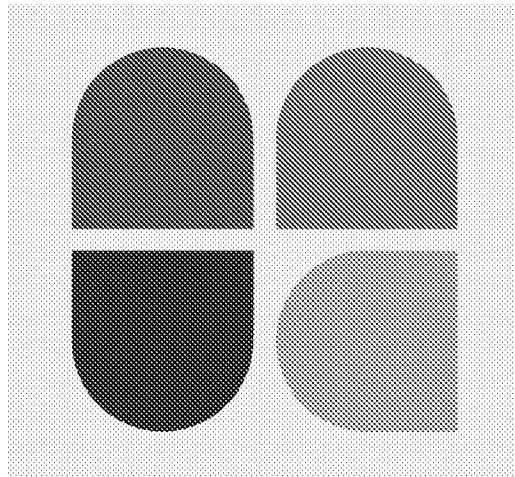




BRIGHT PLAN CIVILS

LAND AT WINGS NURSERY, LIDSEY ROAD

PROPOSED RESIDENTIAL DEVELOPMENT

Surface Water Drainage System
Maintenance Manual

Prepared on Behalf of
Southern Housing Group Ltd

D1990-MS1

December 2021

DOCUMENT CONTROL

Project: Land at Wings Nursery, Lidsey Road.
Proposed Residential Development

Document: Surface Water Drainage System
Maintenance Manual

Client: Southern Housing Group Ltd

Reference: D1990-MS1

Document Checking:

Author: LDF

Date: 08/12/2021

Checked by: MJA

Date: 12/12/2021

Approved by: MJA

Date: 12/12/2021

Status:

Issue	Date	Status	Issued by
1.0	15/12/2021	FINAL	LDF

No part of this publication may be reproduced by any means without the prior permission of Bright Plan Civils

CONTENTS

1	INTRODUCTION	4
1.1	Background.....	4
1.2	Site Location and Description	4
1.3	Ground Conditions	4
1.4	Groundwater.....	4
2	PROPOSED DEVELOPMENT	6
2.1	Description of Development	6
3	PROPOSED DRAINAGE STRATEGY	7
3.1	Surface Water	7
3.2	Treatment	8
4	MAINTENANCE.....	9
4.1	Proposed Maintenance Regime	9

DRAWINGS

D1990-13.1	Technical Layout
D1990-15-1	Drainage Details Sheet 1
D1990-15-2	Drainage Details Sheet 2
D1990-15-3	Basin Details

APPENDICIES

Appendix A	Architect's Development Proposals
Appendix B	Geo-Environmental Ground Appraisal Report
Appendix C	Southern Water Public Sewer Records
Appendix D	Marshalls Permeable Paving Details

1 INTRODUCTION

1.1 Background

- 1.1.1 Bright Plan Civils is instructed by Southern Housing Group Ltd to prepare a Surface Water Drainage Maintenance Manual with reference to the proposed development at Wings Nursery, Lidsey Road, Woodgate, Chichester, West Sussex PO20 3SU.

1.2 Site Location and Description

- 1.2.1 The site is located approximately 11km south-east of the centre of Chichester and measures approximately 25,382m² (2.53Ha).
- 1.2.2 The site is bound to the north by a private drive which serves Lidsey Road Nursery whilst beyond the eastern boundary 2 No. ordinary watercourse ditches (which are linked via a culvert at the access to 'Wings') are present. There is existing residential development beyond the southern boundary whilst to the west, the site is bound by a watercourse which falls to the south.

1.3 Ground Conditions

- 1.3.1 A site-specific ground appraisal report has been prepared by Geo-Environmental, dated October 2019.
- 1.3.2 The report and associated site-works extended to include ground investigation in order to establish the underlying geological composition, infiltration testing as well as a period of groundwater monitoring.
- 1.3.3 The Geo-Environmental report confirms that the ground conditions encountered were 'generally consistent with those anticipated' (Alluvium overlying River Terrace Deposits, overlying London Clay Formation).
- 1.3.4 River terrace Deposits were encountered within all locations to depths of between 2.00m and 4.00m below ground level, generally consisting of *'soft to very stiff silty sandy clay becoming silty sandy clay with occasional fine to coarse sub-angular chert, overlying fine to medium sand.'*
- 1.3.5 London Clay Formation was encountered at a depth of 3.50m below ground level within WS1 and WS7, although at no other locations across the site. This was described as *'stiff grey clay'*.
- 1.3.6 Full borehole and trial pits logs associated with the on-site investigation works undertaken are contained within **Appendix B** of this report.

1.4 Groundwater

- 1.4.1 The ground appraisal report prepared by Geo-Environmental included groundwater investigation and a period of subsequent groundwater monitoring.
- 1.4.2 Groundwater was encountered at depths of between 1.85m below ground level whilst siteworks were being undertaken, with standing water levels obtained ranging from 1.20m and 2.50m below ground level after a period of twenty minutes.
- 1.4.3 Groundwater monitoring wells remain in situ at present, within WS1, WS2, WS3 and WS6, to depths ranging from 2.50m and 3.70m below ground level.
- 1.4.4 At present, based on the groundwater monitoring results obtained to date, groundwater is confirmed

as peaking at 0.41m below ground level, at WS1 (reading obtained on 25th November 2019). For the winter period recorded to date, groundwater levels have ranged between 1.24m below ground level and 0.41m below ground level.

2 PROPOSED DEVELOPMENT

2.1 Description of Development

- 2.1.1 The proposed develop will involve the construction of 71 No. residential units, as shown on the Technical Layout **D1990-13-1**.
- 2.1.2 The post-development impermeable area has been determined to be 10,232m² (1.02Ha) an increase of 8,430m² (0.84Ha) compared with the existing impermeable area at the site which totals approximately 1,802m².
- 2.1.3 The use of Sustainable Drainage System (SuDS) methods and techniques (where site conditions and constraints allow) within the bounds of the site (whilst adhering to the SuDS hierarchy as stated within Building Regulations (Part H) and The CIRIA SuDS Manual C753) will be used to provide a betterment of surface water run-off compared to the existing site.
- 2.1.4 The specific surface water drainage proposals are detailed in **Section 3** of this report.

3 PROPOSED DRAINAGE STRATEGY

3.1 Surface Water

3.1.1 The SUDS manual and Building Regulations set out a hierarchy of drainage methods to ensure that developments maximise the use of sustainable drainage techniques. The hierarchy favours infiltration methods of disposal over other methods such as watercourse and sewers, as detailed below;

- i. Utilise infiltration techniques
- ii. Attenuate rainwater in ponds or open water features for gradual release
- iii. Attenuate rainwater by storing in tanks or sealed water features for gradual release
- iv. Discharge rainwater direct to a watercourse
- v. Discharge rainwater to a surface water sewer/drain
- vi. Discharge rainwater to a combined sewer

3.1.2 In view of the constraints associated with the underlying geological conditions, it is proposed that attenuated storage will be introduced on site, with a controlled discharge to the adjacent watercourse network provided in order to manage surface water run-off generated by the development. Run-off will be restricted to mimic greenfield run-off rates.

3.1.3 Permeable paving will be introduced on site in order to provide high-level attenuation, as well as a level of treatment in accordance with The CIRIA SuDS Manual C753.

3.1.4 The site will be supported by a split catchment surface water drainage system. The primary system will support an impermeable area of 8,829m² (0.89Ha), whilst the secondary system will cater for the additional 1,403m² impermeable area (serving Plots 63-71).

3.1.5 A pond measuring 650m² (1.50m depth, 1:3 side-slopes) is proposed to support the primary network, which will be supplemented by permeable paving to provide attenuation on-site.

3.1.6 The extents of permeable paving associated with the primary system amounts to 1716m², which – with a sub-base depth of 450mm and 32% voids, will provide a volume of storage to the order of 247.10m³.

3.1.7 The pond will discharge to the ditch adjacent to Lidsey Road, to the east of the site, at a controlled rate. Flows will be restricted to a maximum of 5.00l/s, whilst the network has been designed to accommodate up to and including a 1-in-100-year storm event, with an allowance for both climate change (40%) and urban creep (10%).

3.1.8 The secondary system, supporting units 63-71, will consist of permeable paving (249.96m²) providing a volume of storage totalling 35.994m³ (based on a 450mm sub-base and 32% voids), supported by a 20m² shallow cellular storage tank (400mm deep structure) providing a volume of storage totalling 7.60m³. This system will discharge, again at a controlled rate, to an upstream section of the same ditch as the primary network, located on Lidsey Road to the east of the site. Flows for the secondary network will be restricted in this instance to 1.5l/s.

- 3.1.9 Total discharge from the development will amount to 6.5l/s.
- 3.1.10 An allowance in view of urban creep has been provided, in the event that an increase in areas of hardstanding occurs across the design-life of the development. An additional allowance of 10% in view of the proposed impermeable area has been allowed for in design calculations and storage provision.
- 3.1.11 The strategy above will ensure that there is no increase in the rate of run-off leaving the site, therefore no increase in the risk of flooding from this source.
- 3.1.12 The proposed surface water drainage system is shown on drawing **D1990-13-1**.

3.2 Treatment

- 3.2.1 The use of permeable paving will ensure that run-off from the site receives a level of treatment required by the SuDS manual, with hydrocarbons being filtered by the aggregate and geotextile layers.
- 3.2.2 In accordance with the CIRIA SuDS Manual C753 regarding methods for managing pollution risks, the risk posed by surface water run-off to the receiving environment depends on the pollution hazard at the site (the source), SuDS treatment techniques (the pathway), and the sensitivity of the environment (the receptor).
- 3.2.3 The simple index approach considers whether SuDS techniques are appropriate for the site. The states that for SuDS components to deliver adequate treatment, the total pollution mitigation index for each contaminant type should equal or exceed the pollution hazard index.
- 3.2.4 The SuDS Manual outlines three categories of pollution hazard identification, which vary depending on proposed land use, which are as follows:
- Total Suspended Solids (TSS).
 - Metals (M).
 - Hydrocarbons (H).
- 3.2.5 In accordance with C753 Table 26.2, the proposed land uses at the site are categorised as follows:
- Residential Roofs and non-trafficked areas – very low/TSS=0.2/M=0.2/H=0.05
- 3.2.6 In accordance with C753 Table 26.3, the values of SuDS Mitigation indices are provided for permeable paving:
- Permeable Pavement – TSS=0.7/M=0.6/H=0.7
 - Pond - TSS-0.7/M-0.7/H-0.5
- 3.2.7 As the pollution hazard index does not exceed any pollution mitigation index for any contaminant type, the proposed SuDS methods will provide sufficient treatment for the proposed development.

4 MAINTENANCE

4.1 Proposed Maintenance Regime

- 4.1.1 Maintenance is required to ensure the long-term operational performance of the proposed surface water drainage system.
- 4.1.2 The drainage system has been designed to minimise maintenance requirements; however, a number of key tasks will need to be undertaken so that the system remains in optimum condition. These operations are summarised in the table below, along with the required frequency of works.

Drainage System feature	Proposed maintenance / remedial works	Required frequency of works
Permeable Paving	Surface sweeping to reduce silt and debris accumulation.	Every 8 to 12 weeks
	Removal / management of weed growth	At least once a year
	Silt removal from permeable surfaces, possibly involving raking out of joints, redressing, removal and remedial works.	As required / to be specified by manufacturer
Inlet, Outfall and Existing Watercourses	Inspection, vegetation clearance and additional clearing/cleansing of potential outfall blockages	At least once a year
	Desilting	Year 1, Year 3, then every 5 years
Diffuser units & catch pits, gully sumps and drains	Inspection and additional cleansing as required.	Annual
	Desilting	Year 1, Year 3, then every 5 years
Pipework	Jetting to clear blockages	As required

- 4.1.3 The responsibility of any drainage infrastructure supporting a single dwelling/plot will be the sole responsibility of the owner/occupier of the associated dwelling.
- 4.1.4 Additional maintenance activities beyond this will be the responsibility of a nominated management company, to be appointed by the developer upon completion of the development.
- 4.1.5 A detailed maintenance document shall be established prior to appointment in order to detail the roles and responsibilities where maintenance is concerned.

Permeable Paving / Diffuser Units

- 4.1.6 The areas of permeable paving are designed to allow surface water run-off to percolate through the joints in the block paving surface course and into the sub-base below. This provides a volume of attenuated storage (as it is proposed that the permeable paving will be tanked in view of site constraints) before collected run-off is discharged, at a control rate, to the receiving outfall(s).
- 4.1.7 As part of the permeable paving system, diffuser units are used to discharge surface water run-off from roof areas into the sub-base, as well as forming links between areas of permeable paving. These diffuser units are small heavy-duty cellular units which allow more efficient discharge of surface water into the sub-base base of the permeable paved areas.
- 4.1.8 The areas of permeable paving will require additional maintenance measures to ensure they operate

as designed. Failure in carrying out this maintenance, could increase the risk of flooding. The additional measures are as follow:

- Periodic surface sweeping to reduce silt and debris accumulation. The permeable surfaces should be swept at least every 8 to 12 weeks with additional sweeps in the autumn to clear fallen leaves
- Removal / management of weed growth, as required. Typically, once or twice a year for regularly used areas
- Periodic silt removal from permeable surfaces as described by the manufacturer. If any areas are showing signs of ponding, they shall be dealt with by raking out the joints and redressing. The entire surface shall be monitored and when there are signs of excessive siltation resulting in poor drainage over the whole area, the blocks shall be taken up and a replacement of bedding layer and geotextile shall be undertaken
- Redressing of joints on the block paving as required
- Catchpits upstream of diffuser units should be emptied and inspected on the same regime as all catchpits specified previously set out in this document

Flow Control Chambers/Devices

- 4.1.9 A flow control chamber (such as a HydroBrake or Crown Vortex Flow Control) or device is self-activating, relying on upstream hydraulic head to generate an air-filled vortex within the centre of the casing. Once the vortex is initiated water drains down through a small opening in the back of the device at the designed restricted flow rate.
- 4.1.10 The flow control device has two measures in case of emergency (i.e. blockage). The first is a door situated in the front of the unit itself, this can be operated from the surface by a release cable situated just under the manhole cover which closes under its own weight and does not require any mechanism to operate. The second is a high-level overflow pipe situated within the flow control manhole. Both measures allow the system to drain down freely, until the blockage can be cleared.
- 4.1.11 The flow control chamber will require additional maintenance measures to ensure it operates as designed. The additional measures are as follows:
- The sump within the flow control chamber should be monitored for build-up of silts and should be emptied, as a minimum, on the same regime as specified for catchpits previously within this document
 - The drain down door located on the centre of the unit will require inspection and opening annually, to ensure it is operating as intended.

Dry Pond

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly
	Cut grass in and around pond	Monthly (during growing season) or as required
	Manage other vegetation and remove nuisance plants	Monthly at start and then as required
	Inspect inlets and outlets for blockages and clear as required	Monthly
	Inspect banks for damage and repair as required	Monthly
	Inspect inlets and pond surface for silt accumulation. Establish silt removal frequency	Monthly for first year then annually or as required
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from inlet	Annually or as required
Occasional Maintenance	Reseed areas of poor growth	As required
	Trim overhanging trees and remove cuttings	Every 2 years
Remedial Actions	Repair erosion or other damage by reseeding or returfing	As required
	Repair inlets and outlets	As required
	Relevel uneven surfaces and reinstate design levels	As required

Remedial/Repair Actions

- 4.1.12 Significant storm events may cause considerable damage to SuDS and their associated components. As such, it may be necessary to inspect and carry out essential recovery works to return the feature to full working order.
- 4.1.13 Resetting of uneven blocks by lifting block area, removing bedding material and relaying to match original design are all actions which may need to be undertaken.

Accidental Spillages

- 4.1.14 It is not envisaged that any materials are to be stored onsite once the development has been completed, which could cause major spills and potential pollution issues within the drainage system. If this situation alters in the future consultation with a specialist will be required in order to confirm if any

upgrades to the existing system are necessary.

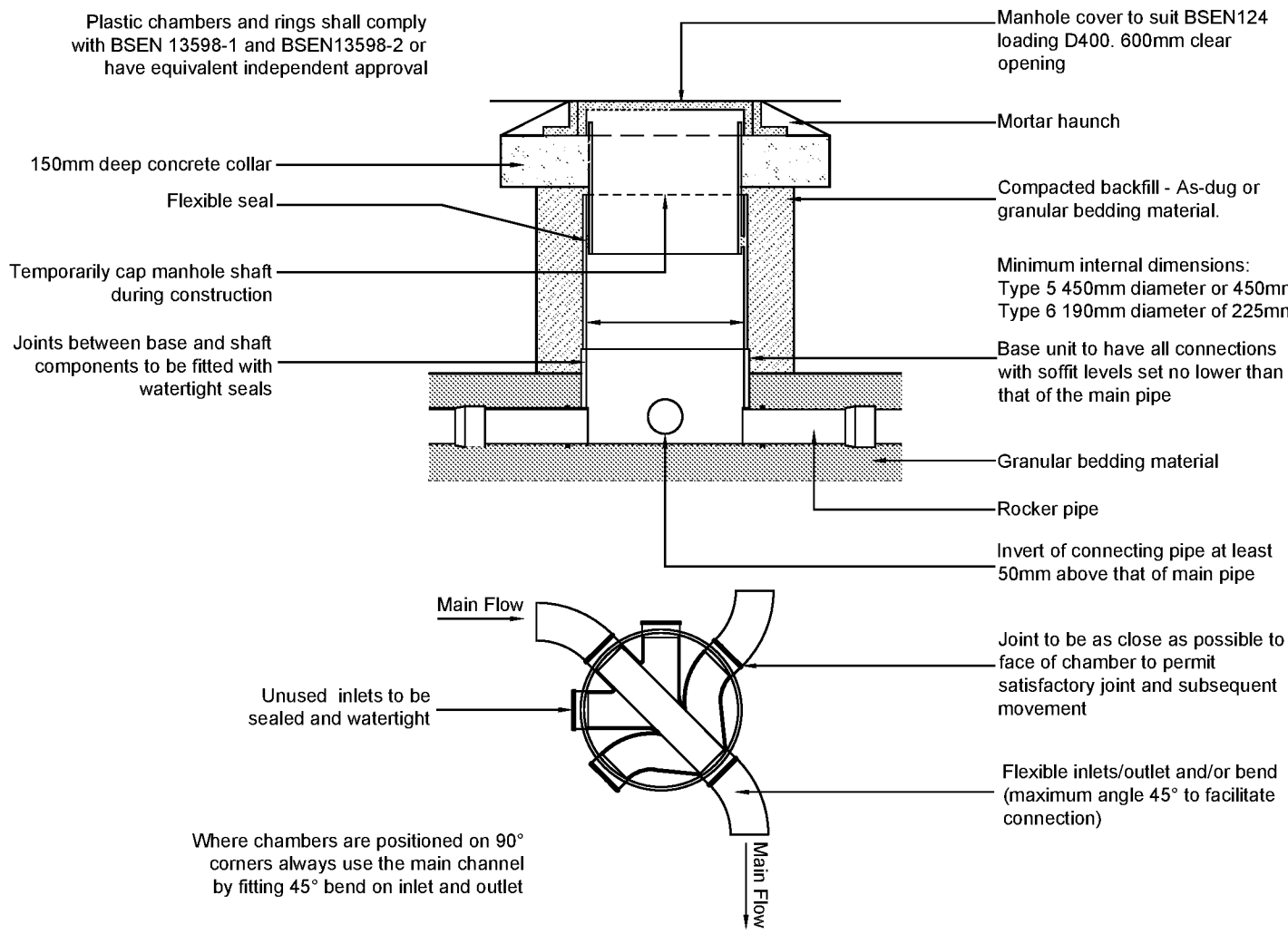
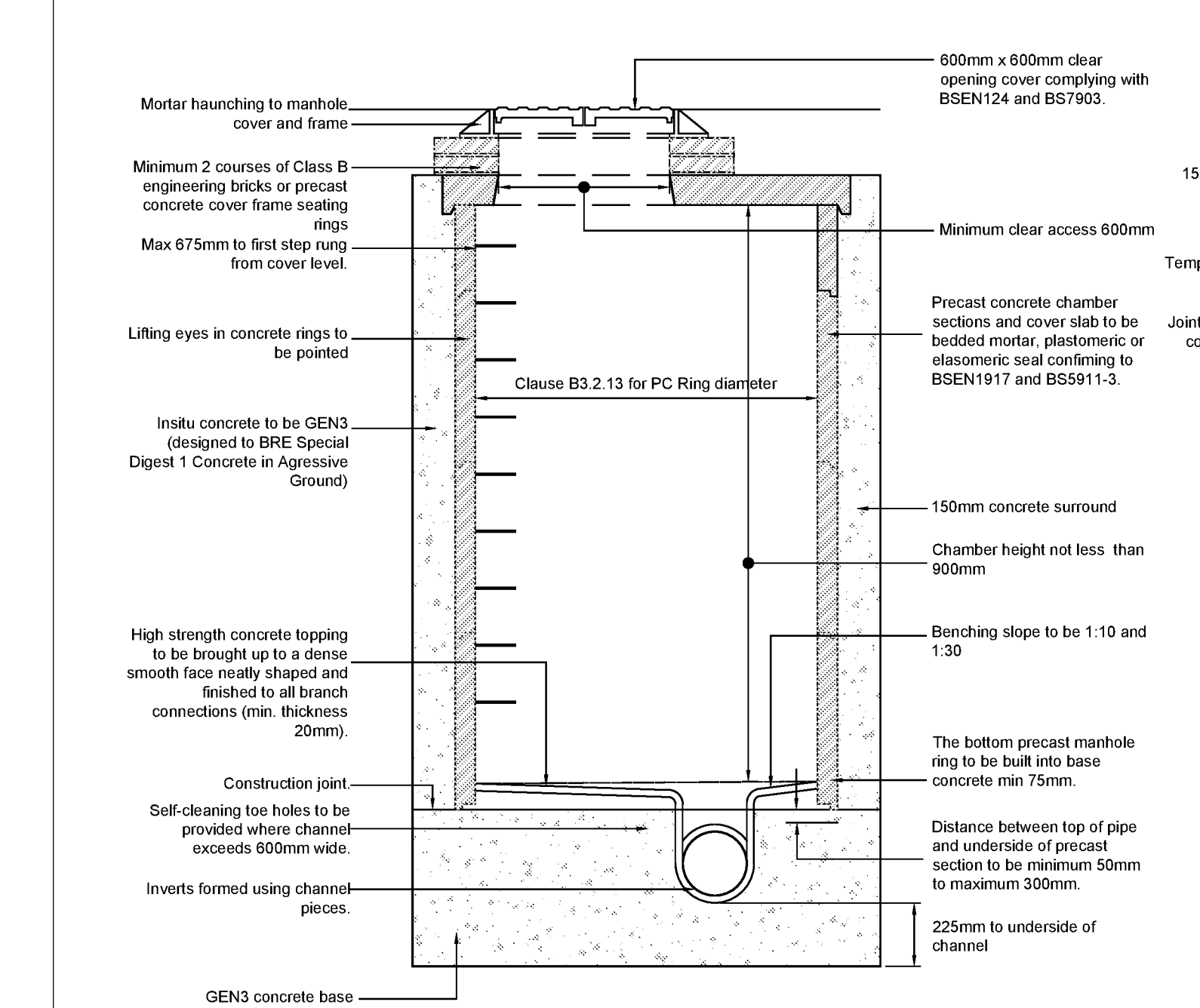
- 4.1.15 Minor spillages of fuels and oils will be dealt with by the permeable paving and deep trapped gullies, by biodegrading and collecting the hydrocarbons respectively.

Future Alterations to the Development

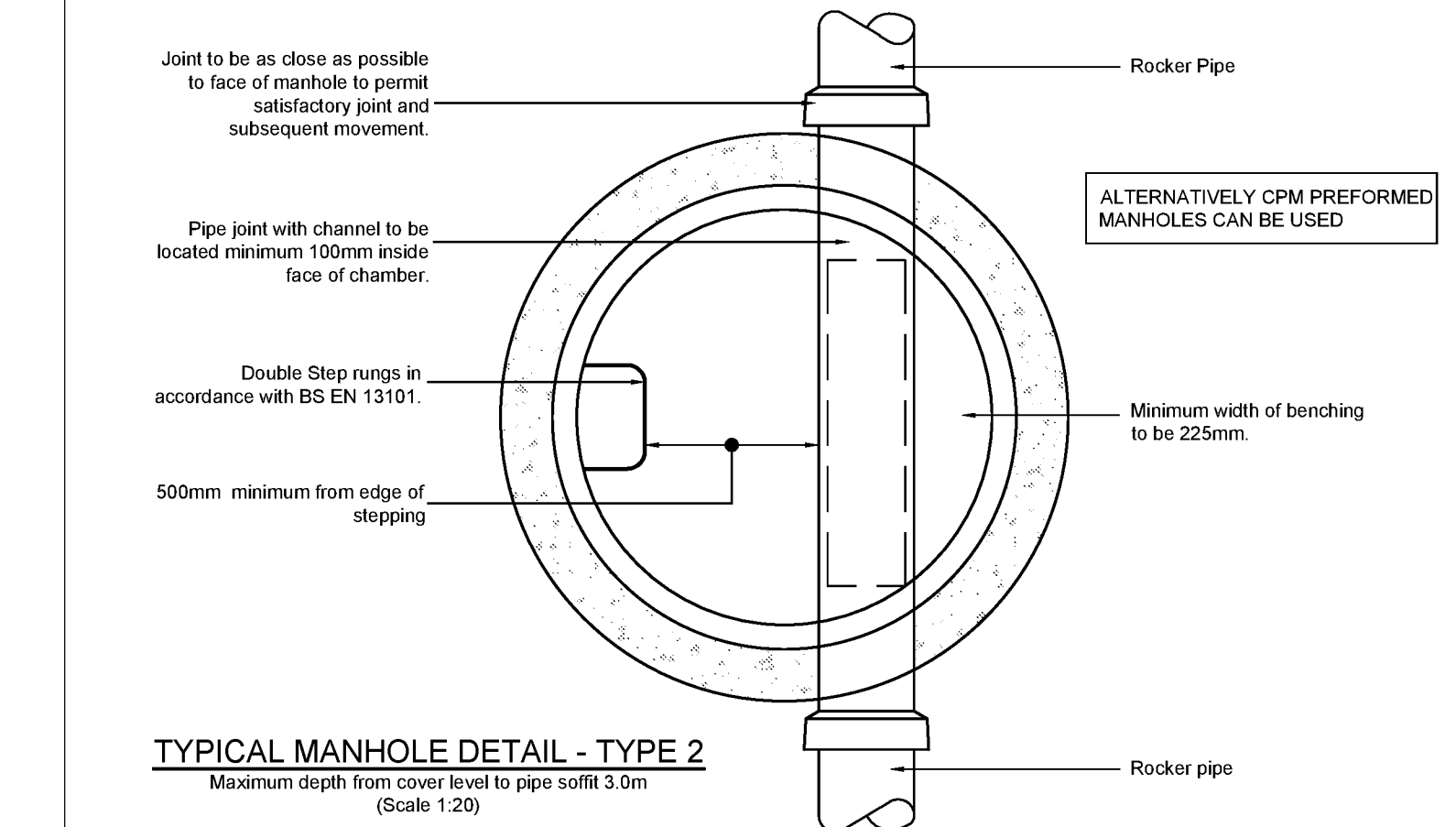
- 4.1.16 Any future alterations to the permeable paving should be confirmed by a specialist. Where possible any future services are to avoid being located through areas of permeable paving. If new services are required to run through areas of permeable paving, services should be installed below the depth of permeable paving with the permeable system reinstalled above.

