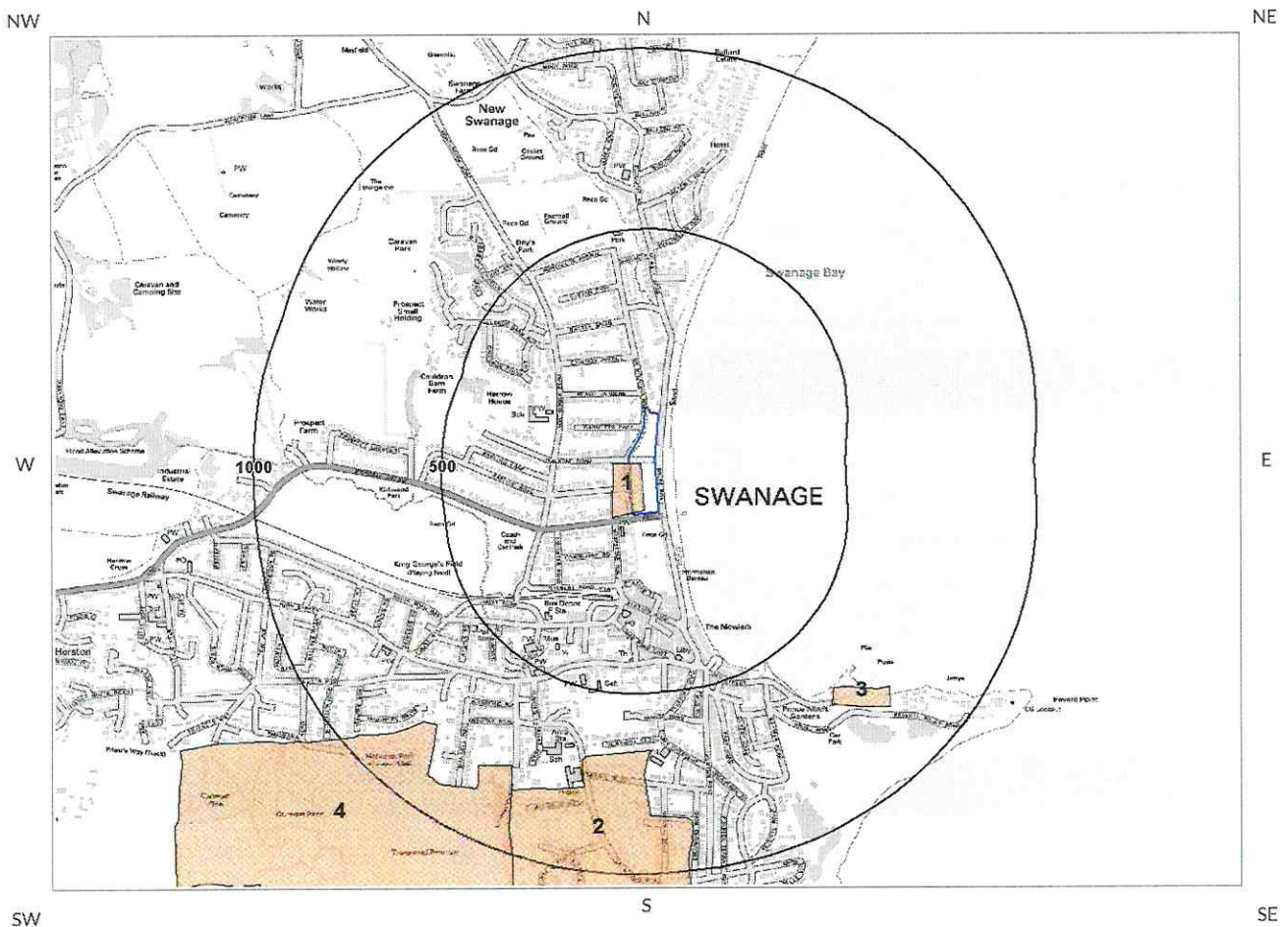
Section 2: Ground Workings

	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	7	0	3	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	43
2.3 Current Ground Workings	1	0	0	0	34

Section 3: Mining, Extraction & Natural Cavities		On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining		0	0	0	0	43
3.2 Coal Mining		0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area		0	0	0	0	0
3.4 Non-Coal Mining		0	0	0	1	1
3.5 Non-Coal Mining Cavities		0	0	0	0	3
3.6 Natural Cavities		0	0	0	0	0
3.7 Brine Extraction		0	0	0	0	0
3.8 Gypsum Extraction		0	0	0	0	0
3.9 Tin Mining		0	0	0	0	0
3.10 Clay Mining		0	0	0	0	0
Section 4: Natural Ground Subsidence		On-site				
4.1 Shrink Swell Clay		Very Low				
4.2 Landslides		Moderate				
4.3 Ground Dissolution of Soluble Rocks		Null				
4.4 Compressible Deposits		Negligible				
4.5 Collapsible Deposits		Very Low				
4.6 Running Sand		High				
Section 5: Borehole Records		On-site	0-50m	51-250		
5 BGS Recorded Boreholes		0	0	0		
Section 6: Estimated Background Soil Chemistry		On-site	0-50m	51-250		
6 Records of Background Soil Chemistry		7	2	11		

1 Geology

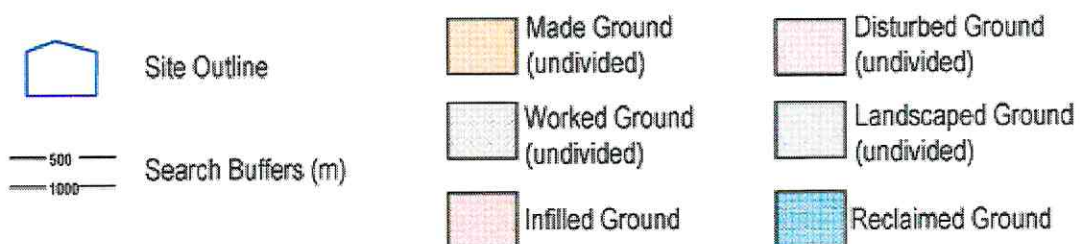
1.1 Artificial Ground Map



Artificial Ground Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.





1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:343

Are there any records of Artificial/Made Ground within 500m of the study site boundary? Yes

