

**ROMA CAPITAL GROUP LTD**

**PRIMA WINDOWS SITE, NONNINGTON CT15 4HF**

**PHASE 2 GEOENVIRONMENTAL REPORT**

**Reference: 1637/SI**

**19<sup>th</sup> September 2023**

**CLIENT: Roma Capital Group Ltd  
78 Sandgate High St  
Sandgate  
Kent  
CT20 3BX**

**SITE: Prima Windows  
Easehole Street  
Nonnington  
Kent  
CT15 4HF**

**PHASE 2 GEOENVIRONMENTAL REPORT**

**Reference: 1637/SI**

**STATUS FINAL**

**19<sup>th</sup> September 2023**

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## REFERENCES

- Reference 1 Desk Study Report, Peter Baxter Associates Ltd, 1455/DS 8<sup>th</sup> October 2021
- Reference 2 BS 5930: Code of Practice for Site Investigations, BSI 2015
- Reference 3 BS EN 10175 Investigation of Potentially Contaminated Sites 2011
- Reference 4 BS1377 and BS EN ISO 17892: Methods of Test for Civil Engineering Purposes
- Reference 5 Land Contamination Risk Management, Environment Agency 2021
- Reference 6 LQM/CIEH S4ULs for Human Health Risk Assessment 2016
- Reference 7 C4SLs, DEFRA
- Reference 8 CIRIA 143 The Standard Penetration Test Methods and Use
- Reference 9 NHBC Specification Chapter 4.2 Building Near Trees
- Reference 10 BS8004 2015 Code of Practice for Foundations
- Reference 11 BRE 365 Soakaway Design
- Reference 12 BRE Special Digest 250
- Reference 13 CIRIA 574 Engineering in Chalk
- Reference 14 CDP Architecture 843-PO5 Sept 2021 Proposed Analytical Site Plan

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**FOREWORD**

1. This document has been prepared by Peter Baxter Associates Ltd with all reasonable skill, care and diligence within the terms of the contract with the Client and within the limitations of the resources devoted to it by agreement with the client.
2. This document is confidential to the Client and Peter Baxter Associates Ltd accepts no responsibility whatsoever to third parties to whom this document, or any part thereof, is made known. Any such party relies upon the document at their own risk.
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## 1.0 SUMMARY

- 1.1 The Client, Roma Capital Group Ltd, plans to redevelop a former industrial site of 1.4ha in area, situated off Easehole Street, in the village of Nonnington, Kent CT15 4HF (the Site), with 27 houses with gardens. The eastern half of the Site is a field, used for grazing and the western half is still in use for industrial purposes. The two halves are divided by a 3m high retaining wall. The Site slopes upwards from west to east and is surrounded by agricultural land on three sides and existing housing to the south. The Site and proposed development are shown on Figure 1, and photographs of the Site are presented in Appendix D.
- 1.2 Peter Baxter Associates (PBA) was commissioned by the Client to carry out a Phase 2 environmental investigation combined with a geotechnical site investigation to inform foundation and drainage design. PBA had conducted an earlier Desk Study of the Site. (Reference 1).
- 1.3 This Site Investigation Report describes the Site's geology, field works, visual observations and laboratory testing, gives recommended foundations and foundation design parameters, a recommended infiltration rate and sulphate class, and assesses the environmental risks.
- 1.4 The investigation was carried out between 7<sup>th</sup> and 11<sup>th</sup> August 2023, and comprised three boreholes denoted BH1 to BH3 drilled to 5.5m depth, 25 boreholes denoted WS2 to WS26 drilled to between 1m and 3.5m depth, three trial pits excavated up to 2.4m depth, and one infiltration test. Twenty nine near surface soil samples were tested for contamination, and geotechnical soil testing was conducted on recovered samples. Investigation locations are shown in Figure 1.
- 1.5 The Site's natural soils may be summarised as stiff to very stiff orange brown silty Clay of low volume change potential between ground level and 2.2m depth, over structureless low density Chalk. In the industrial part of the Site, the concrete slab and hardstanding thickness varied from 0.15m to 0.3m. Made Ground was present under the concrete hardstanding and in a track leading to the eastern field. This Made Ground comprised clay with ash and brick fragments. Topsoil depths ranged up to 0.3m. The observed ground conditions were consistent with those reported on geological maps as shown in Appendix A1. Groundwater was not observed in any trial pit or borehole. Strata depths are summarised in Table 1, and the strata are detailed in logs presented in Appendix B.
- 1.6 The results of 29 soil contamination tests are summarised in Table 2 and indicated compliance with the selected Acceptance Criteria for residential gardens with vegetable uptake, with the exception of five locations where the level of lead exceeded the limit of

200mg/kg soil. At these locations, topsoil would be imported to form the gardens, and the made ground would be removed as part of the demolition works. The exceedances at the five locations were therefore considered sufficiently low to not require remedial works. The result of three leaching “WAC” tests indicated that the samples conformed to the limits for inert waste.

- 1.7 Strip footings founding in chalk are considered satisfactory for the development. The recommended allowable bearing capacity is 250kPa. At three locations, provisionally identified as Plots 1, 2, and 16, the chalk is at depths greater than 2m, and deep trench fill is recommended in such locations in preference to founding on the clay. Piled foundations may also be considered. The pile design would be the responsibility of a specialist contractor, but as an illustration a 5m deep bored pile 0.45m in diameter, penetrating the chalk by 4m, is estimated to have a safe working load of 300kN.
- 1.8 The recommended design infiltration rate of the chalk is  $7.2 \times 10^{-5}$  m/s.
- 1.9 The recommended design sulphate class for all concrete in contact with the ground is DS-1.
- 1.10 No environmental remedial actions for soil contamination are considered necessary. Undetected contamination may affect this conclusion.



## **2.0 SITE DESCRIPTION**

### **2.1 Site Location and Description**

2.1.1 The Site is a 1.4ha plot of land off Easehole Street, at the northern limit of the village of Nonnington, Kent CT15 4HF. The National Grid Coordinates of the Site are 626330E, 152170N. Nonnington is in a rural area of East Kent, approximately halfway between Canterbury and Dover.

2.1.2 The Site is rectangular and orientated north west to south east. The half of the Site nearest Easehole Street is industrial, occupied by the Prima Windows factory and offices and by a steel fabricator; Northbourne Engineering. This half is paved with concrete and contains large industrial units. Four large above ground tanks are present on site. The other half of the Site is an open field. To the south of the Site are houses and the other sides of the Site are bounded by agricultural land. The Site slopes upwards from Easehole Road. There is a thatched barn converted to a house along most of the Easehole Street frontage. The Prima Windows factory is non-operational but other units were still in use. A 3m high retaining wall divides the two parts of the Site.

2.1.3 The Site is shown on Figure 1 and is illustrated in photographs in Appendix D

### **2.2 Proposed Development**

2.2.1 The Client plans to develop the Site for housing, with 27 units (Reference 14) The houses would be a mixture of detached, semidetached, and terraced properties. The barn conversion would remain.

### **2.3 Site Investigation Objectives**

2.3.1 The objectives of this site investigation were to derive sufficient soil information to quantify the environmental risk of onsite soil contamination and to enable foundation and soakaway design.

2.3.2 The investigation methodology was developed by PBA and agreed with the Client. It is detailed in Section 3.

### **2.4 Published Geology**

2.4.1 Reference 1 indicated that the Site geology was Chalk of the Seaford Chalk Formation. A geological fault appears to run to the west of the Site. No worked ground is shown within 1000m. Geological maps are included in Appendix A1.

## **2.5 Historic and Future Coalmining**

2.5.1 Nonnington is above the East Kent coalfield, which was worked until the late 1980s. The Site was 2km east of the former Snowdown Colliery. Coal Mining Reports from the Coal Authority are included in Reference 1. These reports stated that the site is not considered to be susceptible to coal mining-related ground instability and stated that any identified coal mining features are considered unlikely to impact the value or security of the Site.

2.5.2 A coal mining licence for East Kent issued in 2017 is understood to relate to mining and minerals below 500 feet (152m). The Client has stated that they own the mining rights to 500 feet depth, and that this reservation of the mining rights does not allow surface access to the Site or extraction shallower than 152m depth. Mining up to 152m depth will therefore not occur without the Client's permission and will not affect any development of the site or future house sales on the site. In these circumstances future coal mining beneath the Site is therefore not expected, and environmental risks from this mining were not considered further.

## **2.6 Geological Hazards and Radon**

2.6.1 Reference 1 indicated no hazards from compressible ground, landslides, running sand or shrinking or swelling clay. A very low risk was reported for collapsible ground and ground dissolution.

2.6.2 The Site was in an area of intermediate radon risk with a probability of between 5% and 10% of properties being above the Action Level. Basic radon protection measures are necessary for residential properties unless further investigation indicates that this is unnecessary.

## **3.0 FIELDWORK**

### **3.1 Description of Field Works**

- 3.1.1 Between 7<sup>th</sup> and 11<sup>th</sup> August 2023, three boreholes denoted BH1 to BH3 were drilled to 5.5m depth, 25 boreholes denoted WS2 to WS26 were drilled to between 1m and 3.5m depth, three trial pits were excavated to 2.4m, and one infiltration test was carried out. Concrete coring was carried out where necessary to allow borehole drilling through hardstanding area.
- 3.1.2 Borehole logs are presented in Appendix B1 of this report, trial pit logs in Appendix B2, and the infiltration test is reported in Appendix B3. Insitu SPT testing was carried out in the boreholes as detailed in Section 3.4, and the findings are discussed in Section 3.2. A summary of strata depths is given as Table 1.
- 3.1.3 Twenty nine soil contamination samples were recovered from shallow depths from the boreholes and pits. The test results are summarised in Table 2, the reports are included in Appendix C4, and the implications of the test results are discussed in Section 5.
- 3.1.4 The borehole and pit locations were surveyed by a land surveyor engaged by PBA. The locations are shown on Figure 1.
- 3.1.5 The field works were monitored on a visiting basis by a PBA geologist and the author. Recovered borehole samples were logged by a PBA geologist and combined with the drillers logs to produce the borehole logs. Boreholes were backfilled with bentonite and the trial pits were backfilled with arisings. Concrete cores were replaced in their holes.
- 3.1.6 The site investigation was carried out in accordance with BS5930 (Reference 2) and BS EN 10175 (Reference 3). The boreholes were drilled with a window sample technique. PBA'S window sampling, diamond drilling, and excavation contractor was CK Drilling Ltd of Maidstone Kent.

### **3.2 Ground Conditions and Observations**

- 3.2.1 The Site's natural soils may be summarised as stiff to very stiff orange brown silty Clay between 0m and 2.2m in depth, over structureless Chalk. Where present the concrete thickness varied from 0.15m to 0.3m. The concrete hardstanding was observed to be reinforced with one layer of 200mm x 200mm mesh placed at the bottom of the slab with 40mm cover. Made Ground was present under the concrete hardstanding and in a track leading to the eastern field. This Made Ground comprised clay with ash and brick fragments. Topsoil depths ranged up to 0.3m. Borehole logs are presented in Appendix B1 and trial pit logs in Appendix B2. Groundwater was not observed in any trial pit or

borehole.

3.2.2 The observed ground conditions were consistent with those reported on geological maps as shown in Appendix A1.

3.2.3 At location WS1, the initial concrete was cored, then a second slab was found 0.4m deep below a layer of Made Ground. This borehole was abandoned and a contamination sample recovered from the nearby TP1.

3.2.4 No visual signs of contamination were observed in the recovered samples.

### **3.3 Existing Foundations of Retaining Wall**

3.3.1 One trial pit, TP3, exposed the base of an existing brick retaining wall. The wall was founded directly on chalk at 0.4m below ground level. No corbelling of the brickworks was observed. A photo is included in Appendix D.