DRAWINGS

D1990-13.1	Technical Layout
D1990-15-1	Drainage Details Sheet 1
D1990-15-2	Drainage Details Sheet 2
D1990-15-3	Basin Details

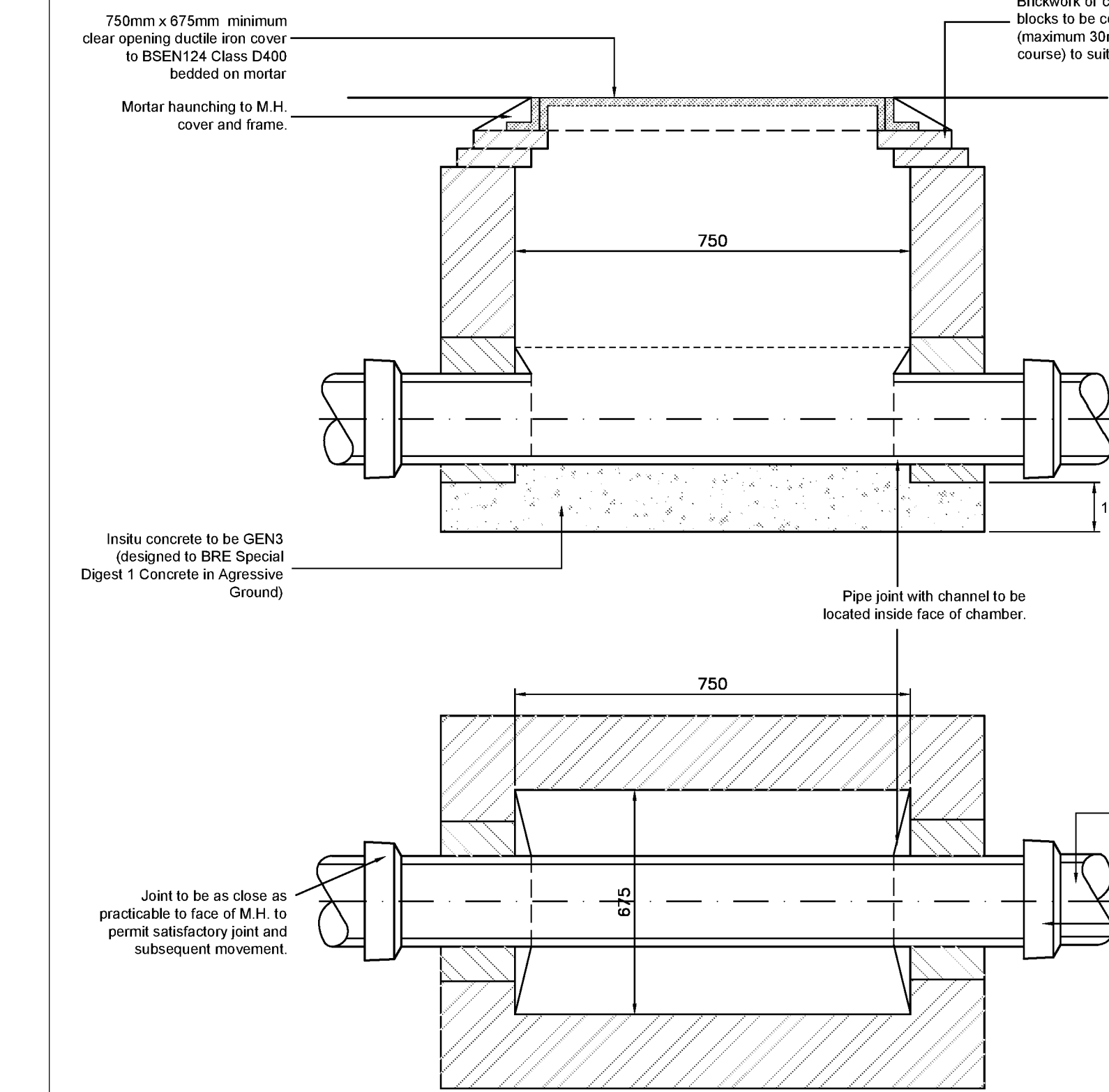


TYPICAL ACCESS CHAMBER DETAIL - TYPE 5 & 6 (FOOTPATHS AND PRIVATE DRIVES)
1m MAXIMUM DEPTH TO FROM COVER TO PIPE SOFFIT. (NON ENTRY) LOCATED IN AREAS SUBJECT TO LIGHT VEHICLES AND FOOTPATHS

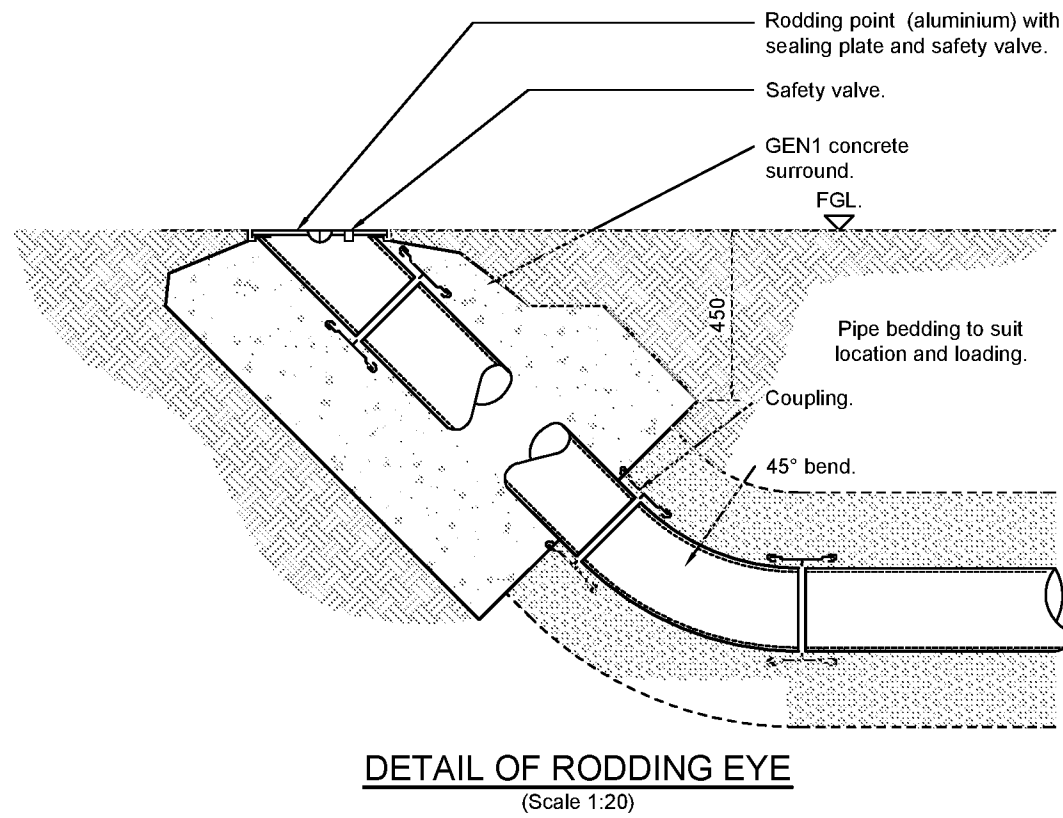


TYPICAL MANHOLE DETAIL - TYPE 2
Maximum depth from cover level to pipe soffit 3.0m (Scale 1:20)

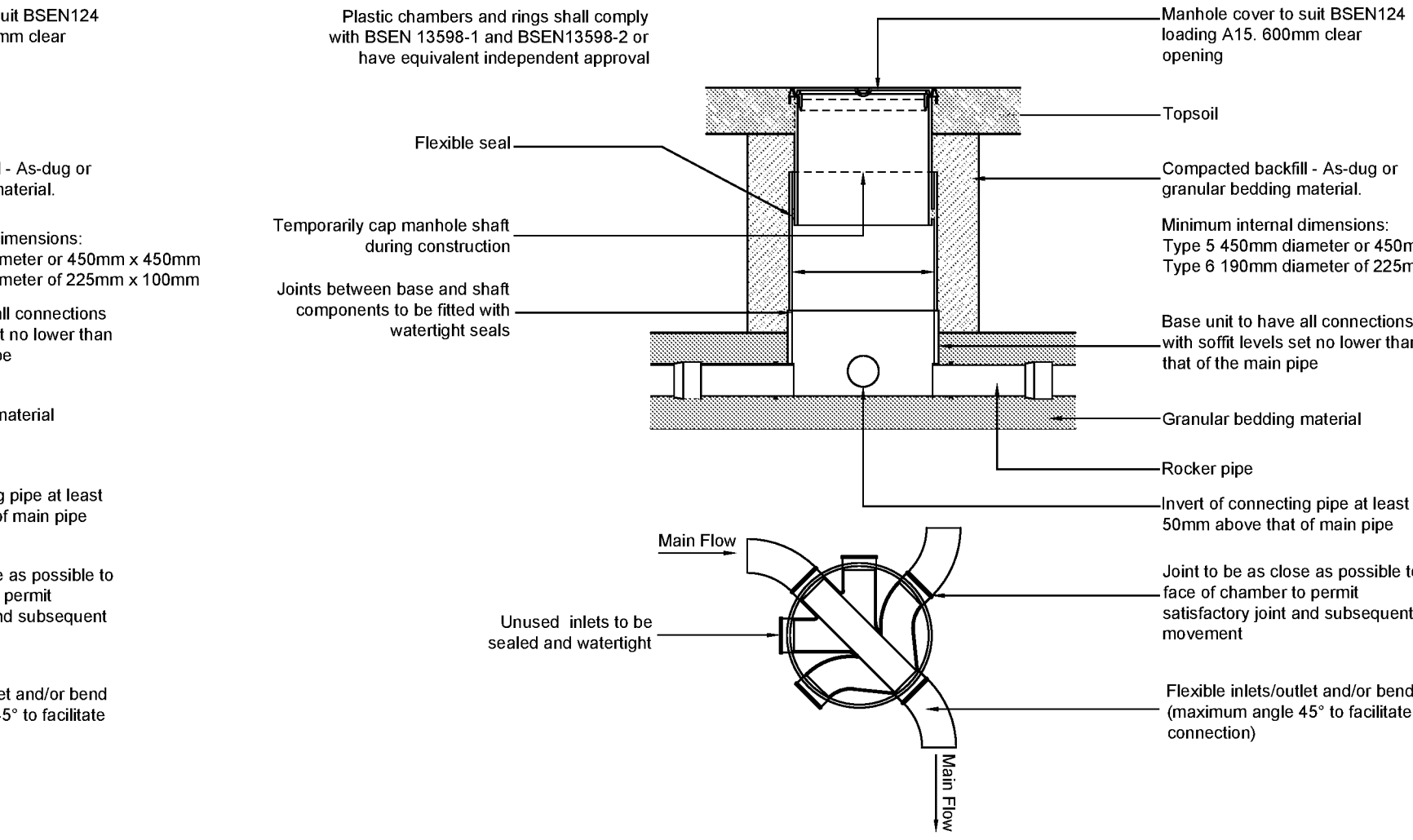
NOTE:
Polypipe products shall be used where possible for below ground drainage



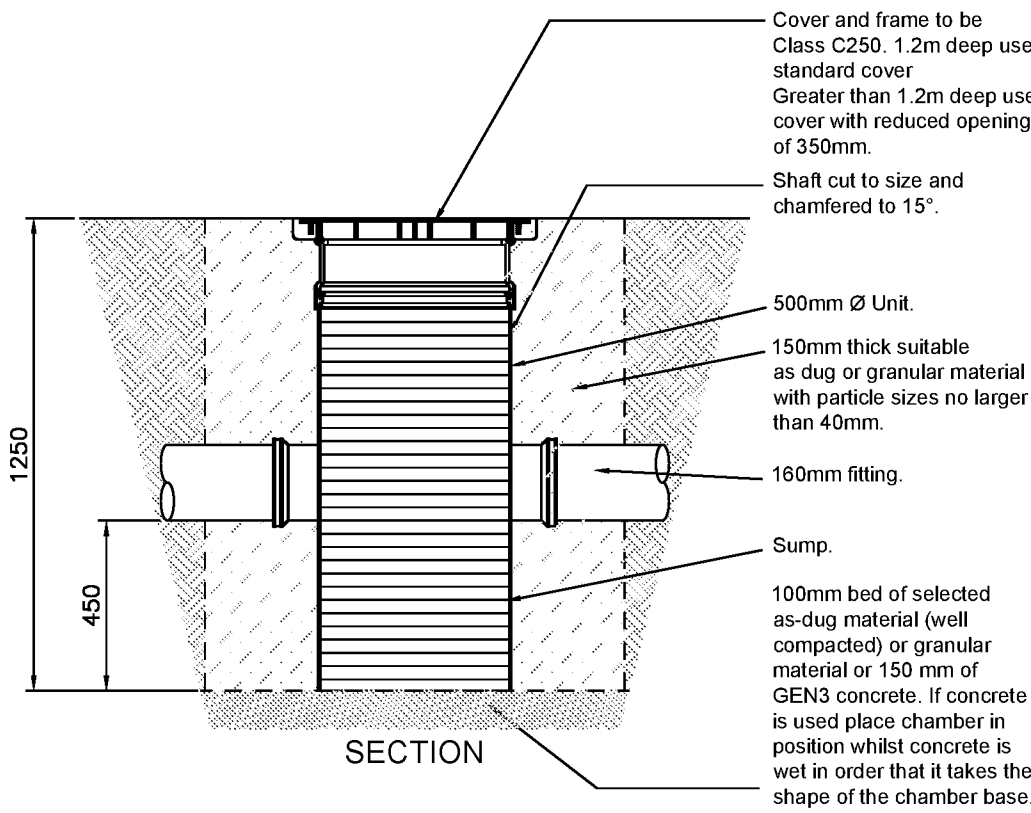
TYPICAL MANHOLE DETAIL - BRICK
Depth from cover level to pipe soffit 1.0m - 1.5m (Scale 1:20)



DETAIL OF RODDING EYE
(Scale 1:20)

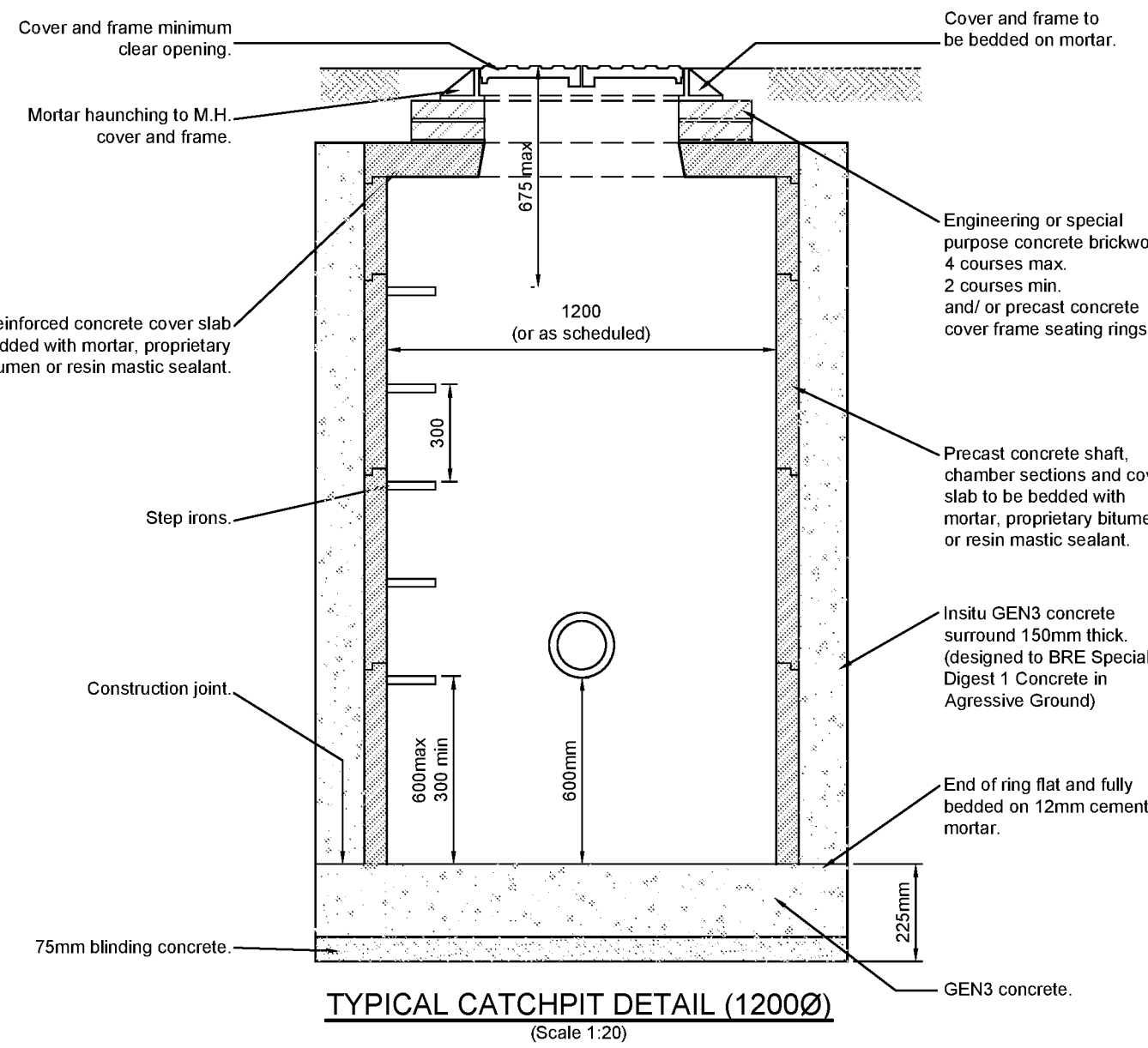


TYPICAL ACCESS CHAMBER DETAIL - TYPES 5 & 6 (LANDSCAPED AREAS)
1m MAXIMUM DEPTH TO FROM COVER TO PIPE SOFFIT. (NON ENTRY) LOCATED IN LANDSCAPED AREAS

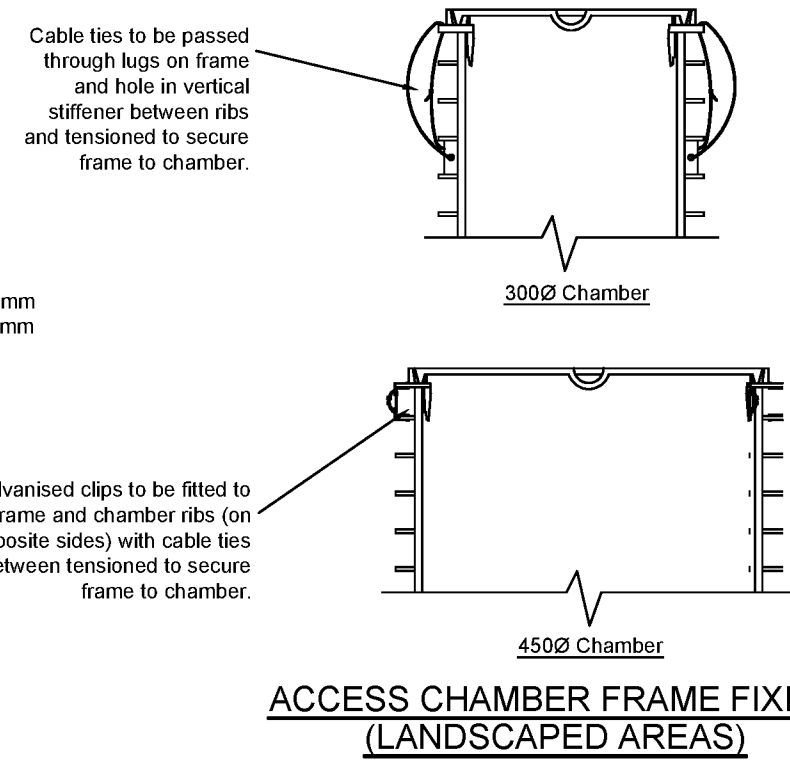


POLYPROPYLENE SHALLOW SILT TRAP DETAIL (5000)
(Scale 1:20)

Depth to invert 1.25m (standard unit)
Silt Traps installed greater than single unit depth to be extended using inspection chamber shaft units.



TYPICAL CATCHPIT DETAIL (12000)
(Scale 1:20)



ACCESS CHAMBER FRAME FIXING (LANDSCAPED AREAS)

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

3000 Chamber

4500 Chamber

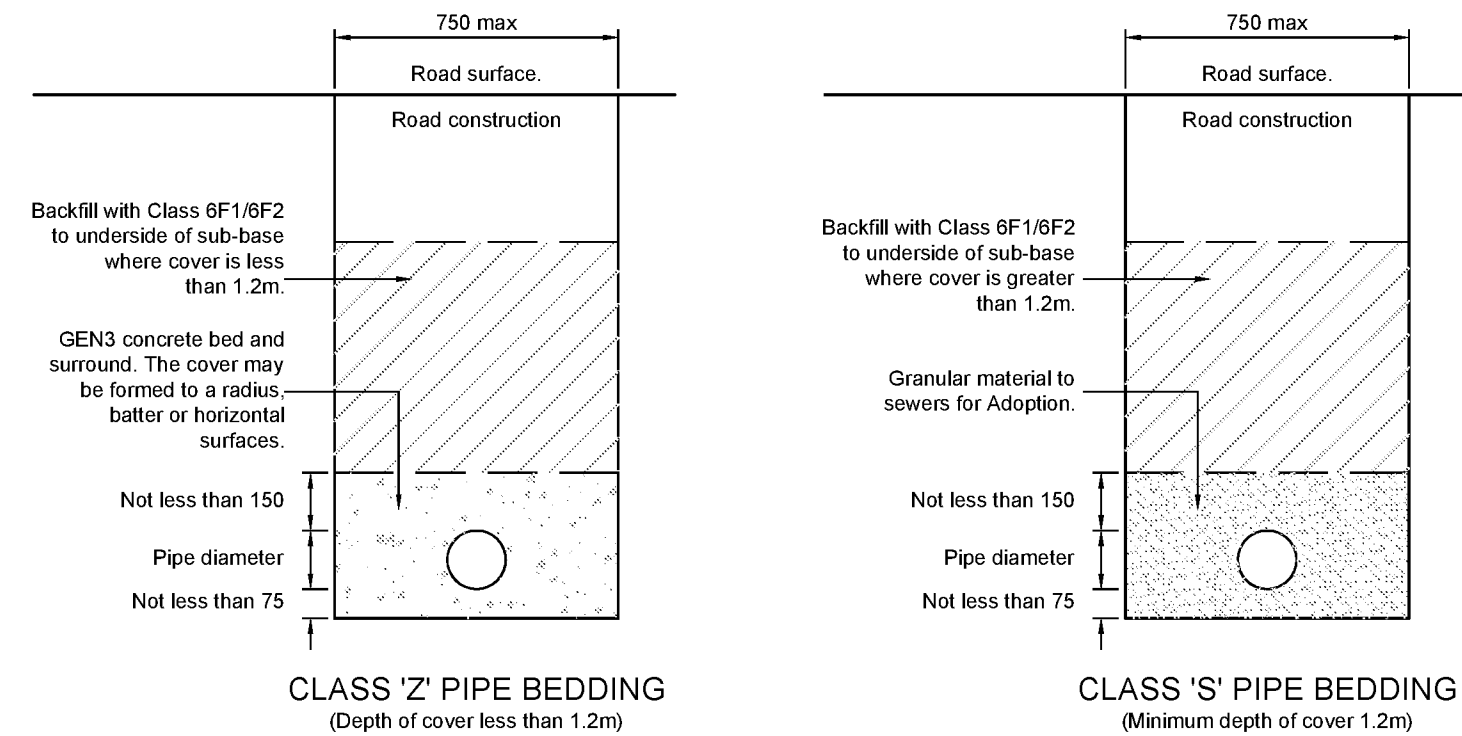
3000 Chamber

4500 Chamber

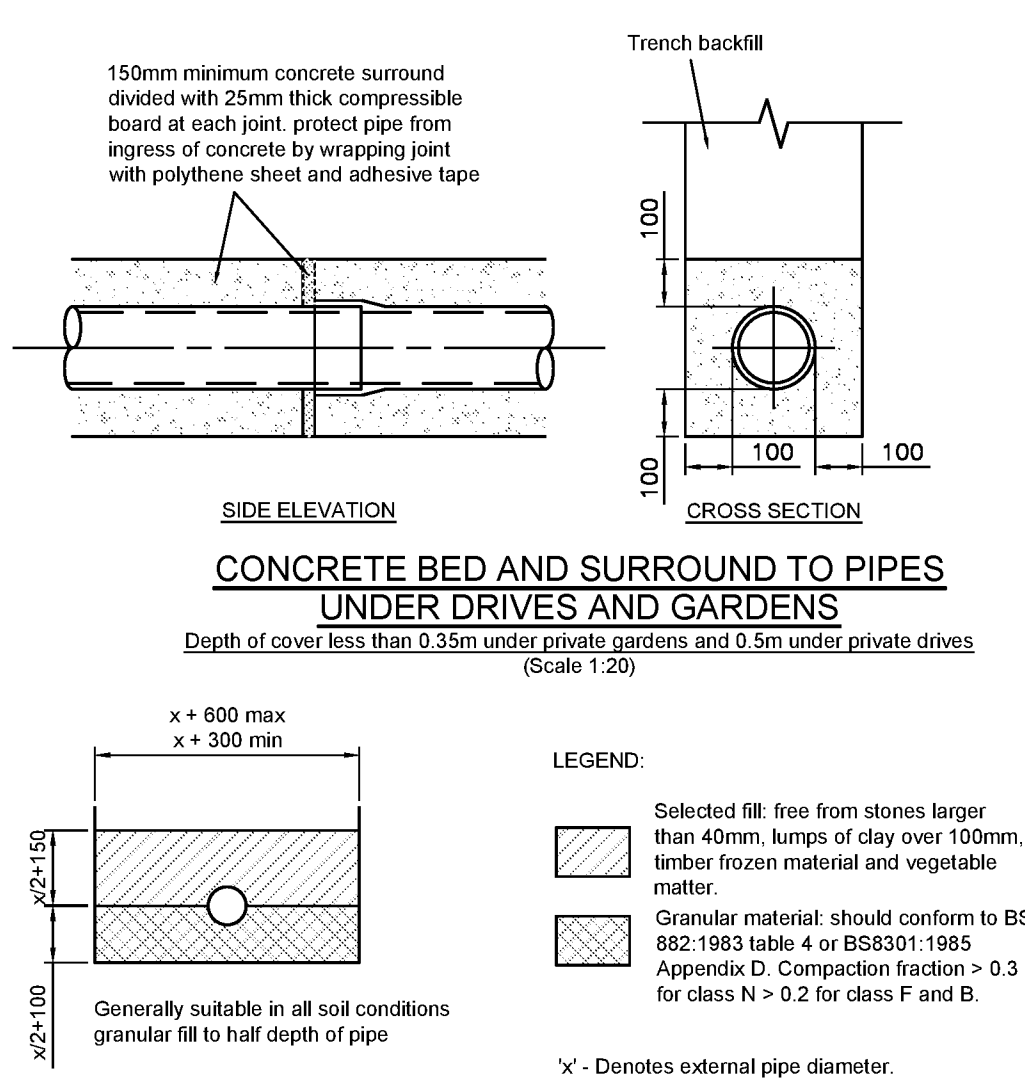
3000 Chamber

4500 Chamber

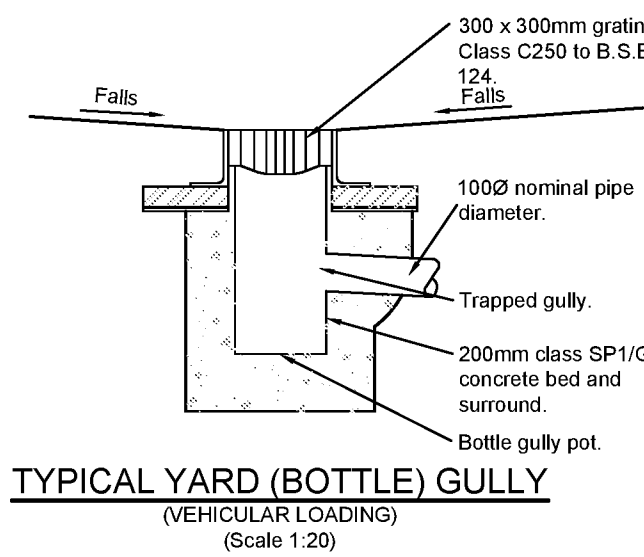
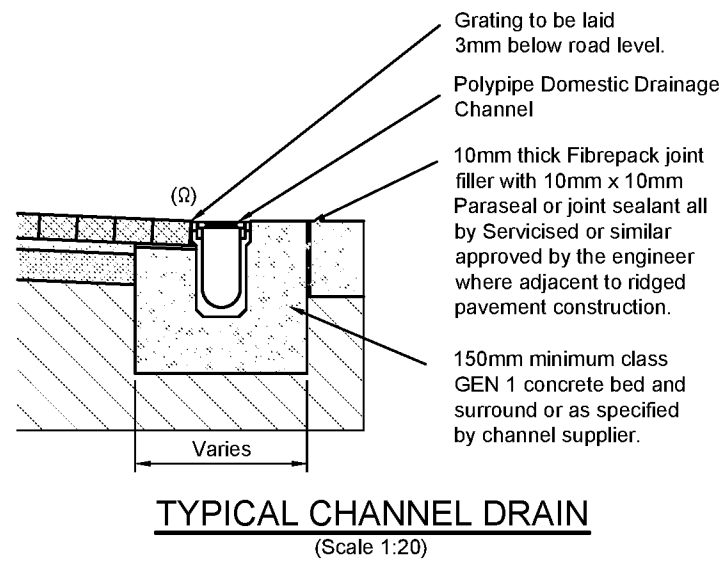
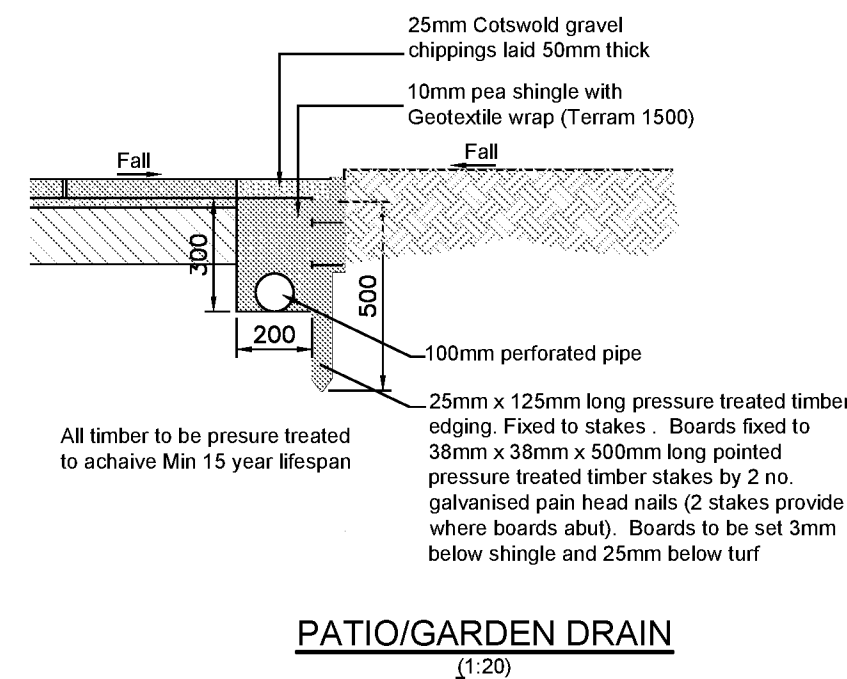
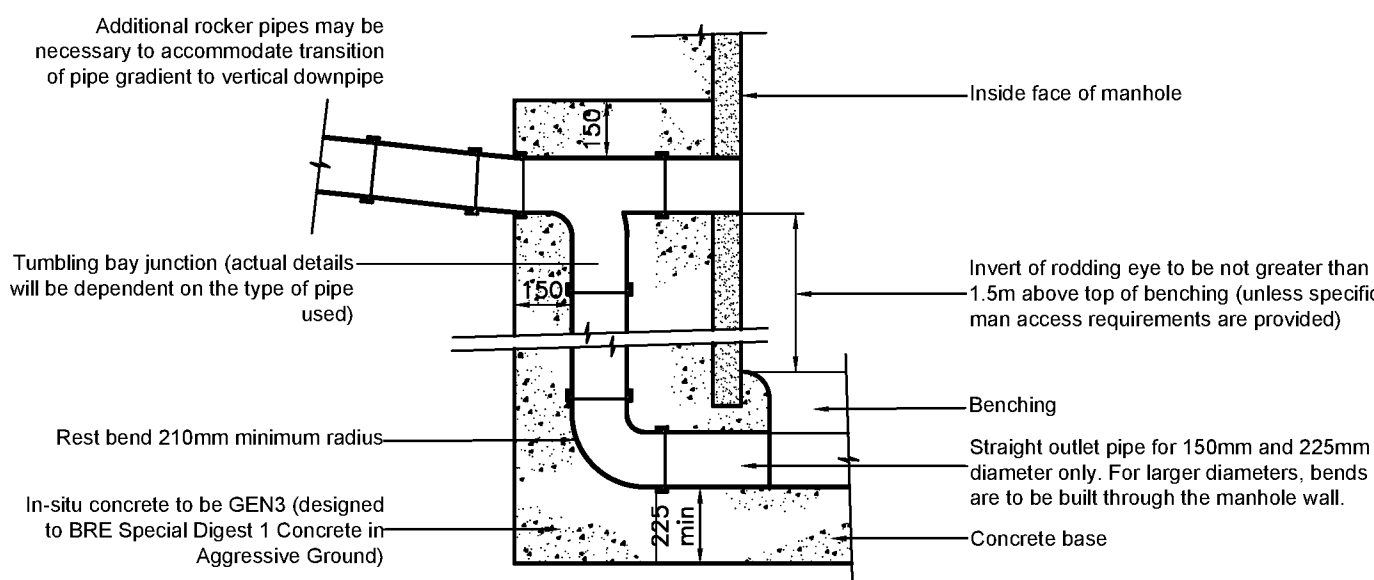
<



PIPE BEDDING DETAILS (UNDER HIGHWAYS)
(Scale 1:20)