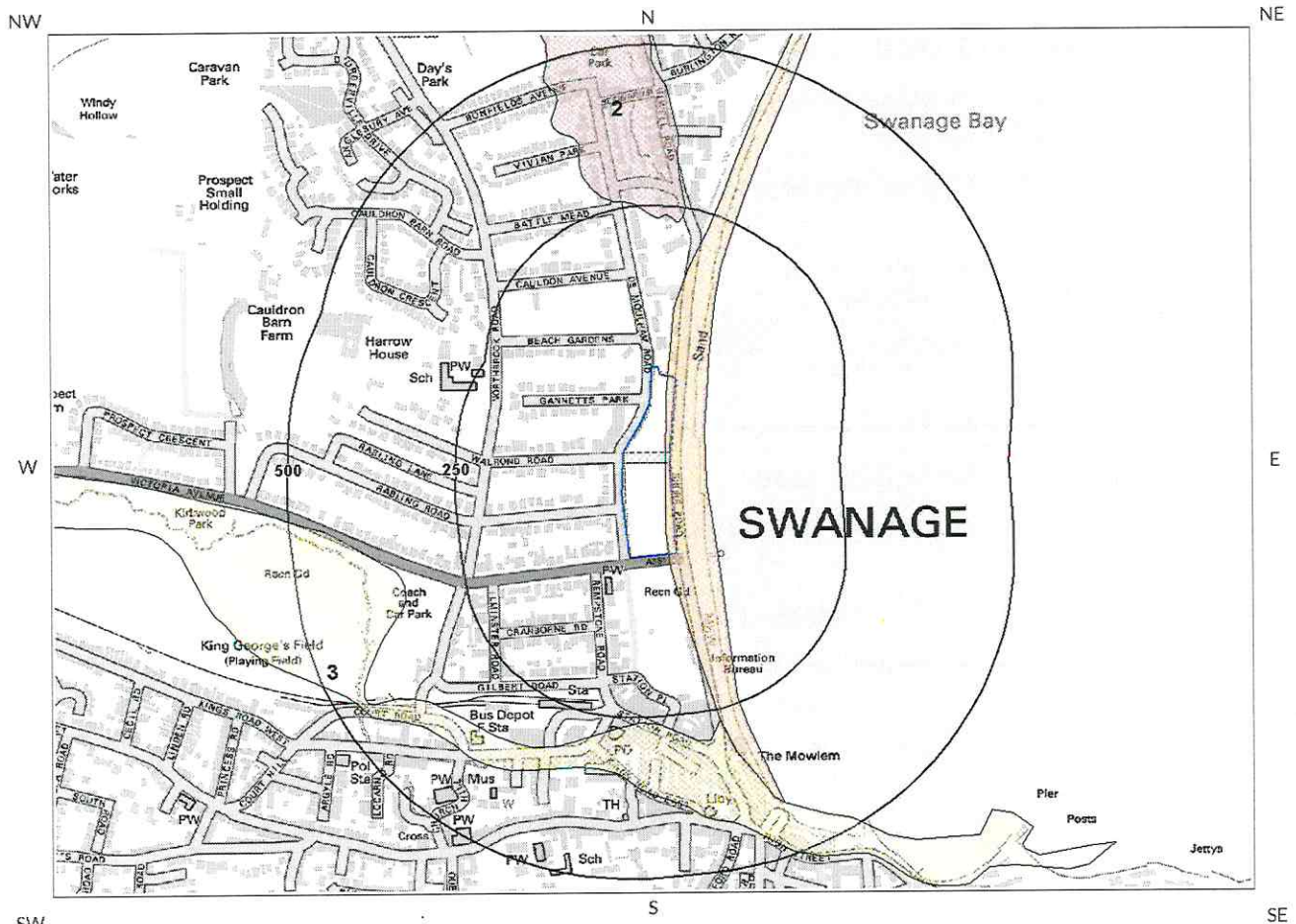
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



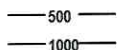
Superficial Deposits and Landslips
Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



Site Outline



Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	BCHD-SAND	BEACH DEPOSITS	SAND
2	228.0	N	HEAD-CSSG	HEAD	CLAY, SILT, SAND AND GRAVEL
3	258.0	S	ALV-CSSG	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	High

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

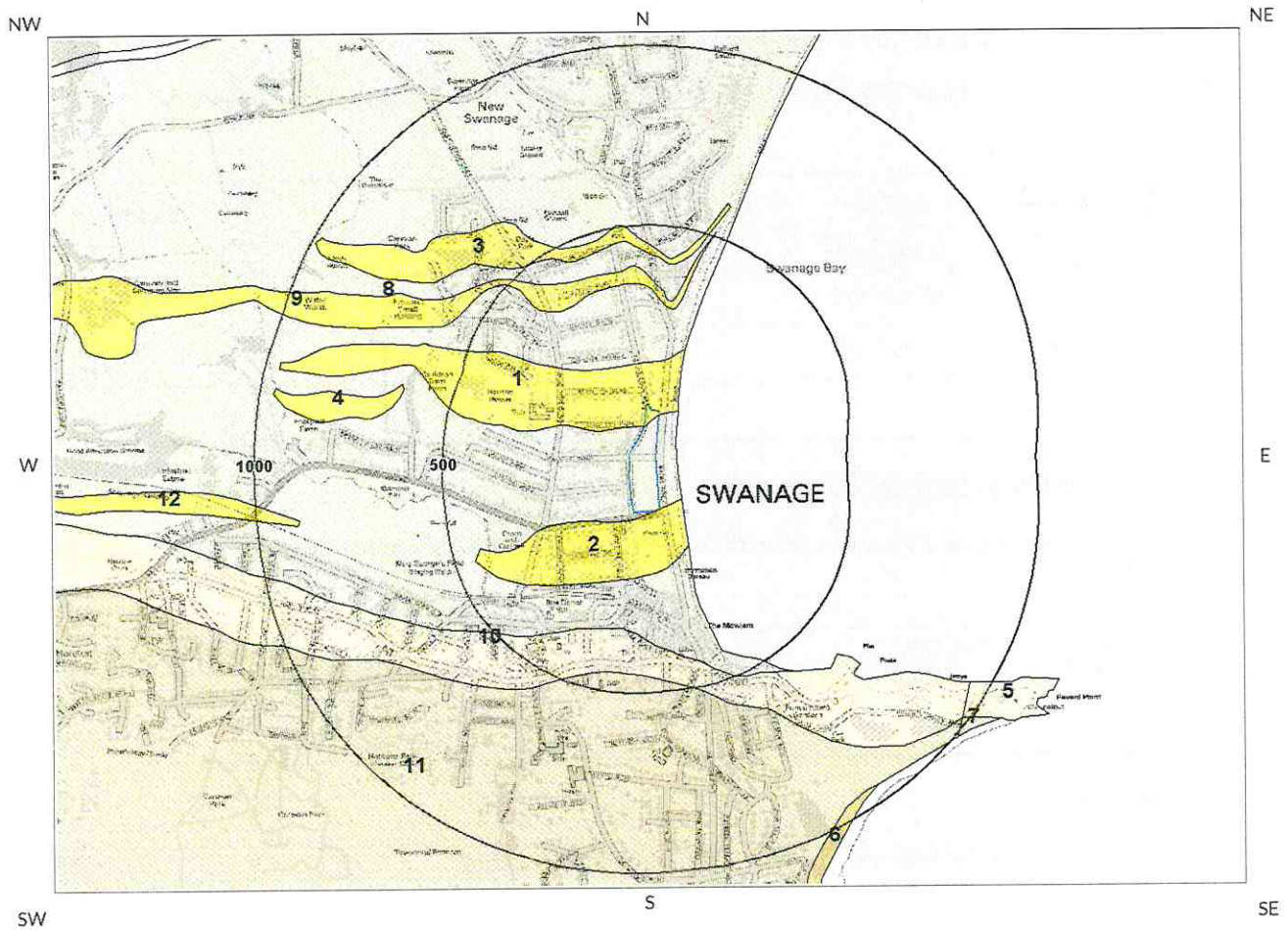
1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site* boundary? No

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



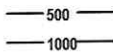
Bedrock and Faults Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



Site Outline



Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:343

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	W-SDST	Wealden Group - Sandstone	Barremian / Ryazanian
2	0.0	On Site	W-SDST	Wealden Group - Sandstone	Barremian / Ryazanian
3	397.0	N	W-SDST	Wealden Group - Sandstone	Barremian / Ryazanian
8	0.0	On Site	W-MDST	Wealden Group - Mudstone	Barremian / Ryazanian
9	275.0	N	W-SDST	Wealden Group - Sandstone	Barremian / Ryazanian
10	321.0	S	PEP-LSMD	Peveril Point Member - Interbedded Limestone And Mudstone	Ryazanian / Berriasian
11	444.0	S	SHO-LMST	Stair Hole Member - Limestone	Ryazanian

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Low	Very Low
0.0	On Site	Mixed	High	Moderate
0.0	On Site	Mixed	High	Moderate

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

The map shows the Swanage area with various streets and landmarks. A large circular boundary is drawn around the central part of the map, and the word 'SWANAGE' is written in large letters across the right side. The map is oriented with North at the top, indicated by a compass rose.

Streets shown include: CAULDRON BARN ROAD, BATTLE MEAD, CAULDRON AVENUE, BEACH GARDENS, GANNETTS PARK, GILBERT ROAD, STATION PL, COURT ROAD, CRANBORNE RD, REMSTONE ROAD, A351, RABLING LANE, RABLING ROAD, WALTON ROAD, GITHBROOK ROAD, DE MOLLAM ROAD, and SHORE ROAD.