### **3.4 Insitu Testing**

3.4.1 Standard Penetration Testing (SPT testing) was carried out in the boreholes. The results are reported in the borehole logs in Appendix B1. The SPT values recorded in the clay ranged from 10 to 12 blows per 300mm penetration, The SPT values recorded in the chalk ranged from 7 to 31 blows per 300mm penetration.

3.4.2 The SPT values may be correlated to soil strengths by empirical relationships detailed in References 8, 10, and 13.

### **3.5 Infiltration Testing**

3.5.1 The infiltration test was conducted in TP1 on 10<sup>th</sup> August and witnessed by the author. The test location was selected by the Client and is situated close to the lowest point on the Site, as shown on Figure 1. Mains water from a towed bowser was flooded into the pit over three cycles. The water level and times were recorded until the water level fell to a level corresponding to at least 25% of its original level.

3.5.2 The pit was 0.4m wide, 1.5m long, and 2.4m deep. The soils were reinforced concrete 150mm thick over cohesive Made Ground to 0.4m below ground level, over firm dark brown silty Clay to 2.3m, over structureless chalk.

3.5.3 The test report is included in Appendix B3. A photo of the pit is included in Appendix D. The soil infiltration rates were calculated using the method given in BRE 365 (Reference 11) by a spreadsheet. The lowest result was  $1.9 \times 10^{-4}$  m/s. This compares to a lowest value of  $7.2 \times 10^{-5}$  m/s recorded in separate testing carried out by PBA in 2022 in the eastern field area. The soil infiltration rates are discussed in Section 6.3.

### **3.6 Intrusive Environmental Investigation**

- 3.6.1 The Desk Study Report (Reference 1) assessed the environmental risks of the Site from on site contaminated soils as low to moderate as tabulated in the preliminary risk assessment in Table 3 and discussed in Section 5.1. The Desk Study Report recommended that near surface soil samples be recovered and tested for a range of contaminants.
- 3.6.2 Twenty nine soil samples were taken from each borehole location and from TP1. The sampling frequency was defined in accordance with Reference 3 and was greater than the number of proposed houses. The sample locations were selected to cover the proposed garden and landscape areas, subject to existing infrastructure, as illustrated in Figure 1.
- 3.6.3 The test parameters were asbestos trace, the "CLEA" suite of heavy metals, oils and selected volatile organic compounds (TPH-CWG) and polyaromatic hydrocarbons (PAH).
- 3.6.4 Three samples from locations WS2, WS3, and WS8 were also tested for contaminant leaching to the method detailed in BS EN 12457 (the "WAC Test").
- 3.6.5 The results of the environmental testing are summarised on Table 2, reported in Appendix C4, and are discussed along with their environmental implications in Section 5.4.

## **4.0 LABORATORY TESTING**

### **4.1 General**

4.1.1 Geotechnical testing was carried out by Peter Baxter Associates Laboratories, Gillingham, Kent, in accordance with BS 1377 and BS EN ISO 17892 (Reference 4). Contamination testing was carried out by DETS Environmental, Lenham Heath, Kent. The laboratories were all UKAS or MCERTS accredited for the tests carried out except for the sulphate and pH testing.

### **4.2 Atterberg Limits Testing**

4.2.1 Ten samples of Clay, recovered from boreholes across the Site from depths between 0.8m and 1.7m, were tested for Atterburg Limits and natural moisture content. The test reports are presented in Appendix C1. The plasticity indexes ranged between 5% and 19%. The percentage of material smaller than 425 microns ranged from 63% to 100%. These values indicate that the clay may be classed as low volume change potential (Reference 9). The moisture contents were less than the plastic limits in all samples.

### **4.3 Sulphate and pH Testing**

4.3.1 Six samples, recovered from boreholes across the Site from depths between 0m and 1.2m, were tested for water soluble sulphate and pH. The test reports are included in Appendix C2. Water soluble sulphate contents ranged from 0.12g/l to 0.17g/l.

### **4.4 Chalk SMC Testing**

4.4.1 Three samples of Chalk, recovered from TP2, WS4, and BH3 from depths between 0.9m and 1.5m, were tested for saturation moisture content (SMC) and intact dry density. The test report is included in Appendix C3. The SMC values varied from 28% to 31% and the intact dry densities from 1.37Mg/m<sup>3</sup> to 1.54Mg/m<sup>3</sup>. These values indicate a Chalk of low density (Reference 13).

### **4.5 Environmental Testing**

4.5.1 Table 2 summarises the contamination test results of the 29 soil samples recovered from near surface. The test report is included in Appendix C4.

4.5.2 The test parameters were asbestos trace, the "CLEA" suite of heavy metals, petroleum hydrocarbons and selected volatile organic compounds (TPH-CWG) and polyaromatic hydrocarbons (PAH).

4.5.3 Asbestos was not detected. Levels of petroleum hydrocarbons, polyaromatic

hydrocarbons, and volatile organic compounds benzene, toluene, ethylbenzene, and xylene were lower than the selected Acceptance Criteria for residential gardens with vegetable uptake, assuming a soil organic matter content of 1%. Levels of heavy metals were lower than the selected Acceptance Criteria with the exception of five locations where the level of lead exceeded the limit of 200mg/kg soil. At these locations, the lead levels ranged from 207mg/kg, to 355mg/kg.

- 4.5.4 The result of three leaching “WAC” tests indicated that the samples conformed to the limits for inert waste.
- 4.5.5 These results, and the derivation of the Acceptance Criteria, are discussed further in Section 5.

## **5.0 ENVIRONMENTAL RISK ASSESSMENT**

### **5.1 Summary of Phase 1 Desk Study Report**

- 5.1.1 The Site history was detailed in Reference 1 as agricultural until 1976, when the current industrial buildings were shown on an historic map. No off site sources of contamination were indicated.
- 5.1.2 The Site was reported to overlie a high vulnerability principal aquifer.
- 5.1.3 The environmental risks to on site receptors from onsite sources were assessed as low to moderate from potential soil contamination from hospital use.
- 5.1.4 The site was used for double glazing manufacturing and is currently used for steel fabricating. The environmental risks to onsite and offsite receptors from these onsite industrial sources were assessed as low to moderate.
- 5.1.5 The conceptual model is presented as Figure 2 and the preliminary risk assessment is tabulated in Table 3. Further environmental investigation was considered necessary, comprising thirty shallow depth soil samples tested for a standard range of organic contaminants, comprising total petroleum hydrocarbons, total petroleum hydrocarbons, and volatile chemicals benzene, ethylene, toluene, and xylene.

### **5.2 Acceptance Criteria**

- 5.2.1 The generic Acceptance Criteria for the Site were derived from the LQM/CIEH S4UL levels for human health risk assessment (Reference 6) and "C4SL" limits (Reference 7). Given the end use of the Site, the levels given for residential gardens with vegetable uptake were adopted. The Soil Organic Matter content was taken as 1%. The adopted Acceptance Criteria are given in Table 2, shaded in yellow.
- 5.2.2 The lowest Acceptance Criteria were generally adopted when contaminants had varying criteria from multiple sources.

### **5.3 Environmental Test Results**

- 5.3.1 Table 2 summarises the contamination test results of the 29 soil samples recovered from near surface. The test report is included in Appendix C4.
- 5.3.2 Asbestos was not detected. Levels of petroleum hydrocarbons, polyaromatic hydrocarbons, and volatile organic compounds benzene, toluene, ethylbenzene, and xylene were lower than the selected Acceptance Criteria for residential gardens with vegetable uptake, assuming a soil organic matter content of 1%. Levels of heavy metals were lower than the selected Acceptance Criteria with the exception of five locations



where the level of lead exceeded the limit of 200mg/kg soil. At these locations, the lead levels ranged from 207mg/kg to 355mg/kg.

5.3.3 The result of three leaching “WAC” tests indicated that the samples conformed to the limits for inert waste.

#### **5.4 Generic Environmental Risk Assessment**

5.4.1 A generic environmental risk assessment based on the results discussed above and the recommendations of Reference 5 is presented as Table 4 and concluded that the environmental risk to Site Occupants and controlled waters from the on-site source of contaminated soil, via the pathways of vegetable uptake, gas and vapour inhalation, dermal contact, ingestion, dust, and infiltration, was low.

5.4.2 In the five locations where subsoil and made ground lead levels exceeded the Acceptance Criteria, topsoil would be imported or moved from the eastern field to form the gardens. The made ground at these locations would be removed as part of the demolition works. The exceedances at the five locations were considered sufficiently low to not require remedial works. An illustration of the conceptual model used is presented as Figure 2.

5.4.3 No environmental remediation works are considered necessary.

5.4.4 Undetected contamination may be present which would affect the environmental risk assessments.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Conclusions

- 6.1.1 A former industrial site and field totalling 1.4ha in area, off Easehole Street in the village of Nonnington, Kent CT15 4HF (the Site) is to be redeveloped with 27 houses with gardens and associated access roads and landscaping. The Site slopes upwards from west to east and is surrounded by agricultural land on three sides and existing housing to the south.
- 6.1.2 Following a Phase 1 environmental Desk Study by PBA (Reference 1), which assessed the environmental risks from onsite soil contamination as low to moderate, PBA carried out an intrusive geoenvironmental investigation between 7<sup>th</sup> and 11<sup>th</sup> August 2023. The objectives of this site investigation were to quantify the environmental risk of onsite soil contamination and derive sufficient soil information to enable foundation and soakaway design.
- 6.1.3 Three boreholes denoted BH1 to BH3 were drilled to 5.5m depth, 25 boreholes denoted WS2 to WS26 were drilled to between 1m and 3.5m depth, three trial pits were excavated up to 2.4m depth, and one infiltration test was carried out. The investigation locations are shown in Figure 1. Borehole logs are presented in Appendix B1 of this report, trial pit logs in Appendix B2, and the infiltration test is reported in Appendix B3. A summary of strata depths is given as Table 1, and the results of 29 shallow soil contamination samples are summarised in Table 2.
- 6.1.4 The Site's natural soils may be summarised as stiff to very stiff orange brown silty Clay of low volume change potential between ground level and 2.2m depth, over structureless low density Chalk. In the industrial part of the Site, the concrete thickness varied from 0.15m to 0.3m. Made Ground was present under the concrete hardstanding and in a track leading to the eastern field. This Made Ground comprised clay with ash and brick fragments. Topsoil depths ranged up to 0.3m. The observed ground conditions were consistent with those reported on geological maps as shown in Appendix A1. Groundwater was not observed in any trial pit or borehole.
- 6.1.5 The soil contaminant testing results, summarised in Table 2, indicated compliance with the selected Acceptance Criteria for residential gardens with vegetable uptake, with the exception of five locations where the level of lead exceeded the limit of 200mg/kg soil. At these locations, topsoil would be imported or moved from the eastern field to form the gardens and the made ground would be removed as part of the demolition works. The exceedances at the five locations were therefore considered sufficiently low to not require remedial works. The result of three leaching "WAC" tests indicated that the

samples conformed to the limits for inert waste.

## **6.2 Recommended Foundation Types and Design Parameters**

- 6.2.1 Strip footings founding in chalk are considered satisfactory for the development. The recommended allowable bearing capacity is 250kPa, from Reference 13 for structureless low density chalk. For some houses, provisionally identified as Plots 1, 2, and 16, the chalk is at depths greater than 2m. Deep trench fill foundations are recommended in such locations in preference to founding on the clay, to identify possible solution features and to avoid differential settlement.
- 6.2.2 Alternatively piled foundations may be considered. The pile design would be the responsibility of a specialist contractor based on this report, a pile load schedule, and References 10 and 13, but as an illustration a 5m deep bored pile 0.45m in diameter, penetrating the chalk by 4m, is estimated to have a safe working load of 300kN.
- 6.2.3 The foundations and ground floor slabs must incorporate heave precautions as detailed in Reference 9 for low volume change potential soils.