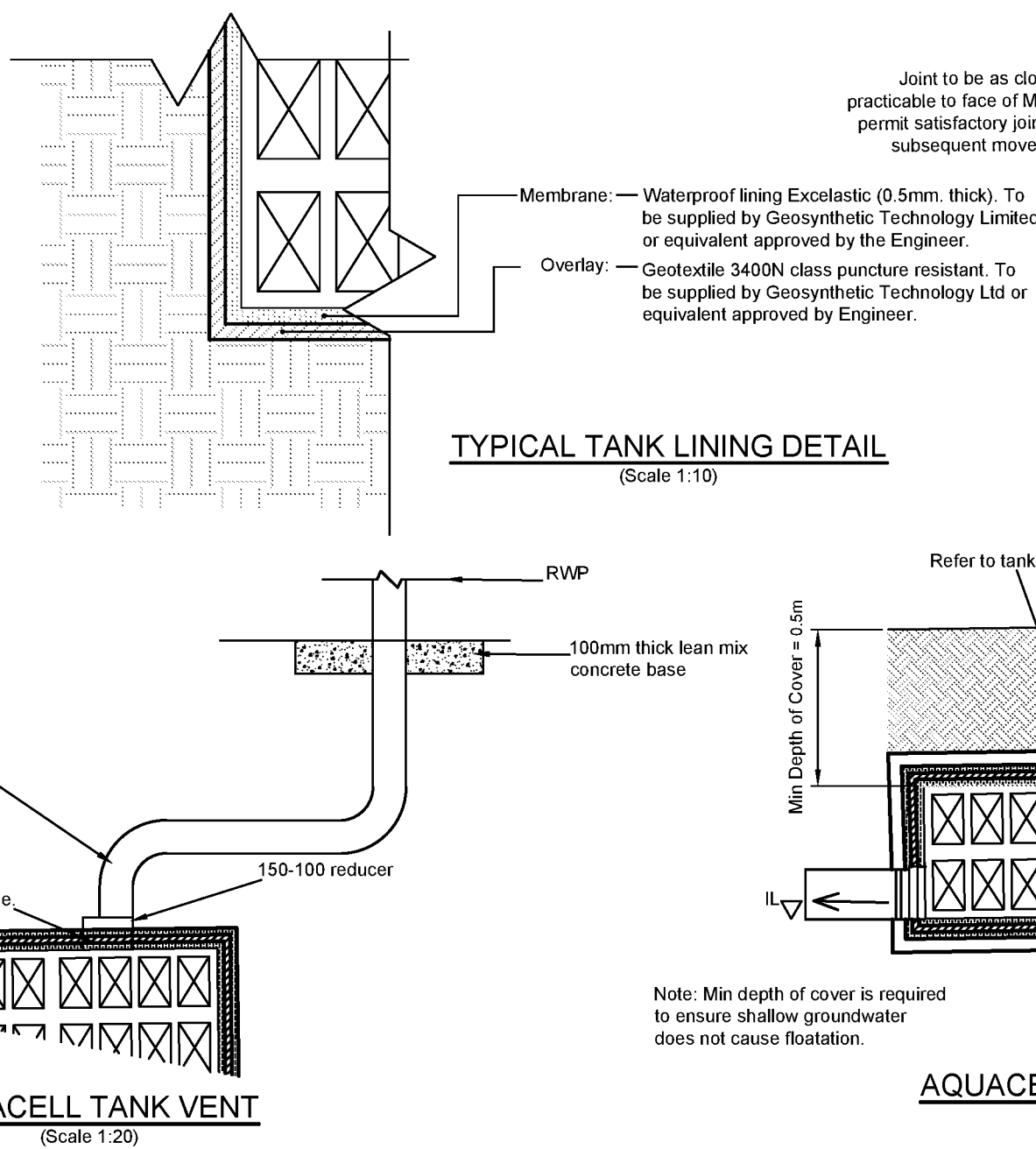
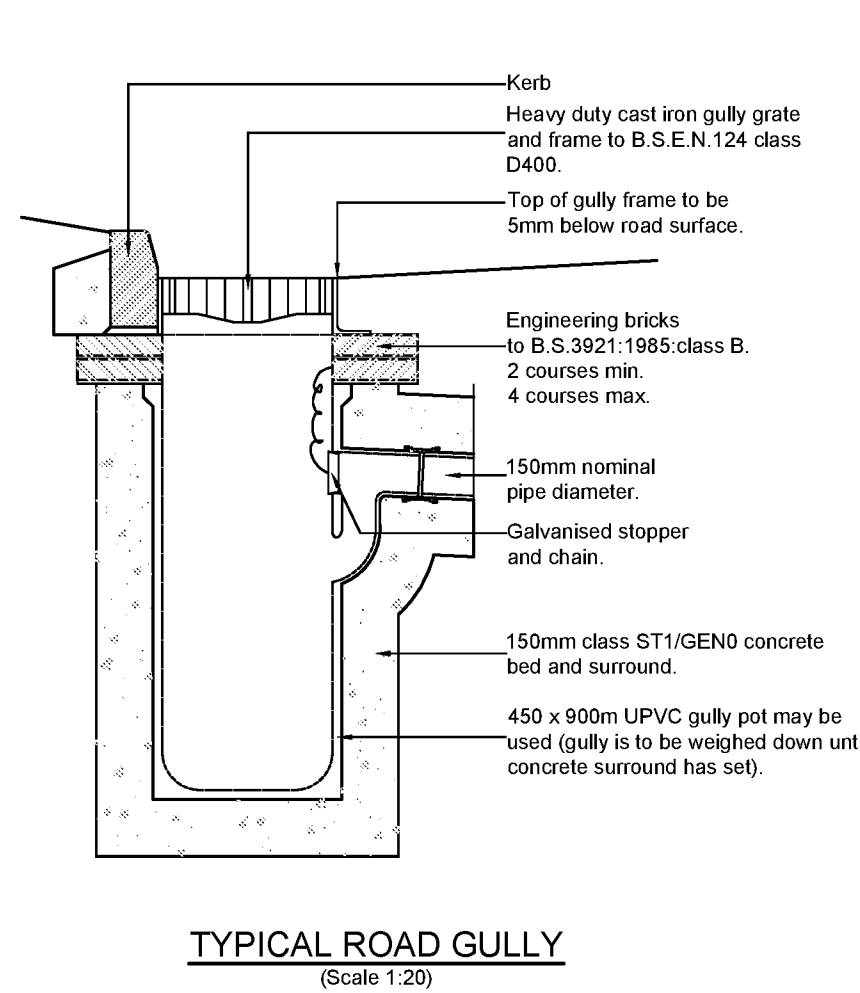
PIPE BEDDING DETAIL UNDER DRIVES AND GARDENS
Min depth of cover 0.35m under private gardens and 0.5m under private drives
(Scale 1:20)



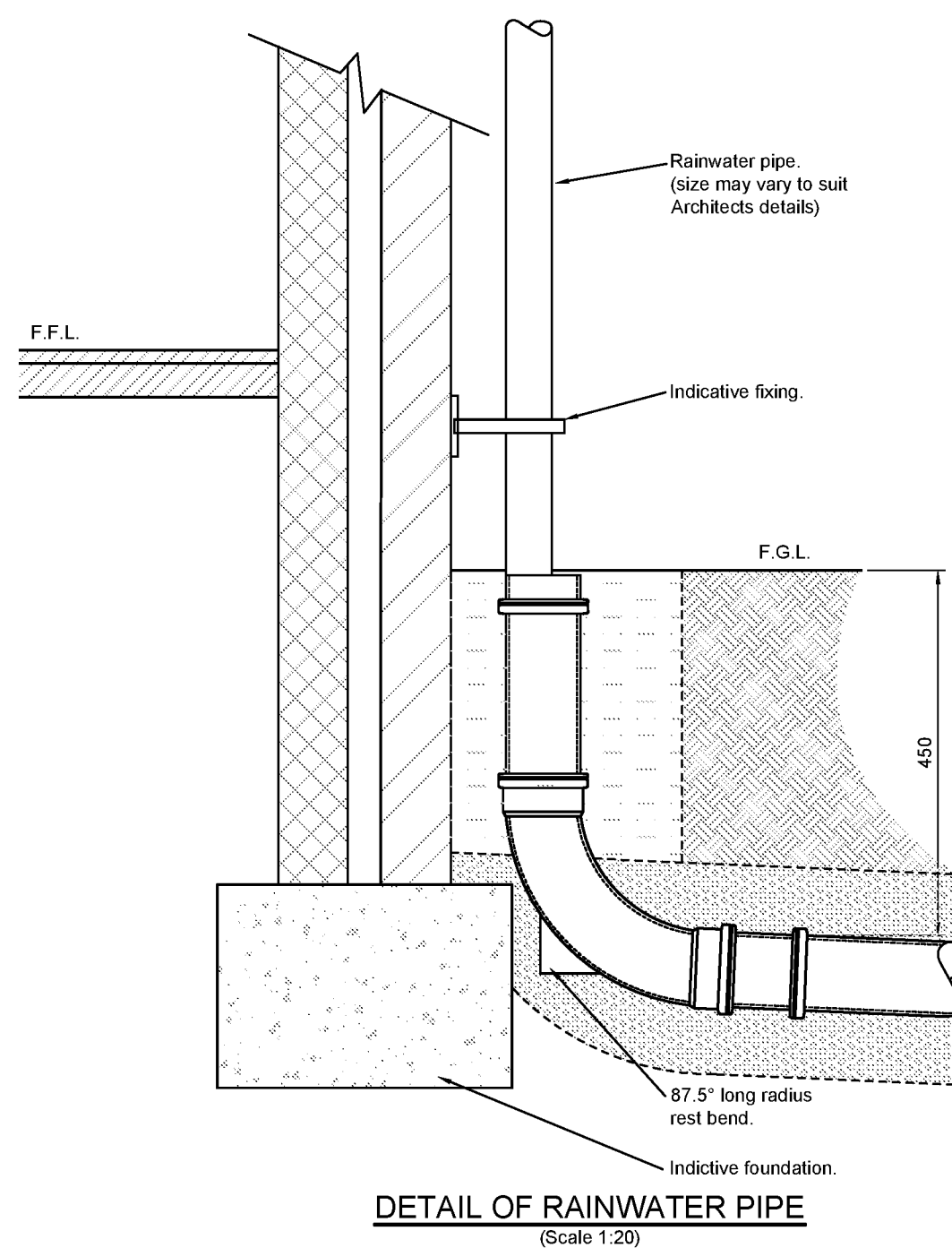
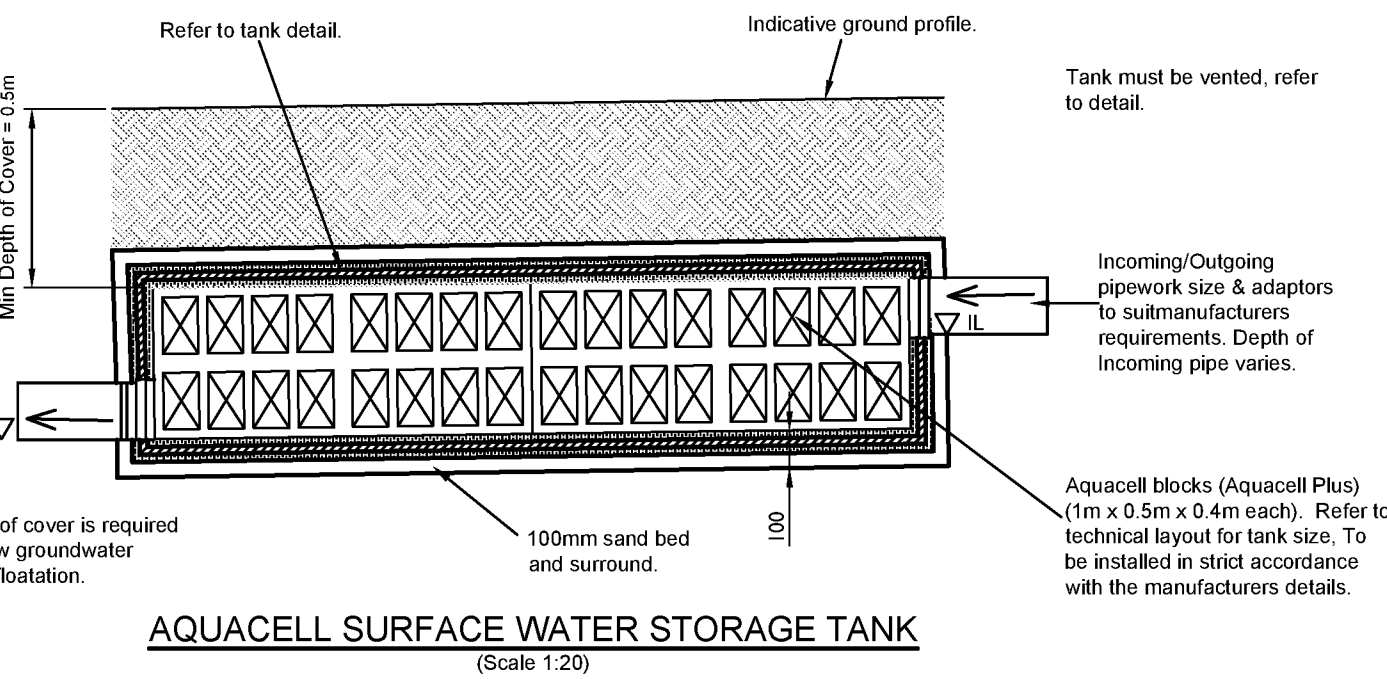
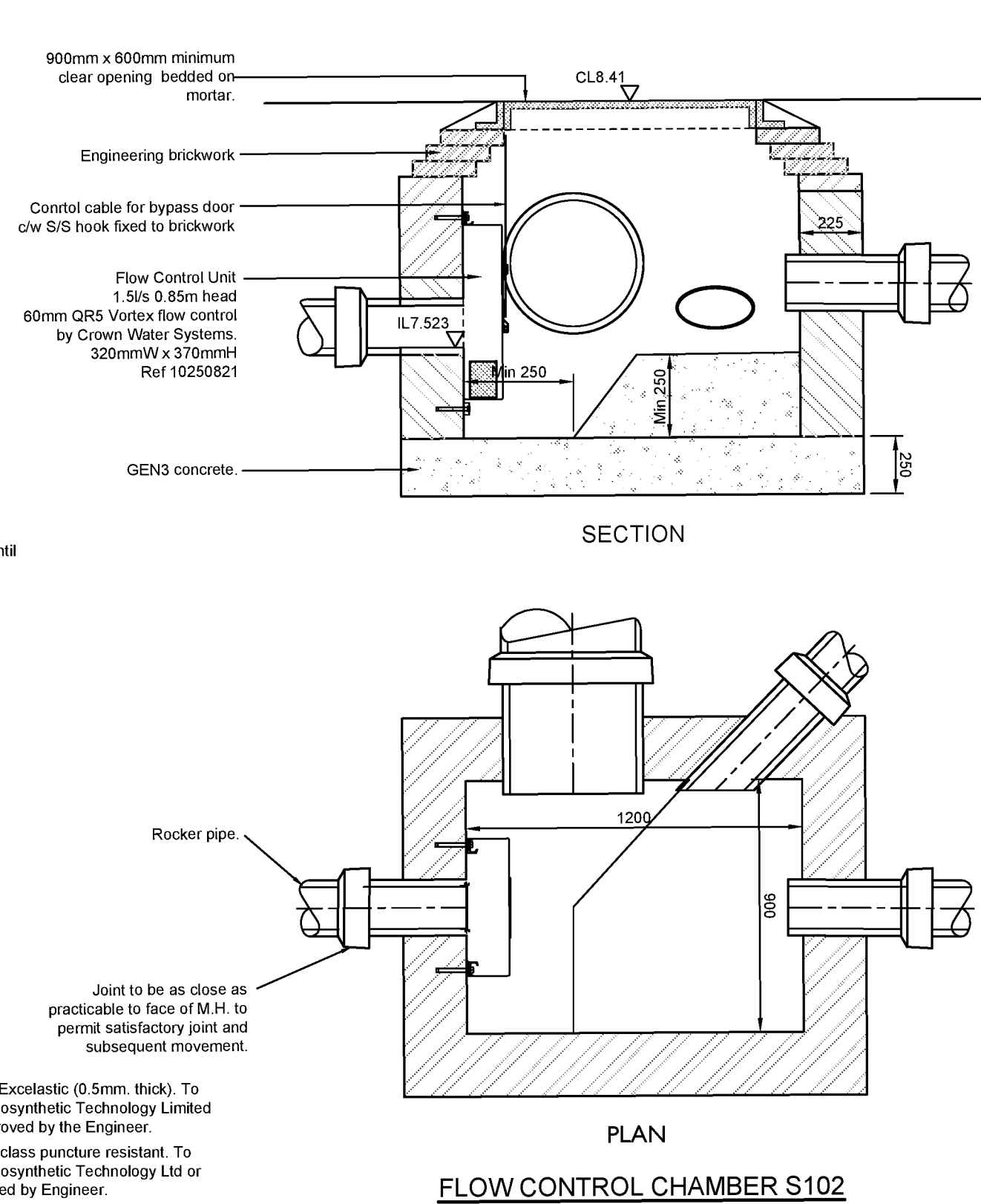
Minimum Dimensions for Access Fittings and Chambers						
Type	Internal Sizes			Cover Sizes		
	Depth to invert (m)	Size of largest pipe (DN)	Length x Width (mm)	Circular (mm)	Length x Width (mm)	Circular (mm)
Rodding Eye						
Shallow Access						
Small	0.6 or less	150	150x100	150	150x100	150
Large	0.6 or less	150	225x100	150	225x100	150
Inspection Chamber	1.2 or less	150	450x450	190	450x450	190
	1.2 - 3.0	150	450x450	450	300x300	350
Manhole	1.5 or less	150	675x750	1200	675x750	n/a
		225	675x1200	1200	1200x675	n/a
		300	675x1200	1200	1200x675	n/a
		>300	DN+450 x1800	The larger of 1800 or (DN+450)	1200x675	n/a
	Over 1.5	225	1200x1000	1200	600x600	600
		300	1200x1075	1200	600x600	600
		375-450	1350x1225	1200	600x600	600
		>450	DN+775 x1800	The larger of 1800 or (DN+775)	1200x675	600
Manhole Shaft	Over 2.7		900x840	900	600x600	600

BUILDING REGULATIONS MINIMUM DIMENSIONS FOR MANHOLES
(Not to Scale)

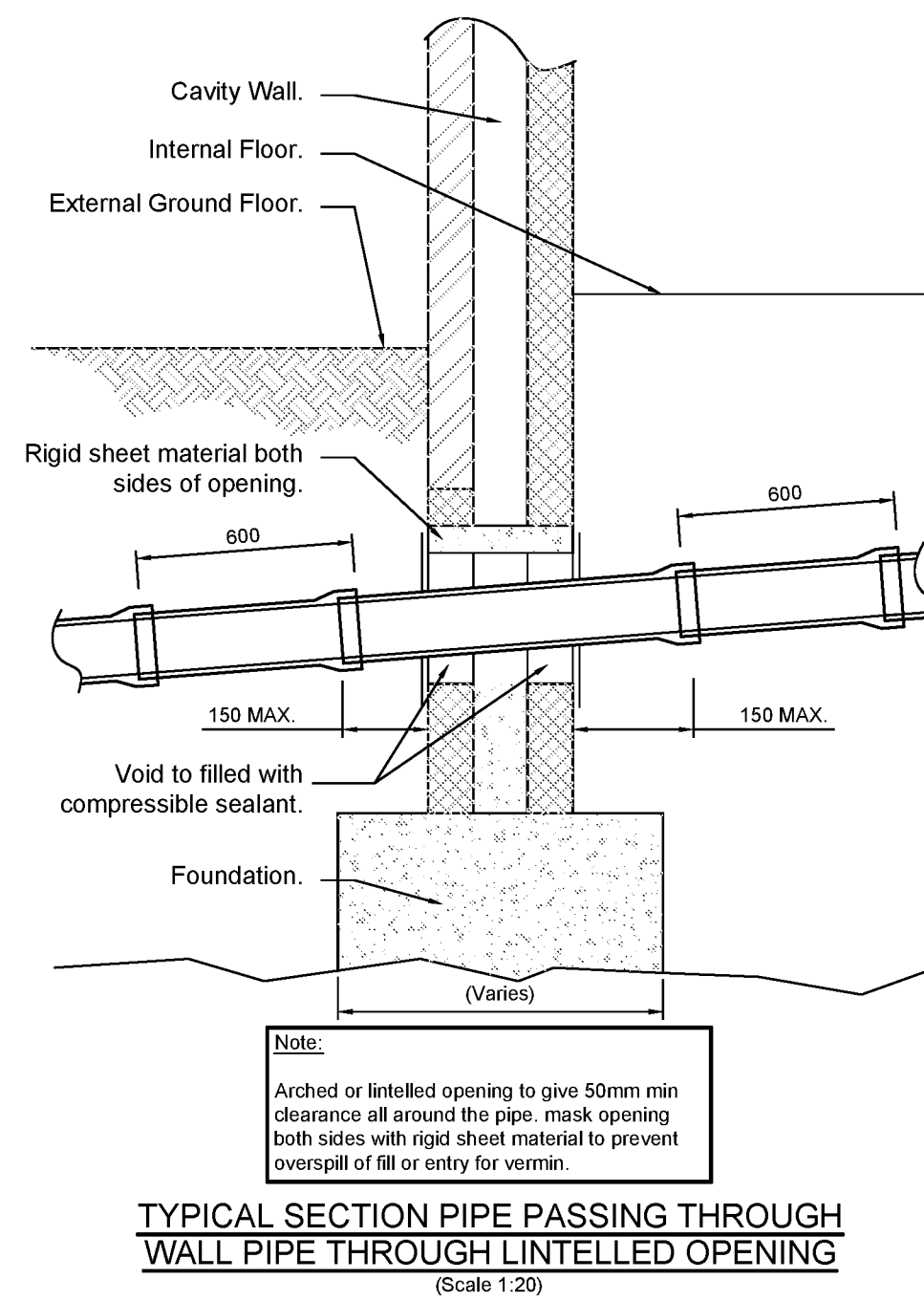
This plan complies with the Building Regulations 2002
Section 1F - Drainage & Waste Disposal.



AQUACELL TANK VENT
(Scale 1:20)



DETAIL OF PIPE RUNS NEAR BUILDINGS
(Not to Scale)



DRAINAGE NOTES:

- ALL DRAINAGE WORKS TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH SPECIFICATION OF THE LOCAL AUTHORITY, BUILDING REGULATIONS, SEWERS FOR ADOPTION, BS8301 & BS EN 752-1.
- FOR LOCATION AND SETTING OUT OF BUILDING DRAINAGE POINTS REFER TO ARCHITECTS DRAWINGS.
- ALL PIPE RUNS NEAR BUILDINGS TO COMPLY WITH THE BUILDING REGULATIONS 2002 PART H. WHERE A PIPE IS WITHIN 1m OF A FOUNDATION THE TRENCH SHALL BE FILLED WITH CLASS GEN3 CONCRETE UP TO THE LOWEST LEVEL OF THE FOUNDATION. WHERE THE TRENCH IS FURTHER THAN 1m FROM THE FOUNDATION, THE TRENCH SHALL BE FILLED WITH CLASS GEN3 CONCRETE TO A LEVEL BELOW THE LOWEST LEVEL FOR THE FOUNDATION EQUAL TO THE DISTANCE FROM THE FOUNDATION LESS 150mm. IN BOTH CASES THE PIPE SHALL BE BEDDED AND SURROUNDED IN 150mm THICK CLASS GEN3 CONCRETE.
- WHERE PIPES, EXTERNAL TO THE STRUCTURES, HAVE A DEPTH TO SOFFIT FROM GROUND LEVEL OF LESS THAN 450mm THEY SHALL HAVE A CLASS GEN3 CONCRETE ENCASEMENT (150mm THICK).
- WHERE A PIPE, UNDER A VEHICULAR AREA, HAS A DEPTH OF COVER OF LESS THAN 0.8m THE PIPE SHALL BE LAID IN A CONCRETE BED AND SURROUND.
- IN ANY CIRCUMSTANCES WHERE PIPES ARE BEDDED AND SURROUNDED IN CONCRETE FLEXIBLE JOINTS SHOULD BE PROVIDED. COMPRESSIBLE BOARDS (FIBREBOARD OR POLYSTYRENE) SHALL BE PROVIDED AT A MAXIMUM OF 8m CENTRES (CONCORDING WITH PIPE JOINTS). THE BOARDS SHALL BE PRE-CUT TO PIPE DIAMETER AND TO A HEIGHT AND WIDTH EQUAL TO THE CONCRETE CROSS SECTION. A BOARD THICKNESS OF 18mm FOR PIPES UP TO 450mm NOMINAL DIAMETER AND 38mm FOR PIPES OVER 450mm NOMINAL DIAMETER.
- ALL PRIVATE BUILDING DRAINAGE SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH BS EN 752-1 UNLESS OTHERWISE SPECIFIED. BUILDING DRAINAGE SHALL BE 100mm DIAMETER AND SHALL BE LAID AT A MINIMUM GRADIENT OF <1:US = 1 IN 40> 1:US = 1 IN 80 FOR FOUL DRAINS AND 1 IN 80 FOR SURFACE WATER DRAINS. ALL BUILDING DRAINS SHALL BE LAID IN CONJUNCTION WITH NON ADOPTIVE BEDDING DETAILS (CLASS D, N OR B) UNLESS OTHERWISE SPECIFIED. TWIN WALL PIPES ARE NOT PERMITTED FOR PRIVATE BUILDING DRAINAGE.
- ALL PIPES, BENDS AND JUNCTION FOR PRIVATE BUILDING DRAINAGE SHALL BE UPVC CONFORMING TO BS4860 AND BS5481 AS APPROPRIATE AND SHALL BE LAID IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION. ALL PIPES, BENDS AND JUNCTION MATERIALS FOR ADOPTABLE DRAINAGE SHALL BE VITRIFIED CLAY, EXTRA STRENGTH OR SUPER STRENGTH TO BS EN 295, WITH FLEXIBLE JOINTS AND KITEMARK CERTIFIED.
- ALL BACK INLET GULLIES TO BE RODDABLE OR CONNECTED TO INSPECTION CHAMBERS.
- ALL GULLY CONNECTIONS OTHER THAN AT MANHOLES TO BE 'Y' JUNCTIONS.
- ALL ROAD GULLY CONNECTIONS TO BE 150mm DIAMETER.
- ALL STUB STACKS TO BE FITTED WITH AIR ADMITTANCE VALVES WHERE BRANCH DRAIN EXCEEDS 12m EXCEPT AT THE HEAD OF THE RUN. SOIL VENT PIPES LOCATED AT THE HEAD OF A RUN TO TERMINATE TO FRESH AIR.
- ALL CONNECTIONS TO BE SOFFIT TO SOFFIT UNLESS OTHERWISE NOTED.
- ALL CONCRETE AND CONCRETE PRODUCTS TO BE IN ACCORDANCE WITH BRE 363 FOR SULPHATES.
- THE LOCATIONS OF ALL SVPS AND RWPS SHALL BE CROSS REFERENCED AGAINST THE ARCHITECTS DRAWINGS DURING SETTING OUT.
- THE PRECISE DEPTH AND LOCATION AND SIZE OF EXISTING PIPES OR MANHOLES WHERE CONNECTIONS OR DIVERSION ARE PROPOSED MUST BE CONFIRMED AND REPORTED TO THE ENGINEER BEFORE WORKS START ON SITE.
- WHERE PRIVATE ACCESS OR INSPECTION COVERS ARE INSTALLED IN AREAS OF BLOCK PAVING OR PAVING SLABS THEY SHALL BE FITTED WITH A RECESSED COVERED INFILLED WITH THE ADJACENT SURFACING MATERIAL.

NOTES

- This drawing is to be read in conjunction with all other Bright Plan Civils drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
- Bright Plan Civils accepts no responsibility for inaccuracies in data provided by third parties, such as topographic surveys or Ordnance Survey mapping.
- Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
- Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however, accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care whilst undertaking the works.
- All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
- The electronic information from this drawing can not be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. Bright Plan Civils logos and company information must be removed from copies if information is re-used.
- The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
- The main contractor is responsible for dealing with all occurrences of ground water during the construction period.
- The contractor must comply with all current legislation relating to health & safety.
- All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any Bright Plan Civils drawings, the manufacturers instructions must be used.
- Contractor to confirm all invert levels where connections are proposed prior to commencing any drainage works. Contractor to commence drainage works at the point of discharge.

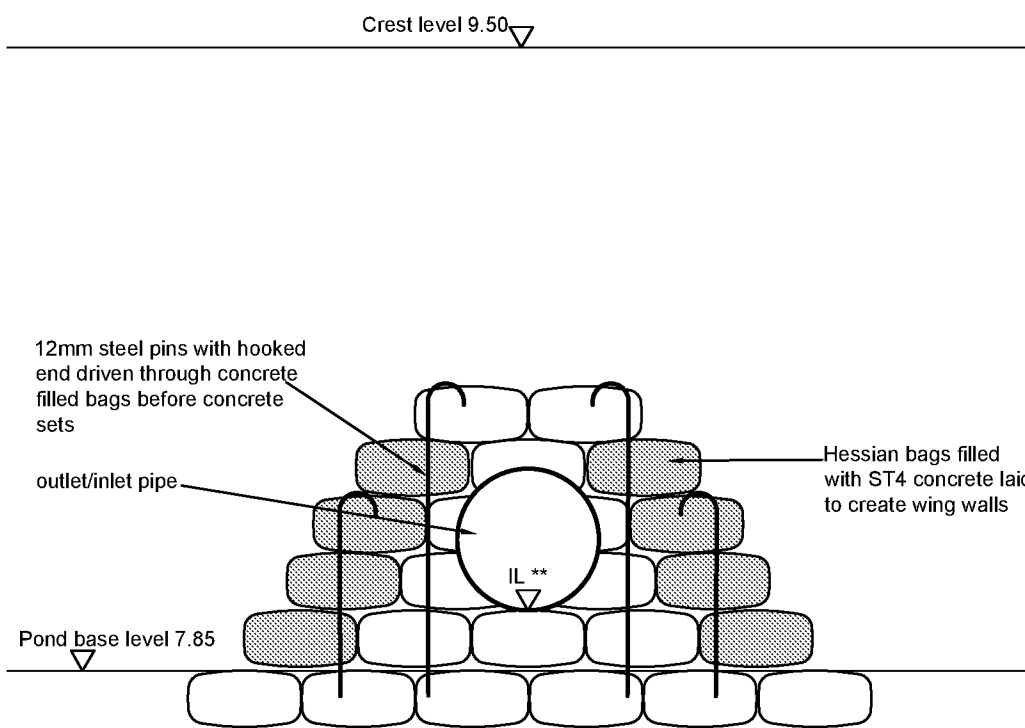
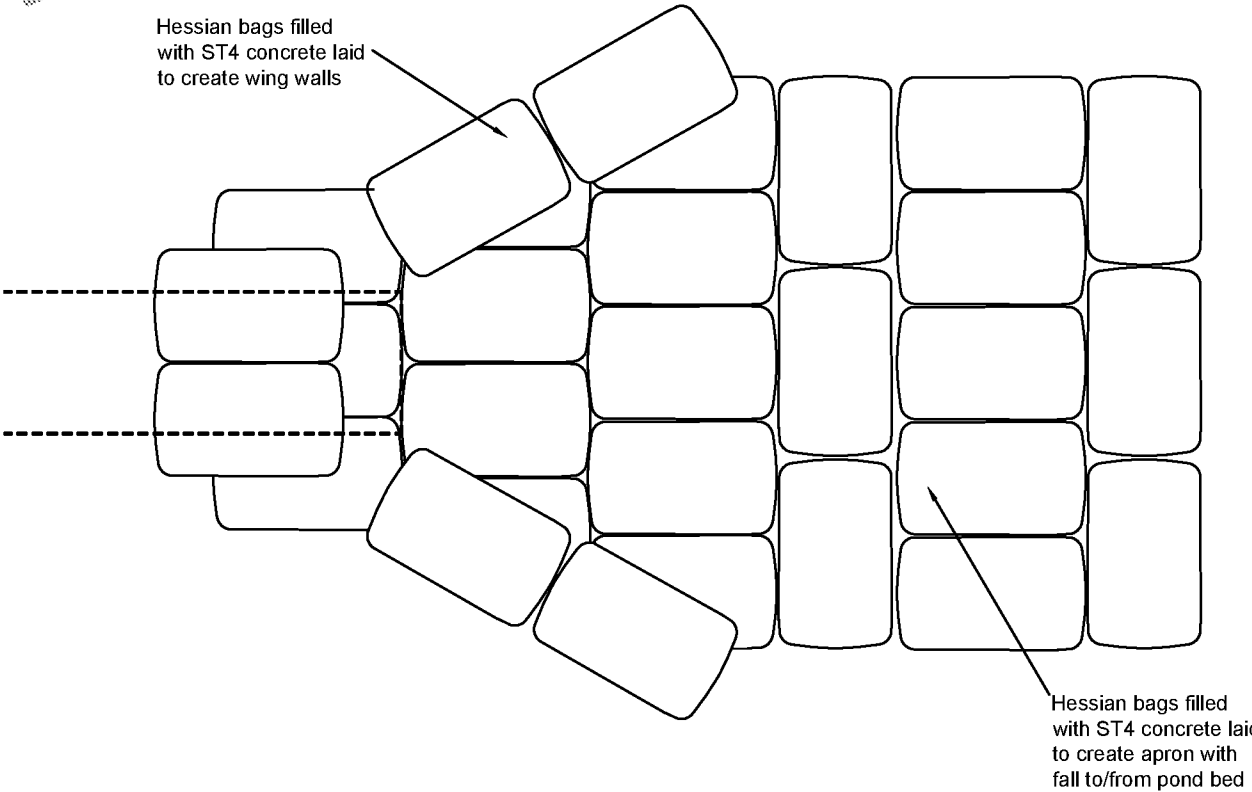
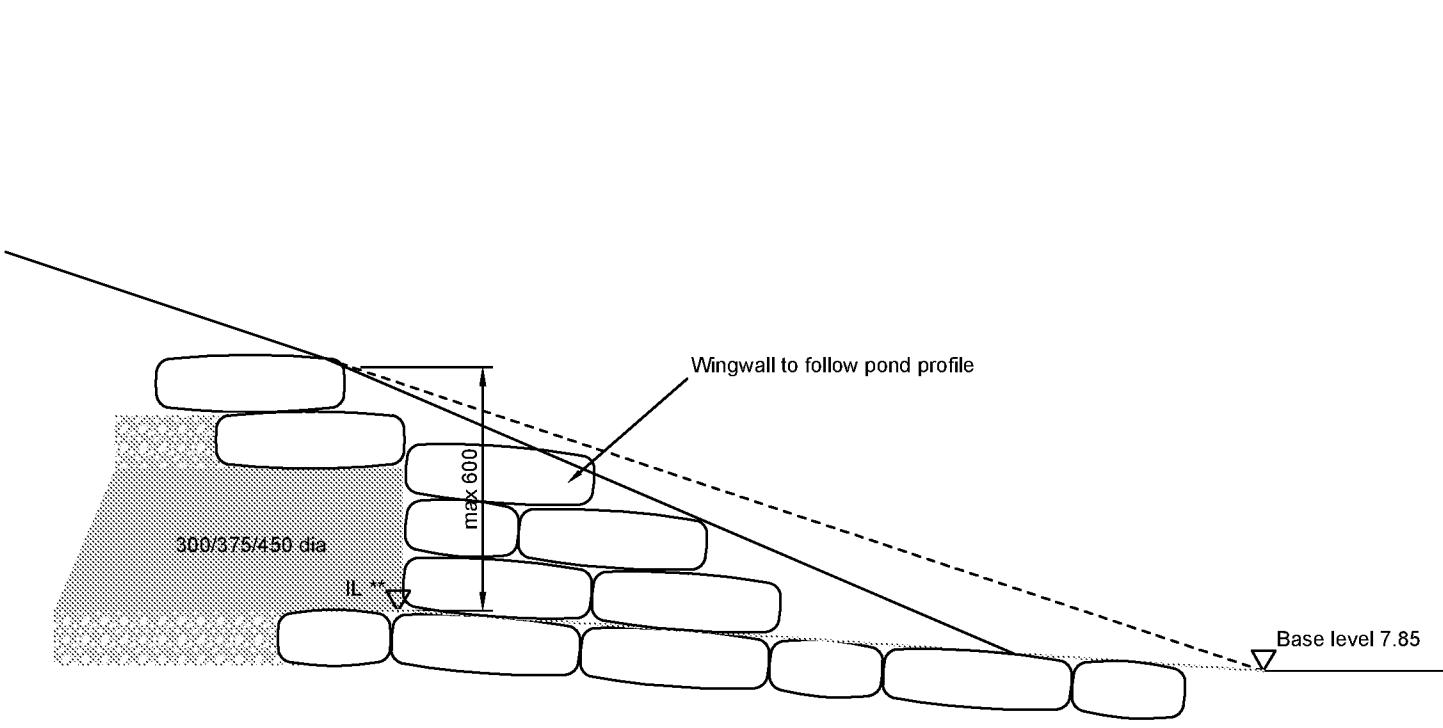
RESIDUAL HAZARDS

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following:

- Uncharted buried services. Contractor to use CAT prior to excavating.
- Working in live carriageway. Contractor to implement traffic management to ensure safety of the workforce and public.
- Working in live sewers. Contractor to ensure operatives are familiar with the dangers of working in live sewers.
- Excavations close to existing structures. Contractor to prepare method statement to ensure stability of existing structures.