Landmarks and locations include: Harrow House, Gannetts Park, Coach and Car Park, Recn Gd, Information Bureau, and Bus Depot.

Other labels include: Sch, PW, Sta, and various road numbers like 250 and 125.

Mapping sourced from  Ordnance Survey®

© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

-  Site Outline
 Search Buffers (m)
 Historic Surface Ground Workings
 Historic Underground Workings
 Current Ground Workings



2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on GroundSure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	0.0	On Site	403048 79220	Sand Pit	1900
2A	0.0	On Site	403045 79225	Unspecified Heap	1926
3B	0.0	On Site	403049 79233	Unspecified Ground Workings	1985
4B	0.0	On Site	403049 79233	Unspecified Ground Workings	1962
5B	0.0	On Site	403049 79233	Unspecified Ground Workings	1968
6C	0.0	On Site	403004 79236	Unspecified Pit	1926
7C	0.0	On Site	403005 79238	Unspecified Pit	1938
8D	191.0	W	402799 79390	Cuttings	1962
9D	191.0	W	402799 79390	Cuttings	1968
10D	191.0	W	402799 79390	Cuttings	1985

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the GroundSure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	725.0	SW	402605 78526	Unspecified Old Shaft	1926
Not shown	766.0	SW	402547 78520	Unspecified Old Shaft	1938

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	807.0	SW	402614 78426	Unspecified Old Shaft	1962
Not shown	808.0	SW	402613 78428	Unspecified Shafts	1900
Not shown	829.0	SW	402404 78550	Unspecified Disused Shafts	1968
Not shown	829.0	SW	402404 78550	Unspecified Old Shafts	1962
Not shown	836.0	SW	402407 78547	Unspecified Shafts	1900
Not shown	838.0	SW	402405 78545	Unspecified Old Shafts	1938
Not shown	866.0	SW	402463 78454	Unspecified Disused Shaft	1985
Not shown	869.0	SW	402461 78445	Unspecified Old Shafts	1962
Not shown	869.0	SW	402461 78445	Unspecified Disused Shafts	1968
Not shown	873.0	SW	402461 78452	Unspecified Old Shafts	1938
Not shown	873.0	SW	402461 78452	Unspecified Old Shafts	1926
Not shown	891.0	SW	402382 78491	Unspecified Old Shafts	1962
Not shown	891.0	SW	402382 78491	Unspecified Disused Shafts	1968
Not shown	895.0	SW	402372 78500	Unspecified Old Shafts	1938
Not shown	912.0	S	402975 78227	Unspecified Old Shaft	1900
Not shown	913.0	SW	402281 78574	Unspecified Disused Shaft	1968
Not shown	919.0	SW	402399 78441	Unspecified Old Shafts	1926
Not shown	935.0	SW	402314 78500	Unspecified Old Shafts	1926
Not shown	935.0	SW	402314 78500	Unspecified Shafts	1900
Not shown	936.0	SW	402357 78446	Unspecified Disused Shafts	1968
Not shown	936.0	SW	402357 78446	Unspecified Old Shafts	1962
Not shown	937.0	SW	402361 78442	Unspecified Disused Shafts	1985
Not shown	938.0	SW	402312 78498	Unspecified Old Shafts	1938
Not shown	942.0	SW	402359 78443	Unspecified Shafts	1900
Not shown	942.0	SW	402359 78443	Unspecified Old Shafts	1926
Not shown	944.0	SW	402357 78442	Unspecified Old Shafts	1938
Not shown	947.0	SW	402270 78533	Unspecified Shaft	1926
Not shown	947.0	SW	402270 78533	Unspecified Shafts	1900
Not shown	947.0	SW	402309 78478	Unspecified Disused Shafts	1968
Not shown	947.0	SW	402309 78478	Unspecified Old Shafts	1962

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	949.0	SW	402268 78528	Unspecified Shaft	1938
Not shown	950.0	SW	402308 78479	Unspecified Old Shafts	1938
Not shown	964.0	SW	402398 78363	Unspecified Disused Shafts	1985
Not shown	969.0	SW	402409 78364	Unspecified Disused Shafts	1968
Not shown	969.0	SW	402409 78364	Unspecified Old Shafts	1962
Not shown	971.0	S	402722 78210	Unspecified Shaft	1900
Not shown	996.0	SW	402376 78358	Unspecified Old Shafts	1900
Not shown	996.0	SW	402376 78358	Unspecified Old Shafts	1926
Not shown	998.0	SW	402373 78357	Unspecified Disused Shafts	1968
Not shown	998.0	SW	402373 78357	Unspecified Old Shafts	1962
Not shown	999.0	SW	402270 78446	Unspecified Disused Shafts	1985

2.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? **Yes**

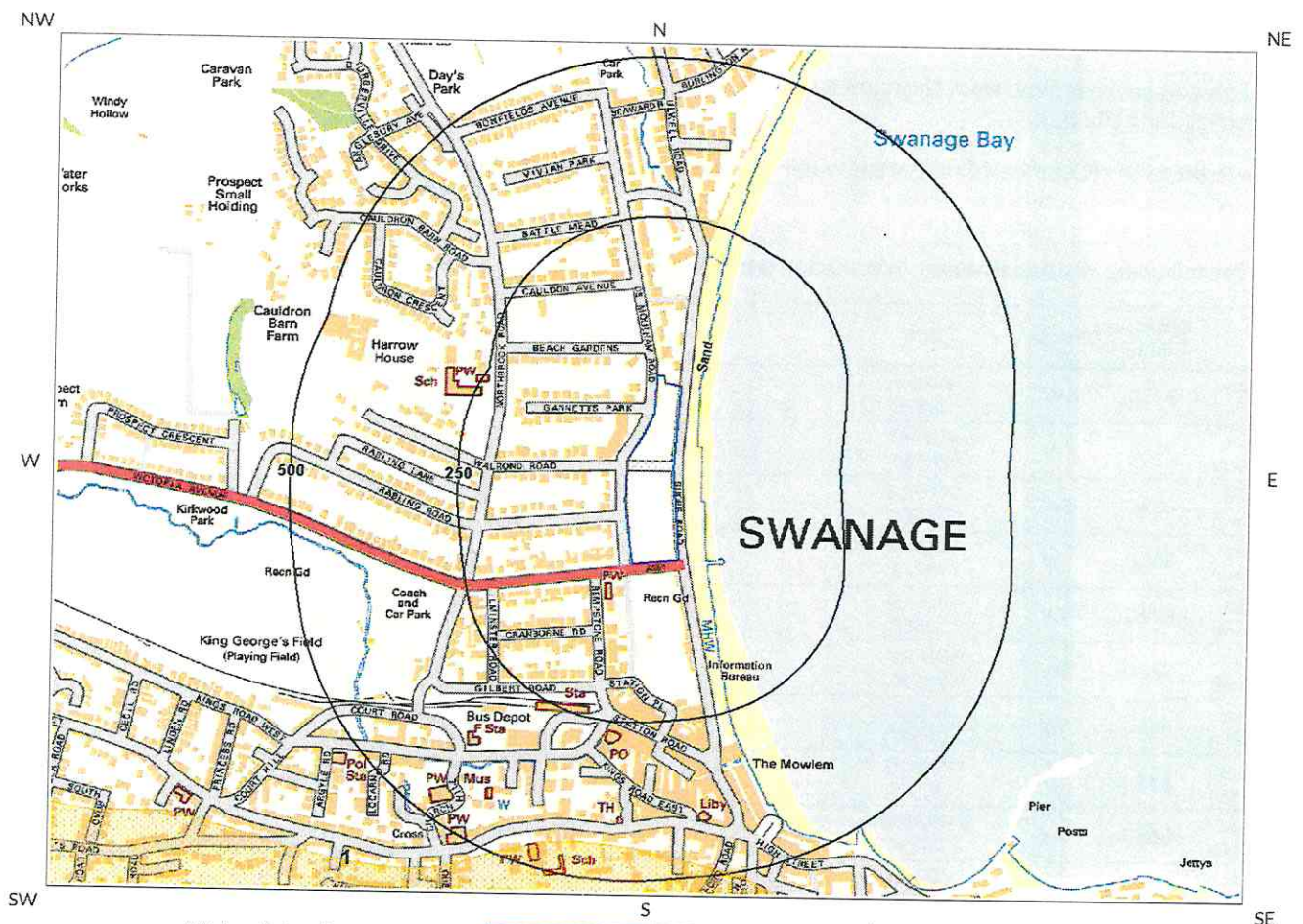
The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
54A	0.0	On Site	403044 79223	Sand	Shore Road	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	725.0	S	402970 78420	Limestone	Swanage	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	729.0	SW	402608 78528	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	747.0	SW	402655 78480	Limestone	Swanage Mines	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	748.0	S	402734 78444	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	755.0	S	402870 78400	Limestone	Swanage	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	787.0	S	402935 78360	Limestone	Swanage	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	794.0	SW	402464 78556	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	806.0	SW	402335 78686	Limestone	Priest's Road	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	811.0	S	402890 78340	Limestone	Swanage	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	812.0	SW	402614 78429	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	822.0	SW	402520 78475	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	833.0	S	402745 78350	Limestone	Swanage Mines	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	839.0	SW	402408 78547	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	850.0	SW	402645 78371	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	860.0	SW	402543 78414	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	882.0	SW	402458 78447	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	889.0	S	402689 78310	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	890.0	SW	402376 78507	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	905.0	S	403050 78240	Limestone	Swanage	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	911.0	S	402800 78255	Limestone	Swanage	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	913.0	S	402949 78232	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	924.0	S	402879 78228	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	933.0	S	402850 78223	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	935.0	SW	402315 78505	Limestone	Herston	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	946.0	SW	402277 78531	Limestone	Purbeck Stone Quarries	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	950.0	S	403092 78199	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	950.0	S	403105 78200	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	951.0	SW	402359 78439	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	960.0	SW	402570 78285	Limestone	Swanage Mines	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	961.0	S	403130 78191	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	969.0	SW	402457 78340	Limestone	Purbeck Stone Quarries	Working is partly surface and partly underground, working the same bodies for the same commodities	Ceased
Not shown	978.0	S	402722 78206	Limestone	Purbeck Stone Quarries	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)	Ceased
Not shown	988.0	S	402647 78220	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	994.0	SW	402571 78246	Limestone	Purbeck Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