## **6.3 Recommended Design Infiltration Rate**

- 6.3.1 The recommended design infiltration rate of the chalk is  $7.2 \times 10^{-5}$  m/s, being the lowest measured value of the testing described in Section 3.5.

## **6.4 Recommended Design Sulphate Class**

- 6.4.1 Water soluble sulphate contents in the sands and gravels ranged from 0.12g/l to 0.17g/l. A design sulphate class of DS-1 is defined in Reference 12 for such concentrations and is recommended for design.

## **6.5 Further Environmental Actions**

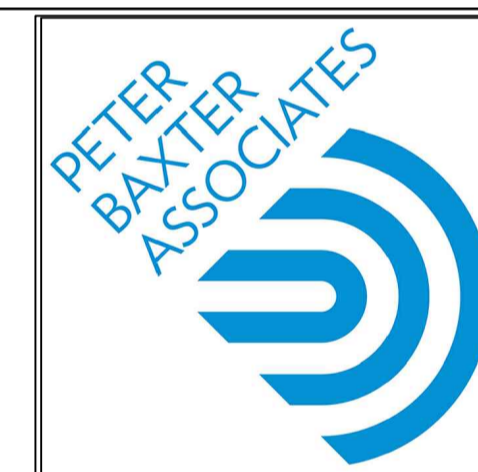
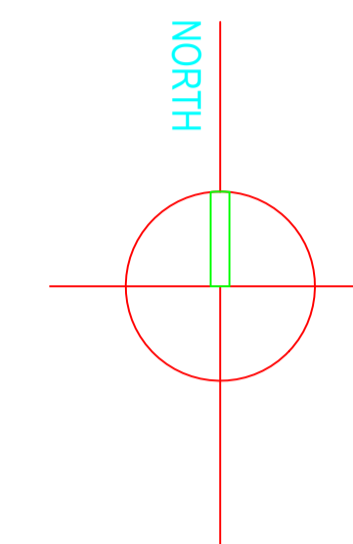
- 6.5.1 No environmental remedial actions for soil contamination are considered necessary.

**Peter Baxter BEng CEng MICE (Director)**

**For and on behalf of Peter Baxter Associates Ltd**

## FIGURES

Based on Client drawing 843-PO5  
 CDP Architecture Sept 2021  
 Proposed Site Plan



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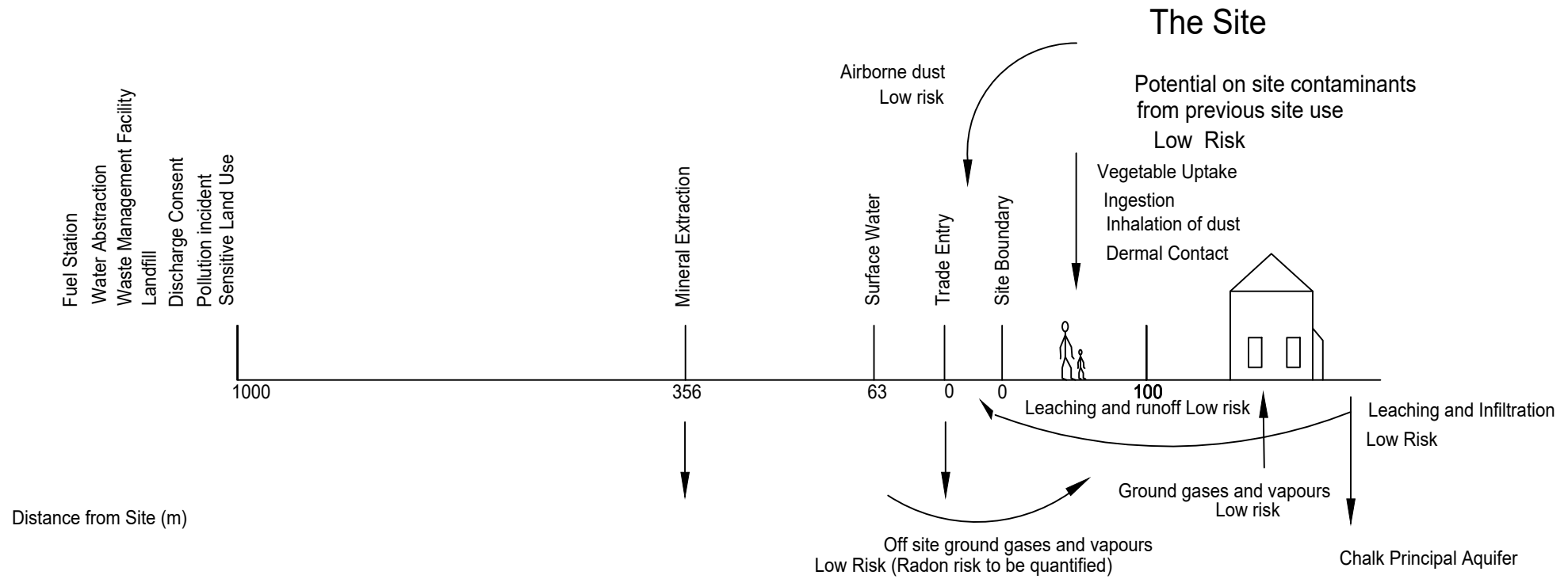
Client  
**Roma Capital Ltd**

Project  
**Nonnington Prima Windows**

Title  
**Borehole and Trial Pit Location Plan**

Rev.	Date	Dim.	App.	Revision

Drawn	Checked	PB
Size	Scale	Status
A1	1:500	Information
Drawing No.	1637/001	Rev.
		A



				Client	Roma Capital Ltd	Drawn	PB	Checked	PB
				Project	Prima Windows Site, Nonington	Size	A4	Scale	N.T.S.
			A	Information		Drawing No.	<b>1637/Figure 2</b>		Rev.
				Information					<b>B</b>
Rev.	Date	Drn.	App.	Revision	Title	Illustration of Conceptual Model			
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## TABLES



**Project: Nonnington Prima Works Phase 2**

**Client: Roma Capital**

**Table 1 - Summary of Chalk Levels**

<b>Borehole</b>	<b>Concrete Thickness (m)</b>	<b>GL (mAOD)</b>	<b>Chalk depth (m)</b>	<b>Chalk Level (mAOD)</b>	<b>SPT Value</b>	<b>Remarks</b>
BH1		43.73	2.50	41.23	10	
BH2		43.73	0.90	42.83	10	
BH3		43.79	0.90	42.89	14	
WS1						Not drilled
WS2	0.30	40.00	1.60	38.40	9	
WS3	0.28	40.00	1.00	39.00	11	
WS4	0.30	41.26	0.50	40.76	9	
WS5	0.26	39.85	2.20	37.65	9	
WS6				0.00		Not drilled
WS7	0.30	40.09	2.45	37.64	10	
WS8		40.22	1.80	38.42		
WS9						Not drilled
WS10	0.20	40.00	1.80	38.20		
WS11		40.00	2.30	37.70		
WS12A		38.62	0.70	37.92	17	
WS13		41.00	0.90	40.10		
WS14A		42.23	2.00	40.23	11	
WS15		40.44	0.20	40.24		
WS16		43.75	1+			Chalk not found
WS17		43.70	0.80	42.90		
WS18		44.50	0.50	44.00		
WS19		46.50	0.25	46.25		
WS20		46.70	0.25	46.45		
WS21		43.79	1+			Chalk not found
WS22A		43.90	2.20	41.70	11	
WS23		44.00	0.30	43.70		
WS24		44.50	1+			Chalk not found
WS25A		44.60	1.90	42.70	14	
WS26		46.00	0.50	45.50		
TP1		40.00	2.20	37.80		
TP2		45.17	0.40	44.77		
TP3		41.35	0.20	41.15		





Project: Nonnington Prima Windows Site  
 1637.00  
 Client: Roma Capital August 2023

**Table 2 - Summary of Acceptance Criteria and Chemical Analysis Results**

TP/BH Depth (m) Lab Sample Ref Date Sampled	Generic Acceptance Criteria (mg/kg)		TP1 (C1) 0.60 670525 10/08/23	BH3 0.20 670526 10/08/23	BH3 (C6) 2.50 670527 10/08/23	BH3 (C9) 3.00 670528 10/08/23	C2 0.35 670529 11/08/23	C3 0.10 670530 11/08/23	C4 0.10 670531 11/08/23	C5 0.00 670532 11/08/23	C7 0.20 670533 11/08/23	C8 0.15 670534 11/08/23	C10 0.10 670535 11/08/23	C11 0.30 670536 11/08/23	C12 0.20 670537 08/08/23	C12A 0.20 670538 10/08/23
Parameter	LQM/CIH S4UL	C4SL	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)
Asbestos Screen			Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Arsenic (As)	37	37	5	11	< 2	< 2	3	14	10	11	8	3	16	15	38	9
Barium (Ba)			32	79	5	5	19	102	40	83	59	23	91	86	79	62
Beryllium (Be)	1.7		< 0.5	1.1	< 0.5	< 0.5	< 0.5	0.7	0.5	0.6	0.7	< 0.5	1	0.8	1.8	0.8
W/S Boron	290		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.2	1.1	< 1	< 1
Cadmium (Cd)	11		< 0.2	0.6	0.3	0.3	< 0.2	< 0.2	0.8	0.6	0.3	0.2	0.2	0.2	0.5	0.6
Chromium (Cr)	910		10	18	< 2	< 2	4	8	11	10	16	6	11	11	18	16
Copper (Cu)	2400		7	27	8	8	33	28	30	325	19	11	48	46	54	20
Lead (Pb)		200	12	85	< 3	< 3	17	355	22	213	43	40	230	207	154	48
Mercury (Hg)	1.2		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	180		8	17	< 3	< 3	5	9	19	14	14	7	14	13	54	15
Selenium (Se)	250		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	410		15	31	3	2	9	20	15	29	25	10	30	27	29	27
Zinc (Zn)	3700		25	94	9	9	21	89	51	538	68	27	77	108	138	70
TPH	1900		< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42
Benzene	0.370	0.42	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Toluene	660		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	260		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
p & m-xylene	310		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
o-xylene			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
MTBE			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
PAH Total			< 1.6	< 1.6	< 1.6	< 1.6	10.2	< 1.6	< 1.6	2.1	6.1	3	2	10.1	< 1.6	< 1.6
Naphthalene	2.3		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	170		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	210		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	170		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	95		< 0.1	< 0.1	< 0.1	< 0.1	0.83	< 0.1	< 0.1	0.14	0.76	0.62	0.16	1.18	< 0.1	< 0.1
Anthracene	2400		< 0.1	< 0.1	< 0.1	< 0.1	0.13	< 0.1	< 0.1	< 0.1	0.15	0.12	< 0.1	0.21	< 0.1	< 0.1
Fluoranthene	280		< 0.1	0.13	< 0.1	< 0.1	2.08	0.14	< 0.1	0.35	1.23	0.60	0.37	2.05	0.29	< 0.1
Pyrene	620		< 0.1	0.12	< 0.1	< 0.1	1.86	0.13	< 0.1	0.36	1.07	0.47	0.34	1.72	0.24	< 0.1
Benzo(a)anthracene	7.20		< 0.1	< 0.1	< 0.1	< 0.1	0.91	< 0.1	< 0.1	0.21	0.53	0.31	0.22	1.01	0.15	< 0.1
Chrysene	15		< 0.1	< 0.1	< 0.1	< 0.1	1.06	< 0.1	< 0.1	0.20	0.56	0.29	0.22	0.99	0.16	< 0.1
Benzo(b)fluoranthene	2.60		< 0.1	< 0.1	< 0.1	< 0.1	1.06	< 0.1	< 0.1	0.23	0.55	0.22	0.25	0.90	0.16	< 0.1
Benzo(k)fluoranthene	77		< 0.1	< 0.1	< 0.1	< 0.1	0.40	< 0.1	< 0.1	< 0.1	0.18	< 0.1	< 0.1	0.34	< 0.1	< 0.1
Benzo(a)pyrene	2.20		< 0.1	< 0.1	< 0.1	< 0.1	0.95	< 0.1	< 0.1	0.23	0.48	0.22	0.22	0.89	0.15	< 0.1
Indeno(1,2,3-cd)pyrene	27		< 0.1	< 0.1	< 0.1	< 0.1	0.50	< 0.1	< 0.1	0.17	0.31	< 0.1	0.13	0.48	< 0.1	< 0.1
Dibenz(a,h)anthracene	0.24		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	320		< 0.1	< 0.1	< 0.1	< 0.1	0.44	< 0.1	< 0.1	0.18	0.26	< 0.1	0.12	0.36	< 0.1	< 0.1