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement

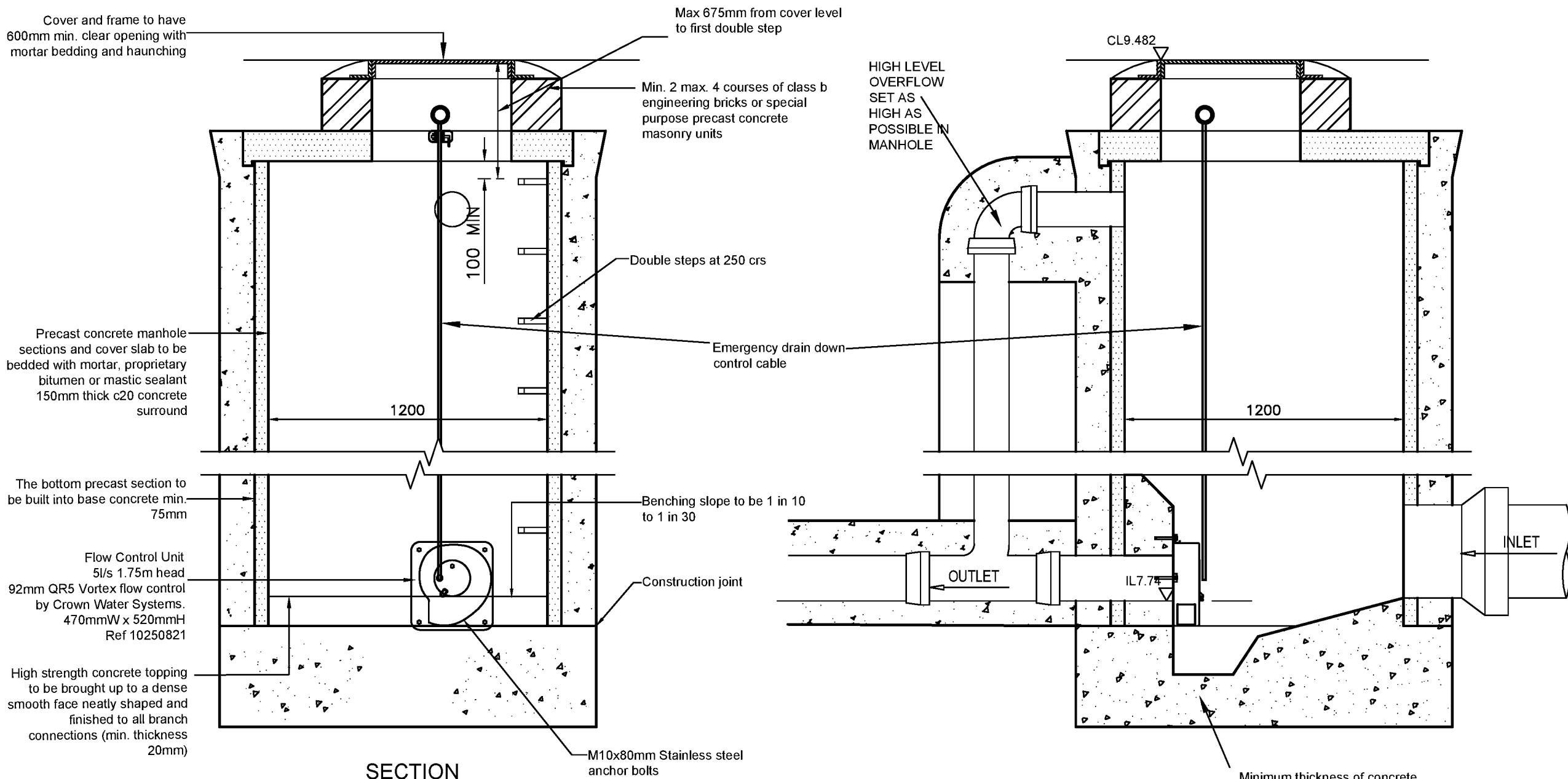
A	Updated to suit clients comments	24/08/21
Rev.	Amendments	Date
BRIGHT PLAN CIVILS Transport Planning and Infrastructure Design Consultants 2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF Tel: 01243 210411 www.bpcivils.co.uk enquiries@bpcivils.co.uk		
Drawing Status	PRELIMINARY	
Client	Thakeham	
Project	Land at Lidsey Road Woddgate, West Sussex	
Drawing Title	Private Drainage Details Sheet 2 of 2	
Scale @A1	Date	Drawn By
NTS	Jul 21	LDF
Checked By	MJA	
Drawing No.	D1990-15.2	
Rev.	A	



POND SECTION IN COLLABORATION WITH
LANDSCAPE CONSULTANT

Ref	Pipe size	Invert Level
S8	375	8.014
S12	300	8.007
S19	375	8.012
S22	450	7.85

BAGWORK HEADWALL
(Scale 1:20)



FLOW CONTROL CHAMBER S23
(Scale 1:20)

The details shown above are indicative only and should not be used as a scaled drawing. Please refer to manufacturers installation.

NOTES

- This drawing is to be read in conjunction with all other Bright Plan Civils drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
- Bright Plan Civils accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
- Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
- Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care whilst undertaking the works.
- All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
- The electronic information from this drawing can not be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. Bright Plan Civils logos and company information must be removed from copies if information is re-used.
- The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
- The main contractor is responsible for dealing with all occurrences of ground water during the construction period.
- The contractor must comply with all current legislation relating to health & safety.
- All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any Bright Plan Civils drawings, the manufacturers instructions must be used.
- Contractor to confirm all invert levels where connections are proposed prior to commencing any drainage works. Contractor to commence drainage works at the point of discharge.

RESIDUAL HAZARDS

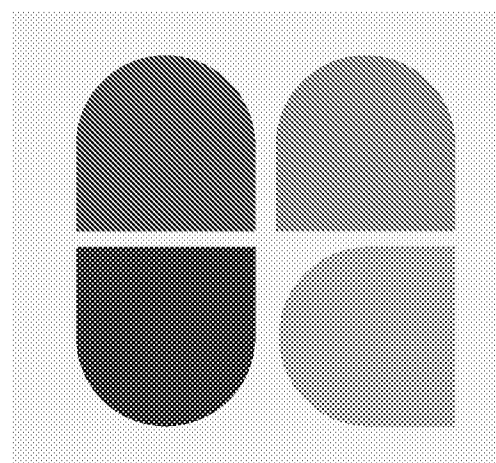
In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following:

- Uncharted buried services. Contractor to use CAT prior to excavating.
- Working in live carriageway. Contractor to implement traffic management to ensure safety of the workforce and public.
- Working in live sewers. Contractor to ensure operatives are familiar with the dangers of working in live sewers.
- Excavations close to existing structures. Contractor to prepare method statement to ensure stability of existing structures.

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement

A	Updated to suit clients comments	24/08/21
---	----------------------------------	----------

Rev.	Amendments	Date
------	------------	------



BRIGHT PLAN CIVILS
Transport Planning and Infrastructure Design Consultants
2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF
Tel: 01243 210411
www.bpcivils.co.uk enquiries@bpcivils.co.uk

Drawing Status PRELIMINARY

Client Thakeham

Project Land at Lidsey Road
Woddgate, West Sussex

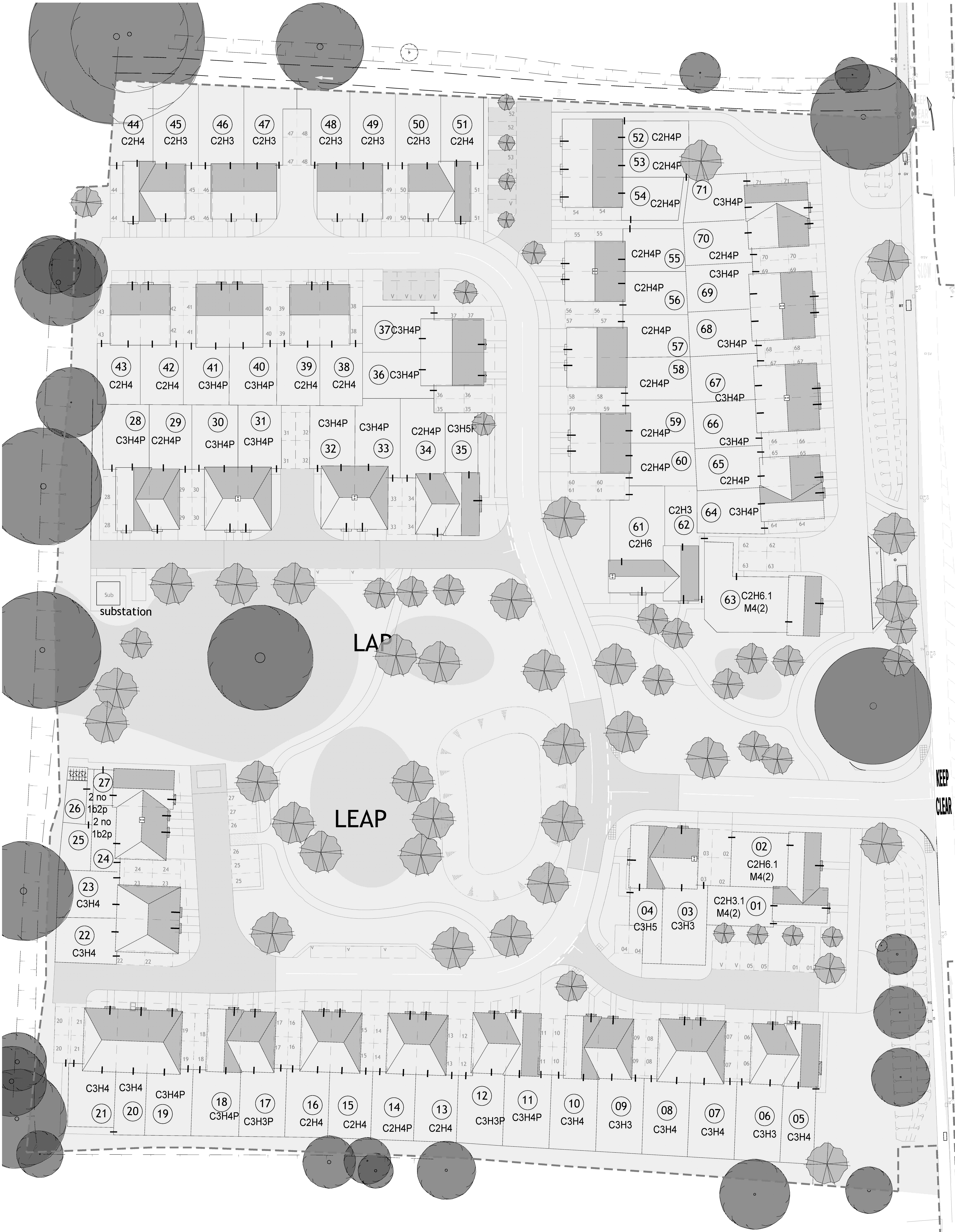
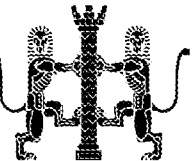
Drawing Title Basin Details
Sheet 1 of 1

Scale @A1	Date	Drawn By	Checked By
NTS	Aug 21	LDF	MJA

Drawing No.	Rev.
D1990-15.3	-

APPENDICES

Appendix A Architect's Development Proposals



Appendix B Geo-Environmental Ground Appraisal Report



Geo-Environmental

GROUND APPRAISAL REPORT

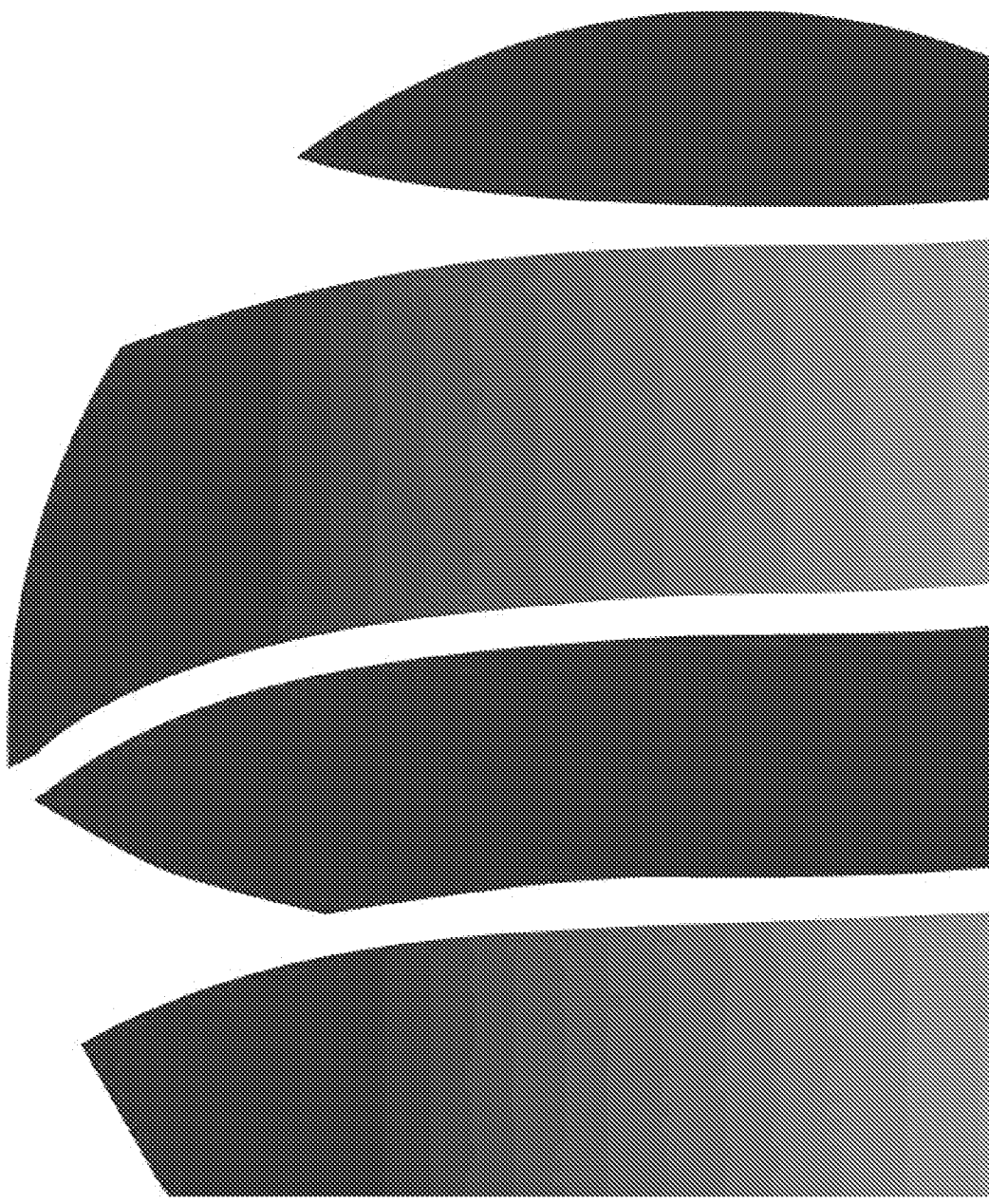
for the site at

LAND OFF LIDSEY ROAD, WOODGATE

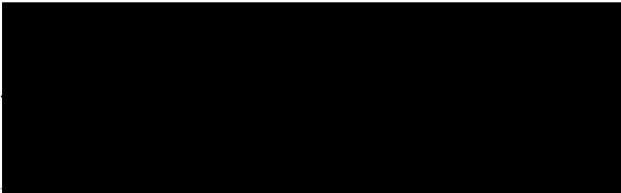
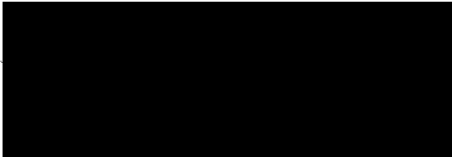
WEST SUSSEX, PO20 3SU

on behalf of

THAKEHAM CLIENT LIMITED





Report:	GROUND APPRAISAL REPORT
Site:	LAND OFF LIDSEY ROAD, WOODGATE, WEST SUSSEX, PO20 3SU
Client:	THAKEHAM CLIENT LIMITED
Date:	10/10/2019
Reference:	GE18390-GAR-OCT-19
Version:	2.0
Prepared by:	 ANTHONY POTTER MSc, BSc (Hons), FGS SENIOR CONSULTING ENGINEER
Reviewed by:	 JONATHAN TINGLEY CEnv M.Sc. B.Eng. (Hons) F.G.S. MEnvSc. TECHNICAL DIRECTOR

Geo-Environmental Services Limited

Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL



Revision ref.	Date	Reasons for amendment	Author's initials
1.0	04/10/2019	First issue	AP
2.0	10/10/2019	Second issue, amendment to pavement section	AP

**CONTENTS**

EXECUTIVE SUMMARY	vi
1.0 INTRODUCTION	1
1.1 Site Description	1
1.2 Desk Study	1
2.0 PRELIMINARY ASSESSMENT	2
2.1 Geotechnical Risk Assessment	2
2.1.1 Potential Geotechnical Issues	2
2.2 Preliminary Environmental Conceptual Site Model & Risk Assessment	2
2.2.1 Methodology	2
2.2.2 Summary of Plausible Sources	4
2.2.3 Summary of Plausible Pathways	4
2.2.4 Summary of Plausible Receptors	4
2.3 Preliminary Risk Assessment Summary	8
2.4 Investigation Scope	8
2.5 Investigation Rationale	8
3.0 ENCOUNTERED CONDITIONS	10
3.1 Ground Conditions	10
3.2 Groundwater	10
3.3 Ground Gases	11
3.4 Obstructions	11
3.5 Geochemical Analysis	11
3.6 Geotechnical Analysis	11
4.0 ENGINEERING CONSIDERATIONS	13
4.1 Foundations	13
4.2 Excavations	13
4.3 Floor Slabs	14
4.4 Pavements	14
4.5 Sulphates	14
4.6 Soakaways	14
5.0 ENVIRONMENTAL CONSIDERATIONS	16
5.1 Environmental Risk Assessment	16
5.2 Soil Contamination vs. End Users	16
5.3 Specification for Topsoil	16
5.4 Soil Contamination vs. Adjacent land Users	17
5.5 Soil Contamination vs. Soft Landscaping	17
5.6 Soil Contamination vs. Building Materials	17
5.7 Ground Gases	18
5.8 Waste Disposal	18
5.9 Discovery Strategy	18



FIGURES

FIGURE 1	Site Location Plan
FIGURE 2	Site Investigation Plan

APPENDICES

APPENDIX A	Stand Alone Desk Study
APPENDIX B	Exploratory Hole Logs
APPENDIX C	Groundwater/Ground Gas Monitoring Assessment
APPENDIX D	Geotechnical Laboratory Results
APPENDIX E	Geochemical Laboratory Results
APPENDIX F	Window Sampler & Trial Pit Photographs



EXECUTIVE SUMMARY		
	Site Address	Land At Lidsey Road, Woodgate, West Sussex, PO20 3SU
	Form of Development	Construction of residential properties with gardens, car parking, access road and associated infrastructure.
Encountered Conditions	Scope of works	An intrusive investigation to confirm the ground and groundwater conditions and support the development of geotechnical and geo-environmental assessments of the site in relation to the proposed development.
	Ground Conditions	The ground conditions comprised a limited thickness of Topsoil and Made Ground overlying River Terrace Deposits and the London Clay Formation.
	Groundwater	Groundwater was encountered at depths of between 1.85m and 3.00m bgl, during the fieldworks, with water standing at depths of between 1.20m and 2.50m bgl after twenty minutes. Groundwater monitoring wells were installed within WS1, WS2, WS3 and WS6 to depths of between 2.50m and 3.70m bgl. Two return monitoring visits have been made to date, with further visits to be undertaken throughout the winter period. To date, groundwater has been recorded at depths of between 0.91m and 1.75m bgl.
Geotechnical Considerations	Foundations	Based on the ground and groundwater conditions encountered in the boreholes conventional foundations are considered suitable for the proposed low rise development. Foundations should be taken below any Made Ground, soft, desiccated or disturbed ground and bear onto the firm to very stiff sandy silty gravelly clays or silty sands of the River Terrace Deposits. Based on the laboratory results, the more clayey parts of the River Terrace Deposits <i>en masse</i> should be considered Medium Volume Change Potential in accordance with the NHBC Standards, Chapter 4.2. A minimum founding depth within the River Terrace Deposits of 0.90m is therefore applicable remote from trees. Foundations should not be less than 450mm in width. Within the zone of moisture demand of any existing, proposed or recently felled trees it is recommended that foundation depths be calculated in accordance with the NHBC Standards, Chapter 4.2. Foundations should also be taken through any major root zone and desiccated clay soils should this be found at greater depth. Design measures will be required to prevent heave forces from developing on the faces of the foundations where footing depths are in excess of 1.5m on account of trees. It should be noted that the NHBC stipulate that foundations cast at depths greater than 2.5m should be "engineer designed". Based on the typical settlement parameters for the types of soil encountered, a maximum net allowable bearing capacity of 125kPa is applicable for trench, strip or isolated pad foundations taken through any Made Ground, soft or loose zones, desiccated or disturbed soils and placed wholly into or onto the firm to very stiff sandy silty gravelly clays of the River Terrace Deposits. Under the above loading the settlements should remain within tolerable limits for the proposed scheme. It would be prudent to further consider the depth to the groundwater during the winter months as this could cause construction difficulties



		where intercepted within foundation or service trenches. The risk of intercepting the groundwater would be higher where foundations are required to be deepened on account of the presence of trees and careful design is required in this respect.
	Floor Slabs	Based on the laboratory testing results and the presence of trees and shrinkable soils, it is recommended that suspended ground floor slabs be adopted.
	Excavations	Shallow excavations within the Made Ground should remain relatively stable in the short term. Long deep excavations within the Made Ground are likely to be prone to instability, particularly where left open for prolonged periods, and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Shallow excavations within the River Terrace Deposits should remain relatively stable in the short term. Long, deep excavations within the River Terrace Deposits are likely to be prone to instability, particularly where left open for prolonged periods, or open to wet weather conditions and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Any excavations taken below the groundwater table is likely to be prone to collapse and running sand.
	Pavements	Where encountered, the Made Ground was noted to be of mixed composition and of limited thickness. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the heterogeneity of the variable amounts of Made Ground it would be prudent to assume the material to be deemed non-frost susceptible throughout. As part of the investigation, three bulk samples of the underlying River Terrace Deposits were taken from hand pits referenced TP DCP1, TP DCP4 and TP DCP6, with samples taken from depths of 0.50m bgl. The results of the laboratory remoulded (2.5kg rammer method) soaked CBR tests from gave results in the range of 1% and 9.5%. In addition, six dynamic cone penetrometer tests were undertaken across the site. The results between the depth of 300mm and 600mm bgl ranged between 5% and 22%. The Transport and Road Research Laboratory Report (LR1132) entitled '<i>The Structural Design of Bituminous Roads</i>' (1984) cites an estimated equilibrium suction index of 5% for the sandy silty gravelly clays such as those of the near surface River Terrace Deposits, under average construction conditions and a high groundwater level. An overall CBR value of 5% is recommended. Furthermore, based on the geotechnical results, the near surface River Terrace Deposits should be considered as being frost susceptible for pavement design purposes with abundant gravel noted within the sandy silty clays within the upper metre.



		It is recommended that the sub-grade be proof rolled and any soft spots removed and replaced with a suitable compacted granular fill.
	Drainage	The results indicate a relatively poor infiltration rate within the River Terrace Deposits, whilst groundwater was also noted to be shallow. Based on these findings, the design and construction of conventional soakaways may be viable, though the storage capacity will be severely restricted by the presence of the groundwater table.
	Buried Concrete	Seven pH and Sulphate tests were undertaken on the River Terrace Deposits. The results for the River Terrace Deposits corresponded to design class DS-1 as defined within the BRE Special Digest 1 (2005). The pH analyses indicate the ACEC class to be AC-1. It is recommended that a design class of DS-1 and an ACEC class of AC-1 be applied to all sub-surface concrete within this stratum.
Considerations	Human Health	All of the results indicated concentrations less than the Atkins ATRISK/C4SI screening values with the exception of Benzo(a)pyrene (TP1 0.10m 120mg/kg, TP2 0.10m 64mg/kg), Barium (TP2 0.10m 290mg/kg, WS7 0.20m 130mg/kg) and Beryllium (TP2 0.10m 2.40mg/kg). The Atkins ATRISK values for Benzo(a)pyrene are 4.95mg/kg, Barium 110mg/kg and 1.71mg/kg for Beryllium. The locations of TP1 and TP2 were within the area of the glasshouse, formerly used as a nursery. The location of WS7 was within the grounds of the residential property. Based on these initial findings, a cover system will be required within these areas. However, based on the limited sampling within these locations, it is recommended that further investigation in and around the garden nursery and residential property be undertaken. Those findings, along with these findings should be used to finalise a cover system for affected plots within those areas. As a preliminary guide it is likely that recommendations will be to strip the existing Made Ground from the proposed gardens and soft landscaping areas for the units located within the grounds of the house and glasshouse.
	Ground gas	Two ground gas monitoring visits have been undertaken to date to provide an initial assessment. No significant ground gas concentrations were noted and therefore no remedial works are required in this respect. A final assessment will be made upon completion of all monitoring visits.
	Built Environment	The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UK Water Industry Research's (UKWIR) report reference 10/WM/03/21 (re-issued 2010). However, the guidance is not mandatory and there have been concerns raised by various industry technical associations regarding the document and the methodologies proposed. Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1. The results of the relevant chemical analyses indicated elevated concentrations of SVOCs and TPH, barrier pipe is likely to be required on the area of the site currently occupied by the house and glasshouse, unless they are wholly placed in natural soils. It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practicable in order to



		confirm the pipe material.
	Waste Disposal	Initially, the results of the laboratory testing were submitted for Catwaste classification, the results Confirmed that the near surface soils did not have any properties that would deem the material hazardous waste for all but two samples. Samples TP1 0.10m and TP2 0.10m had hydrocarbon/oil with benzo(a)pyrene marker. Waste soils within this area require further analysis in the form of Waste Characterisation testing and Waste Acceptance Criteria testing to determine classification for off-site disposal.
Further Action: • A discovery strategy should be maintained during development such that any abnormal conditions (geotechnical or potential contamination) are identified and their potential impact on the proposed development assessed prior to determining any potential mitigation measures. • The results of this investigation be presented to the water utility company as soon as reasonably practicable in order to confirm the pipe material • Further investigation within the locations of the former garden nursery and residential property. • Further waste disposal classification comprising Waste Characterisation tests and Waste Acceptance Criteria testing.		



Desk Study Report

1.0 INTRODUCTION

Geo-Environmental Services Limited was instructed by Thakeham Client Limited to undertake an investigation of the geotechnical and geo-environmental factors pertaining to Land Off Lidsey Road, Woodgate, West Sussex, PO20 3SU. The site's location is presented in Figure 1.

The proposed development is understood to comprise the construction of residential properties with private gardens, car parking access roads and associated infrastructure.

1.1 Site Description

The development site comprised a grassed field with a large dilapidated glasshouse within the south-eastern corner. The site was roughly rectangular in shape and was generally flat and level. One the eastern side of the site was a single residential property which for the purposes of the investigation was included within the site boundary. The property was a large two storey detached house with garage and indoor swimming pool with gardens on the eastern and western sides. The area immediately around the glasshouse was overgrown both within and around the structure. It was noted that immediately outside of the building was an area of fly tipped material comprising potential asbestos cement board sheeting and a fridge. Anecdotal evidence suggested that the glasshouse had been formerly used as a small commercial nursery. The site was bounded by mature trees and hedges, with a ditch along Lidsey Road, which formed the eastern boundary. A large oak tree was noted centrally within the western portion of the site.

The surrounding area comprised a small field and a public house to the north, residential properties to the east and south and a large commercial nursery to the west.

1.2 Desk Study

A standalone Desk Study was undertaken for the site in August 2019, reference GE18390-DSR-AUG19, and this is presented in Appendix A.

The poignant sections relating to the Preliminary Risk Assessment are presented in the following section for ease of reference.