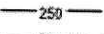
3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and
Natural Cavities Legend

Mapping
sourced from
OS Ordnance
Survey

© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

 Site Outline
 Search Buffers (m)
— 250 —
— 500 —

 Historical Mining
 Non-Coal Mining Cavities
 Natural Cavities

Non-Coal Mining

 Highly likely
 Likely
 Unlikely
 Highly unlikely
 Rare



3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from GroundSure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary?

Yes

The following Historical Mining information is provided by GroundSure:

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	725.0	SW	402605 78526	Unspecified Old Shaft	1926
Not shown	766.0	SW	402547 78520	Unspecified Old Shaft	1938
Not shown	807.0	SW	402614 78426	Unspecified Old Shaft	1962
Not shown	808.0	SW	402613 78428	Unspecified Shafts	1900
Not shown	829.0	SW	402404 78550	Unspecified Disused Shafts	1968
Not shown	829.0	SW	402404 78550	Unspecified Old Shafts	1962
Not shown	836.0	SW	402407 78547	Unspecified Shafts	1900
Not shown	838.0	SW	402405 78545	Unspecified Old Shafts	1938
Not shown	866.0	SW	402463 78454	Unspecified Disused Shaft	1985
Not shown	869.0	SW	402461 78445	Unspecified Disused Shafts	1968
Not shown	869.0	SW	402461 78445	Unspecified Old Shafts	1962
Not shown	873.0	SW	402461 78452	Unspecified Old Shafts	1938
Not shown	873.0	SW	402461 78452	Unspecified Old Shafts	1926
Not shown	891.0	SW	402382 78491	Unspecified Disused Shafts	1968
Not shown	891.0	SW	402382 78491	Unspecified Old Shafts	1962
Not shown	895.0	SW	402372 78500	Unspecified Old Shafts	1938
Not shown	912.0	S	402975 78227	Unspecified Old Shaft	1900
Not shown	913.0	SW	402281 78574	Unspecified Disused Shaft	1968
Not shown	919.0	SW	402399 78441	Unspecified Old Shafts	1926
Not shown	935.0	SW	402314 78500	Unspecified Old Shafts	1926
Not shown	935.0	SW	402314 78500	Unspecified Shafts	1900

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	936.0	SW	402357 78446	Unspecified Disused Shafts	1968
Not shown	936.0	SW	402357 78446	Unspecified Old Shafts	1962
Not shown	937.0	SW	402361 78442	Unspecified Disused Shafts	1985
Not shown	938.0	SW	402312 78498	Unspecified Old Shafts	1938
Not shown	942.0	SW	402359 78443	Unspecified Old Shafts	1926
Not shown	942.0	SW	402359 78443	Unspecified Shafts	1900
Not shown	944.0	SW	402357 78442	Unspecified Old Shafts	1938
Not shown	947.0	SW	402270 78533	Unspecified Shafts	1900
Not shown	947.0	SW	402270 78533	Unspecified Shaft	1926
Not shown	947.0	SW	402309 78478	Unspecified Disused Shafts	1968
Not shown	947.0	SW	402309 78478	Unspecified Old Shafts	1962
Not shown	949.0	SW	402268 78528	Unspecified Shaft	1938
Not shown	950.0	SW	402308 78479	Unspecified Old Shafts	1938
Not shown	964.0	SW	402398 78363	Unspecified Disused Shafts	1985
Not shown	969.0	SW	402409 78364	Unspecified Old Shafts	1962
Not shown	969.0	SW	402409 78364	Unspecified Disused Shafts	1968
Not shown	971.0	S	402722 78210	Unspecified Shaft	1900
Not shown	996.0	SW	402376 78358	Unspecified Old Shafts	1926
Not shown	996.0	SW	402376 78358	Unspecified Old Shafts	1900
Not shown	998.0	SW	402373 78357	Unspecified Old Shafts	1962
Not shown	998.0	SW	402373 78357	Unspecified Disused Shafts	1968
Not shown	999.0	SW	402270 78446	Unspecified Disused Shafts	1985

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	444.0	S	Purbeck	Limestone - Purbeck	Unlikely - Some small scale mining may have occurred but restricted in extent.
Not shown	732.0	SW	Purbeck	Limestone	Likely - Underground mining known or suspected within or close to the area.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? Yes

The following Non-Coal Mining Cavities information provided by Peter Brett Associates:

ID	Distance (m)	Direction	NGR	Address	Superficial Deposits	Bedrock Deposits	Extracted Mineral
Not shown	770.0	S	402800 078400	'Purbeck Stone Quarries' (1), Swanage, Dorset	Worked Ground	Purbeck Group, Portland Group, Kimmeridge Clay Formation	Bath Stone, Cornstone, Limestone
Not shown	808.0	SW	402400 078600	'Purbeck Stone Quarries' (5), Swanage, Dorset	Infilled Ground	Purbeck Group, Portland Group, Kimmeridge Clay Formation	Bath Stone, Cornstone, Limestone
Not shown	844.0	SW	402600 078400	'Purbeck Stone Quarries' (2), Swanage, Dorset	Infilled Ground	Purbeck Group, Portland Group, Kimmeridge Clay Formation	Bath Stone, Cornstone, Limestone