**Notes**

Adopted Generic Acceptance Criteria are shaded in yellow  
 Yellow shaded values exceed the adopted Generic Acceptance Criteria  
 Residential land use with homegrown produce adopted  
 Soil Organic Matter taken as 1%  
 Refer to contents page for Full References

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Project: Nonnington Prima Windows Site  
1637.00  
Client: Roma Capital

**Table 2 - Summary of Acceptance Criteria and Chemical Analysis Results**

TP/BH Depth (m) Lab Sample Ref Date Sampled	Generic Acceptance Criteria (mg/kg)		C13	C14	C14A	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26
Parameter	LQM/CIH S4UL	C4SL	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)	Measured Values (mg/kg)
Asbestos Screen			Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Arsenic (As)	37	37	18	11	12	4	9	8	8	7	8	9	10	8	8	9	7
Barium (Ba)			125	94	98	29	65	60	54	41	52	65	82	63	63	79	53
Beryllium (Be)	1.7		2.1	1.2	1.5	< 0.5	0.8	0.7	0.7	0.6	0.7	0.8	1	0.7	0.7	0.7	0.7
W/S Boron	290		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.2	< 1	< 1	< 1	< 1
Cadmium (Cd)	11		0.5	0.5	0.5	0.4	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.5	0.6	0.7	0.6
Chromium (Cr)	910		20	17	18	11	16	17	16	13	16	18	18	16	16	19	15
Copper (Cu)	2400		41	26	29	40	22	18	16	14	15	19	25	19	16	22	15
Lead (Pb)		200	262	118	138	16	86	58	31	23	29	45	94	44	38	75	27
Mercury (Hg)	1.2		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	180		24	16	18	11	15	14	13	11	14	15	17	14	14	20	12
Selenium (Se)	250		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	410		47	29	33	15	27	27	25	21	28	31	27	26	27	24	24
Zinc (Zn)	3700		112	96	100	219	81	64	61	45	56	66	104	72	70	100	55
TPH	1900		< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42	< 42
Benzene	0.370	0.42	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Toluene	660		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	260		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
p & m-xylene	310		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
o-xylene			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
MTBE			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
PAH Total			< 1.6	2.4	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Naphthalene	2.3		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	170		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	210		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	170		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	95		0.16	0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.12	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	2400		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	280		0.35	0.46	0.27	< 0.1	0.11	< 0.1	< 0.1	< 0.1	< 0.1	0.26	< 0.1	< 0.1	0.14	< 0.1	< 0.1
Pyrene	620		0.29	0.44	0.23	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.22	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Benzo(a)anthracene	7.20		0.16	0.26	0.14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	15		0.18	0.27	0.16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	2.60		0.17	0.27	0.16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	77		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	2.20		0.13	0.25	0.16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	27		< 0.1	0.15	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	0.24		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	320		< 0.1	0.14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes

Adopted Generic Acceptance Criteria are shaded in yellow  
Yellow shaded values exceed the adopted Generic Acceptance Criteria  
Residential land use with homegrown produce adopted  
Soil Organic Matter taken as 1%  
Refer to contents page for Full References

Notes

Adopted Generic Acceptance Criteria are shaded in yellow  
Yellow shaded values exceed the adopted Generic Acceptance Criteria  
Residential land use with homegrown produce adopted  
Soil Organic Matter taken as 1%  
Refer to contents page for Full References

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## APPENDICES

**APPENDIX A**  
**DESK STUDY DATA**





**APPENDIX A1**  
**Geological Maps**

## Geology 1:50,000 Maps Legends

### Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	HEAD	Head	Silt and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay and Silt	Not Supplied - Quaternary
	CWF	Clay-with-flints Formation	Clay, Silt, Sand and Gravel	Not Supplied - MIOCENE

### Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	TAB	Thanet Formation	Sand, Silt and Clay	Not Supplied - Thanetian
	MACK	Margate Chalk Member	Chalk	Not Supplied - Santonian
	SECK	Seaford Chalk Formation	Chalk	Not Supplied - Coniacian
		Faults		

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### Geology 1:50,000 Maps

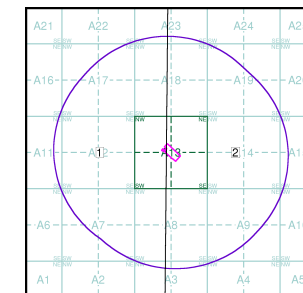
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published 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:	2	Map ID:	1
Map Sheet No:	290	Map Sheet No:	289
Map Name:	Dover	Map Name:	Canterbury
Map Date:	1966	Map Date:	1982
Bedrock Geology:	Available	Bedrock Geology:	Available
Superficial Geology:	Available	Superficial Geology:	Available
Artificial Geology:	Not Available	Artificial Geology:	Not 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



### Order Details:

Order Number: 285513079\_1\_1  
 Customer Reference: 1455  
 National Grid Reference: 626330, 152170  
 Slice: A  
 Site Area (Ha): 1.14  
 Search Buffer (m): 1000

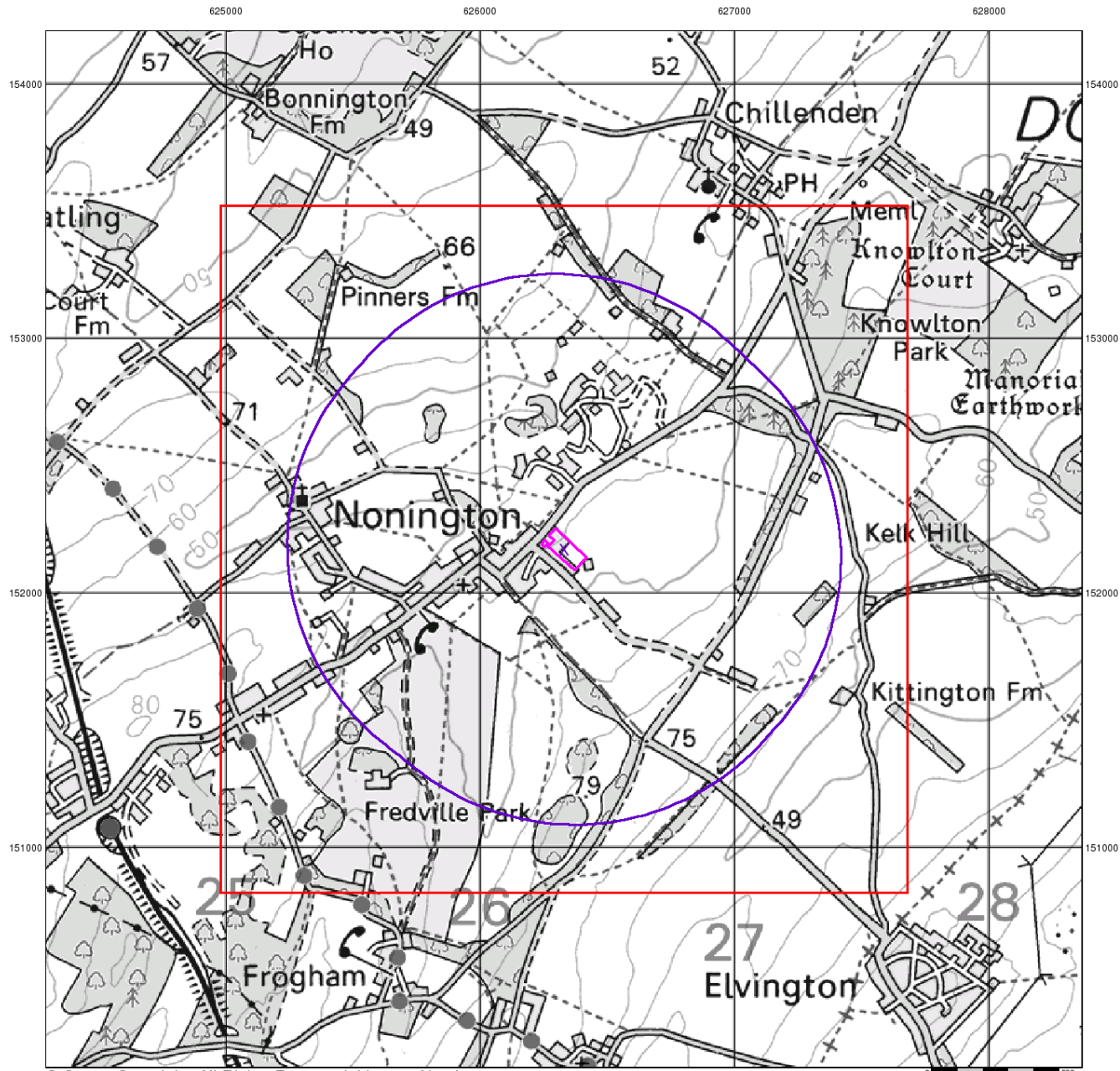
### Site Details:

Prima Systems, Unit 1, The Old Malt House, Easole Street, NONINGTON, CT15 4HF

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## Artificial Ground and Landslip

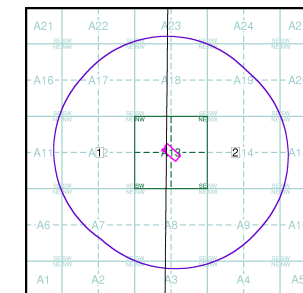
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