2.0 PRELIMINARY ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site.

2.1 Geotechnical Risk Assessment

2.1.1 Potential Geotechnical Issues

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

- The presence of shallow groundwater and associated excavation stability
- Viability of soakaways.
- The presence of mature trees will need to be considered for foundation design where shrinkable clay soils are present.
- Lateral changes in ground conditions.

2.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

2.2.1 Methodology

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

A risk of harm may only exist where a plausible pollutant linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Tables 3.1 and 3.2.



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

Table 2.1 Risk Ratings Matrix

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

Table 2.2 Risk Rating Definitions



2.2.2 Summary of Plausible Sources

Possible sources of contamination identified from the desk study are summarised in Table 3.3.

Source	Description	Contaminants
Made Ground and shallow soils	The general quality of Made Ground and shallow soils could be impacted by the presence of contamination.	Possible elevated concentrations of metals, metalloids, TPH and PAH compounds, and asbestos in Made Ground (if present) or in shallow natural soils.
Ground Gases	Possible presence of ground gases as a result of Made Ground (if present) and vapours associated with organic contaminants (if present).	Possible elevated Methane, Carbon Dioxide, depleted Oxygen and Volatile Organic Compounds (VOCs)

Table 2.3 Possible Sources of Contamination

2.2.3 Summary of Plausible Pathways

The plausible pathways are summarised in Table 3.4. These pathways are based on the proposed end use, including residential properties and private gardens.

Pathway	Description
Direct Contact	Ingestion of soil particles, ingestion and bioaccumulation in vegetables/fruit and inhalation of soil derived dust (including tracked back dust), dermal contact.
Inhalation	Inhalation of ground gases and soil dust both inside and outside of buildings.
Vertical & Lateral Migration	Contaminant movement both vertically through leaching/gravity and horizontally along preferential pathways, e.g. services trenches, or with groundwater.
Root Uptake	Uptake of soil and waterborne contaminants by plants.
Chemical Attack	Attack of buried plastics and concrete by aggressive ground conditions.

Table 2.4 Possible Contamination Pathways

2.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development are summarised in Table 3.5.

Receptor	Description	Comments
Site Workers	Persons involved in construction and future maintenance of the proposed development.	Ground Workers could become exposed during site clearance, construction and maintenance.
End Users	Residents/occupants of the proposed development.	The proposed development is likely to include private gardens and areas of soft landscaping.
Soft Landscaping	Possible areas of planting including lawns, shrubs, trees, etc.	Planting is anticipated in private gardens and soft landscaping.
Buildings and Infrastructure	Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils.	Significant depths of Made Ground are not anticipated; however contamination may also be present within shallow Made Ground and natural soils.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses include predominantly commercial and residential.



Receptor	Description	Comments
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site overlies a Secondary A Aquifer and an Unproductive Strata. The site is situated outside of any SPZ.
Surface Water	Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters.	Surface water features are present on-site (ditches).

Table 2.5 Possible Receptors of Contamination

Site workers involved in the preparation and construction of the development have not been considered further in this assessment as the Principal Contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 3.6 summarises the identified plausible pollution linkages and a qualitative assessment of the risks based on the desk study research.



Desk Study Report

Potential Source/ media	Potential Receptors	Potential Pathways	Probability	Consequence	Risk and Justification
General chemical quality/Made Ground & Near Surface Soils	End Users	Direct contact	Low	Medium	Moderate to Low Future end users are likely to come into contact with potentially impacted soils via direct contact in private garden areas.
	Adjacent Land Users	Direct contact	Low	Mild	Low During the development fugitive dust may be released which could impact neighboring land users through direct contact.
	Soft Landscaping	Root uptake	Low	Mild	Low Plants are likely within soft landscaped areas.
	Water Supply Pipes	Chemical attack	Low	Mild	Low Water supply pipes are likely to come into contact with soils.
	Buildings and Infrastructure	Chemical attack	Low	Mild	Low Foundations and utilities will be placed within soils. However, the consequence is anticipated to be mild.
	Groundwater	Vertical migration	Low	Medium	Moderate to Low Groundwater is anticipated within the granular parts of the River Terrace Deposits.



Desk Study Report

Potential Source/ media	Potential Receptors	Potential Pathways	Probability	Consequence	Risk and Justification
Ground Gases	End Users	Inhalation	Low	Medium	Moderate to Low It is likely that end users of the site will come into contact with ground gases as off-site sources have been identified.

Table 2.6 Plausible Pollutant Linkages & Qualitative Risk Assessment



2.3 Preliminary Risk Assessment Summary

The PRA and CSM developed from the information gathered as part of the desk study process have identified plausible potential pollutant linkages that exist in relation to the proposed redevelopment of the site.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site, but could require investigation and assessment to support further characterisation, calibration of the CSM and where/if necessary determine a remedial strategy to reduce, remove or otherwise control any risk within the site to key receptors.

It is considered that the overall risk from potential contamination on the site is 'moderate to low to low' and that further assessment would be necessary to satisfy planning conditions or to provide clarification of the risk assessment.

2.4 Investigation Scope

The scope of works for the investigation included:

- Seven window sampler boreholes to a maximum depth of 4m bgl or maximum achievable depth with in-situ testing and regular sampling.
- The installation of ground gas and groundwater monitoring wells with return monitoring visit to be undertaken during the winter period.
- Six machine excavated trial pits to a maximum depth of 3.0m bgl or maximum achievable depth with in-situ testing and regular sampling.
- Six dynamic cone penetrometer tests for CBR values along with sampling of pits adjacent to each location.
- Geotechnical laboratory testing on soil samples recovered from the exploratory holes to support the geotechnical assessment.
- Geochemical laboratory testing on near surface soils for a suite of commonly occurring brownfield contaminants (including asbestos screening of all samples).
- Provision of a Ground Appraisal Report detailing the ground and groundwater conditions encountered during the intrusive investigation, laboratory testing results, geotechnical assessment and contamination assessment.

2.5 Investigation Rationale

The exploratory holes were located to provide broad coverage across the proposed development area. The following tables summarise the strategy of the environmental (Table 1) and geotechnical (Table 2) investigations.

Environmental Area of Concern	Investigation	Positions
Near Surface Soils and Made Ground	Window Sampler boreholes and trial pits situated across the site with regular sampling and laboratory analysis	All locations
Ground Gas and Vapours	Ground gas monitoring standpipe installed within the window sampler boreholes.	WS1, WS2, WS3, WS6

Table 2.7 Summary of Environmental Investigation Strategy



Geotechnical Area of Concern	Investigation	Positions
Lateral changes in ground conditions	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
Shrinkable soils	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
Highly compressible/low bearing capacity soils (soft clay)	Boreholes and trial pits undertaken across the site with regular in-situ testing and sampling.	All Locations
High groundwater table and/or flooding (including waterlogged ground)	Standpipes installed within boreholes and groundwater observations made within all holes during drilling.	WS1, WS2, WS3, WS6
Significant depths of Made Ground	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
Aggressive chemical ground conditions (sulphates)	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
California Bearing Ratio	DCP's and shallow trial pits undertaken to obtain samples for laboratory analysis	DCP1-DCP6

Table 2.8 Summary of Geotechnical Investigation Strategy



3.0 ENCOUNTERED CONDITIONS

A factual record of the conditions encountered during the physical investigations of the site is presented in the following section.

For further details of the encountered ground conditions, reference should be made to the engineer's logs presented in Appendix A, the groundwater/gas monitoring assessment presented in Appendix B, the geotechnical testing results in Appendix C and the chemical testing results in Appendix D.

3.1 Ground Conditions

With reference to British Geological Survey (BGS) mapping, the geology of the site was anticipated to comprise the Alluvium overlying the River Terrace Deposits overlying the London Clay Formation.

The rivers of the south-east of England, including the River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of River Terrace Deposits. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

London Clay comprises a stiff grey fissured clay, weathering to brown near surface. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

Beneath a thin mantle of Topsoil and Made Ground the ground conditions encountered were generally consistent with those anticipated.

Topsoil was encountered within all locations with the exception of TP1, TP2 and WS7 to depths of between 0.15m and 0.30m bgl and generally comprised dark brown silty sand with roots and rootlets.

Made Ground was encountered within TP1, TP2 and WS7 to depths of between 0.25m and 0.45m bgl and was of a mixed composition comprising silty sand with ash, brick and concrete, dark brown sandy silt and reworked chalk.

Underlying the Topsoil and Made Ground, the River Terrace Deposits were encountered within all locations to depths of between 2.00m and 4.00m bgl and generally comprised soft to very stiff silty sandy clay becoming silty sandy clay with occasional fine to coarse sub-angular chert, overlying fine to medium sand.

Underlying the River Terrace Deposits at a depth of 3.50m bgl, the London Clay Formation was encountered within WS1 and WS7 only and proven to a depth of 4.00m bgl (maximum depth of the investigation). The London Clay was described as stiff grey clay.

For more detailed descriptions of the ground conditions at specific locations, reference should be made to the exploratory hole logs presented in Appendix B.

3.2 Groundwater

Groundwater was encountered at depths of between 1.85m and 3.00m bgl, during the fieldworks, with water standing at depths of between 1.20m and 2.50m bgl after twenty minutes. Groundwater monitoring wells were installed within WS1, WS2, WS3 and WS6 to depths of between 2.50m and 3.70m bgl. Two return monitoring visits have been made to date, with further visits to be undertaken throughout the winter period. To date, groundwater has been recorded at depths of between 0.91m and 1.75m bgl.



It should be noted that changes in groundwater and perched water levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a series of standpipes or piezometers installed within appropriate response zones.

3.3 Ground Gases

Dual purpose gas and water monitoring standpipes were installed within WS1, WS2, WS3 and WS6 to depths of between 2.50m and 3.70m bgl. Two return monitoring visits have been made to date, with further visits to be undertaken throughout the winter period. To date, no methane has been recorded, whilst carbon dioxide and oxygen have been recorded within the range of 0.0% v/v to 2.0% v/v and 12.6% v/v to 20.9% v/v respectively. A maximum VOC concentration of 0.2ppm has been recorded, whilst atmospheric pressure has been recorded within the range of 996mb to 1018mb. No flows have been recorded.

For further details, reference should be made to the ground gas assessment sheet in Appendix C.

3.4 Obstructions

No artificial underground obstructions were encountered on site during the intrusive works. Although unlikely, the potential for obstructions elsewhere on site should not be discounted.

3.5 Geochemical Analysis

In order to assess the general chemical quality of the strata encountered, samples of soils recovered from the exploratory holes were submitted for analysis for a range of potential contaminants selected on the basis of the findings of the desk study and supported by the joint National House Building Council (NHBC), Environment Agency (EA) and Chartered Institute of Environmental Health (CIEH) publication, *'Guidance for the Safe Development of Housing on Land Affected by Contamination'* (2008).

Soil samples were placed into plastic containers for general inorganic analysis and into amber jars for organic analysis. Samples were stored in temperature-controlled conditions from sampling until receipt at the laboratory from which time sample preparation and storage was determined by testing requirements and in line with the laboratory's protocols.

Eight soil samples were submitted for analysis for a comprehensive suite of common zootoxic and phytotoxic elements based upon determinants listed within the above guidance. In addition, four samples were scheduled for a pesticide suite while four samples were scheduled for BS 3882:2015 specification for Topsoil.

3.6 Geotechnical Analysis

The results of geotechnical testing undertaken as part of the ground investigation are summarised in Tables 3 & 4, with test results presented in Appendix D.

Parameter	River Terrace Deposits
pH	5.9-8.3
Water soluble sulphate (mg/l)	<0.02
Natural Moisture Content (%)	10-21
Liquid Limit (%)	32-50
Plastic Limit (%)	16-19
Plasticity Indices (%)	16-31
Modified Plasticity Indices (%)	10.64-30.38
Particle Size Distribution Fines <0.063mm (%)	7-16.1



California Bearing Ratio (%)	1-9.5
------------------------------	-------

Table 3.1: Summary of Geotechnical Laboratory Test Results (River Terrace Deposits)



4.0 ENGINEERING CONSIDERATIONS

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

4.1 Foundations

Based on the ground and groundwater conditions encountered in the boreholes conventional foundations are considered suitable for the proposed low rise development.

Foundations should be taken below any Made Ground, soft, desiccated or disturbed ground and bear onto the firm to very stiff sandy silty gravelly clays or silty sands of the River Terrace Deposits.

Based on the laboratory results, the more clayey parts of the River Terrace Deposits *en masse* should be considered Medium Volume Change Potential in accordance with the NHBC Standards, Chapter 4.2. A minimum founding depth within the River Terrace Deposits of 0.90m is therefore applicable remote from trees. Foundations should not be less than 450mm in width.

Within the zone of moisture demand of any existing, proposed or recently felled trees it is recommended that foundation depths be calculated in accordance with the NHBC Standards, Chapter 4.2. Foundations should also be taken through any major root zone and desiccated clay soils should this be found at greater depth. Design measures will be required to prevent heave forces from developing on the faces of the foundations where footing depths are in excess of 1.5m on account of trees. It should be noted that the NHBC stipulate that foundations cast at depths greater than 2.5m should be "engineer designed".

Based on the typical settlement parameters for the types of soil encountered, a maximum net allowable bearing capacity of 125kPa is applicable for trench, strip or isolated pad foundations taken through any Made Ground, soft or loose zones, desiccated or disturbed soils and placed wholly into or onto the firm to very stiff sandy silty gravelly clays of the River Terrace Deposits. Under the above loading the settlements should remain within tolerable limits for the proposed scheme.

It would be prudent to further consider the depth to the groundwater during the winter months as this could cause construction difficulties where intercepted within foundation or service trenches. The risk of intercepting the groundwater would be higher where foundations are required to be deepened on account of the presence of trees and careful design is required in this respect.

4.2 Excavations

Shallow excavations within the Made Ground should remain relatively stable in the short term. Long deep excavations within the Made Ground are likely to be prone to instability, particularly where left open for prolonged periods, and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability.

Shallow excavations within the River Terrace Deposits should remain relatively stable in the short term. Long, deep excavations within the River Terrace Deposits are likely to be prone to instability, particularly where left open for prolonged periods, or open to wet weather conditions and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Any excavations taken below the groundwater table is likely to be prone to collapse and running sand.

Ground works should always be designed in such a manner to avoid man entry into excavations. However, in the event that such works cannot be avoided or designed out, they should only be undertaken in accordance with a safe system of work, following an appropriate risk assessment and in accordance with any legislative requirements, e.g.



Confined Spaces Regulations.

4.3 Floor Slabs

Based on the laboratory testing results and the presence of trees and shrinkable soils, it is recommended that suspended ground floor slabs be adopted.

4.4 Pavements

Where encountered, the Made Ground was noted to be of mixed composition and of limited thickness. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the heterogeneity of the variable amounts of Made Ground it would be prudent to assume the material to be deemed non-frost susceptible throughout.

As part of the investigation, three bulk samples of the underlying River Terrace Deposits were taken from hand pits referenced TP DCP1, TP DCP4 and TP DCP6, with samples taken from depths of 0.50m bgl. The results of the laboratory remoulded (2.5kg rammer method) soaked CBR tests from gave results in the range of 1% and 9.5%.

In addition, six dynamic cone penetrometer tests were undertaken across the site. The results between the depth of 300mm and 600mm bgl ranged between 5% and 22%.

The Transport and Road Research Laboratory Report (LR1132) entitled '*The Structural Design of Bituminous Roads*' (1984) cites an estimated equilibrium suction index of 5% for the sandy silty gravelly clays such as those of the near surface River Terrace Deposits, under average construction conditions and a high groundwater level.

Based on the laboratory results, in-situ testing and TRRL report, a CBR value of 5% is recommended.

Furthermore, based on the geotechnical results, the near surface River Terrace Deposits should be considered as being frost susceptible for pavement design purposes with abundant gravel noted within the sandy silty clays within the upper metre.

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

4.5 Sulphates

Seven pH and Sulphate tests were undertaken on the River Terrace Deposits. The results for the River Terrace Deposits corresponded to design class DS-1 as defined within the BRE Special Digest 1 (2005). The pH analyses indicate the ACEC class to be AC-1. It is recommended that a design class of DS-1 and an ACEC class of AC-1 be applied to all sub-surface concrete within this stratum.

4.6 Soakaways

As part of the investigation, full scale soakage testing to BRE Digest 365 was undertaken within TP2, TP3, TP5 and TP6. Infiltration rates were calculated as follows:

Location	Test No	Infiltration Rate (m/s)
TP2	Run1	4.9×10^{-6}
	Run2	5.9×10^{-6}
	Run3	5.4×10^{-6}
TP3	Run1	3.4×10^{-6}



	Run2	5.8×10^{-6}
	Run3	5.1×10^{-6}
TP5	Run1	5.7×10^{-6}
	Run2	9.4×10^{-6}
	Run3	7.2×10^{-6}
TP6	Run1	5.4×10^{-6}
	Run2	1.2×10^{-5}
	Run3	5.7×10^{-6}

Table 4.1: Infiltration Rates (River Terrace Deposits)

The results indicate a relatively poor infiltration rate within the River Terrace Deposits, whilst groundwater was also noted to be shallow. Based on these findings, the design and construction of conventional soakaways may be viable, though the storage capacity will be severely restricted by the presence of the groundwater table.



5.0 ENVIRONMENTAL CONSIDERATIONS

A Generic Quantitative Risk Assessment (GQRA) was undertaken on the results of the chemical testing on the soil samples, the findings of which are presented in the following sections.

5.1 Environmental Risk Assessment

Based on a visual assessment of the soils encountered, in conjunction with the Desk Study and the proposed end use, eight soil samples from TP1 (0.10m), TP2 (0.10m), WS1 (0.10m), WS2 (0.50m), WS3 (0.20m), WS4 (0.20m), WS7 (0.20m) and WS6 (0.20m) were submitted for a suite of commonly occurring contaminants including metals, metalloids, inorganic compounds, TPH, PAH and asbestos. In addition, samples WS1 (0.10m), WS3 (0.20m), WS4 (0.20m), WS7 (0.20m) and WS6 (0.20m) were submitted for organochlorine Pesticides screen suite.

Samples TP3 (0.10m), TP4 (0.10m), TP5 (0.10m) and TP6 (0.15m) were submitted for specification of Topsoil BS3882: 2015.

4.2 Soil Contamination vs. End Users

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

The results have been compared directly against Atkins ATRISK guideline values for residential end use with plant uptake. Any results that may have been greater than the guideline values or where there are no comparable values, the results have subsequently been compared against Land Quality Management Suitable 4 Use Levels (LQM S4UL) and Category 4 Screening Levels (C4SL).

Benzo(a)pyrene has been used in the assessment as a surrogate marker for PAH contamination.

All of the results indicated concentrations less than the Atkins ATRISK/C4SL screening values with the exception of Benzo(a)pyrene (TP1 0.10m 120mg/kg, TP2 0.10m 64mg/kg), Barium (TP2 0.10m 290mg/kg, WS7 0.20m 130mg/kg) and Beryllium (TP2 0.10m 2.40mg/kg). The Atkins ATRISK values for Benzo(a)pyrene are 4.95mg/kg, Barium 110mg/kg and 1.71mg/kg for Beryllium.

The locations of TP1 and TP2 were within the area of the glasshouse, formerly used as a nursery. The location of WS7 was within the grounds of the residential property. Based on these initial findings, a cover system will be required within these areas (it should be noted that these locations have had different uses to the main portion of the site). However, based on the limited sampling within these locations, it is recommended that further investigation in and around the garden nursery and residential property be undertaken. Those findings, along with these findings should be used to finalise a cover system for affected plots within those areas. As a preliminary guide it is likely that recommendations will be to strip the existing Made Ground from the proposed gardens and soft landscaping areas for the units located within the grounds of the house and glasshouse.

5.3 Specification for Topsoil

As part of the investigation, four Topsoil samples taken from locations TP3 (0.10m), TP4 (0.10m), TP5 (0.10m) and TP6 (0.15m) and were submitted for specification of Topsoil BS3882: 2015. The results indicated that with the exception of the sample from TP4 which passed BS 3882 for Low Fertility Topsoil, the remaining samples did not meet the criteria on account of the textural classification in addition to soil pH, available plant nutrients and carbon nitrogen ratio.



5.4 Soil Contamination vs. Adjacent land Users

Surrounding land uses were identified to mostly comprise agricultural and residential properties. As no significant concentrations of concern were identified in relation to human health (end users), no significant risks to adjacent land users are considered to exist.

However, it is recommended that dust suppression techniques, e.g. damping down exposed soils, are employed during the demolition and construction phases on site in order to minimise the potential for airborne migration of specific hazards and to manage potential nuisance issues for adjacent land users.

5.5 Soil Contamination vs. Soft Landscaping

British Standard BS3882:2015 *Specification for topsoil and requirements for use* provides assessment criteria for a number of potentially phytotoxic contaminants in terms of new planting.

The results of the chemical analysis for determinants known to pose a potential phytotoxic risk to plant growth are summarised in Table 6 together with the respective adopted Generic Assessment Criteria (GAC) for plant growth. The compliance criteria set out in BS3882:2015 are pH dependent and thus the GAC used relate to the pH range measured on samples recovered from the site.

Determinant	Phytotoxicity GAC (mg/kg)			GAC Exceedances
	pH <6.0	pH 6.0-7.0	pH >7.0	
Zinc	200	200	300	No
Copper	100	135	200	No
Nickel	60	75	110	No

Table 5.1: Summary of Plant Phytotoxicity Assessment

The phytotoxicity assessment indicated that no concentrations exceeded the assessment criteria. Therefore, remedial measures to protect plants from phytotoxic effects are not considered necessary for the proposed redevelopment.

5.6 Soil Contamination vs. Building Materials

The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UK Water Industry Research's (UKWIR) report reference 10/WM/03/21 (re-issued 2010). However, the guidance is not mandatory and there have been concerns raised by various industry technical associations regarding the document and the methodologies proposed. Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1. The results of the relevant chemical analyses indicated elevated concentrations of SVOCs and TPH, barrier pipe is likely to be required on the area of the site currently occupied by the house and glasshouse, unless they are wholly placed in natural soils. It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practicable in order to confirm the pipe material.

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



5.7 Ground Gases

Two ground gas monitoring visits have been undertaken to date to provide an initial assessment. No significant ground gas concentrations were noted and therefore no remedial works are required in this respect. A final assessment will be made upon completion of all monitoring visits.

The results of the ground gas monitoring are presented in Appendix C.

5.8 Waste Disposal

The following information is provided for preliminary guidance purposes, as different facilities or operators may have differing acceptance criteria and Waste Acceptance Criteria (WAC) analysis may be required to confirm the exact classification. In addition, if the intention is to retain excess spoil/arising on site for specific purposes, then these soils would not comprise waste, although this is subject to confirmation and relevant declaration under the Definition of Waste Code of Practice.

Initially, the results of the laboratory testing were submitted for Catwaste classification, the results Confirmed that the near surface soils did not have any properties that would deem the material hazardous waste for all but two samples. Samples TP1 0.10m and TP2 0.10m had hydrocarbon/oil with benzo(a)pyrene marker. Waste soils within this area require further analysis in the form of Waste Characterisation testing and Waste Acceptance Criteria testing to determine classification for off-site disposal.

Further chemical and waste acceptance criteria tests are recommended for soils destined for off-site disposal.

Natural soils (River Terrace Deposits) are likely be classified as Inert Waste (under the respective EWC codes for naturally occurring soils), suitable for disposal at an inert landfill facility.

5.9 Discovery Strategy

Whilst an intrusive investigation has been undertaken on the site, it remains possible that unexpected soil conditions may be encountered during the process of construction.

Should previously undiscovered contamination be encountered during construction by the ground worker's, this should be reported to the site manager immediately in order that any necessary inspection may be made. Records should be kept, and samples submitted for analysis where conditions encountered are not as anticipated. The results of any such testing should be sent to the authorities for consultation.

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

Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This should be reviewed on a 'discovery' specific basis and in conjunction with regulatory consultation.

As a general guide, where such unexpected conditions are encountered the following approach is recommended:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The Site Manager is to report any such discoveries to the Client and the Environmental Consultant;
- Following notification from the Site Manager, the Environmental Consultant shall discuss the discovery



with the Local Authority and if considered necessary, arrange to meet an Officer on site to view the discovery;

- The Environmental Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site;
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Environmental Consultant and held on site (with copies held by the Environmental Consultant, Client and Local Authority), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is shown below.

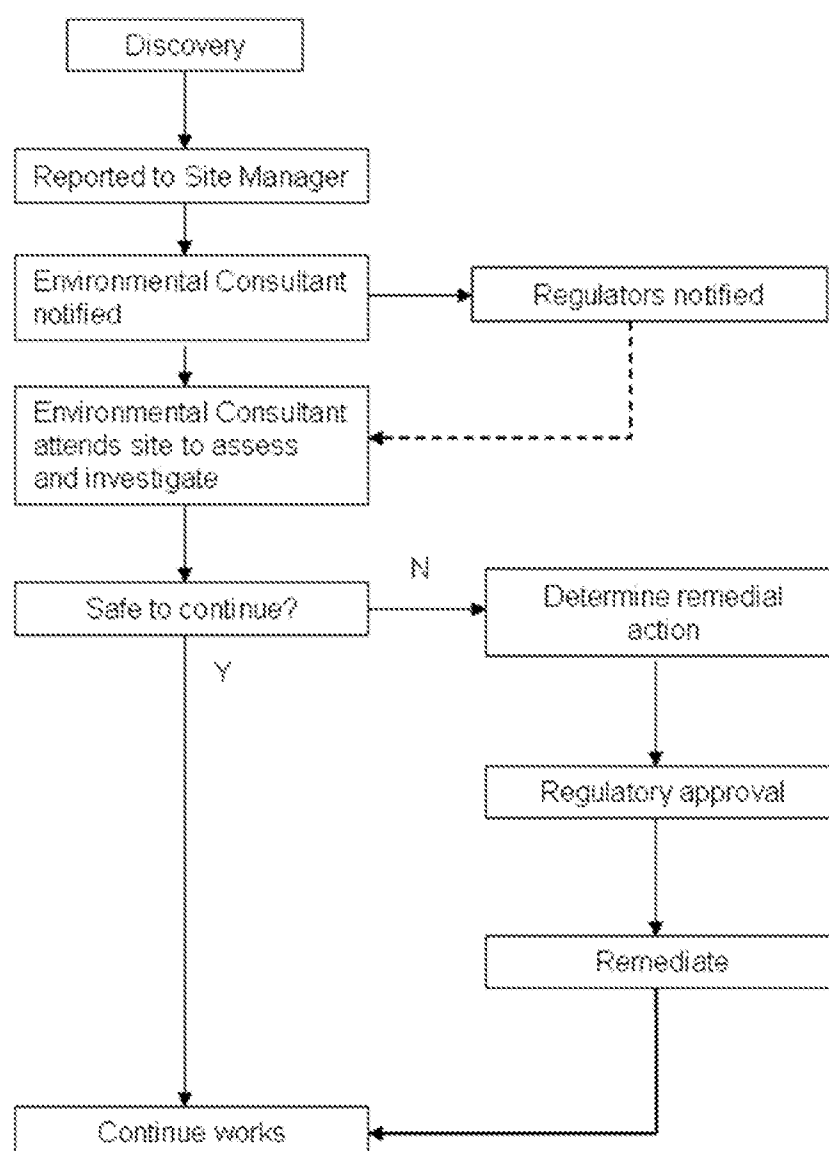


Chart 1 Discovery Strategy Process



Caveat

The data collected from the investigations have been used to provide an interpretation of the geo-environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained.

Geo-Environmental Service Limited takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

Information contained in this report is intended for the use of the client and their agents, and Geo-Environmental Services Limited can take no responsibility for the use of this information by any third party for uses other than that described in this report.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. Such reservations have been indicated in the text where such conditions are considered to apply.

Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.