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This dataset provides information from the Brine Compensation Board which has been discontinued and is now covered by the Coal Authority.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

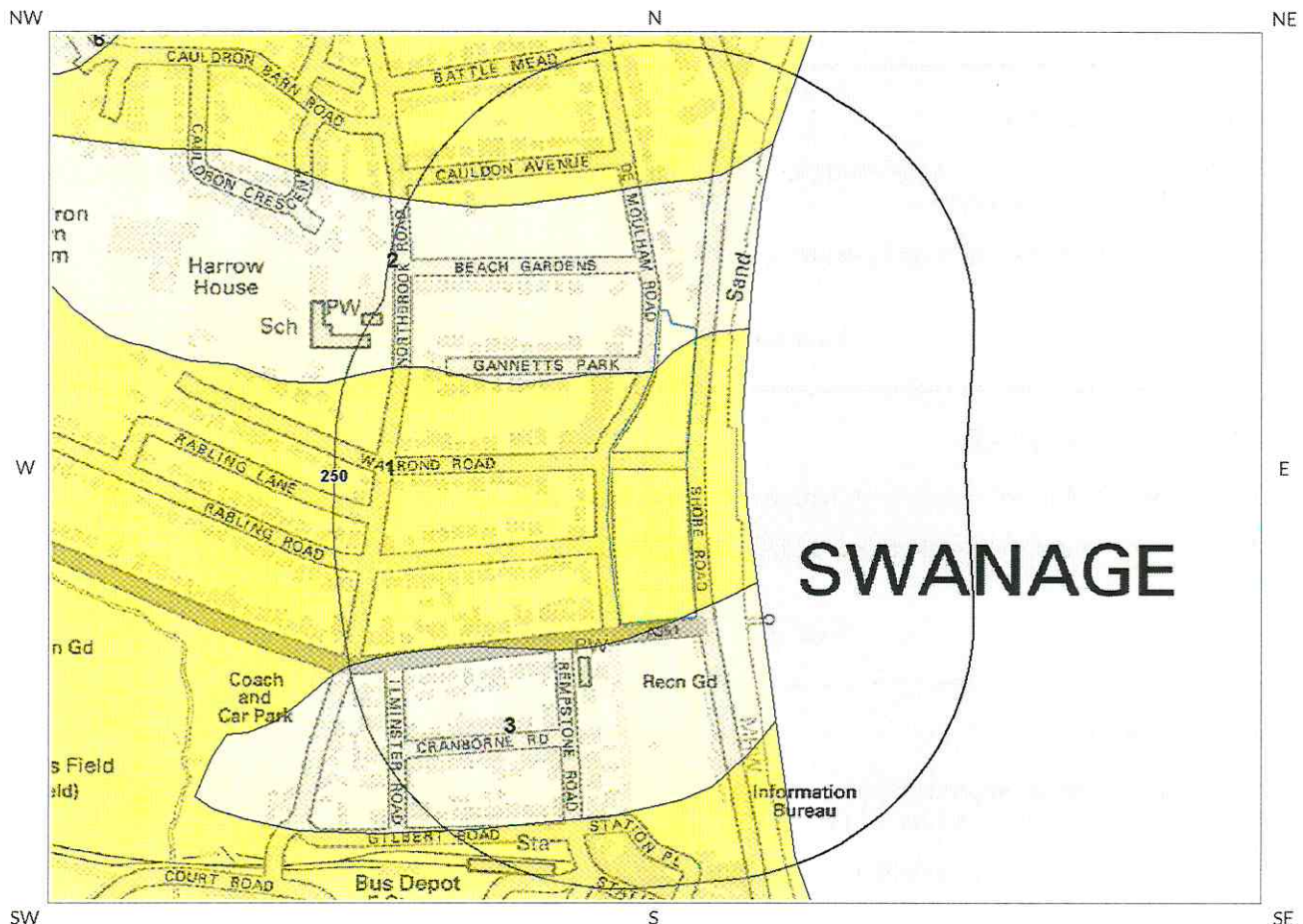
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

4 Natural Ground Subsidence

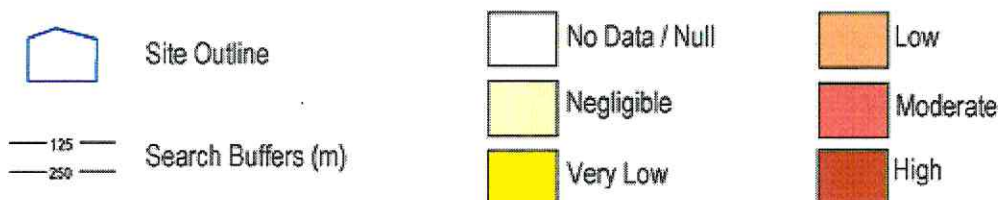
4.1 Shrink-Swell Clay Map



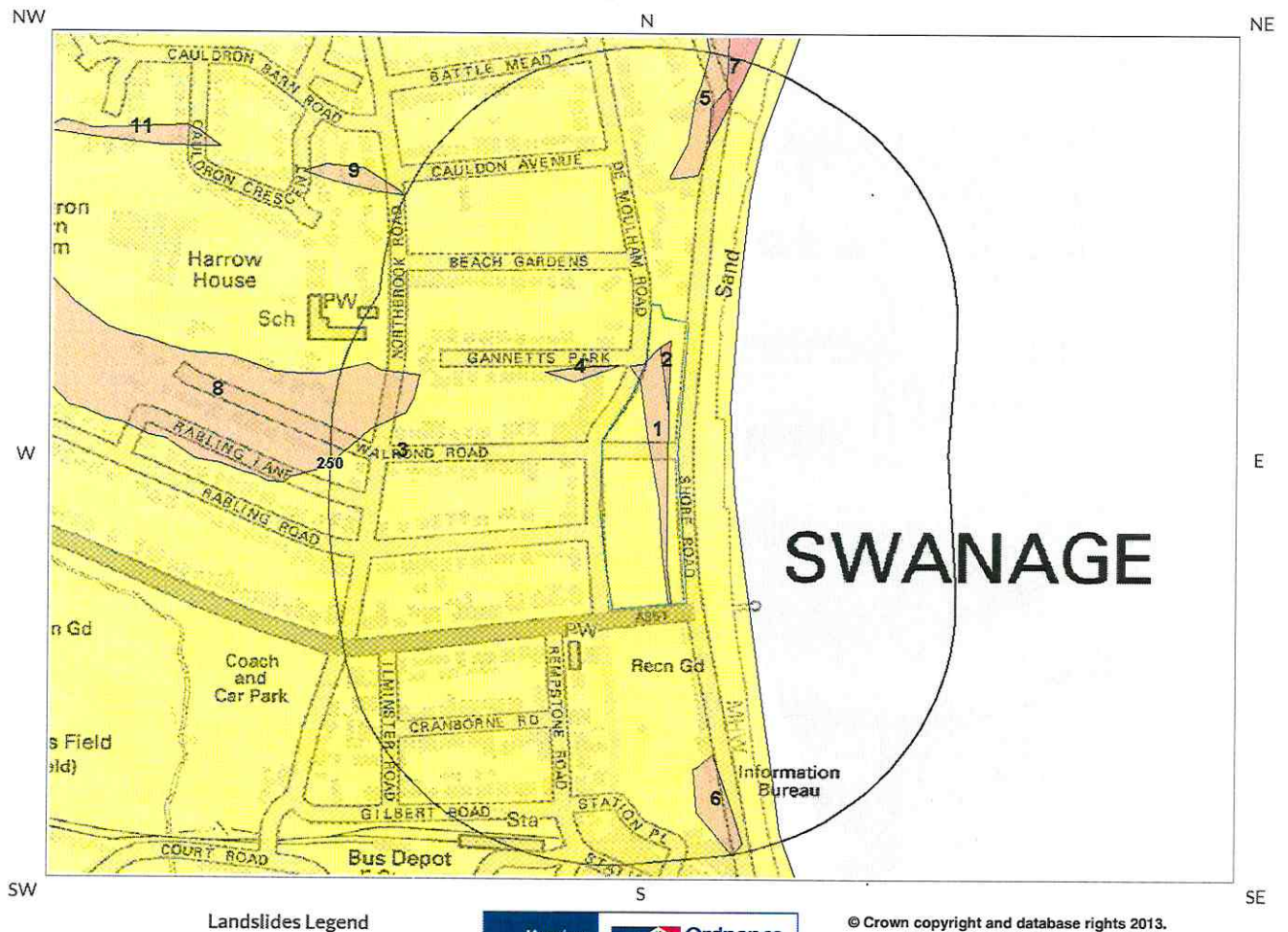
Shrink Swell Clay Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