## Artificial Ground and Landslip Map - Slice A



### Order Details:

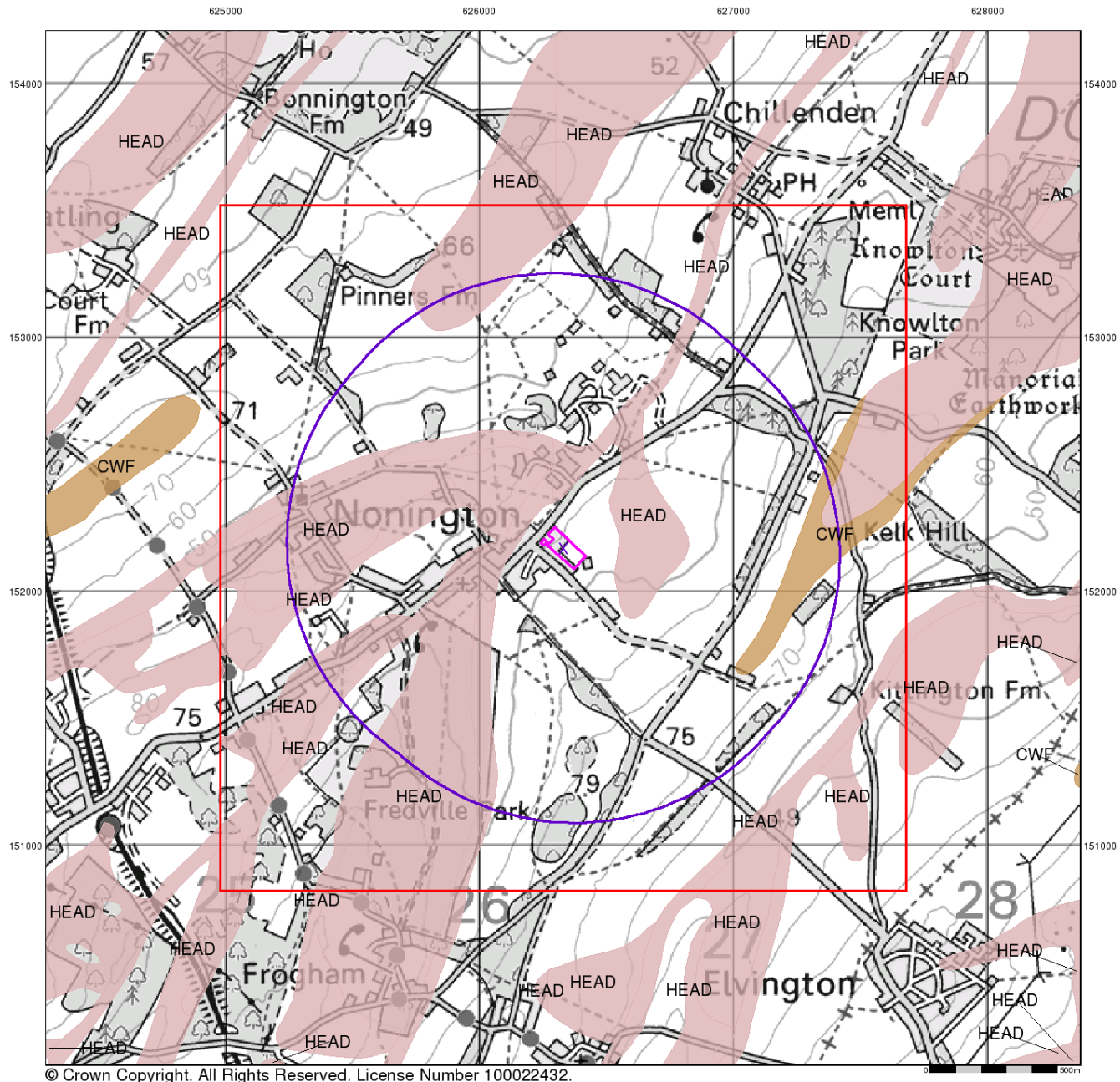
Order Number: 285513079\_1\_1  
 Customer Reference: 1455  
 National Grid Reference: 626330, 152170  
 Slice: A  
 Site Area (Ha): 1.14  
 Search Buffer (m): 1000

### Site Details:

Prima Systems, Unit 1, The Old Malt House, Easole Street, NONINGTON, CT15 4HF

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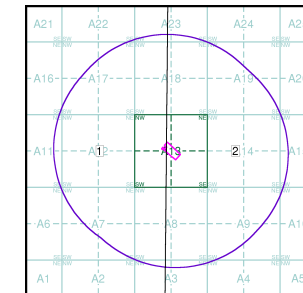
## Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

## Superficial Geology Map - Slice A



### Order Details:

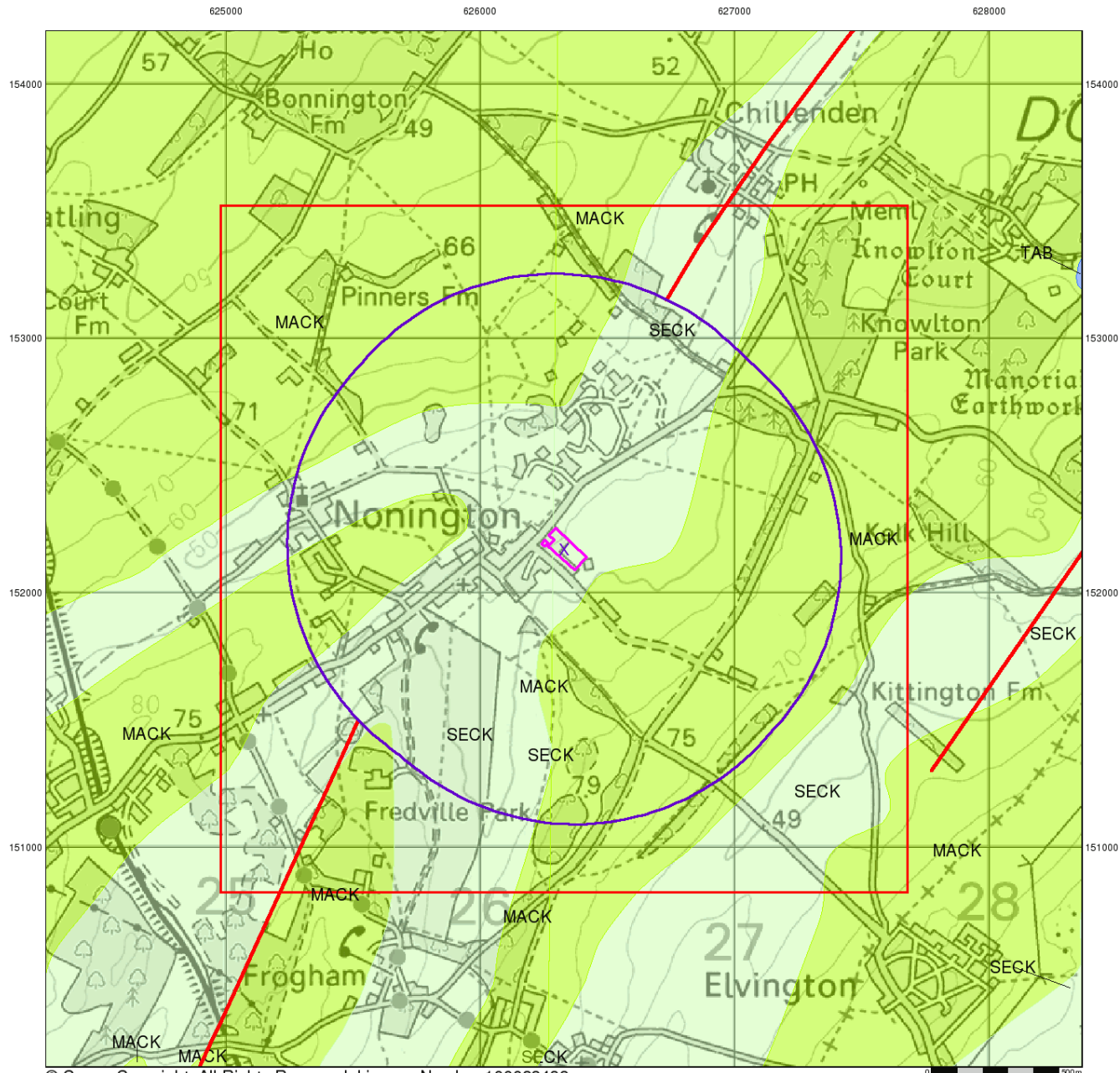
Order Number: 285513079\_1\_1  
 Customer Reference: 1455  
 National Grid Reference: 626330, 152170  
 Slice: A  
 Site Area (Ha): 1.14  
 Search Buffer (m): 1000

### Site Details:

Prima Systems, Unit 1, The Old Malt House, Easole Street, NONINGTON, CT15 4HF

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## Bedrock and Faults

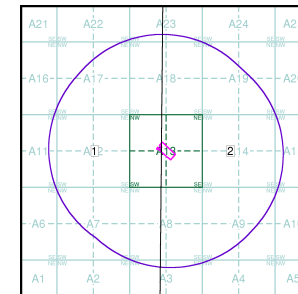
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

## Bedrock and Faults Map - Slice A



### Order Details:

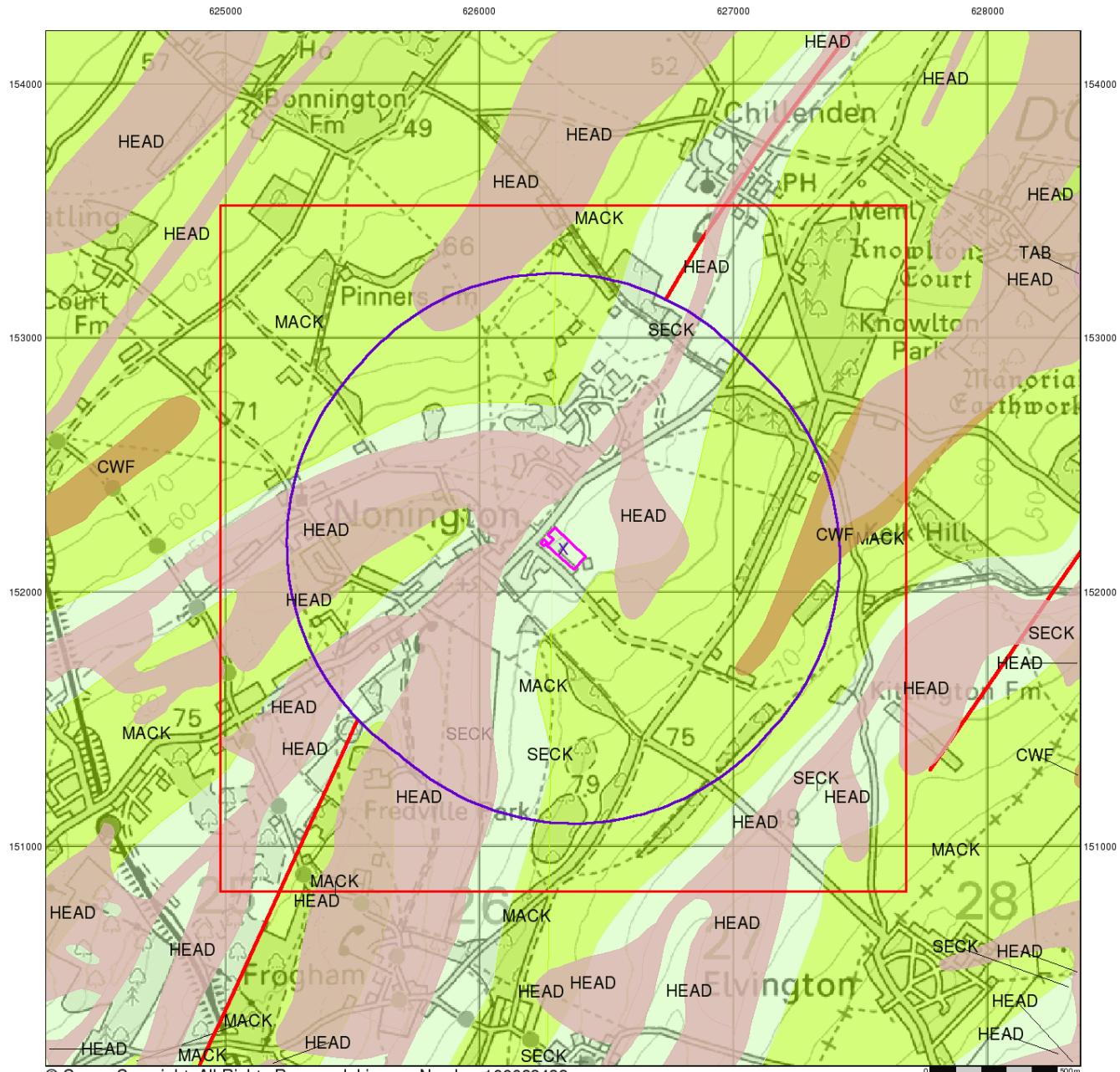
Order Number: 285513079\_1\_1  
 Customer Reference: 1455  
 National Grid Reference: 626330, 152170  
 Slice: A  
 Site Area (Ha): 1.14  
 Search Buffer (m): 1000