FIGURE 1

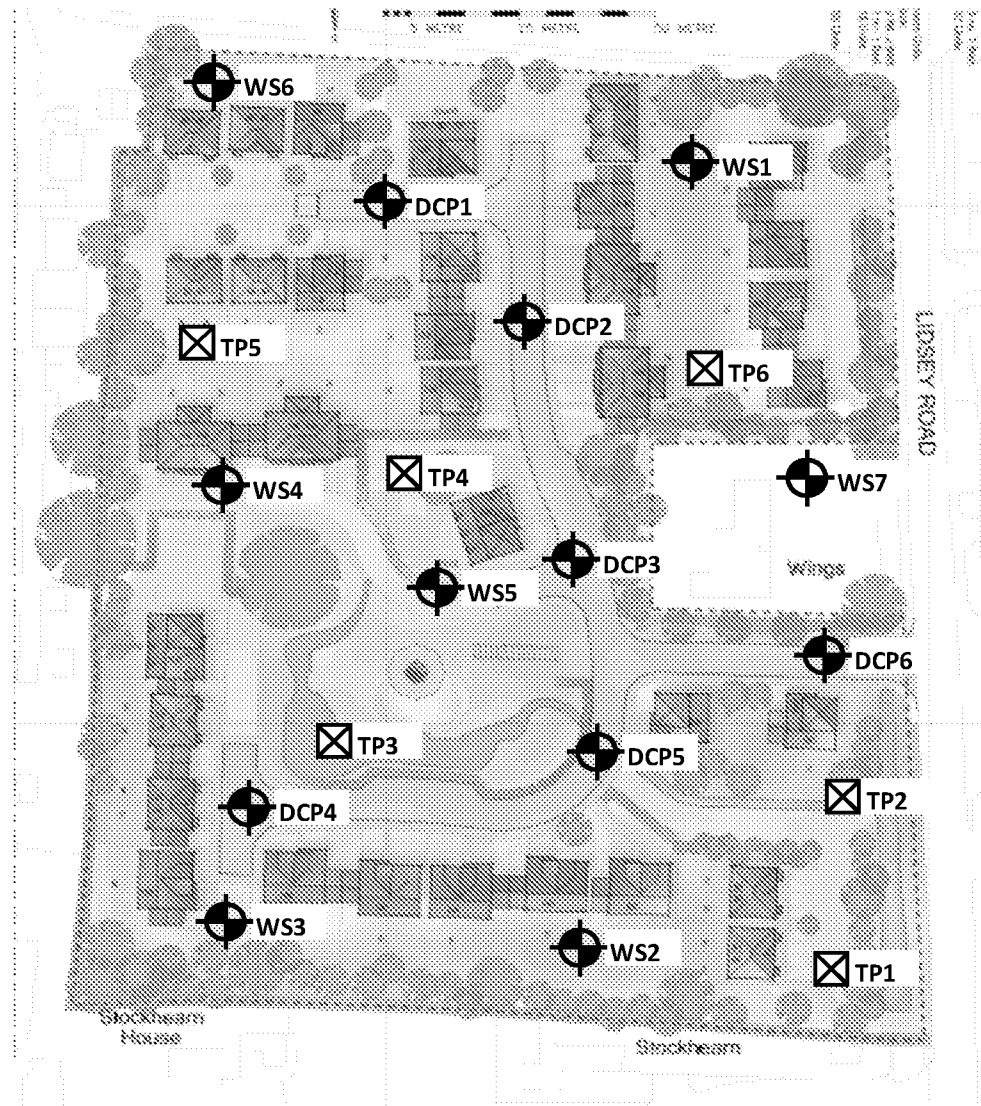
Site Location Plan



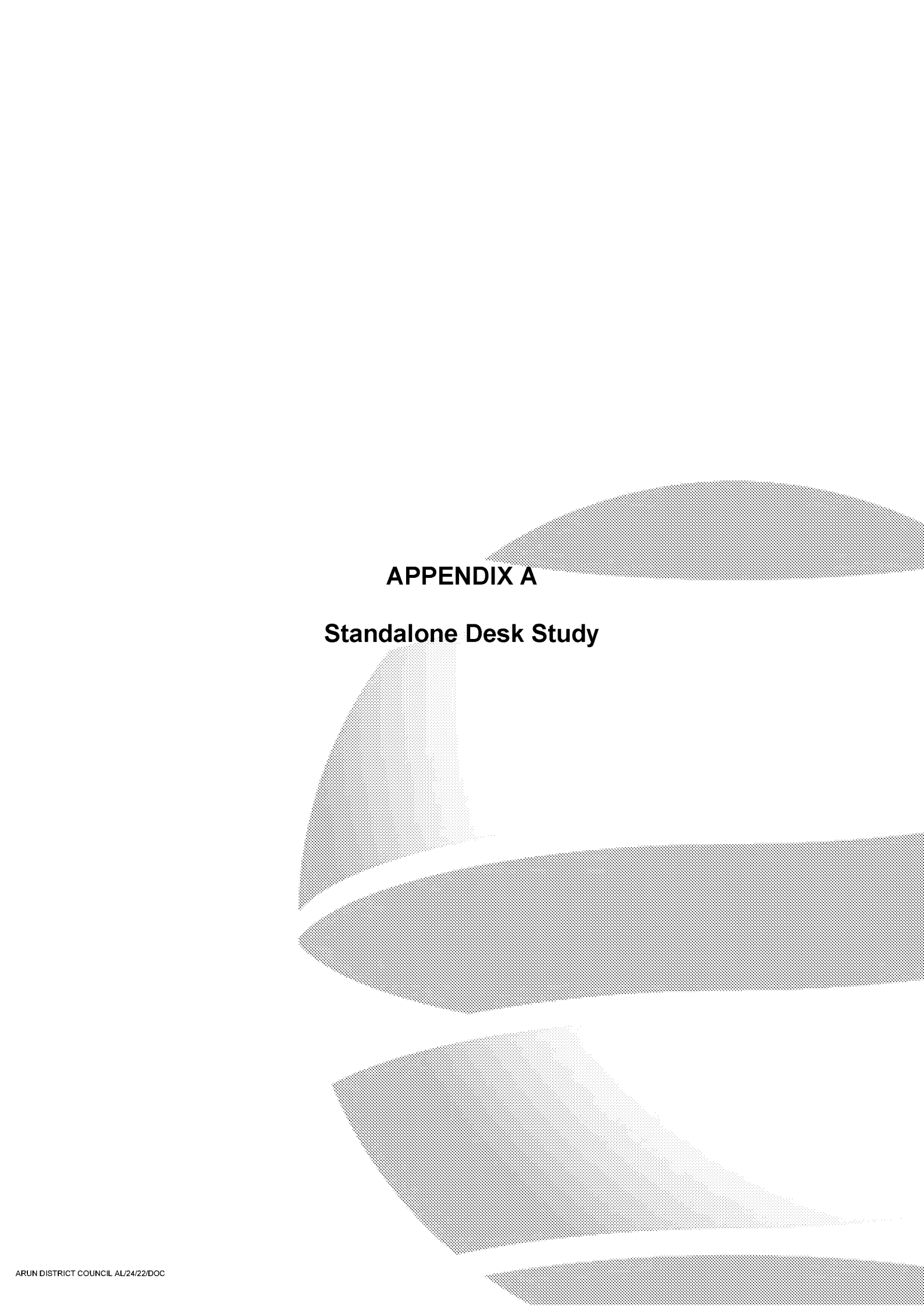
Project:	Land Off Lidsey Road, Woodgate			Title	Site Location Plan	
Client:	Thakeham Homes Ltd			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE18390	Revision:	1.0			
Drawn:	AP	Date:	09/08/2019			
Figure:	1	Scale:	Not To Scale			

FIGURE 2

Site Investigation Plan



Project:	Land Off Lidsey Road, Woodgate			Title	Site Investigation Plan	
Client:	Thakeham Client Limited			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net  Geo-Environmental		
Ref No:	GE18390	Revision:	v1			
Drawn:	AP	Date:	09/08/2019			
Figure:	2	Scale:	Not To Scale			



APPENDIX A

Standalone Desk Study



Geo-Environmental

DESK STUDY REPORT

for the site at

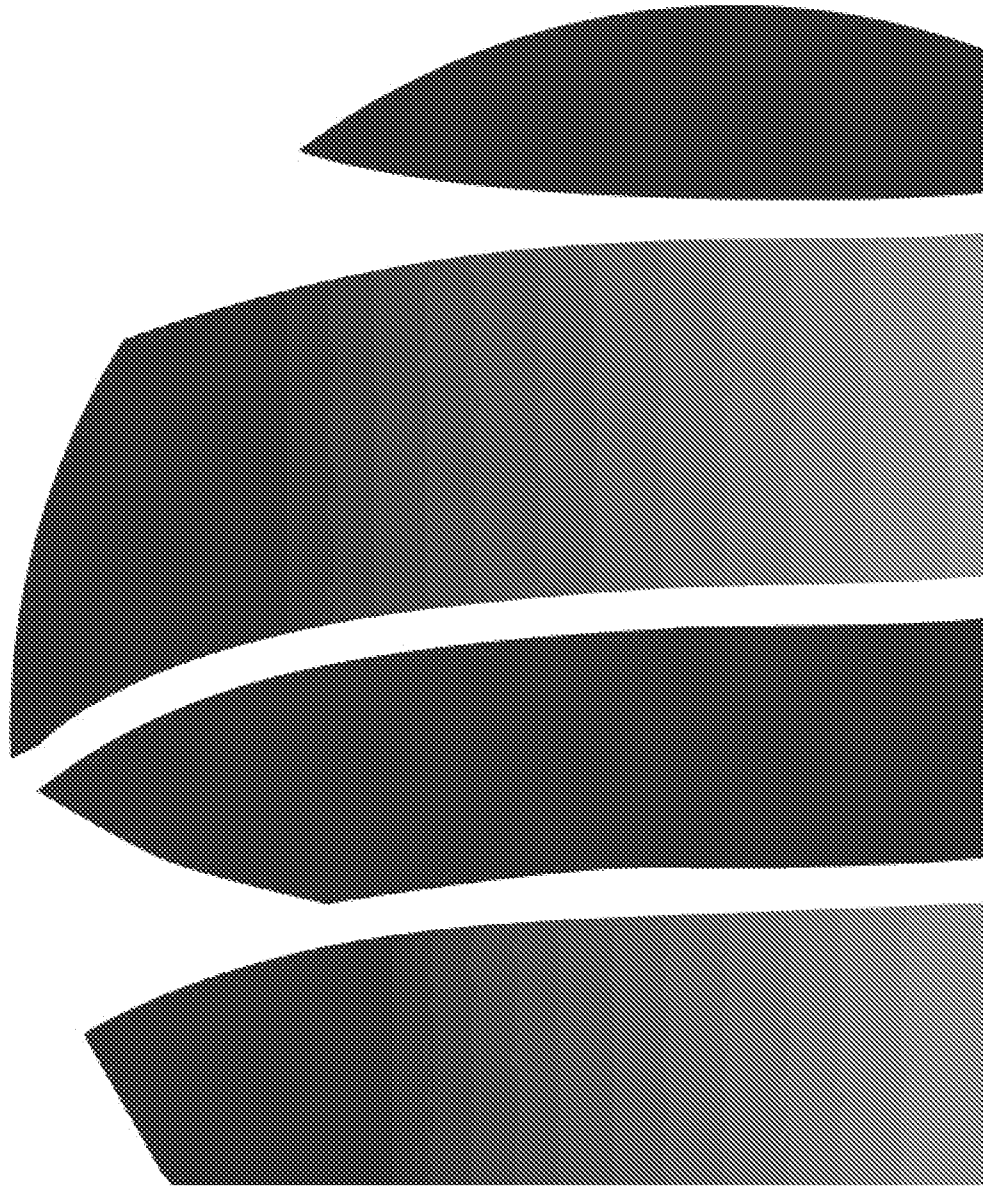
LAND OFF LIDSEY ROAD, WOODGATE

CHICHESTER, WEST SUSSEX

PO20 3SU

on behalf of

THAKEHAM CLIENT LIMITED



**Desk Study Report**

Report:	DESK STUDY REPORT
Site:	LAND OFF LIDSEY ROAD, WOODGATE, CHICHESTER, WEST SUSSEX, PO20 3SU
Client:	THAKEHAM CLIENT LIMITED
Date:	21/08/2019
Reference:	GE18390-DSR-AUG19
Version:	2.0
Prepared by:	
Reviewed by:	ANTHONY POTTER M.Sc.,BSc (HONS),FGS. SENIOR CONSULTANT ENGINEER  GLYN EVANS MSc, BSc, FGS, P.G.Dip.,MI EnvSc MANAGING DIRECTOR

Geo-Environmental Services LimitedUnit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL




CONTENTS

1.0	INTRODUCTION	1
1.1	General	1
1.2	Form of Development	1
1.3	Objectives	1
1.4	Standards	1
1.5	Conditions	2
2.0	DESK STUDY	3
2.1	Site Description	3
2.2	Geology	3
2.3	Hydrogeology	3
2.4	Hydrology	4
2.5	Radon	4
2.6	Environmental Data	4
2.7	Soil Chemistry	5
2.8	Sensitive Land Uses	5
2.9	Geotechnical Data	5
2.10	Landfill and Waste Management Facilities	6
2.11	Historic Mapping	7
2.12	Previous Ground Investigations	8
2.13	Potential Contamination	8
2.14	Ground Gas Summary	8
3.0	PRELIMINARY ASSESSMENT	9
3.1	Geotechnical Risk Assessment	9
3.1.1	Potential Geotechnical Issues	9
3.2	Preliminary Environmental Conceptual Site Model & Risk Assessment	9
3.2.1	Methodology	9
3.2.2	Summary of Plausible Sources	11
3.2.3	Summary of Plausible Pathways	11
3.2.4	Summary of Plausible Receptors	11
3.3	Preliminary Risk Assessment Summary	14
4.0	CONCLUSIONS AND RECOMMENDATIONS	15
4.1	Conclusions	15
4.2	Recommendations	15

FIGURES

FIGURE 1	Site Location Plan
FIGURE 2	Proposed Layout Plan

APPENDICES

APPENDIX A	Desk Study Information
------------	------------------------



1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Thakeham Client Limited to undertake a Phase I desk study into the geotechnical and geo-environmental factors pertaining to the planned development of land off Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3SU herein referred to as 'the site'. The site's location is presented in Figure 1.

1.2 Form of Development

The proposed development is expected to consist of 56 residential properties with parking, private gardens, access roads and associated infrastructure.

1.3 Objectives

The investigation was to comprise a desk study of geotechnical and geo-environmental factors pertaining to the site, including a review of available historic maps and an examination of other available sources of geo-environmental information.

A preliminary Risk Assessment (PRA) was to be undertaken as part of the desk study in accordance with CLR11. The objective of the risk assessment was to evaluate plausible pollutant linkages with respect to the proposed development, adjacent land uses, and the wider environment, in the context of planning, immediate liabilities under the Environment Act 1990, and risks posed to Controlled Waters under the Water Resources Act.

1.4 Standards

Where practicable, the desk study was undertaken in accordance with the following documents and guidance:

- National Planning Policy Framework – March 2012
- Planning Policy Statement 23 – Planning and Pollution Control;
- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004;
- Environment Agency Guidance on Requirements for Land Contamination Reports, Version 1 dated July 2005;
- BS10175:2011 - Investigation of Potentially Contaminated Sites - Code of Practice, BSI 2011;
- BS5930: 2015 - Code of Practice for Site Investigations, BSI 2015;
- EN ISO 14688 Geotechnical Investigation and Testing Part 1-2002 and Part 2-2004;
- BS1377: 1990 - Soils for Civil Engineering Purposes, BSI1990;
- NHBC Standards Chapter 4.1 Land Quality - Managing Ground Conditions, September 1999;
- NHBC Standards Chapter 4.2 Building Near Trees;
- CIRIA C665 – Assessing risks posed by hazardous ground gases to buildings (2007);
- NHBC 10627-R01(04)- Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present (2007);
- BS8485:2015+A1 2019 Code of practice for the characterisation and remediation from ground gas in affected developments;
- Department of Environment - Industry Profiles (1995 - 1996).



1.5 Conditions

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

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



2.0 DESK STUDY

The findings of the Phase I desk study are presented in the following section. A copy of the information obtained as part of the desk study is presented in Appendix A.

2.1 Site Description

The site is located approximately 6.44km north of Bognor Regis, 10.94km east of Chichester, 26.07km west of Worthing and 40km east of Portsmouth. The site itself is currently largely an undeveloped greenfield located within a semi-rural/residential area. An area to the south-east of the site is currently occupied by a number of greenhouses with some areas of hardstanding.

The topography of the site is demonstrated as lying at approximately 9.51m to 8.19m AOD, generally falling from west to east. This has been assessed via LiDAR information obtained as no topographical survey has yet been undertaken on site.

A watercourse is present to the east of site which stretches from the south-eastern corner up to the northern boundary of the site. Sections of this watercourse are culverted, including across the frontage of the existing 'Wings Nursery' building(s). It is believed that this watercourse diverts under Lidsey Road, to the east via an existing culvert. In addition to this watercourse, a further open watercourse runs along the western boundary of the site. Both watercourses are unnamed. It is believed the watercourse to the east of the site flows in a northerly direction, whilst the watercourse at the western boundary flows in a southerly direction.

2.2 Geology

British Geological Survey mapping indicated the geology of the site to comprise River Terrace Deposits overlying the London Clay Formation.

The rivers of the south-east of England, including the River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of River Terrace Deposits. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

London Clay comprises a stiff grey fissured clay, weathering to brown near surface. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

The lowest part of the formation is a sandy bed with black rounded gravel and occasional layers of sandstone and is known as the Basement Beds.

For further details, reference should be made to the Geology Datasheets, appended to this report.

2.3 Hydrogeology

With reference to information provided by the Environment Agency, the site was indicated to overlie Secondary A Aquifer (River Terrace Deposits) with the underlying solid geology (London Clay Formation) forming an Unproductive Strata.

Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than



Desk Study Report

strategic scale and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

Unproductive Strata's are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

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

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

2.4 Hydrology

The nearest surface water feature identified on the environmental dataset was 0m northeast (drainage ditch).

The site was indicated to be located outside any area designated as being at risk from flooding and extreme fluvial flooding from rivers without defences, outside any area at risk of flooding from surface water, with the exception of a small pocket within the northern portion which as at a low risk of surface water flooding (1000 year return). The site was within an area with potential for groundwater flooding of the property below ground level and at surface level to occur.

No surface water abstractions were recorded within 500m of the site.

No pollution incidents to controlled waters were recorded within 500m of the site.

The desk study identified one discharge consent within 500m of the site boundary:

- 469m S – Messrs John Turner & Partners, unknown discharge, pre NRA status, receiving water: controlled sea.

2.5 Radon

Reference has been made to the Envirocheck data report. The report indicates that the site lies in an area where radon protection measures are not required.

2.6 Environmental Data

Searches of other various environmental databases were made as part of the desk study, including air pollution control sites, Part IIA contaminated land, Integrated Pollution Control (IPC) and Integrated Pollution Prevention and Control (IPPC) sites, registered radioactive substances, COMAH sites, explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS) sites, planning permissions for sites involving hazardous substances and fuel station registers.

One local authority pollution prevention and controls permit was identified within 500m of the site boundary:

**Desk Study Report**

- 95m SE – Lee Fencing, PG6/2 manufacturing of timber and wood based products, authorisation revoked.

Four potentially contaminative contemporary trade directory entries were identified within a 250m radius of the site boundary:

- 48m NE – Polishedact, furniture repairing and restoring, inactive.
- 97m SE – HS Cars, used car dealers, inactive.
- 166m SE – National Plastics, cladding suppliers and installers, active.
- 240m NE – Scotts Direct, car dealers, inactive.

2.7 Soil Chemistry

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

Contaminant	Estimated Concentration
Arsenic	<15
Cadmium	<1.8
Chromium	60-90
Lead	<100
Nickel	15-30

Table 2.1 Estimated Soil Concentrations on site

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

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

2.8 Sensitive Land Uses

A search was made of environmentally sensitive areas, including areas of green belt, scenic or natural beauty, parks, reserves, nitrate zones, protected conservation and scientific areas.

The site was situated within a nitrate vulnerable zone.

2.9 Geotechnical Data

The Coal Authority designated the site as being in an area 'that might not have been affected by coal mining activity'.

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

National databases for a number of different geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site itself is presented in Table 2.2.

Hazard	Designation
--------	-------------



Non-coal mining	No hazard
Collapsible ground	Low
Compressible ground	No hazard
Ground dissolution	No hazard
Landslide	Very low
Running sand	Low
Shrinking and Swelling clay	Low

Table 2.2 Summary of BGS Geological Hazards

One BGS recorded mineral site was identified within 500m of the site boundary:

- 316m E – Woodgate Brick Field, opencast, Lambeth Group, ceased.

2.10 Landfill and Waste Management Facilities

A search of BGS recorded landfill sites, IPC registered waste sites, licensed waste management facilities, local authority recorded landfill sites, other registered landfill sites, waste transfer stations and other waste treatment or disposal sites was undertaken as part of the desk study. Such sites may form an artificial source of ground gases, such as carbon dioxide and methane, where wastes are buried or disposed of to landfill.

One licenced waste management facility was recorded within 500m of the site boundary:

- 417m SW – Lidsey Landfill Site Extension, co-disposal landfill site, licence issued.

One area of potentially infilled land (non-water) was identified within 500m of the site boundary:

- 303m E – Unknown filled ground (pit, quarry, etc) mapped 1993.

Twenty-four areas of potentially infilled land (water) were identified within 500m of the site boundary:

- 0m W – Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 0m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 0m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 0m NE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 4m SW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 8m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 12m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 30m NE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 37m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 45m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 58m SW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 78m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 83m SE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 122m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 154m E - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 164m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 164m E - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 173m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 214m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 228m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 256m SE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.

**Desk Study Report**

- 292m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 481m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1938.

With reference to the Envirocheck site sensitivity report the above appeared to mostly relate to linear features so most likely represent small scale infilled drainage ditches around fields.

2.11 Historic Mapping

Historic maps dating back to 1876 were obtained as part of the desk study. A summary of the apparent key features observed on the map extracts both on the site and within the local area is presented within Table 2.3.

Date	On Site	Off Site
1876	The site comprised part of a field network.	The surrounding area comprised a field network with the village of Woodgate c.40m north and a railway line c.80m north.
1880	Few changes since the previous map edition.	Few changes since the previous map edition.
1897	Few changes since the previous map edition.	The land to the west was indicated to form a nursery.
1899	Few changes since the previous map edition.	Few changes since the previous map edition.
1912	Few changes since the previous map edition.	Few changes since the previous map edition.
1914	Few changes since the previous map edition.	Few changes since the previous map edition.
1937	Few changes since the previous map edition.	There had been some residential development to the north, east and south.
1938-51	Few changes since the previous map edition.	Few changes since the previous map edition.
1947-49 Aerial	Few changes since the previous map edition.	Few changes since the previous map edition.
1951	Few changes since the previous map edition.	Few changes since the previous map edition.
1961-62	Few changes since the previous map edition.	Four large glass houses were indicated adjacent to the south-western boundary.
1970-79	Either a roadway or water course was indicated running in an L-shape, east to west (centrally) and north to south (western boundary).	An additional three large glass houses were indicated to the south-west and three glass houses to the west.
1974-77	Few changes since the previous map edition.	There had been further residential development to the north and east.
1974	Few changes since the previous map edition.	Few changes since the previous map edition.
1978-92	Few changes since the previous map edition.	Few changes since the previous map edition.
1980	Few changes since the previous map edition.	Few changes since the previous map edition.
1982	Few changes since the previous map edition.	Few changes since the previous map edition.
1992	Few changes since the previous map edition.	Additional glasshouses were indicated to the west.



Date	On Site	Off Site
1994	A glass house was indicated within the south-eastern portion of the site, this was commensurate with that observed during the site walkover.	Few changes since the previous map edition.
1995	Few changes since the previous map edition.	Few changes since the previous map edition.
1999 Aerial	The north-eastern portion of the site was partly wooded.	Few changes since the previous map edition.
2000	Few changes since the previous map edition.	Few changes since the previous map edition.
2006	Few changes since the previous map edition.	Few changes since the previous map edition.
2019	Few changes since the previous map edition.	Few changes since the previous map edition.

Table 2.3 Summary of Historic Map extracts

2.12 Previous Ground Investigations

Geo-Environmental was not aware of any previous investigations that had been undertaken on the subject site.

2.13 Potential Contamination

Based on experience, potential contaminants associated with nurseries include pesticides, hydrocarbons from fuel storage for heating systems, and asbestos associated with insulation and heating systems. In addition, the near surface soils may have been by heavy metals and organic pollutants such as poly-aromatic hydrocarbons (PAHs) through direct placement (in the form of ash) or through aerial deposition.

Sampling and chemical testing would be recommended to verify the actual concentrations of these substances within the near surface soils.

2.14 Ground Gas Summary

The desk study has identified both on-site and off-site sources of ground gases including infilled land and a licenced landfill site albeit c.400m from the site.



3.0 PRELIMINARY ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site.

3.1 Geotechnical Risk Assessment

3.1.1 Potential Geotechnical Issues

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

- The presence of shallow groundwater and associated excavation stability
- Viability of soakaways.
- The presence of mature trees will need to be considered for foundation design where shrinkable clay soils are present.
- Lateral changes in ground conditions.

3.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

3.2.1 Methodology

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

A risk of harm may only exist where a plausible pollutant linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Tables 3.1 and 3.2.



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

Table 3.1 Risk Ratings Matrix

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

Table 3.2 Risk Rating Definitions

3.2.2 Summary of Plausible Sources

Possible sources of contamination identified from the desk study are summarised in Table 3.3.

Source	Description	Contaminants
Made Ground and shallow soils	The general quality of Made Ground and shallow soils could be impacted by the presence of contamination.	Possible elevated concentrations of metals, metalloids, TPH and PAH compounds, and asbestos in Made Ground (if present) or in shallow natural soils.
Ground Gases	Possible presence of ground gases as a result of Made Ground (if present) and vapours associated with organic contaminants (if present).	Possible elevated Methane, Carbon Dioxide, depleted Oxygen and Volatile Organic Compounds (VOCs)

Table 3.3 Possible Sources of Contamination

3.2.3 Summary of Plausible Pathways

The plausible pathways are summarised in Table 3.4. These pathways are based on the proposed end use, including residential properties and private gardens.

Pathway	Description
Direct Contact	Ingestion of soil particles, ingestion and bioaccumulation in vegetables/fruit and inhalation of soil derived dust (including tracked back dust), dermal contact.
Inhalation	Inhalation of ground gases and soil dust both inside and outside of buildings.
Vertical & Lateral Migration	Contaminant movement both vertically through leaching/gravity and horizontally along preferential pathways, e.g. services trenches, or with groundwater.
Root Uptake	Uptake of soil and waterborne contaminants by plants.
Chemical Attack	Attack of buried plastics and concrete by aggressive ground conditions.

Table 3.4 Possible Contamination Pathways

3.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development are summarised in Table 3.5.

Receptor	Description	Comments
Site Workers	Persons involved in construction and future maintenance of the proposed development.	Ground Workers could become exposed during site clearance, construction and maintenance.
End Users	Residents/occupants of the proposed development.	The proposed development is likely to include private gardens and areas of soft landscaping.
Soft Landscaping	Possible areas of planting including lawns, shrubs, trees, etc.	Planting is anticipated in private gardens and soft landscaping.
Buildings and Infrastructure	Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils.	Significant depths of Made Ground are not anticipated; however contamination may also be present within shallow Made Ground and natural soils.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses include predominantly commercial and residential.



Receptor	Description	Comments
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site overlies a Secondary A Aquifer and an Unproductive Strata. The site is situated outside of any SPZ.
Surface Water	Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters.	Surface water features are present on-site (ditches).

Table 3.5 Possible Receptors of Contamination

Site workers involved in the preparation and construction of the development have not been considered further in this assessment as the Principal Contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 3.6 summarises the identified plausible pollution linkages and a qualitative assessment of the risks based on the desk study research.



Desk Study Report

Potential Source/ media	Potential Receptors	Potential Pathways	Probability	Consequence	Risk and Justification
General chemical quality/Made Ground & Near Surface Soils	End Users	Direct contact	Low	Medium	Moderate to Low Future end users are likely to come into contact with potentially impacted soils via direct contact in private garden areas.
	Adjacent Land Users	Direct contact	Low	Mild	Low During the development fugitive dust may be released which could impact neighboring land users through direct contact.
	Soft Landscaping	Root uptake	Low	Mild	Low Plants are likely within soft landscaped areas.
	Water Supply Pipes	Chemical attack	Low	Mild	Low Water supply pipes are likely to come into contact with soils.
	Buildings and Infrastructure	Chemical attack	Low	Mild	Low Foundations and utilities will be placed within soils. However, the consequence is anticipated to be mild.
	Groundwater	Vertical migration	Low	Medium	Moderate to Low Groundwater is anticipated within the granular parts of the River Terrace Deposits.
Ground Gases	End Users	Inhalation	Low	Medium	Moderate to Low It is likely that end users of the site will come into contact with ground gases as off-site sources have been identified.

Table 3.6 Plausible Pollutant Linkages & Qualitative Risk Assessment



3.3 Preliminary Risk Assessment Summary

The PRA and CSM developed from the information gathered as part of the desk study process have identified plausible potential pollutant linkages that exist in relation to the proposed redevelopment of the site.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site, but could require investigation and assessment to support further characterisation, calibration of the CSM and where/if necessary determine a remedial strategy to reduce, remove or otherwise control any risk within the site to key receptors.

It is considered that the overall risk from potential contamination on the site is 'moderate to low to low' and that further assessment would be necessary to satisfy planning conditions or to provide clarification of the risk assessment.

In order to progress this assessment in line with the National Planning Policy Framework, to provide further characterisation of the site and refinement of the PRA and CSM, it is recommended that intrusive investigation and associated testing is undertaken to confirm the findings of the desk study report and to provide a robust risk assessment for the site and proposed development. As such it is recommended that geochemical and geotechnical investigation be carried out on the site to include analysis of soil and groundwater (if encountered) samples for the range of potential contaminants identified within the Desk Study.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The desk study has shown the site to have formerly comprised fields with a glass house. The proposed end use of the site is understood to comprise a residential development with private gardens, soft landscaping and associated infrastructure. As such, sensitive uses such as in private gardens with gardening activities (including dust being tracked back into buildings) and growing vegetables are considered likely to form part of the end use scenario for this site.

It is concluded that the overall risk of harm to end users is moderate to low, to low (as defined in Section 3) and that further assessment is likely to be required to better characterise contamination on site to inform an update of the conceptual site model and allow a robust assessment of the risk to human health and the environment.

4.2 Recommendations

At this stage and based on the findings of the desk study and preliminary risk assessment, the following scope of works is recommended for the intrusive investigation on the site.

- Intrusive investigation works should be carried out in order to clarify the geo-environmental issues pertaining to redevelopment of the site.
- Laboratory analysis, on shallow soil samples and groundwater samples recovered from the exploratory holes, for an analytical suite to include the potential contaminants identified within the desk study and encountered during any intrusive investigation
- Ground gas monitoring in accordance with best practice.
- Laboratory and in-situ testing for the engineering parameters of the encountered soils to provide a basis for foundation, pavements and soakaway design.

It may be necessary to undertake remediation/risk mitigation measures on this site to break pollutant linkages and thus protect key receptors such as human health, controlled waters, built environment, soft landscaping and the like. The requirement and extent of any such remediation cannot be determined until such time as an intrusive investigation and associated testing has been completed.

FIGURE 1

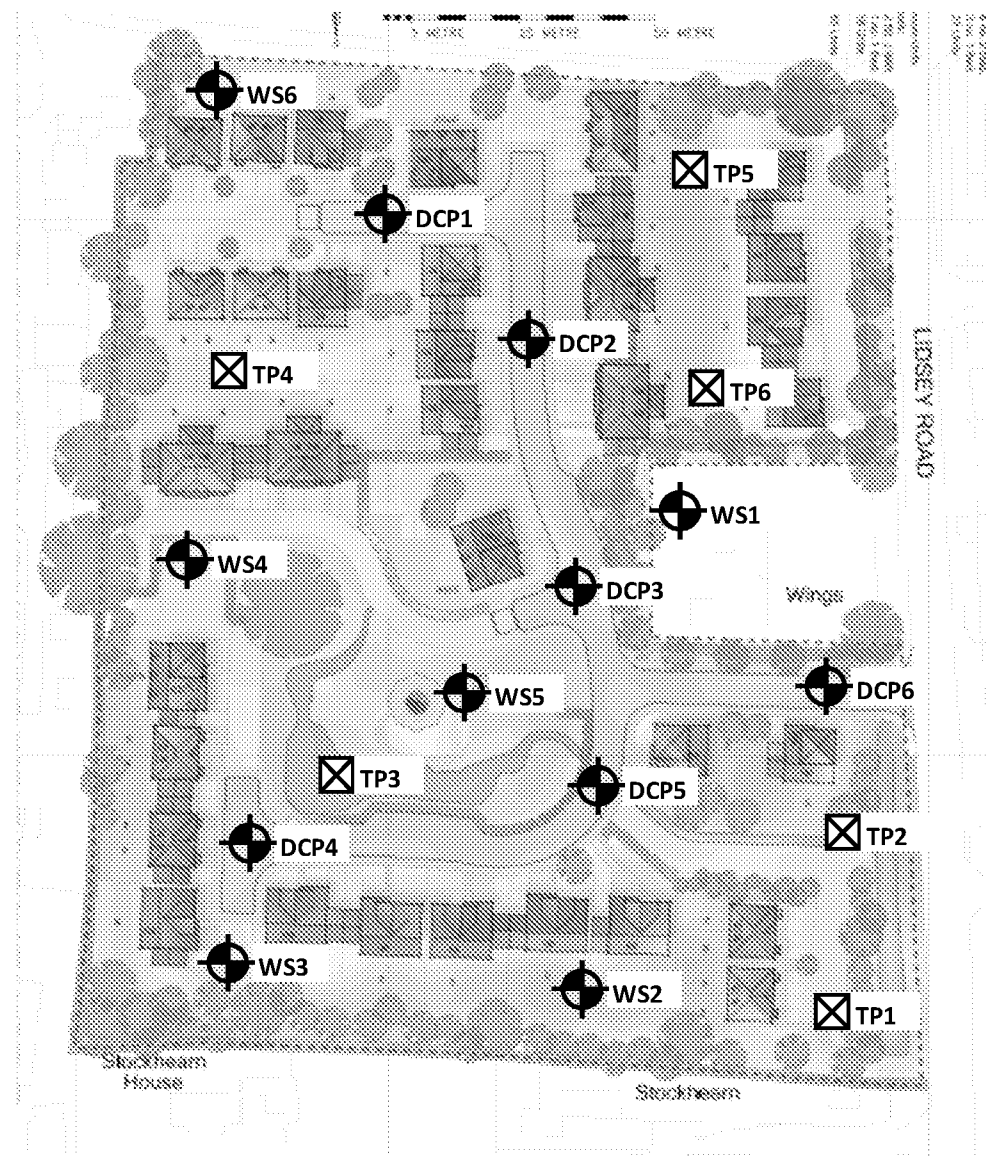
Site Location Plan



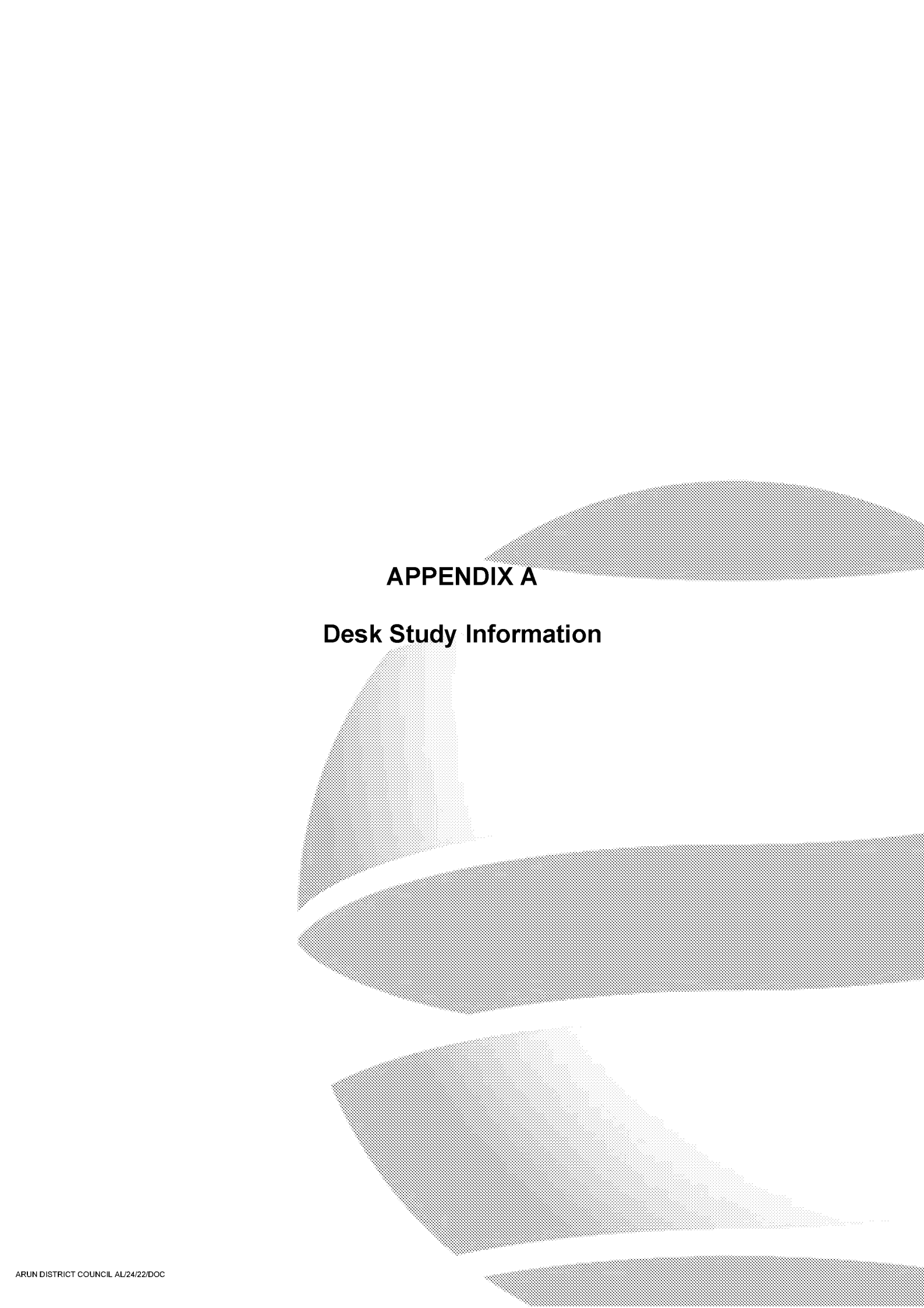
Project:	Land Off Lidsey Road, Woodgate			Title	Site Location Plan	
Client:	Thakeham Homes Ltd			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net  Geo-Environmental		
Ref No:	GE18390	Revision:	1.0			
Drawn:	AP	Date:	09/08/2019			
Figure:	1	Scale:	Not To Scale			

FIGURE 2

Proposed Layout Plan



Project:	Land Off Lidsey Road, Woodgate			Title	Site Investigation Plan	
Client:	Thakeham Homes Limited			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE18390	Revision:	v1			
Drawn:	AP	Date:	09/08/2019			
Figure:	2	Scale:	Not To Scale			



APPENDIX A

Desk Study Information



Geo-Environmental

Envirocheck® Report:

Datasheet

Order Details:

Order Number:

214178583_1_1

Customer Reference:

GE18390

National Grid Reference:

493720, 104130

Slice:

A

Site Area (Ha):

2.44

Search Buffer (m):

1000

Site Details:

Lidsey Road

Woodgate

CHICHESTER

PO20 3SU

Client Details:

Mr A Potter

Geo Environmental Services Ltd

Unit 7 Danworth Farm

Cuckfield Road

Hurstpierpoint

West Sussex

BN6 9GL



Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	28
Hazardous Substances	-
Geological	33
Industrial Land Use	35
Sensitive Land Use	39
Data Currency	40
Data Suppliers	45
Useful Contacts	46

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

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

Copyright Notice

© Landmark Information Group Limited 2019. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer. A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report.