4.2 Landslides Map



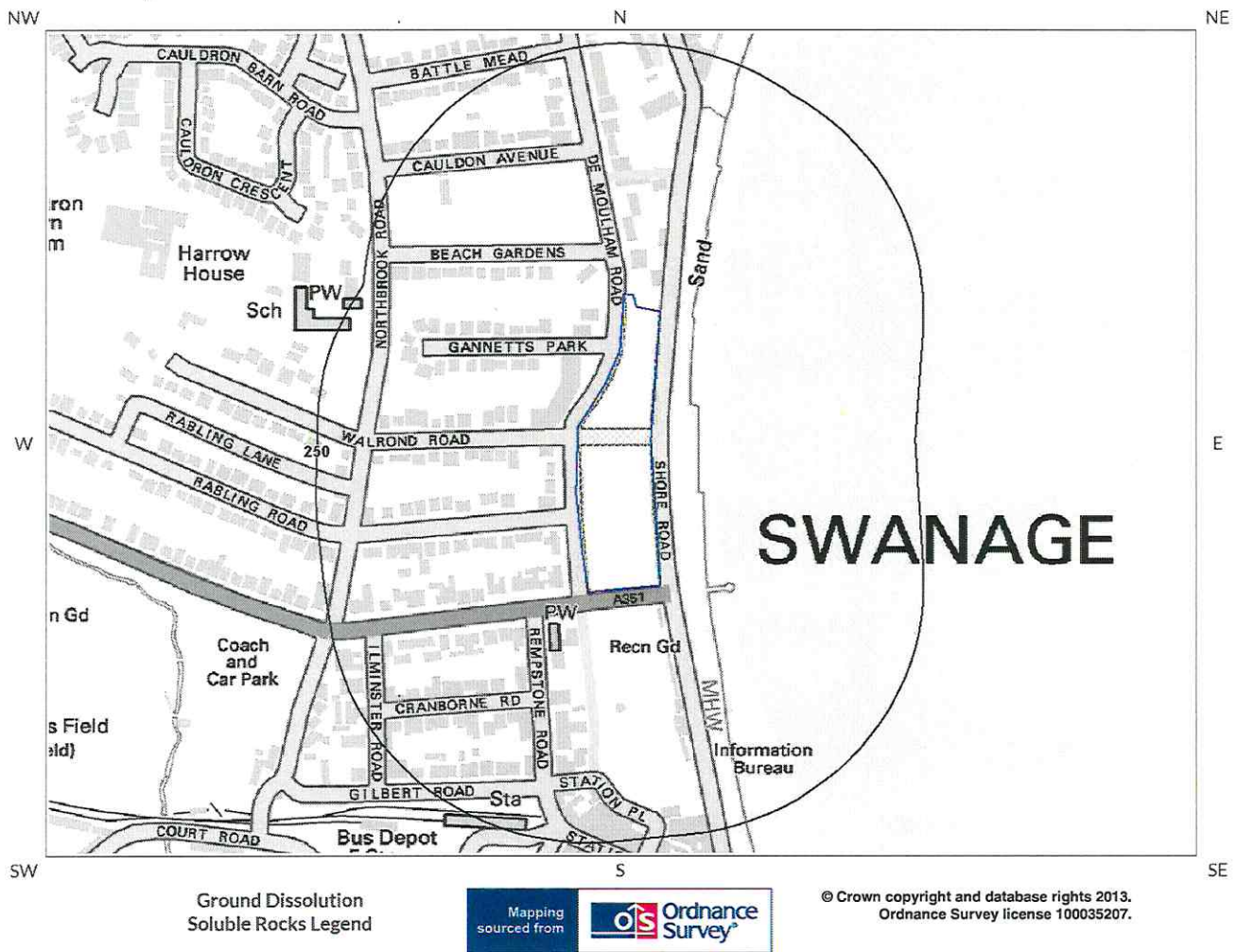
Landslides Legend



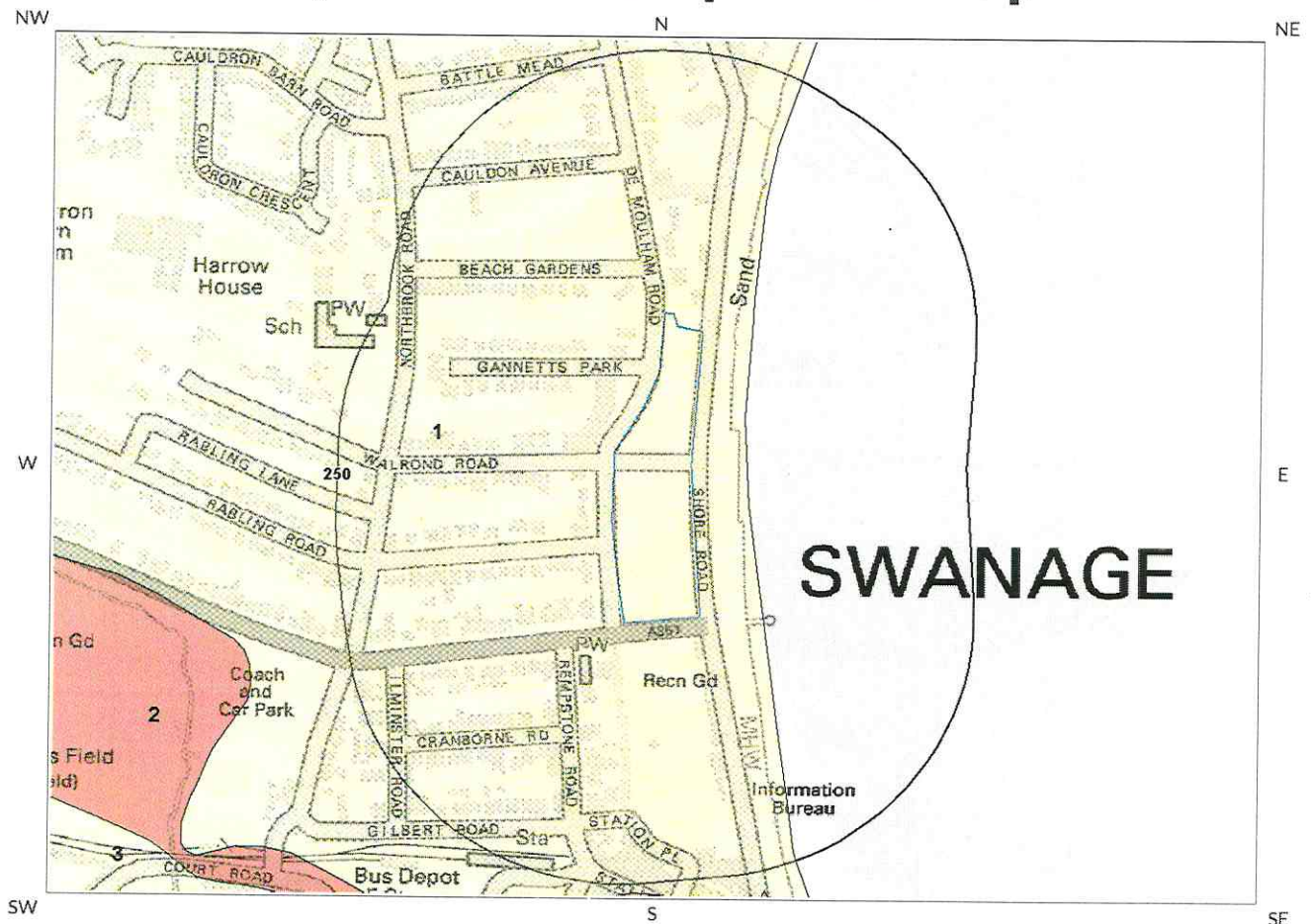
© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

	Site Outline		No Data / Null		Low
	Search Buffers (m)		Negligible		Moderate
			Very Low		High

4.3 Ground Dissolution Soluble Rocks Map



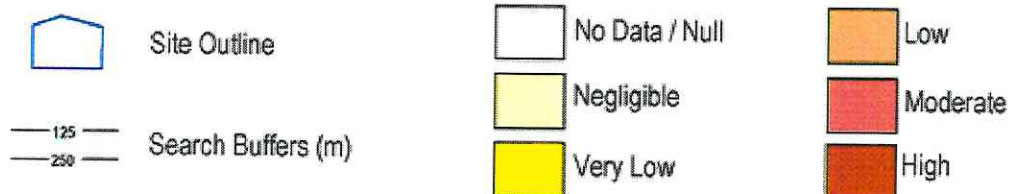
4.4 Compressible Deposits Map



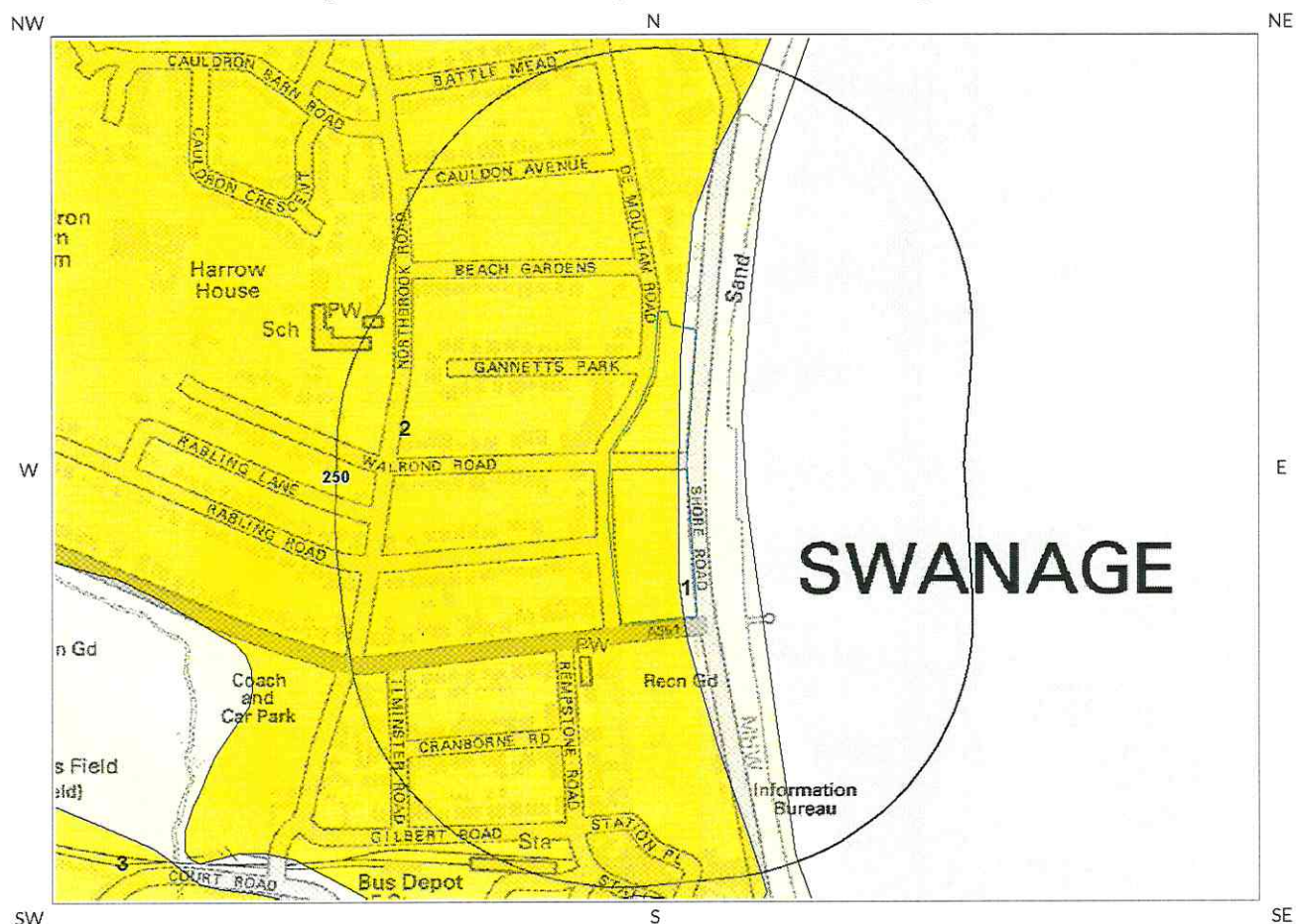
Compressible Deposits Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



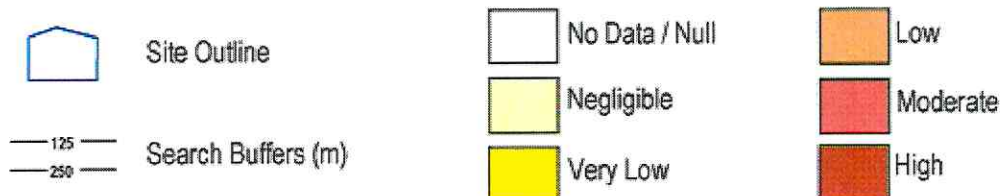
4.5 Collapsible Deposits Map



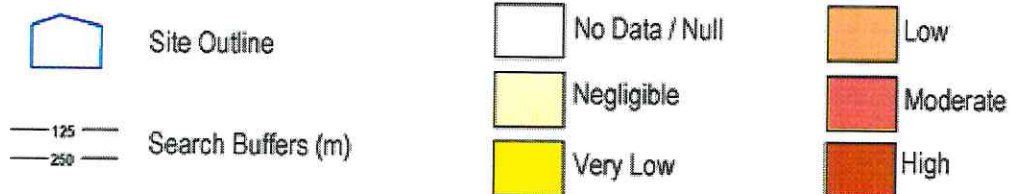
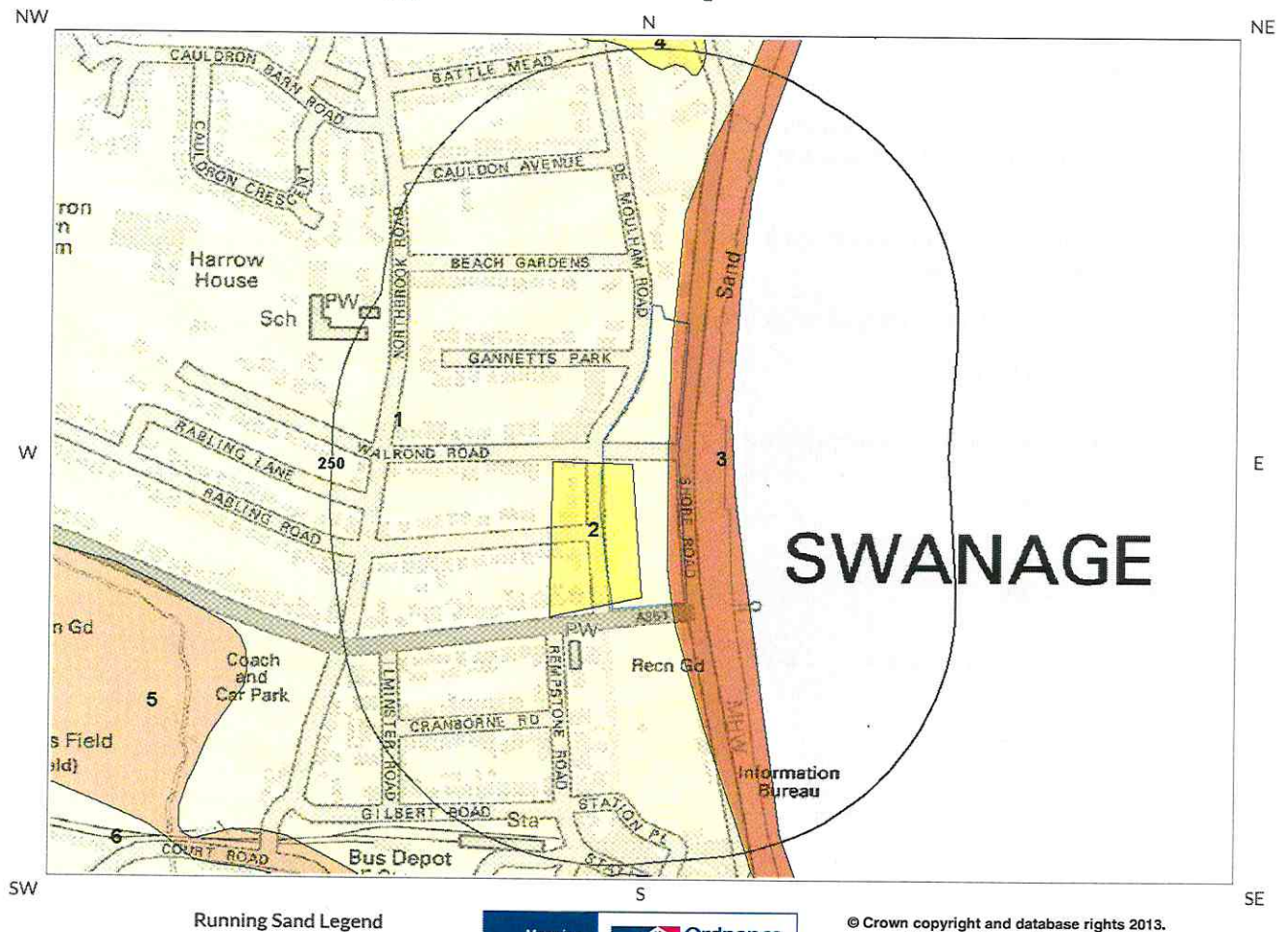
Collapsible Deposits Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



4.6 Running Sand Map





4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site** boundary? High

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
3	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

* This includes an automatically generated 50m buffer zone around the site

ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Moderate	Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build - consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property - probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.
3	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
4	22.0	W	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

4.3 Ground Dissolution of Soluble Rocks

The following Compressible Deposits information provided by the British Geological Survey:

Distance (m)	Direction	Hazard Rating	Details
0	On site	Null-Negligible	Soluble rocks are not present in the search area. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

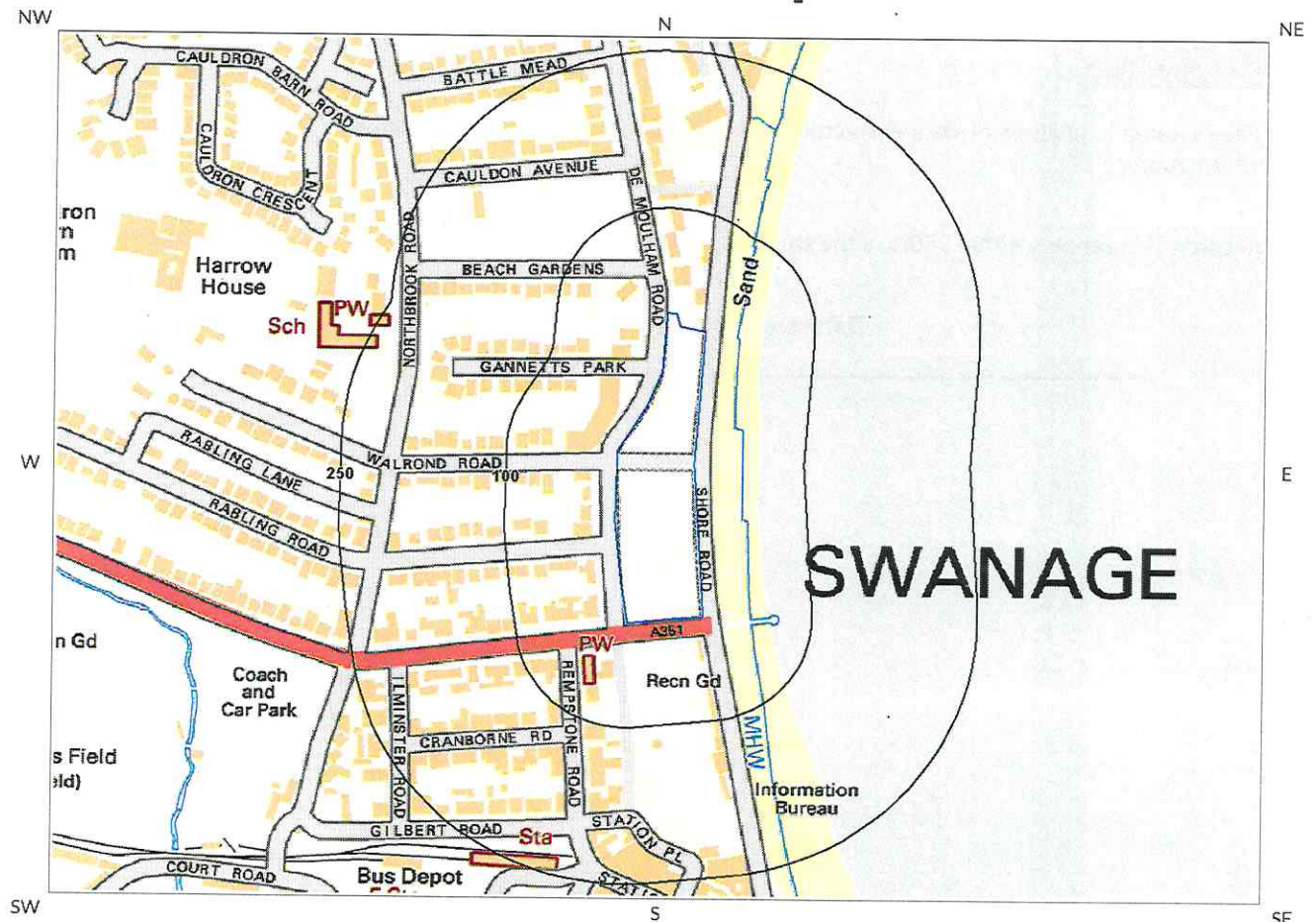
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	0.0	On Site	High	Very significant potential for running sand problems. Avoid large amounts of water entering the ground, for example through pipe leakage or soak-aways. Do not dig (deep) holes into saturated ground without technical advice. For new build - consider the consequences of soil and groundwater conditions during and after construction. Possible extra cost during construction. For existing property - possible increase in insurance risk from running sand, for instance ions due to water leakage, high rainfall events or flooding.

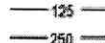
5 Borehole Records Map



Borehole Records Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

-  Site Outline
-  Search Buffers (m)
-  Borehole Locations



5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

0

Database searched and no data found.