### Site Details:

Prima Systems, Unit 1, The Old Malt House, Easole Street, NONINGTON, CT15 4HF

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## Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

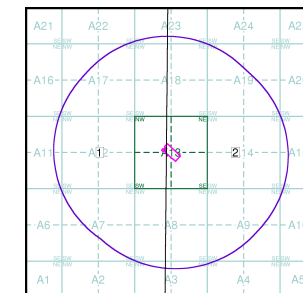
## Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

## Contact

British Geological Survey  
 Kingsley Dunham Centre  
 Keyworth  
 Nottingham  
 NG12 5GG  
 Telephone: 0115 936 3143  
 Fax: 0115 936 3276  
 email: enquiries@bgs.ac.uk  
 website: www.bgs.ac.uk

## Combined Geology Map - Slice A



## Order Details:

Order Number: 285513079\_1\_1  
 Customer Reference: 1455  
 National Grid Reference: 626330, 152170  
 Slice: A  
 Site Area (Ha): 1.14  
 Search Buffer (m): 1000

## Site Details:

Prima Systems, Unit 1, The Old Malt House, Easole Street, NONINGTON, CT15 4HF

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**APPENDIX B**  
**FIELD DATA**

**APPENDIX B1**  
**Borehole Logs**



# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd		Date: 10/08/2023	
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd			
Project No. : 1637		Crew Name: CK Drilling		Drilling Equipment: Windowless Sampler	
Borehole Number BH1	Hole Type CP	Level 43.73m AoD	Logged By kb	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
█		0.30			43.43		TOPSOIL		
		0.80	D				Very stiff orange brown slightly gravelly very silty CLAY	1	
		1.20	SPT	N=10 (4,4/3,3,2,2)					
		1.60	D		42.13		Very stiff pale brown slightly gravelly silty CLAY with chalk pieces	2	
		2.00	SPT	N=12 (2,2/3,3,3,3)					
		2.30			41.43		Firm to stiff pale brown very silty CLAY		
		2.50			41.23				
		3.00	SPT	N=10 (2,2/2,2,3,3)			Recovered as structureless CHALK composed of slightly gravelly sandy SILT. Gravel is very weak <i>damp</i>	3	
		3.50	D						
		4.00	SPT	N=10 (2,3/2,3,2,3)				4	
	5.00	SPT	N=14 (2,3/3,3,4,4)				5		
		5.45			38.28		End of Borehole at 5.450m	6	
								7	
								8	
								9	
								10	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number BH2	Hole Type CP	Level 43.73m AoD	Logged By kb
		Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	43.43		TOPSOIL	
		0.70	D		0.90	42.83		Stiff brown slightly gravelly very silty CLAY with chalk pieces	
		1.20	SPT	N=10 (2,3/3,2,2,3)				Recovered as structureless CHALK composed of gravelly sandy SILT. Gravel is very weak	1
		2.00	SPT	N=12 (2,2/2,3,3,4)					2
		3.00	SPT	N=9 (2,3/2,2,2,3)				<i>damp</i>	3
		4.00	SPT	N=11 (2,2/3,3,2,3)					4
	5.00	SPT	N=25 (2,3/12,6,4,3)		5.45	38.28		End of Borehole at 5.450m	5
								6	
								7	
								8	
								9	
								10	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks







# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number BH3	Hole Type WLS	Level 43.79m AoD	Logged By kb
		Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	43.49		TOPSOIL	
					0.90	42.89		Very stiff brown slightly gravelly very silty CLAY with chalk pieces	
		1.20	SPT	N=14 (2,3/3,3,4,4)				Recovered as structureless CHALK composed of sandy silty GRAVEL. Gravel is weak with surfaces yellow brown stained.	1
		2.00	SPT	N=31 (5,10/8,7,7,9)					2
		3.00	SPT	N=9 (2,2/2,2,2,3)					3
		4.00	SPT	N=29 (2,2/3,11,8,7)					4
	5.00	SPT	N=12 (2,3/2,3,3,4)				<i>flint gravel</i>	5	
					5.45	38.34		End of Borehole at 5.450m	6
									7
									8
									9
									10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd		Date: 11/08/2023	
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd			
Project No. : 1637		Crew Name: CK Drilling		Drilling Equipment: Windowless Sampler	
Borehole Number C02	Hole Type CP	Level 40.00m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.80	D		0.30	39.70		CONCRETE	1
					0.60	39.40		MADE GROUND (brown sand, gravel and brick pieces)	
								Stiff brown slightly gravelly sandy CLAY	
					1.60	38.40		Recovered as structureless CHALK composed of off white sandy SILT	
		2.00	SPT	N=9 (2,3/2,2,2,3)	2.45	37.55		End of Borehole at 2.450m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2	Client: Roma Capital GroupLtd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2	Contractor: Peter Baxter Associates Ltd	
Project No. : 1637	Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler

Borehole Number C03	Hole Type WLS	Level 40.00m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1
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Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.28	39.72		CONCRETEE	
					0.60	39.40		MADE GROUND (brown sand, gravel and chalk)	
					1.00	39.00		Very stiff pale brown slightly gravelly CLAY/ CHALK	
		1.20	SPT	N=11 (2,2/2,3,3,3)	1.45	38.55		Recovered as structureless CHALK composed of gravelly sandy SILT. Gravel is very weak	1
								End of Borehole at 1.450m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C04	Hole Type CP	Level 41.26m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	40.96		CONCRETE	
					0.50	40.76		MADE GROUND (dark brown/black sand, gravel and brick pieces)	
		0.90	D					Recovered as structureless CHALK composed of cream slightly gravelly sandy SILT. Gravel is very weak	
		1.00	SPT	N=9 (2,1/2,2,3,2)	1.00	40.26		Recovered as off white slightly gravelly sandy SILT. Gravel is very weak	1
					1.45	39.81		End of Borehole at 1.450m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name:	Drilling Equipment:
Borehole Number C05	Hole Type CP	Level 39.85m AoD	Logged By
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.26	39.59		CONCRETE	
					0.50	39.35		MADE GROUND (brown sand, gravel, brick and ash)	
		1.00	D		0.80	39.05		Stiff brown sandy CLAY	
								Stiff pale brown slightly gravelly silty CLAY with chalk pieces	1
					2.20	37.65		Recovered as structureless CHALK composed of slightly gravelly sandy SILT. Gravel is very weak	2
		3.00	SPT	N=9 (3,3,2,2,2)	3.45	36.40		End of Borehole at 3.453m	3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C07	Hole Type CP	Level 40.09m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	39.79	CONCRETE		
					0.70	39.39	MADE GROUND (brown sand, brick and concrete fragments)		
		1.00	D		0.90	39.19	Stiff dark grey sandy CLAY with chalk pieces		1
							Stiff brown sandy CLAY		
		1.70	D		1.70	38.39	Stiff pale brown slightly gravelly CLAY with chalk pieces		
		2.00	SPT	N=10 (2,2/2,2,3,3)					2
					2.45	37.64	End of Borehole at 2.452m		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd		Date: 11/08/2023	
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd			
Project No. : 1637		Crew Name: CK Drilling		Drilling Equipment: Windowless Sampler	
Borehole Number C08	Hole Type CP	Level 40.22m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	39.92		TOPSOIL	
		1.50	D					Stiff pale brown slightly gravelly CLAY with chalk pieces	1
		2.00	SPT	N=7 (1,2/2,1,2,2)	1.80	38.42		Recovered as structureless CHALK off white slightly gravelly sandy SILT. Gravel is very weak.	2
					2.45	37.77		End of Borehole at 2.000m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2	Client: Roma Capital Group Ltd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2	Contractor: Peter Baxter Associates Ltd	
Project No. : 1637	Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler

Borehole Number C10	Hole Type CP	Level 40.00m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1
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Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	39.80		CONCRETE	
					0.80	39.20		MADE GROUND (brown sand, gravel and brick pieces)	
		1.20	D		1.60	38.40		Very stiff orange brown very silty CLAY	1
					1.80	38.20		Very stiff pale brown slightly gravelly CLAY	
					2.45	37.55		Recovered as structureless CHALK composed of off white slightly gravelly sandy CHALK. Gravel is weak	2
								End of Borehole at 2.450m	3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred







# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowlwss Sampler
Borehole Number C11	Hole Type CP	Level 40.00m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	39.80		Grass over TOPSOIL	
					0.40	39.60		MADE GROUND (brown sand, ash, gravel and brick pieces)	
		1.00	D					Very stiff orange brown very silty CLAY	1
					1.60	38.40		Very stiff pale brown slightly gravelly CLAY with chalk pieces	2
					2.30	37.70		Recovered as structureless CHALK composed of slightly gravelly sandy SILT . Gravel is weak. Occasional flint gravel	3
					3.45	36.55		End of Borehole at 3.000m	4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C12A	Hole Type WLS	Level 38.62m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	38.32		MADE GROUND (pea shingle/stone overlying dark grey clay, gravel, ash and brick pieces)	
					0.70	37.92		Very stiff brown slightly gravelly very silty CLAY	
		1.00	SPT	N=17 (2,3/4,4,3,6)				Recovered as structureless CHALK composed of gravelly SILT. .Gravel is weak. Occasional flint gravel	1
					1.45	37.17		End of Borehole at 1.450m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2	Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2	Contractor: Peter Baxter Associates Ltd	
Project No. : 1637	Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler

Borehole Number C13	Hole Type WLS	Level 41.00m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1
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Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40	40.60		MADE GROUND (grass over brown sandy clay, ash and brick pieces)	
					0.80	40.20		Very stiff orange brown slightly gravelly very silty CLAY	
					0.90	40.10		Very stiff pale brown CLAY	
					1.00	40.00		Offr white CHALK	
								End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd		Date: 10/08/2023	
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd			
Project No. : 1637		Crew Name: CK Drilling		Drilling Equipment: Windowless Sampler	
Borehole Number C14A	Hole Type CP	Level 42.23m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40	41.83		MADE GROUND (brown clay, gravel and brick pieces with rootlets)	
		1.20	D		1.50	40.73		Very stiff orange brown very silty CLAY	1
					2.00	40.23		Very stiff pale brown very silty CLAY with chalk pieces	
		3.00	SPT	N=11 (2,3/3,2,3,3)	3.45	38.78		Recovered as structureless CHALK composed of off white sandy SILT. Occasional flint gravel	2
								<i>brown very silty CLAY</i>	3
								End of Borehole at 3.450m	4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd		Date: 11/08/2023	
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd			
Project No. : 1637		Crew Name: CK Drilling		Drilling Equipment: Windowless Sampler	
Borehole Number C15	Hole Type WLS	Level 40.44m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	40.24		TOPSOIL	
								Recovered as structureless CHALK composed of off white gravelly sandy SILT. Gravel is very weak	1
					1.45	38.99		End of Borehole at 1.450m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital GroupLtd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C16	Hole Type WLS	Level 43.75m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	43.55		MADE GROUND (brown clay, gravel and brick pieces)	
								Very stiff orange brown very silty CLAY	
					1.00	42.75		End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital GroupLtd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C17	Hole Type WLS	Level 43.70m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.00	43.70		MADE GROUND (brown clay, gravel, and ash) Very stiff brown silty CLAY with chalk	
					0.80	42.90		Off white CHALK/brown silty CLAY	
					1.00	42.70		End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C18	Hole Type WLS	Level 44.33m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.50	43.83		TOPSOIL	
					1.00	43.33		Recovered as structureless CHALK composed of off white silty GRAVEL. Gravel is weak <i>flint gravel</i>	
								End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks







# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 08/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C19	Hole Type WLS	Level 45.00m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25	44.75		TOPSOIL	
					1.00	44.00		Recovered as structureless CHALK composed of sandy silty GRAVEL. Gravel is weak flint gravel	
								End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd		Date: 07/08/2023	
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd			
Project No. : 1637		Crew Name: CK Drilling		Drilling Equipment: Windowless Sampler	
Borehole Number C20	Hole Type WLS	Level 46.70m AoD	Logged By kb	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25	46.45		TOPSOIL	
					1.00	45.70		Recovered as structureless CHALK composed of off white sandy silty GRAVEL. Gravel is weak	
								End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 07/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C21	Hole Type WLS	Level 43.79m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	43.49		TOPSOIL	
					0.90	42.89		Very stiff brown slightly gravelly very silty CLAY	
					1.00	42.79		Very stiff pale brown silty CLAY	1
								End of Borehole at 1.000m	2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital GroupLtd	Date: 11/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C22A	Hole Type CP	Level 43.70m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	43.40		TOPSOIL	
		1.20	D		1.60	42.10		Very stiff orange brown slightly gravelly silty CLAY	1
					2.20	41.50		Very stiff pale brown slightly gravelly silty CLAY with chalk pieces	2
		3.00	SPT	N=11 (2,2/2,3,3,3)	3.45	40.25		Recovered as structureless CHALK composed of off white slightly gravelly sandy SILT. Gravel is weak	3
								End of Borehole at 3.450m	4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date: 08/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C23	Hole Type WLS	Level 43.70m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	43.40		TOPSOIL	
					1.00	42.70		Very stiff orange brown slightly gravelly silty CLAY	
								End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital GroupLtd	Date: 07/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C24	Hole Type WLS	Level 44.30m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	44.00		TOPSOIL	
					1.00	43.30		Very stiff orange brown slightly gravelly very silty CLAY	
								End of Borehole at 1.000m	1
									2
									3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital GroupLtd	Date: 07/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C25A	Hole Type CP	Level 45.00m AoD	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	44.70		TOPSOIL	
					0.70	44.30		Very stiff orange brown slightly sandy silty CLAY with chalk pieces	
		1.00	D					Very stiff pale brown silty CLAY with zones of brown clay	1
		2.00	SPT	N=14 (2,2/3,4,4,3)	1.90	43.10		Recovered as structureless CHALK composed of off white gravelly sandy SILT. Gravel is weak	2
					2.45	42.55		End of Borehole at 2.450m	3
									4
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
GL inferred





# Percussion Drilling Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2		Client: Roma Capital Group Ltd	Date:
Location: Prima Windows Site Nonnington CT15 4HF Phase 2		Contractor: Peter Baxter Associates Ltd	
Project No. : 1637		Crew Name: CK Drilling	Drilling Equipment: Windowless Sampler
Borehole Number C26	Hole Type WLS	Level	Logged By kb
		Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
							TOPSOIL		
					0.30		Very stiff orange brown slightly gravelly silty CLAY with chalk pieces		
					0.50		Recovered as structureless CHALK composed of off white sandy SILT with pockets of brown clay		
					1.00		End of Borehole at 1.000m	1	
								2	
								3	
								4	
								5	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





**APPENDIX B2**  
**Trial Pit Logs**



# Trial Pit Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2	Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2	Contractor: Peter Baxter Associates Ltd	
Project No. : 1637	Crew Name:	Equipment: Minidigger

Location Number TP1	Location Type CP	Level 40.00m AoD	Logged By PB	Scale 1:25	Page Number Sheet 1 of 1
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Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
TP1		0.60	B		0.15	40.00		Reinforced concrete slab	1
					0.40	39.85		MADE GROUND brick rubble in clay matrix	
								Firm dark brown silty CLAY	
					2.30	39.60		Structureless white CHALK	2
					2.40	37.70		End of Borehole at 2.200m	3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
		Stable	None				

Remarks



# Trial Pit Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2	Client: Roma Capital Group Ltd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2	Contractor: Peter Baxter Associates Ltd	
Project No. : 1637	Crew Name:	Equipment: Minidigger

Location Number TP2	Location Type CP	Level 45.17m AoD	Logged By PB	Scale 1:25	Page Number Sheet 1 of 1
------------------------	---------------------	---------------------	-----------------	---------------	-----------------------------

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	45.17		TOPSOIL	
		1.00	B					White CHALK, closed spacings at 50-100mm	1
		1.50	B		1.50	44.87		End of Borehole at 1.500m	2
									3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
		Stable	None				

Remarks



# Trial Pit Log

Project Name: Nonnington, Prima Windows Site CT15 4HF Phase 2	Client: Roma Capital GroupLtd	Date: 10/08/2023
Location: Prima Windows Site Nonnington CT15 4HF Phase 2	Contractor: Peter Baxter Associates Ltd	
Project No. : 1637	Crew Name:	Equipment: Minidigger

Location Number TP3	Location Type CP	Level 41.35m AoD	Logged By PB	Scale 1:25	Page Number Sheet 1 of 1
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Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40	41.35		TOPSOIL with rootlets	
								Structureless white CHALK	1
					1.30	40.95		End of Borehole at 1.300m	2
									3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
		Stable	None				

**Remarks**  
Retaining wall foundations at 0.4m depth in chalk. No corbells

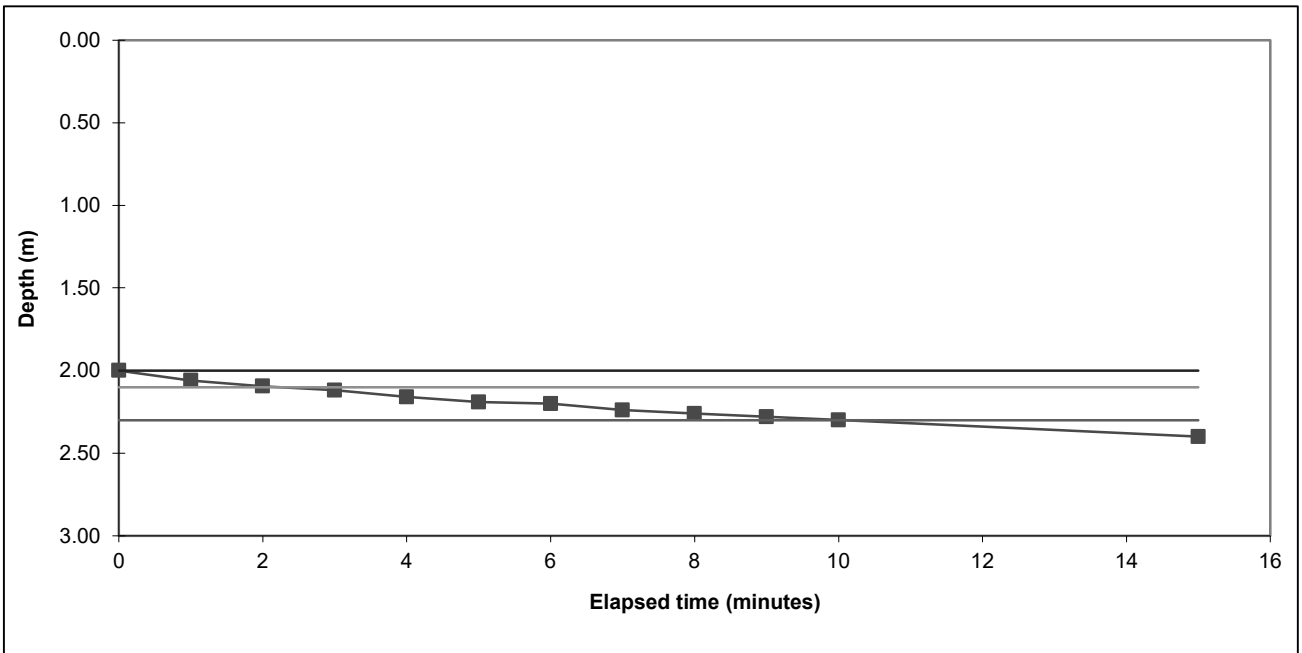
**APPENDIX B3**  
**Infiltration Test Report**

## Soakaway Test

Trial Pit No:	SA01	Test No:	1	Date:	10/08/2023
Length (m):	1.500	Datum Height:			0.00 m agl
Width (m):	0.40	Granular infill:	None		
Depth (m):	2.40	Porosity of infill:	1		(assumed)

Elapsed time (minutes)	Water Depth (m below datum)	Elapsed time (minutes)	Water Depth (m below datum)
0	2.000		
1	2.060		
2	2.095		
3	2.120		
4	2.160		
5	2.190		
6	2.200		
7	2.240		
8	2.260		
9	2.280		
10	2.300		
15	2.400		



Start water depth for analysis (mbgl)	2.00		
75% effective depth (mbgl):	2.10	Elapsed time (mins):	2.2
50% effective depth (mbgl):	2.20		
25% effective depth (mbgl):	2.30	Elapsed time (mins):	10.0
Base of soakage zone (mbgl):	2.40		
Volume outflow between 75% and 25% effective depth (m <sup>3</sup> ):			0.120
Mean surface area of outflow (m <sup>2</sup> ):			1.36
(side area at 50% effective depth + base area)			
Time for outflow between 75% and 25% effective depth (mins):			7.8

<b>Soil infiltration rate (m/s):</b>	<b>1.9E-4</b>
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<b>Remarks</b>	Results processed following BRE 365 (2007). Very Fast draining
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<b>Client:</b>	PETER BAXTER	SA01
<b>Site:</b>	NONNINGTON	



**Project:** Nonnington Infiltration Test

**Job No.** 1504

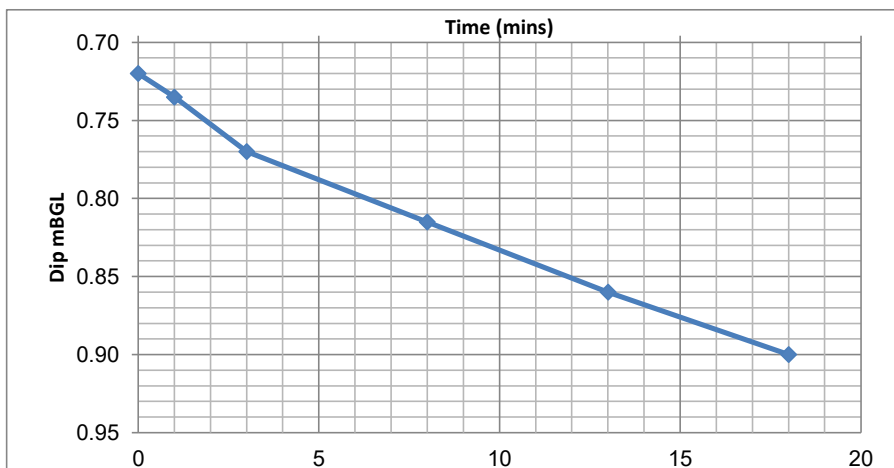
**Client:** Roma Capital

**Date:** 24/03/2022

**Soakaway Test**

**Location:** TPA-1

Trial Pit Details	r			Effective Storage Volume (m3)
	Depth (m)	Length (m)	Width (m)	
Dimensions	0.90	2.40	0.32	0.14
Minimum dip to water (mbgl)	Volume (m3)			Depth (m)
0.72				
75% Full	0.10368			0.77
25% Full	0.03456			0.86
Volume Outflowing	0.06912			
	Area (m2)			Time (24hr)
				Elapsed Time (mins)
Mean surface Area	1.2576			Dip to water (mbGL)
				0 0.72
				1 0.74
				3 0.77
				8 0.82
Time (mins) 75% full	3			13 0.86
Time (mins) 25% full	13			18 0.90