© Environment Agency & United Kingdom Research and Innovation 2019. © Natural Resources Wales & United Kingdom Research and Innovation 2019.

Natural England Copyright Notice

Site of Special Scientific Interest, National Nature Reserve, Ramsar, Special Protection Area, Special Conservation Area, Marine Nature Reserve data (derived from Ordnance Survey 1:10000 raster) is provided by, and used with the permission of, Natural England who retain the copyright and Intellectual Property Rights for the data.

Scottish Natural Heritage Copyright

Contains SNH information licensed under the Open Government Licence v3.0.

Ove Arup Copyright Notice

The Mining Instability data was obtained on licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The supplied Mining Instability data is derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Peter Brett Associates Copyright Notice

The cavity data presented has been extracted from the PBA enhanced version of the original DEFRA national cavity databases. PBA/DEFRA retain the copyright & intellectual property rights in the data. Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warrant that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated by PBA. In no event shall PBA/DEFRA or Landmark be liable for any loss or damage including, without limitation, indirect or consequential loss or damage arising from the use of this data.

Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Natural Resources Wales Copyright Notice

Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number 100019741. Crown Copyright and Database Right. Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Some features of this information are based on digital spatial data licensed from the Centre for Ecology & Hydrology © NERC (CEH). Defra, Met Office and DARD Rivers Agency © Crown copyright. © Cranfield University. © James Hutton Institute. Contains OS data © Crown copyright and database right 2019. Land & Property Services © Crown copyright and database right.



Geo-Environmental

Report Version v53.0

Contents



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			1	10
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 4				19
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 9		1		
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 9	Yes			
Pollution Incidents to Controlled Waters	pg 9				3
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 9				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 9				12 (*35)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 21	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 21	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 21	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 22	5	6	14	27



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 28				2
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 28			1	1
Licensed Waste Management Facilities (Locations)	pg 28				3
Local Authority Landfill Coverage	pg 29	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 29				1
Potentially Infilled Land (Non-Water)	pg 29			1	
Potentially Infilled Land (Water)	pg 29	4	16	3	7
Registered Landfill Sites	pg 31				2
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 33	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 33	Yes			Yes
BGS Recorded Mineral Sites	pg 33			1	1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 33	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 34	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 34	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 34	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 34	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 35		4	7	10
Fuel Station Entries					
Points of Interest - Commercial Services	pg 36				2
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 37		2	8	6
Points of Interest - Public Infrastructure	pg 38				5
Points of Interest - Recreational and Environmental	pg 38				2
Gas Pipelines					
Underground Electrical Cables					



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 39	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (N)	0	1	493722 104130
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	0	1	493700 104150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (W)	96	1	493550 104130
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (N)	123	1	493650 104350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	173	1	493900 103900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (N)	278	1	493600 104500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	360	1	494150 104250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (SW)	453	1	493300 103750
1	Discharge Consents Operator: Messrs John Turner & Partners Property Type: Undefined Or Other Location: Headhone Farm, Shripney West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01094 Permit Version: 1 Effective Date: 19th September 1963 Issued Date: 19th September 1963 Revocation Date: Not Supplied Discharge Type: Unknown Discharge: Controlled Sea Environment: Controlled Sea Receiving Water: Controlled Sea Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A8NE (S)	469	2	493790 103570
2	Discharge Consents Operator: Westergate Developments Ltd. Property Type: Undefined Or Other Location: Dev. North Of Orchard Gardens, Westergate Street, Westergate , Chichester West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01708 Permit Version: 1 Effective Date: 18th April 1968 Issued Date: 18th April 1968 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Freshwater River Receiving Water: Freshwater River Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	537	2	493990 104720



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	Discharge Consents Operator: Ashmarden Ltd Property Type: Mixed Farming Location: Headhone Farm, Shripney, Bognor Regis, West Sussex, Po22 9pe Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: App/So/101su Permit Version: 1 Effective Date: 1st April 1999 Issued Date: 1st April 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Into Land Environment: Receiving Water: Into Land Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A8NE (S)	541	2	493750 103500
4	Discharge Consents Operator: G.H. Crockett Esq. A.R.I.B.A. Property Type: CONSTRUCTION OF BUILDINGS Location: Housing Site At Westergate Stree, Westergate, Chichester, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01096 Permit Version: 1 Effective Date: 9th September 1963 Issued Date: 9th September 1963 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Controlled Sea Environment: Receiving Water: Controlled Sea Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 100m	A18SE (N)	562	2	493850 104780
5	Discharge Consents Operator: Pollards' Nurseries Ltd. Property Type: Undefined Or Other Location: Greenhouses At Hook Lane, Aldingbourn, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01981 Permit Version: 1 Effective Date: 3rd February 1971 Issued Date: 3rd February 1971 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 100m	A18SW (N)	583	2	493470 104780
5	Discharge Consents Operator: Pollards' Nurseries Ltd. Property Type: Undefined Or Other Location: Greenhouses At Hook Lane, Aldingbourn, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01981 Permit Version: 1 Effective Date: 3rd February 1971 Issued Date: 3rd February 1971 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 10m	A18SW (N)	593	2	493470 104790



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Discharge Consents Operator: Lindsey Caravan Park Ltd Property Type: HOLIDAY ACCOM/CAMP SITE/CARAVAN SITE/HOTEL/HOSTEL Location: Lidsey Farm Caravan Pk, Lidsey, Bognor Regis, West Sussex, Po22 9pg Authority: Environment Agency, Southern Region Catchment Area: Aldingbourne/Barnham Rife Reference: S00001 Permit Version: 1 Effective Date: 3rd August 1981 Issued Date: 3rd August 1981 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of The Lidsey Rife Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A18NE (N)	640	2	493840 104860
7	Discharge Consents Operator: The Occupier Property Type: Undefined Or Other Location: Black Shed, Eastergate, Chichester, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01102 Permit Version: 1 Effective Date: 17th July 1963 Issued Date: 17th July 1963 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Controlled Sea Environment: Receiving Water: Controlled Sea Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 100m	A12SW (W)	726	2	492950 103830
8	Discharge Consents Operator: Phillpot Contractors Ltd. Property Type: Undefined Or Other Location: Plots 1/2 Westergate St., Westergate, Chichester, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00337 Permit Version: 1 Effective Date: 4th February 1986 Issued Date: 4th February 1986 Revocation Date: 1st July 1991 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m	A18NE (N)	778	2	493790 105000
9	Discharge Consents Operator: Mr E. Sawday Property Type: Undefined Or Other Location: Manor Farm House, Manor Farm, Apuldrum, Chichester West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: D01069 Permit Version: 1 Effective Date: 13th March 1963 Issued Date: 13th March 1963 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Freshwater River Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A9SW (S)	813	2	494060 103270



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: Mrs Linda Cooper Property Type: SPORT, AMUSEMENT+RECREATION/GOLF CLUB/GYM/THEME PK/SPA Location: Old Canal Caravan Site, Lidsey Road, Bognor Regis, West Sussex, PO22 9pf Authority: Environment Agency, Southern Region Catchment Area: The River Arun Reference: Npswd008337 Permit Version: 1 Effective Date: 23rd July 2009 Issued Date: 23rd July 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: The Old Canal Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A8SE (S)	844	2	493737 103197
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site Epr/Cp3735sm, Lidsey Landfill Site, Lidsey Road, Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: UP3932JF Original Permit Ref: Cp3735sm Effective Date: 28th September 2018 Status: Effective Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.1 A(1) (A) Activity Description: THE INCINERATION OF HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 10 TONNES PER DAY Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: YP3239DT Original Permit Ref: Cp3735sm Effective Date: 30th June 2016 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: DP3137NV Original Permit Ref: Cp3735sm Effective Date: 31st October 2013 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: DP3135NC Original Permit Ref: Cp3735sm Effective Date: 28th May 2013 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: GP3031FY Original Permit Ref: Cp3735sm Effective Date: 3rd December 2011 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: FP3239HA Original Permit Ref: Cp3735sm Effective Date: 7th October 2010 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: FP3239HA Original Permit Ref: Cp3735sm Effective Date: 7th October 2010 Status: Effective Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: WP3230KD Original Permit Ref: Cp3735sm Effective Date: 20th April 2010 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: WP3230KD Original Permit Ref: Cp3735sm Effective Date: 20th April 2010 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate., Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: ZP3138UQ Original Permit Ref: Cp3735sm Effective Date: 22nd December 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Substantial Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: ZP3138UQ Original Permit Ref: Cp3735sm Effective Date: 22nd December 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Substantial Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: MP3130MH Original Permit Ref: Cp3735sm Effective Date: 18th June 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: MP3130MH Original Permit Ref: Cp3735sm Effective Date: 18th June 2007 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: CP3735SM Original Permit Ref: Cp3735sm Effective Date: 16th December 2005 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	Integrated Pollution Prevention And Control Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate, BOGNOR REGIS, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: Cp3735sm Original Permit Ref: Cp3735sm Effective Date: 16th December 2005 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Integrated Pollution Prevention And Control Name: Angus Energy Weald Basin No.3 Limited Location: Lidsey Well Site, Lidsey Well Site, Lidsey Road, Lidsey, Nr Bognor Regis, Bognor Regis, West Sussex, PO22 9PH Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: GP3238YH Original Permit Ref: Yp3232II Effective Date: Not Supplied Status: Valid Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y	A9SE (SE)	906	2	494430 103390
12	Integrated Pollution Prevention And Control Name: Key Petroleum Weald Basin Ltd Location: Lidsey Well Site, Lidsey Oilfield, Lidsey Road, Bognor Regis, West Sussex, PO22 9PH Authority: Environment Agency, Southern Region Permit Reference: YP3232LL Original Permit Ref: Yp3232II Effective Date: 28th February 2007 Status: Effective Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned within the geographical locality Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y	A9SE (SE)	930	2	494433 103360
12	Integrated Pollution Prevention And Control Name: Angus Energy Weald Basin No3 Limited Location: Lidsey Well Site - Epr/Yp3232II, Lidsey Oilfield, Lidsey Road,,, BOGNOR REGIS, West Sussex, PO22 9PH Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: DP3236ZM Original Permit Ref: Yp3232II Effective Date: 15th March 2013 Status: Effective Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y Activity Code: 1.2 Part A (1) e) (A) 2017 Activity Description: Activities are less than 500,000 tonnes per annum Primary Activity: N	A9SE (SE)	951	2	494420 103320
12	Integrated Pollution Prevention And Control Name: Key Petroleum Weald Basin Ltd Location: Lidsey Well Site, Lidsey Oilfield, Lidsey Road,,, BOGNOR REGIS, West Sussex, PO22 9PH Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: YP3232LL Original Permit Ref: Yp3232II Effective Date: 28th February 2007 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 10m Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A9SE (SE)	951	2	494420 103320



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Local Authority Pollution Prevention and Controls Name: Lee Fencing Location: Lidsey Road, Woodgate, CHICHESTER, West Sussex, PO20 6SU Authority: Arun District Council, Environmental Health Department Permit Reference: Epa/2/92 Dated: 22nd April 1992 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products Status: Authorisation revoked Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	95	3	493809 103945
	Nearest Surface Water Feature	A13SE (E)	0	-	493792 104106
14	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Other Location: Watercourse/Barnham Rife Authority: Environment Agency, Southern Region Pollutant: Sewage Debris/Litter Note: Surcharging Manhole; Water Company Sewage: Combined Sewer Overflow Incident Date: 18th January 1994 Incident Reference: 845 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Plc Sewage Other Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	573	2	494290 104500
15	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: Tributary Of Lidsey Rife Authority: Environment Agency, Southern Region Pollutant: Storm Sewage Note: Surcharging Manhole Incident Date: 20th December 1993 Incident Reference: 812 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Plc Sewage Other Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	584	2	494380 104090
16	Pollution Incidents to Controlled Waters Property Type: Miscellaneous Premises: Unknown Location: Adjacent To Lec, ALDINGBOURNE Authority: Environment Agency, Southern Region Pollutant: Oils - Unknown Note: Oil On The Aldingbourne Rife Incident Date: 15th December 1998 Incident Reference: 2842 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Poor Operational Practice Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A18NE (N)	854	2	493950 105060
	River Quality Name: Lidsey Rife GQA Grade: River Quality E Reach: Aldingbourne/Barnham Rifes - Westergate Estimated Distance (km): 6.1 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A14SE (E)	650	2	494451 104042
17	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/542102/R01 Permit Version: 2 Location: Between Points A&B At Lidsey, Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 13th December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	575	2	494358 104312



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102/R01 Permit Version: 1 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	575	2	494358 104312
17	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	598	2	494380 104320
17	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 100 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 909 Yearly Rate (m3): 24545.2 Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 August Permit Start Date: 20th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	598	2	494380 104320
18	Water Abstractions Operator: Mr R Eggs Licence Number: 27/208/R01 Permit Version: 1 Location: West Branch Of The Lidsey Rife Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	855	2	494290 103340



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	Water Abstractions Operator: Lidsey Farm Licence Number: 27/208 Permit Version: 1 Location: West Branch Of The Lidsey Rife Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	855	2	494290 103340
18	Water Abstractions Operator: Ashmarden Limited Licence Number: So/041/0024/007 Permit Version: 3 Location: Lidsey Rife (West Branch) At Headhone Farm Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 13th December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	859	2	494281 103329
18	Water Abstractions Operator: Ashmarden Ltd Licence Number: So/041/0024/007 Permit Version: 2 Location: Lidsey Rife (West Branch) At Headhone Farm Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 8th February 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	859	2	494281 103329
18	Water Abstractions Operator: Ashmarden Ltd Licence Number: So/041/0024/007 Permit Version: 1 Location: Lidsey Rife (West Branch) At Headhone Farm Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Headhone Farm, Lidsey Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	859	2	494281 103329



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Water Abstractions Operator: Messrs W H & D Gillbard Licence Number: 10/41/541301 Permit Version: 100 Location: Park Farm Reach E-F, Aldingbourne Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Only On Land Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	929	2	493050 104930
20	Water Abstractions Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 101 Location: Lidsey Rife Reach A-B, Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	933	2	494310 103260
20	Water Abstractions Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 100 Location: Lidsey Rife Reach A-B, Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th May 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	933	2	494310 103260
	Water Abstractions Operator: The Woodhorn Group Licence Number: 10/41/541310 Permit Version: 103 Location: Points A To B On Aldingbourne Rife At Upper Woodhorn Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Outlined In Black On Map Labelled Amendment No. 2 Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1139	2	492510 103930



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Woodhorn Group Licence Number: 10/41/541310 Permit Version: 102 Location: Points A To B On Aldingbourne Rife At Upper Woodhorn Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Outlined In Black On Map Labelled Amendment No. 2 Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th August 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1139	2	492510 103930
	Water Abstractions Operator: Mr A J Pitts Licence Number: 10/41/541310 Permit Version: 101 Location: Points A To B On Aldingbourne Rife At Upper Woodhorn Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Outlined In Black On Map Labelled Amendment No. 2 Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 30th May 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1139	2	492510 103930
	Water Abstractions Operator: Messrs W H & D Gillbard Licence Number: 10/41/541301 Permit Version: 100 Location: Park Farm Reach C-D, Aldingbourne Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Only On Land Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	1203	2	492840 105110
	Water Abstractions Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 101 Location: Lidsey Rife Reach C-D, Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NW (SE)	1238	2	494930 103540



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 100 Location: Lidsey Rife Reach C-D, Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 227 Yearly Rate (m3): 14090 Details: Water Abstracted Shall Be Used Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th May 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NW (SE)	1238	2	494930 103540
	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/541309/R01 Permit Version: 2 Location: Points B-C, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (W)	1261	2	492392 104272
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309/R01 Permit Version: 1 Location: Points B-C, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (W)	1261	2	492392 104272
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309 Permit Version: 101 Location: Points B-C, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (W)	1263	2	492390 104270



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309 Permit Version: 100 Location: Points A-B, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 909 Yearly Rate (m3): 12272.6 Details: Water Abstracted Shall Be Used Only On Land And Buildings Shown In Pink On The Plan Accompanying This Licence Authorised Start: 01 May Authorised End: 31 August Permit Start Date: 22nd May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11NE (W)	1263	2	492390 104270
	Water Abstractions Operator: A J Pitts Licence Number: 541203 Permit Version: Not Supplied Location: Upper Woodhorn, Oving Chichester Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 1241 Yearly Rate (m3): 113635 Details: Oving Rife Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A6SE (SW)	1284	2	492620 103270
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 541309 Permit Version: Not Supplied Location: Lidsey, BERSTED Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 909 Yearly Rate (m3): 12272 Details: Aldingbourne Rife Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1NE (SW)	1401	2	492600 103110
	Water Abstractions Operator: Hall Hunter Partnership (Farming) Licence Number: 27/185 Permit Version: 102 Location: Right Bank Of The Aldingbourne Rife Looking Downstream. Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1NE (SW)	1668	2	492490 102840



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr A Tukker Licence Number: 27/185 Permit Version: 101 Location: Right Bank Of The Aldingbourne Rife Looking Downstream. Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1NE (SW)	1668	2	492490 102840
	Water Abstractions Operator: The Donald Langmead Partnership Licence Number: 10/41/541002 Permit Version: 100 Location: Point 1 At Shripney Farm & Flansham Farm Authority: Environment Agency, Southern Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 5 Yearly Rate (m3): 1659.1 Details: Water Abstracted Shall Be Used On Land And Buildings In The Occupation Of The Licence Holder At Shripney And Flansham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st March 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	1668	2	492580 102760
	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/542102/R01 Permit Version: 2 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 13th December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1717	2	494931 102749
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102/R01 Permit Version: 1 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1717	2	494931 102749



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1737	2	494950 102740
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 100 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 August Permit Start Date: 20th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1737	2	494950 102740
	Water Abstractions Operator: J R Robinson Licence Number: 10/41/542105 Permit Version: 100 Location: Point A At Eastergate Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted To Be Used On Land Marked Pink On Said Map Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1753	2	494260 105910
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 10/41/541004 Permit Version: 102 Location: At Shripney Farm, Bognor Regis Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1782	2	492870 102440



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr D W Langmead Licence Number: 10/41/541004 Permit Version: 100 Location: At Shripney Farm, Bognor Regis Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th March 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1782	2	492870 102440
	Water Abstractions Operator: A J Pitts Esq Licence Number: 541310 Permit Version: Not Supplied Location: Aldingbourne Rife, UPPER WOODHORN Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 1241 Yearly Rate (m3): 22727 Details: Aldingbourne Rife Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1925	2	491730 104330
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/186 Permit Version: 103 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1926	2	492428 102551
	Water Abstractions Operator: Mr D W Langmead Licence Number: 10/41/541001/R01 Permit Version: 1 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/186 Permit Version: 104 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539
	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/541309/R01 Permit Version: 2 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309/R01 Permit Version: 1 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539
	Water Abstractions Operator: Mr D W Langmead Licence Number: 10/41/541001 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/186 Permit Version: 102 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: Mr D W Langmead Licence Number: 27/186 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st January 2003 Permit End Date: 31st October 2003 Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr D W Langmead Licence Number: 27/186 Permit Version: 100 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 20th February 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: The Woodhorn Group Licence Number: 10/41/541310 Permit Version: 103 Location: Point E At Tangmere Airfield Composting Site Authority: Environment Agency, Southern Region Abstraction: Refuse And Recycling: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: At Tangmere Airfield Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SW (NW)	1950	2	492130 105440
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: >70% Superficial: >90% Patchiness: Superficial Thickness: 3-10m Superficial Recharge: High	A13SE (N)	0	4	493722 104130
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13SE (N)	0	4	493722 104130
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (N)	0	4	493722 104130
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13SE (E)	0	5	493792 104106
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13SE (E)	0	5	493792 104132
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	0	5	493788 104168
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	0	5	493788 104168
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	0	5	493786 104218
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 189.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	1	5	493646 104132
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	8	5	493787 104230
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	27	5	493787 104248
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	30	5	493788 104252



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 80.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (SE)	88	5	493798 103951
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 136.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	177	5	493633 103869
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 140.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	260	5	493401 104280
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 65.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	292	5	493852 103753
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 337.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NW (S)	295	5	493599 103754
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	301	5	493410 104399
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	329	5	494007 103786
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 295.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	341	5	494024 103784
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 115.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	350	5	493833 103691



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 602.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	402	5	493241 104046
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NE (SW)	424	5	493302 103794
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NE (SW)	429	5	493296 103795
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 488.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (SW)	437	5	493284 103796
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 54.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	437	5	493251 104388
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	456	5	493228 104380
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 252.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	457	5	493229 104387
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 301.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	510	5	493928 104712
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 99.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	510	5	493928 104712



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	533	5	493298 104620
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 443.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	549	5	493760 104772
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 115.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (E)	551	5	494322 104371
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 504.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	556	5	494353 104120
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 242.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (NE)	557	5	494294 104457
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 340.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (NE)	557	5	494294 104457
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	563	5	493855 104781
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 147.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	587	5	494354 103850
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	588	5	494354 103850



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	598	5	494298 103712
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 242.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	600	5	494301 103712
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 675.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A19SW (NE)	633	5	494222 104683
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	687	5	493743 104911
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	705	5	493746 104929
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	705	5	493746 104929
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	734	5	493744 104958
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	740	5	494275 103474
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 147.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	740	5	494275 103474



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	780	5	493738 105005
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 402.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7SE (SW)	837	5	493226 103320
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 891.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	859	5	493168 104933
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9SW (SE)	862	5	494284 103328
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 213.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A19SE (NE)	878	5	494514 104717
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 160.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9SW (SE)	899	5	494290 103287
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A3NW (S)	989	5	493715 103053



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Historical Landfill Sites Licence Holder: Bower Farms Limited Location: Lidsey, Sussex Name: Disused Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD20081 First Input Date: 31st December 1979 Last Input Date: 31st December 1988 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8107 BGS Ref: Not Supplied Other Ref: WD27/142, WD13/69	A8SW (S)	774	2	493484 103287
74	Historical Landfill Sites Licence Holder: Not Supplied Location: Lidsey, Sussex Name: Disused Canal East Of A27 Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD20381 First Input Date: 31st December 1950 Last Input Date: 31st December 1960 Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8106 BGS Ref: Not Supplied Other Ref: WD27/141	A9SW (SE)	883	2	494290 103306
75	Licensed Waste Management Facilities (Landfill Boundaries) Name: Lidsey Landfill Site Extension Licence Number: 19728 Location: Lidsey Landfill Site Extension, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Licence Holder: Sita Southern Ltd Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites Max Input Rate: Not Supplied Licence Status: Issued Issued: 19th September 1997 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A12SE (SW)	417	2	493261 103881
76	Licensed Waste Management Facilities (Landfill Boundaries) Name: Lidsey Landfill Site Licence Number: 19729 Location: Lidsey Landfill Site, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Licence Holder: Sita Southern Ltd Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites Max Input Rate: Not Supplied Licence Status: Closure Issued: 12th September 1989 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A7NE (SW)	571	2	493288 103599
77	Licensed Waste Management Facilities (Locations) Licence Number: 19728 Location: Lidsey Landfill Site Extension, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Operator Name: Sita Southern Ltd Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites Licence Status: Issued Issued: 19th September 1997 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually corrected supplier location	A7NE (SW)	633	2	493250 103550



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	Licensed Waste Management Facilities (Locations) Licence Number: 19729 Location: Lidsey Landfill Site, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Operator Name: Sita Southern Ltd Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites Licence Status: Closed Issued: 12th September 1989 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	844	2	493000 103500
79	Licensed Waste Management Facilities (Locations) Licence Number: 404020 Location: Lidsey Well Site, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PH Operator Name: Angus Energy Weald Basin No.3 Limited Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Mining Waste Operations Licence Status: Issued Issued: 28th April 2017 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	908	2	494437 103394
	Local Authority Landfill Coverage Name: Arun District Council - Has no landfill data to supply		0	6	493722 104130
	Local Authority Landfill Coverage Name: West Sussex County Council - Has supplied landfill data		0	7	493722 104130
80	Local Authority Recorded Landfill Sites Location: Old Canal East Of A29, Lidsey Reference: Not Supplied Authority: West Sussex County Council, Environment & Development Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A9SE (SE)	954	7	494400 103300
81	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14SW (E)	303	-	494099 104018
82	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (W)	0	-	493647 104134
83	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (N)	0	-	493722 104133
84	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	0	-	493718 104046
85	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A13NE (NE)	0	-	493789 104211
86	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (SW)	4	-	493641 104079
87	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (NW)	8	-	493650 104224



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NE (N)	12	-	493729 104237
89	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NE (NE)	30	-	493817 104234
90	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	37	-	493717 104005
91	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NE (N)	45	-	493737 104272
92	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (SW)	58	-	493647 103987
93	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	78	-	493709 103964
94	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (SE)	83	-	493821 103960
95	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (NW)	122	-	493603 104337
96	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (E)	154	-	493951 104053
97	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	164	-	493633 103882
98	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (E)	164	-	493961 104128
99	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (NW)	173	-	493522 104335
100	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (N)	214	-	493615 104437
101	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	228	-	493682 103812
102	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (SE)	256	-	494003 103887
103	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A18SW (NW)	292	-	493513 104481
104	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12NE (NW)	481	-	493203 104384
105	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1880	A18SE (N)	515	-	493930 104717
106	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A17SE (NW)	538	-	493303 104632
107	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1880	A18SE (N)	552	-	493931 104756
108	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1880	A18NE (N)	638	-	493879 104854



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19NW (NE)	774	-	494104 104929
110	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A19NW (NE)	880	-	494328 104917
111	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19NW (N)	941	-	494094 105112
112	Registered Landfill Sites Licence Holder: Bower Farms Ltd Licence Reference: 5/AS/80 Site Location: Dis-Used Chichester/Arundel Canal, (West Of A29), Lidsey, Bognor Regis, West Sussex Licence Easting: 493600 Licence Northing: 103250 Operator Location: Basing Park, Privett, Alton, Hampshire Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Undefined Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 8th August 1980 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Brick Rubble,Broken Concrete, Stone Chalk, Subsoil Other Totally Inert Solid Waste Prohibited Waste: Any Non-Totally Inert Waste Contaminated Soil Grass Cuttings Paper Vegetable Matter Waste Ex Sites With Haz./Poll. Mat'Ls Wood	A8SW (S)	797	2	493600 103250



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
113	Registered Landfill Sites Licence Holder: A & J Bull (Southern) Ltd Licence Reference: WSX/L1/0168 Site Location: Lidsey Landfill Site Extension, Lidsey Road, Lidsey, Bognor Regis, West Sussex, Po22 9pl Licence Easting: 492900 Licence Northing: 103700 Operator Location: 4 London Wall Buildings, Blomfield Street, LONDON, Greater London, EC2M 5UQ Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Operational as far as is known Dated: 19th September 1997 Preceded By: 5/BT/88 Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Animal And Food Processing Wastes Asbestos Cement Products Cellulose Wastes Contaminated Rubbish/Bags/Sacks Contaminated Soil Dog Faeces From Poop Scoop Scheme Empty Used Containers Gully Empty'S (Spec.Waste By Oil Cont) House, Com + Ind.Waste Incinerator Residues Damped At Source Lighting Lamps/Tubes/Fluorescents Mineral Processing Wastes Oil/Diesel Contam.Spillage From Beach Polymeric Mat' (Prods/Scrap) Polyurethane Prods/Scrap Scrap Rubber And Shredded Tyres Silt And Dredgings Slag, Boiler/Flue Cleanings Spec.Waste Oil Contam.Spillage Beach Stable Wastes Tyres Used Filter Mat'Ls,Kieselguhr,Carbon,Cloth Waste Treated Timber Wastes From Sewage Treatment Prohibited Waste: Cadmium & Its Compounds Carcinogenic/Mutagenic/Teratogenic Sub Cyanides Difficult Waste Not Specified Below Liquids & Pumpable Sludges Mercury & Its Compounds Organohalogen Cpds (Or Sub'S May Form) Organophosphorus Cmpds Organotin Cmpds Pressurised Cont'Rs > 1000 MI Spec.Waste (Epa '90) Not Listed Below Waste N.O.S.	A7NW (SW)	820	2	492900 103700



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Thames Group	A13SE (N)	0	1	493722 104130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (N)	0	1	493722 104130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	755	1	493680 103289
114	BGS Recorded Mineral Sites Site Name: Woodgate Brick Field Location: Woodgate, Bognor Regis, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 157580 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14SW (E)	316	1	494111 103999
115	BGS Recorded Mineral Sites Site Name: Lidsey Canal Brick Works Location: Lidsey, Bognor Regis, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 18269 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Palaeocene Geology: Lambeth Group (Woolwich & Reading Beds) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A8SW (S)	842	1	493400 103240
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	218	1	493989 103935
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	218	1	493989 103935
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	218	1	493989 103935
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	Contemporary Trade Directory Entries Name: Polishedact Location: 5, Oak Tree Lane, Woodgate, Chichester, West Sussex, PO20 3GU Classification: Furniture - Repairing & Restoring Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	48	-	493820 104259
117	Contemporary Trade Directory Entries Name: H S Cars Location: Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3SU Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	97	-	493830 103947
118	Contemporary Trade Directory Entries Name: National Plastics Location: Unit 8, Lees Yard, Lidsey Road, Woodgate, Chichester, PO20 3SU Classification: Cladding Suppliers & Installers Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (SE)	166	-	493932 103942
119	Contemporary Trade Directory Entries Name: Scotts Direct Location: The Grange, Westergate Street, Woodgate, Chichester, West Sussex, PO20 3SQ Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	240	-	493982 104365
120	Contemporary Trade Directory Entries Name: D W Transport Refrigeration Location: 15, Orchard Gardens, Woodgate, Chichester, West Sussex, PO20 3QW Classification: Refrigerators & Freezers - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	252	-	493896 104450
121	Contemporary Trade Directory Entries Name: G P Oven Cleaners Location: Grove Farmhouse, Lidsey Road, Bognor Regis, PO22 9PL Classification: Oven cleaning Status: Active Positional Accuracy: Automatically positioned to the address	A8NE (S)	286	-	493802 103753
121	Contemporary Trade Directory Entries Name: Chanctonbury Pet Foods Location: Headholme Cottage, Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (S)	303	-	493795 103737
122	Contemporary Trade Directory Entries Name: Polishedact Location: Woodgate Centre, Oak Tree Lane, Woodgate, Chichester, West Sussex, PO20 3GU Classification: Antiques - Repairing & Restoring Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	328	-	494120 104212
122	Contemporary Trade Directory Entries Name: Daven Ports Location: Woodgate Centre, Oak Tree Lane, Woodgate, Chichester, West Sussex, PO20 3GU Classification: Cabinet Makers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	329	-	494120 104216
122	Contemporary Trade Directory Entries Name: Weston Heating Services Location: Woodgate Centre, Unit B2, Chichester, West Sussex, PO20 6ST Classification: Heating Services - Industrial and Commercial Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A14NW (E)	341	-	494133 104180
123	Contemporary Trade Directory Entries Name: Elizabeth Robson Location: 12, Lamorna Gardens, Westergate, Chichester, West Sussex, PO20 3RL Classification: Furniture - Repairing & Restoring Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	486	-	493686 104713



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	Contemporary Trade Directory Entries Name: Microplumb Location: Headhorne Barns, Lidsey Road, Bognor Regis, West Sussex, PO22 9RG Classification: Water Softeners Status: Active Positional Accuracy: Automatically positioned to the address	A8NE (S)	501	-	493780 103539
125	Contemporary Trade Directory Entries Name: Time For You (Hampshire) Ltd Location: 12, Elmcroft Place, Westergate, Chichester, West Sussex, PO20 3XL Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	557	-	493922 104763
125	Contemporary Trade Directory Entries Name: Time For You (West Sussex) Ltd Location: 12, Elmcroft Place, Westergate, Chichester, West Sussex, PO20 3XL Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	557	-	493922 104763
125	Contemporary Trade Directory Entries Name: Time For You (Hampshire) Ltd Location: 12, Elmcroft Place, Westergate, Chichester, West Sussex, PO20 3XL Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	557	-	493922 104763
126	Contemporary Trade Directory Entries Name: Lidsey Landfill Ltd Location: Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Classification: Waste Disposal Services Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	629	-	493254 103552
127	Contemporary Trade Directory Entries Name: Emberleaf Workshops Location: Martins, Westergate Street, Westergate, Chichester, West Sussex, PO20 3QU Classification: Builders' Tools & Equipment Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	755	-	493831 104975
127	Contemporary Trade Directory Entries Name: Dimensions (Chichester) Ltd Location: Westergate St, Westergate, Chichester, West Sussex, PO20 3QX Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	791	-	493850 105010
128	Contemporary Trade Directory Entries Name: E & T Plumbing & Heating Ltd Location: The Mission Hall, Lidsey Road, Bognor Regis, West Sussex, PO22 9PH Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	851	-	493858 103190
129	Contemporary Trade Directory Entries Name: The Cleaning Biz Location: White House, Westergate Street, Westergate, Chichester, West Sussex, PO20 3QY Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SE (N)	962	-	493858 105181
130	Contemporary Trade Directory Entries Name: Howla Mountain Boards Location: Polson Dairy, Lidsey Road, Bognor Regis, West Sussex, PO22 9PF Classification: Sports Equipment Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NE (S)	993	-	493944 103057
131	Points of Interest - Commercial Services Name: Sparkles Mobile Valeting Chichester West Sussex Location: 34 Ivy Lane, Westergate, Chichester, PO20 3RE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A24SW (NE)	1000	8	494155 105152



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
132	Points of Interest - Commercial Services Name: L J M Transport Location: 2 St. Richards Road, Westergate, Chichester, PO20 3RD Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A23SE (N)	1000	8	493985 105202
133	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	173	8	493614 103875
133	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	196	8	493592 103857
134	Points of Interest - Manufacturing and Production Name: Piggery Location: PO20 Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A13NW (NW)	271	8	493392 104289
135	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	331	8	493401 104437
135	Points of Interest - Manufacturing and Production Name: Tanks Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	332	8	493412 104451
135	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	334	8	493402 104443
135	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	337	8	493402 104447
135	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	340	8	493404 104454
135	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	343	8	493400 104454
136	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A18SE (N)	406	8	493864 104621
137	Points of Interest - Manufacturing and Production Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	776	8	493624 105003



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
138	Points of Interest - Manufacturing and Production Name: R A Eggins Location: New Barn Farm, Lidsey Road, Bognor Regis, PO22 9TH Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A8SW (S)	817	8	493413 103262
138	Points of Interest - Manufacturing and Production Name: R A Eggins Location: Lidsey Road, Bognor Regis, PO22 9TH Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A8SW (S)	817	8	493414 103262
139	Points of Interest - Manufacturing and Production Name: Tank Location: PO22 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	874	8	494391 103397
140	Points of Interest - Manufacturing and Production Name: Lidsey Landfill - Landfill Gas (DECC) Location: Headhome Farm, Near Bognor Regis, PO22 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	911	8	493000 103400
141	Points of Interest - Manufacturing and Production Name: Tank Location: PO22 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9SE (SE)	969	8	494511 103383
142	Points of Interest - Public Infrastructure Name: SITA UK Ltd Location: Headhome Farm, Lidsey Road, Bognor Regis, PO22 9PL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8NE (S)	536	8	493789 103503
143	Points of Interest - Public Infrastructure Name: Lidsey Landfill Ltd Location: Lidsey Road, Bognor Regis, PO22 9PL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A7NE (SW)	629	8	493254 103552
143	Points of Interest - Public Infrastructure Name: Lidsey Landfill Ltd Location: Lidsey Road, Bognor Regis, PO22 9PL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A7NE (SW)	629	8	493253 103552
144	Points of Interest - Public Infrastructure Name: Landfill Site Location: PO22 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	829	8	493129 103395
145	Points of Interest - Public Infrastructure Name: Landfill Site Location: PO22 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	986	8	492840 103474
146	Points of Interest - Recreational and Environmental Name: Playground Location: Olivers Meadow, PO20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A23SW (N)	976	8	493695 105203
146	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A23SW (N)	977	8	493685 105204



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
147	Nitrate Vulnerable Zones Name: Aldingbourne Rife Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SE (N)	0	4	493722 104130



Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	July 2013 July 2013	Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Southern Region	April 2019	Quarterly
Enforcement and Prohibition Notices Environment Agency - Southern Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - Southern Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region	April 2019 April 2019	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	December 2014 October 2014	Variable Variable
Local Authority Pollution Prevention and Controls Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	December 2014 October 2014	Not Applicable Not Applicable
Local Authority Pollution Prevention and Control Enforcements Arun District Council - Environmental Health Department Chichester District Council - Environmental Health Department	December 2014 October 2014	Variable Variable
Nearest Surface Water Feature Ordnance Survey	January 2019	
Pollution Incidents to Controlled Waters Environment Agency - Southern Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Southern Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Southern Region	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - Southern Region	June 2016	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	April 2019 April 2019 April 2019	Quarterly Quarterly Quarterly
Water Abstractions Environment Agency - Southern Region	July 2019	Quarterly
Water Industry Act Referrals Environment Agency - Southern Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	Annually
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	Annually
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually



Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	July 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2019	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2019	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2019	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2019	Quarterly
Flood Defences Environment Agency - Head Office	May 2019	Quarterly
OS Water Network Lines Ordnance Survey	April 2019	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually



Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	July 2019	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Southern Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	July 2018 July 2018 July 2018	Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - South East Region - Solent & South Downs Area Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	April 2019 April 2019 April 2019	Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Arun District Council - Technical Support Unit Chichester District Council - Environmental Health Department West Sussex County Council - Environment & Development	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Arun District Council - Technical Support Unit Chichester District Council - Environmental Health Department West Sussex County Council - Environment & Development	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - Southern Region - Solent and South Downs Environment Agency - Southern Region - Sussex Area	March 2003 March 2003	Not Applicable Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Arun District Council - Technical Support Unit Chichester District Council - Planning Department West Sussex County Council - Environment & Development	February 2016 February 2016 October 2006	Variable Variable Annual Rolling Update
Planning Hazardous Substance Consents Arun District Council - Technical Support Unit Chichester District Council - Planning Department West Sussex County Council - Environment & Development	February 2016 February 2016 October 2006	Variable Variable Annual Rolling Update



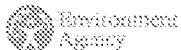
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2019	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	April 2019	Quarterly
Fuel Station Entries Catalist Ltd - Experian	May 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	July 2019	Quarterly
Points of Interest - Education and Health PointX	July 2019	Quarterly
Points of Interest - Manufacturing and Production PointX	July 2019	Quarterly
Points of Interest - Public Infrastructure PointX	July 2019	Quarterly
Points of Interest - Recreational and Environmental PointX	July 2019	Quarterly
Underground Electrical Cables National Grid	December 2015	



Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	August 2018	Bi-Annually
Areas of Outstanding Natural Beauty Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	March 2019	Bi-Annually
Marine Nature Reserves Natural England	July 2019	Bi-Annually
National Nature Reserves Natural England	July 2019	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	April 2019	Bi-Annually
Sites of Special Scientific Interest Natural England	March 2019	Bi-Annually
Special Areas of Conservation Natural England	June 2019	Bi-Annually
Special Protection Areas Natural England	April 2019	Bi-Annually



A selection of organisations who provide data within this report

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



Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	
3	Arun District Council - Environmental Health Department Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	
4	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	
6	Arun District Council - Technical Support Unit Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	
7	West Sussex County Council - Environment & Development County Hall, Tower hall, Chichester, West Sussex, PO19 1RH	
8	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	
9	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	

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



© Crown Copyright. All Rights Reserved. License Number 100122422



Geo-Environmental Bedrock Aquifer Designation

General

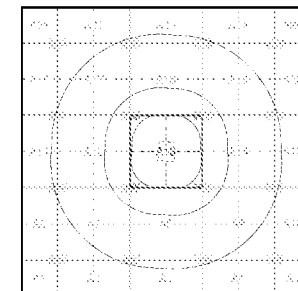
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

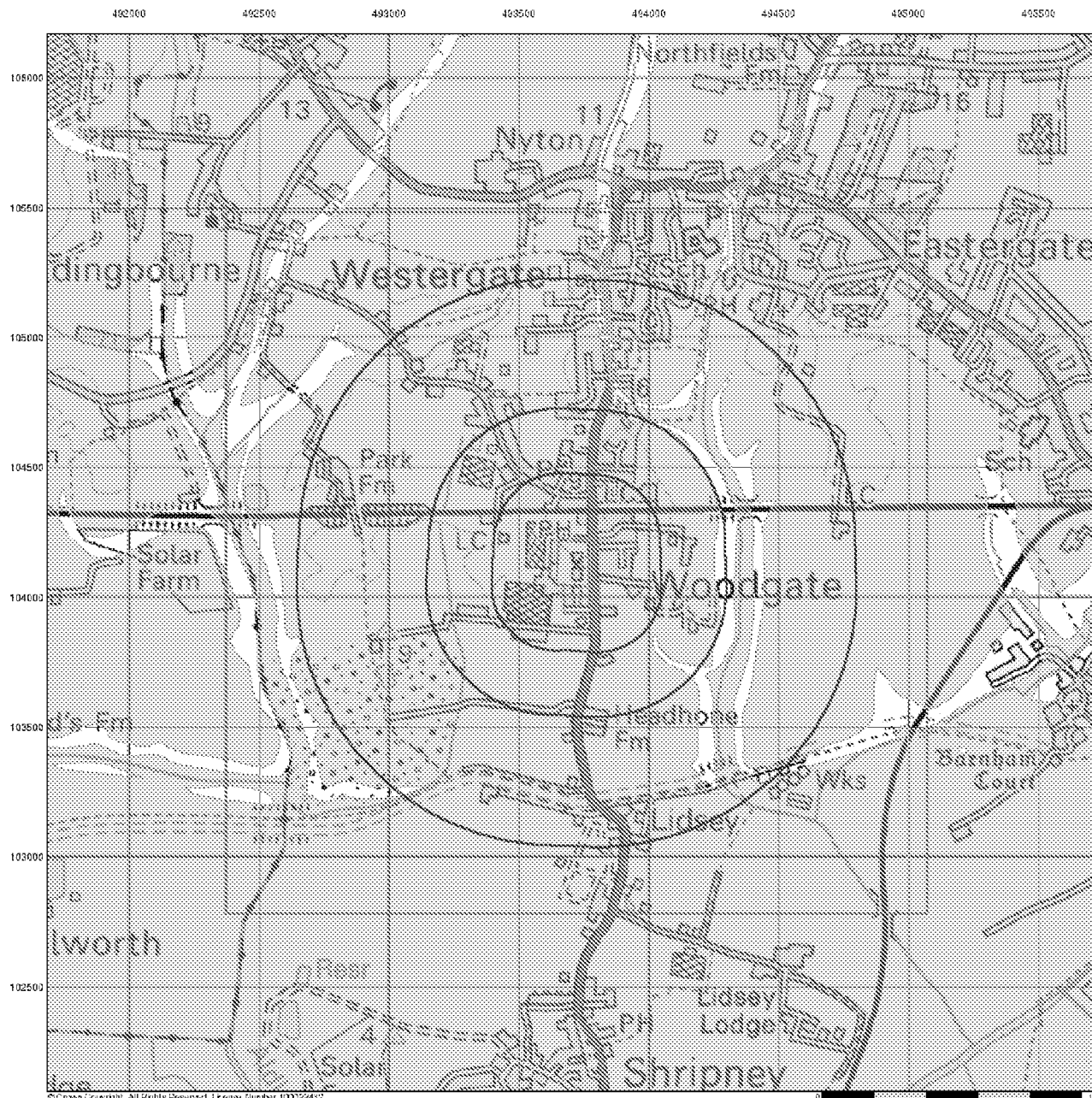
Order Number: 214178583_1_1
 Customer Ref: GE18390
 National Grid Reference: 493720, 104130
 Slice: A
 Site Area (Ha): 2.44
 Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark
 INFORMATION GROUP

Tel: 0544 544 0033
 Fax: 0544 544 5551
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 10012242



Geo-Environmental Superficial Aquifer Designation

General

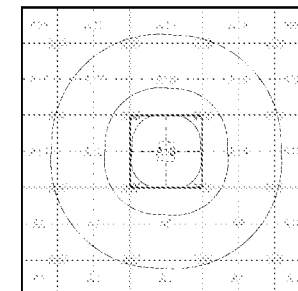
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

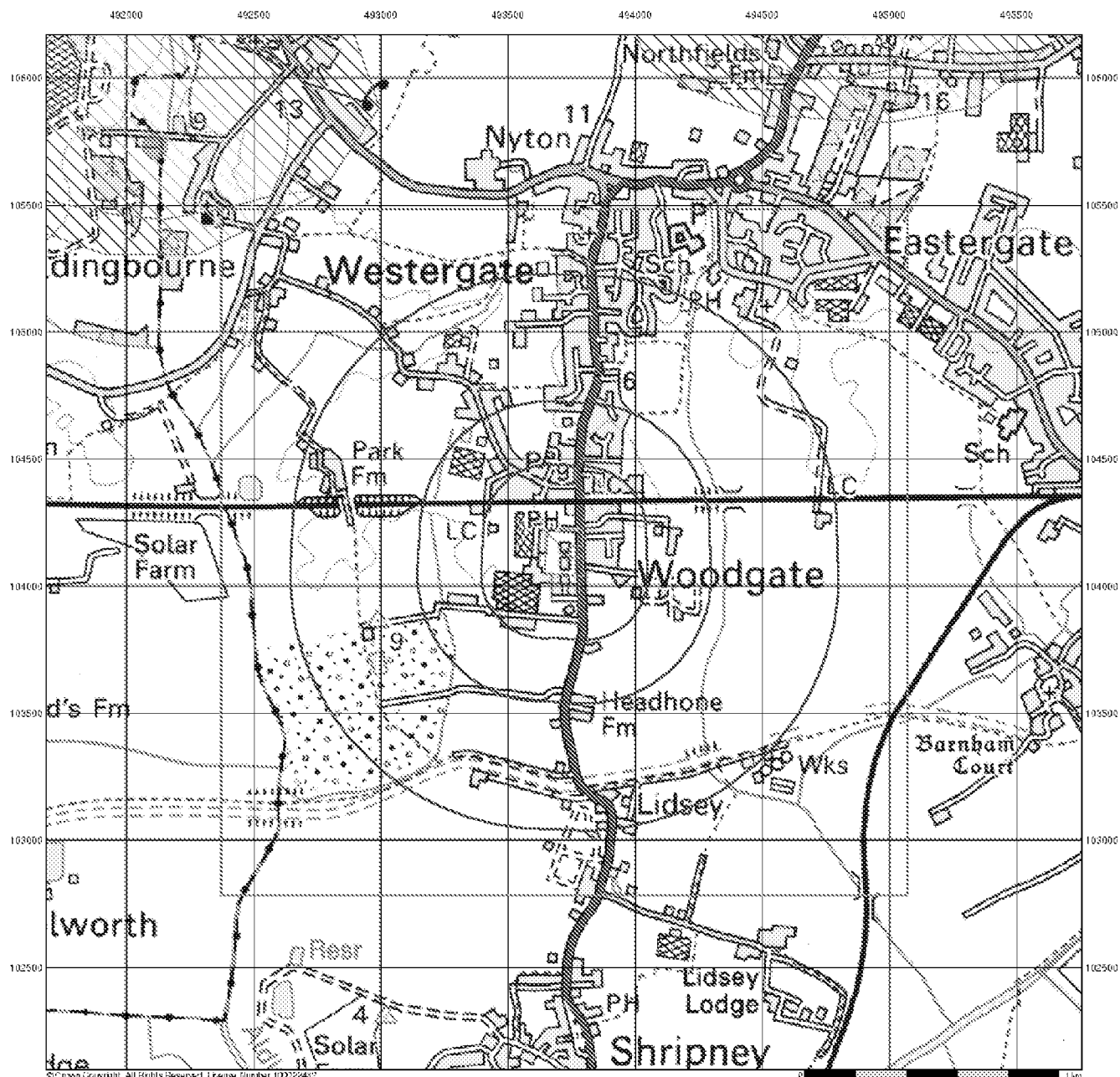
Order Number: 214178583_1_1
 Customer Ref: GE18390
 National Grid Reference: 493720, 104130
 Slice: A
 Site Area (Ha): 2.44
 Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark
 INFORMATION GROUP

Tel: 0544 544 0033
 Fax: 0544 544 5551
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100026402



Geo-Environmental Source Protection Zones

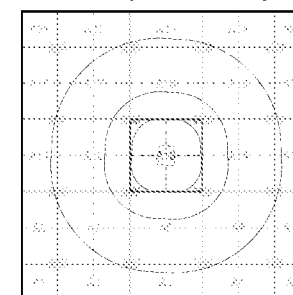
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

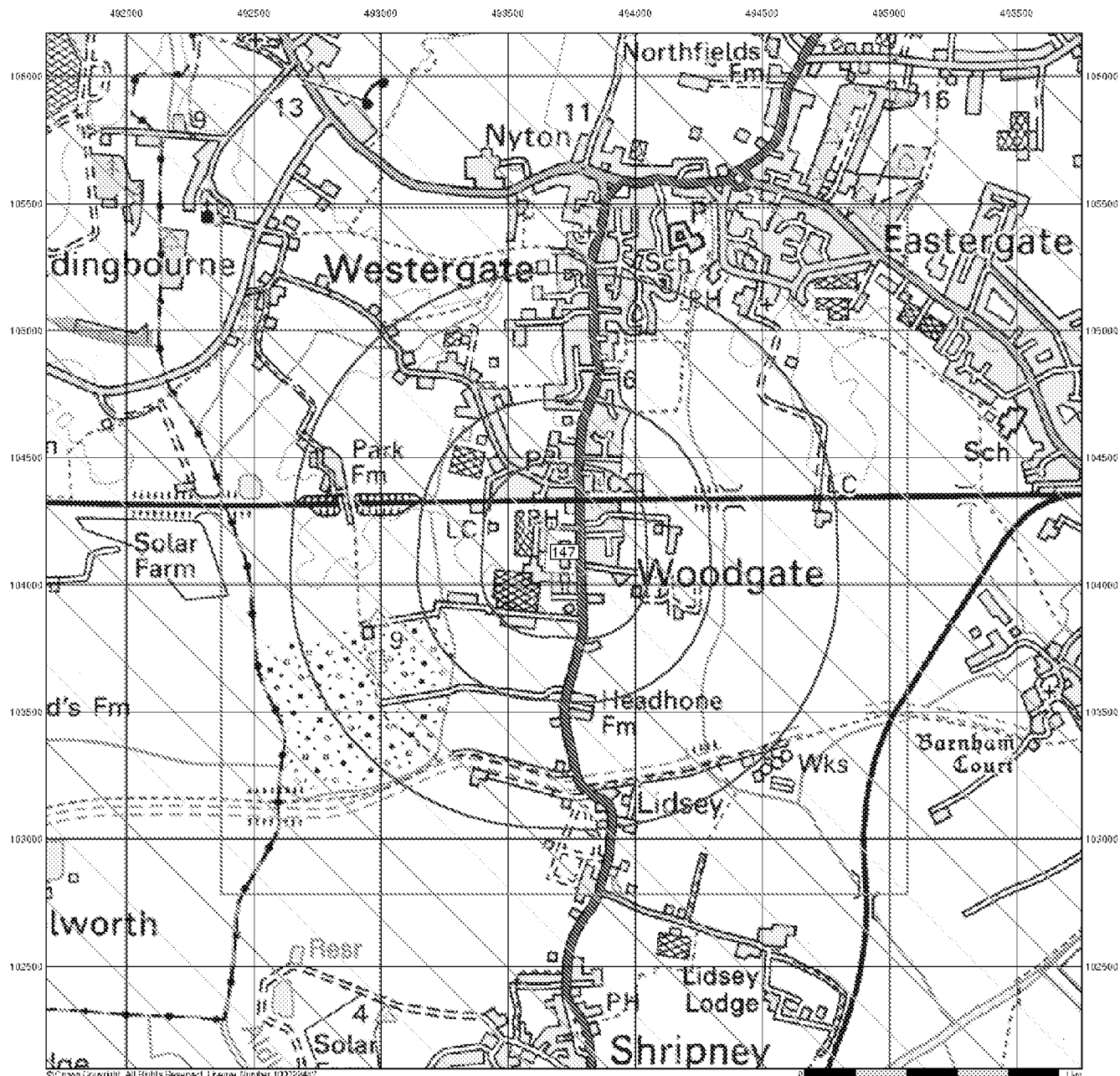
Order Number: 214178583_1_1
 Customer Ref: GE18390
 National Grid Reference: 493720, 104130
 Slice: A
 Site Area (Ha): 2.44
 Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark
 INFORMATION GROUP

Tel: 0544 544 0050
 Fax: 0544 544 5551
 Web: www.ewcocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100026402



Geo-Environmental Sensitive Land Uses

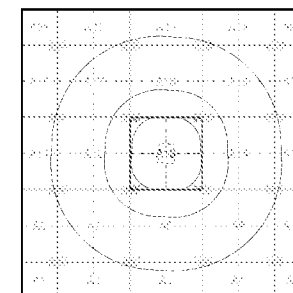
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

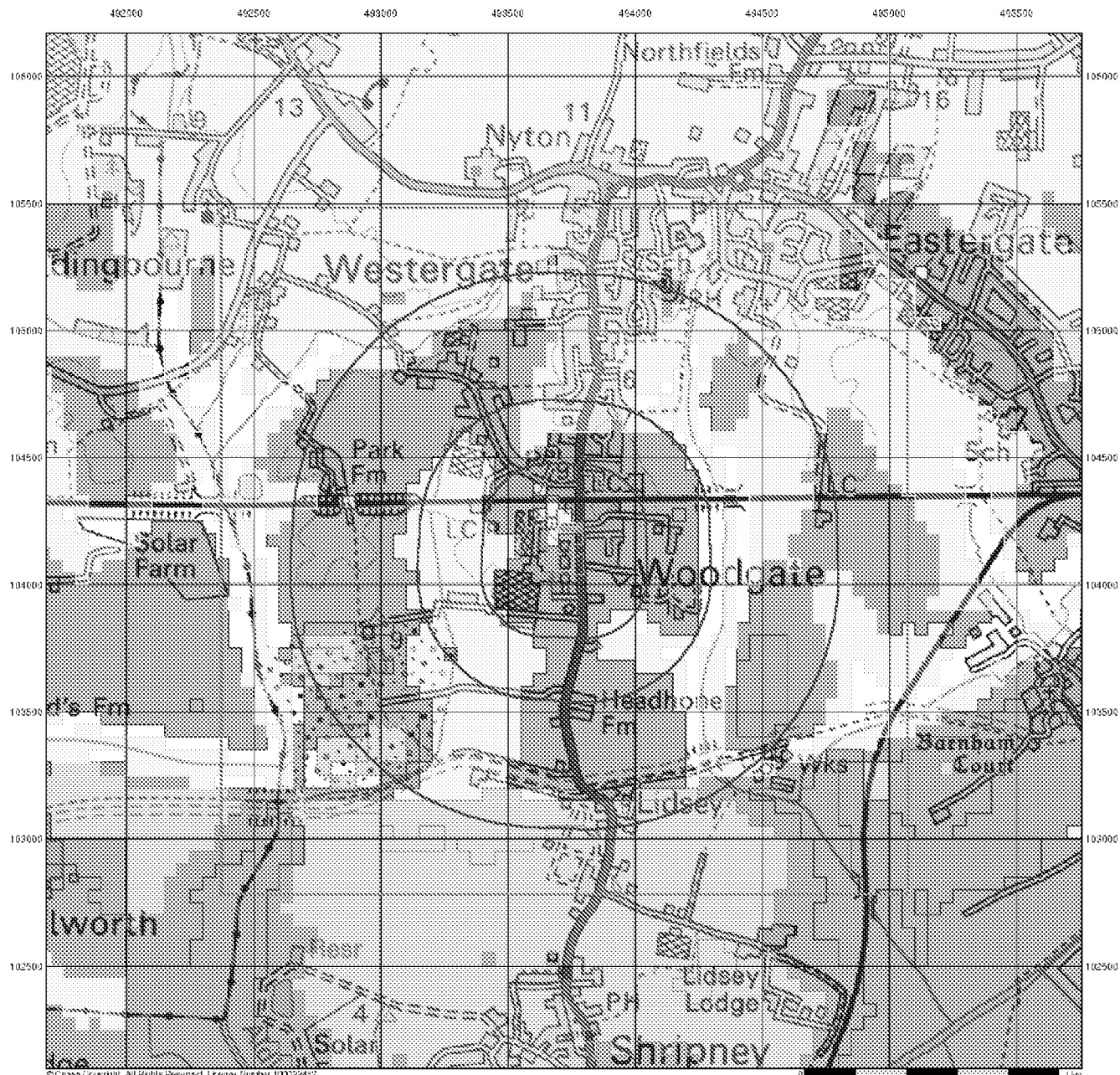
Order Number: 214178583_1_1
 Customer Ref: GE18390
 National Grid Reference: 493720, 104130
 Slice: A
 Site Area (Ha): 2.44
 Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark
 INFORMATION GROUP

Tel: 0544 244 0033
 Fax: 0544 544 5651
 Web: www.ewcocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100122402



Geo-Environmental

BGS Flood GFS Data

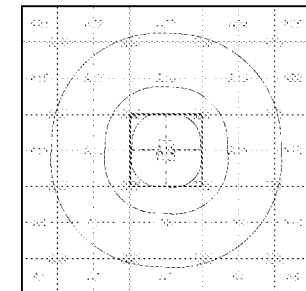
General

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

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 214178583_1_1
 Customer Ref: GE18390
 National Grid Reference: 493720, 104130
 Slice: A
 Site Area (Ha): 2.44
 Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark
 INFORMATION GROUP

Tel: 0544 544 0033
 Fax: 0544 544 5551
 Web: www.envirocheck.co.uk

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	RTDU	River Terrace Deposits (Undifferentiated)	Sand, Silt and Clay	Not Supplied - Quaternary
	RBD1	Raised Beach Deposits, 1	Sand and Gravel	Not Supplied - Quaternary
	RMD	Raised Marine Deposits	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Gravel, Sand, Silt and Clay	Not Supplied - Quaternary
	ALF	Alluvial Fan Deposits	Gravel, Sand, Silt and Clay	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Not Supplied - Ypresian
	LMBE	Lambeth Group	Clay, Silt and Sand	Not Supplied - Thanetian
	LPCK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated)	Chalk	Not Supplied - Turonian



Geo-Environmental

Geology 1:50,000 Maps

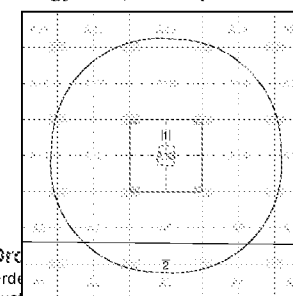
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1	Map ID:	2
Map Sheet No:	317	Map Sheet No:	332
Map Name:	Chichester and I	Map Name:	Chichester and I
Map Date:	1996	Map Date:	1996
Bedrock Geology:	Available	Bedrock Geology:	Available
Superficial Geology:	Available	Superficial Geology:	Available
Artificial Geology:	Available	Artificial Geology:	Available
Faults:	Not Supplied	Faults:	Not Supplied
Landslip:	Available	Landslip:	Available
Rock Segments:	Not Supplied	Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Ord

Order

Customer Reference: GE10000

National Grid Reference: 493720, 104130

Slice: A

Site Area (Ha): 2.44

Search Buffer (m): 1000

Site Details:

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark
INFORMATION GROUP

Tel: 0544 844 8652
Fax: 0544 844 8251
Web: www.landmark.co.uk