Soil Infiltration Rate F (m/s)

**9.2E-05**

Remarks:





**Project:** Nonnington Infiltration Test

**Job No.** 1504

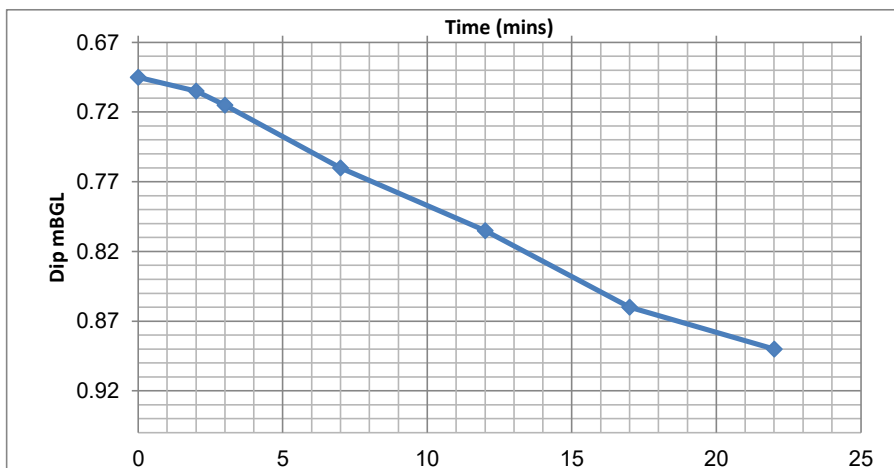
**Client:** Roma Capital

**Date:** 24/03/2022

**Soakaway Test**

**Location:** TPA-2

Trial Pit Details	r			Effective Storage Volume (m3)
	Depth (m)	Length (m)	Width (m)	
Dimensions	0.90	2.40	0.32	0.16
Minimum dip to water (mbgl)	Volume (m3)			Depth (m)
	0.695			
75% Full	0.11808			0.75
25% Full	0.03936			0.85
Volume Outflowing	0.07872			
	Area (m2)			Time (24hr)    Elapsed Time (mins)    Dip to water (mbGL)
Mean surface Area	1.3256			0    0.70
				2    0.71
				3    0.72
				7    0.76
Time (mins) 75% full	6			12    0.81
				17    0.86
Time (mins) 25% full	16			22    0.89



Soil Infiltration Rate F (m/s)

**9.9E-05**

Remarks:



**Project:** Nonnington Infiltration Test

**Job No.** 1504

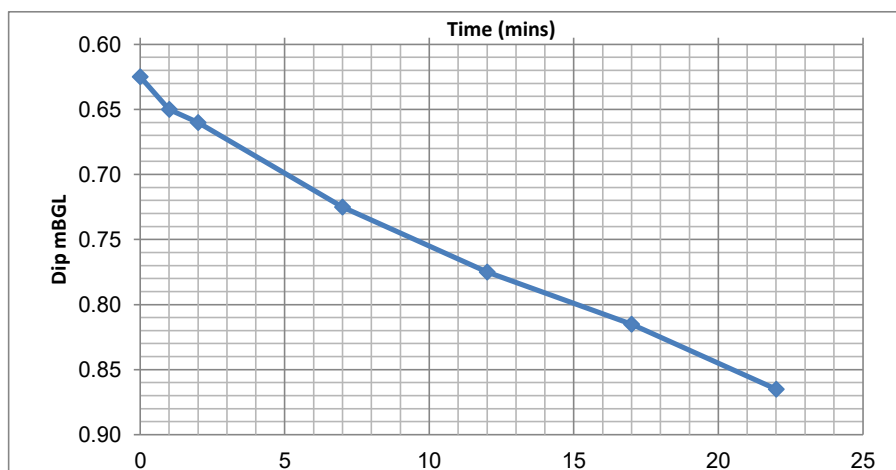
**Client:** Roma Capital

**Date:** 24/03/2022

**Soakaway Test**

**Location:** TPA-3

<b><u>Trial Pit Details</u></b>	Depth (m)	Length (m)	Width (m)	Effective Storage Volume (m3)		
Dimensions	0.90	2.40	0.32	0.21		
Minimum dip to water (mbgl)	0.625			Volume (m3)	Depth (m)	
75% Full				0.1584	0.69	
25% Full				0.0528	0.83	
Volume Outflowing				0.1056		
	Area (m2)			Time (24hr)	Elapsed Time (mins)	Dip to water (mbGL)
Mean surface Area	1.516				0	0.63
					1	0.65
					2	0.66
					7	0.73
Time (mins) 75% full	4				12	0.78
					17	0.82
Time (mins) 25% full	18				22	0.87



Soil Infiltration Rate F (m/s)

**8.3E-05**

Remarks:



**Project:** Nonnington Infiltration Test

**Job No.** 1504

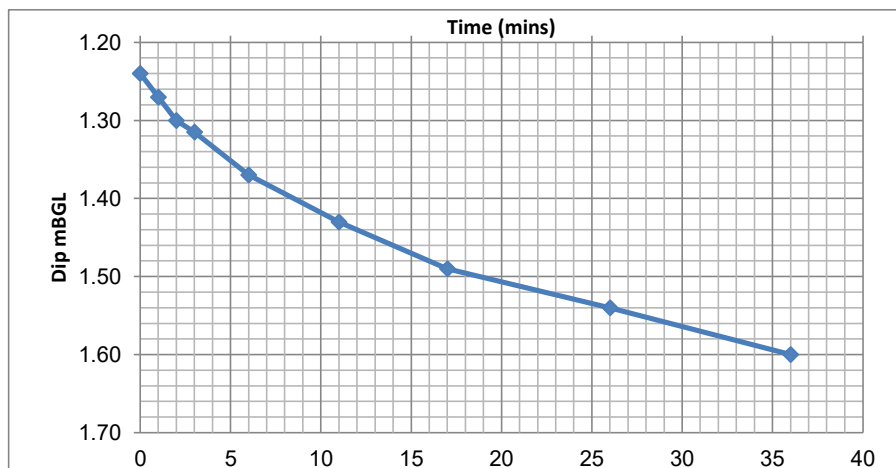
**Client:** Roma Capital

**Date:** 24/03/2022

**Soakaway Test**

**Location:** TPB-1

<b>Trial Pit Details</b>	r			Effective Storage Volume (m3)
	Depth (m)	Length (m)	Width (m)	
Dimensions	1.60	2.00	0.35	0.25
Minimum dip to water (mbgl)	Volume (m3)			Depth (m)
	1.24			
75% Full	0.189			1.33
25% Full	0.063			1.51
Volume Outflowing	0.126			
	Area (m2)			Time (24hr)
Mean surface Area	1.546			Elapsed Time (mins)
				Dip to water (mbGL)
Time (mins) 75% full	3.2			0
				1
				2
				3
Time (mins) 25% full	22			6
				11
				17
				26
				36



Soil Infiltration Rate F (m/s)

**7.2E-05**

Remarks:



**Project:** Nonnington Infiltration Test

**Job No.** 1504

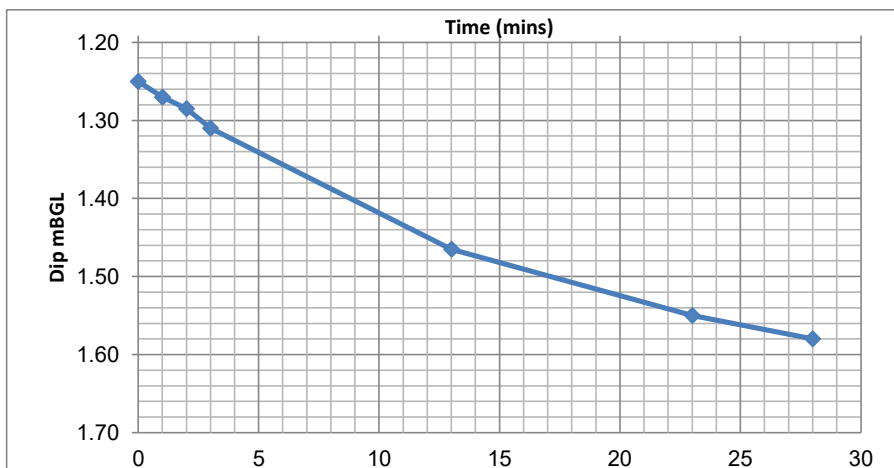
**Client:** Roma Capital

**Date:** 24/03/2022

**Soakaway Test**

**Location:** TPB-2

<b><u>Trial Pit Details</u></b>	Depth (m)	Length (m)	Width (m)	Effective Storage Volume (m3)		
Dimensions	1.60	2.00	0.35	0.25		
Minimum dip to water (mbgl)	Volume (m3)			Depth (m)		
1.25						
75% Full	0.18375			1.34		
25% Full	0.06125			1.51		
Volume Outflowing	0.1225					
	Area (m2)			Time (24hr)	Elapsed Time (mins)	Dip to water (mbGL)
Mean surface Area	1.5225				0	1.25
					1	1.27
					2	1.29
					3	1.31
Time (mins) 75% full	5				13	1.47
					23	1.55
Time (mins) 25% full	18.5				28	1.58



Soil Infiltration Rate F (m/s)

**9.9E-05**

Remarks:



**Project:** Nonnington Infiltration Test

**Job No.** 1504

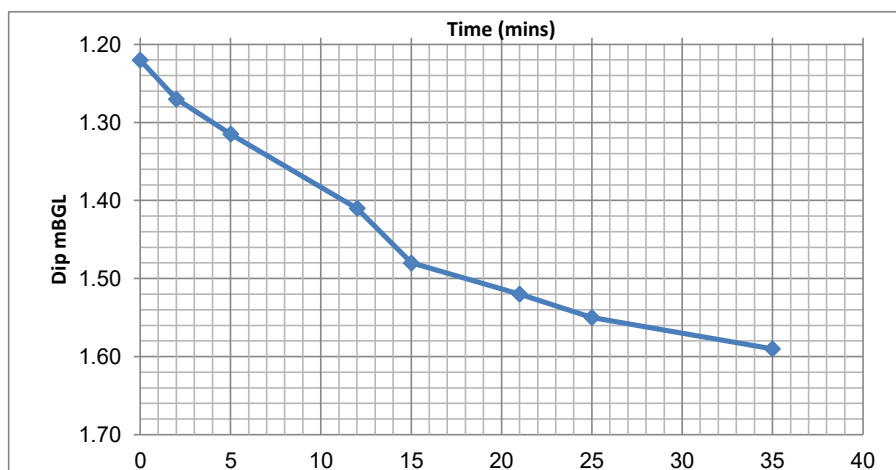
**Client:** Roma Capital

**Date:** 24/03/2022

**Soakaway Test**

**Location:** TPB-3

<b><u>Trial Pit Details</u></b>	r			Effective Storage Volume (m3)
	Depth (m)	Length (m)	Width (m)	
Dimensions	1.60	2.00	0.35	0.27
Minimum dip to water (mbgl)	Volume (m3)			Depth (m)
	1.22			
75% Full	0.1995			1.32
25% Full	0.0665			1.51
Volume Outflowing	0.133			
	Area (m2)			Time (24hr)
Mean surface Area	1.593			Elapsed Time (mins)
				Dip to water (mbGL)
Time (mins) 75% full	5			0
				2
				5
				12
Time (mins) 25% full	21			15
				21
				25
				35



Soil Infiltration Rate F (m/s)

**8.7E-05**

Remarks: