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## **Appendix A     Standards and Resources**

The site works, soil descriptions and geotechnical testing was undertaken in accordance with the following standards were applicable:

- BS 5930:2015 and BS EN ISO 22476-2 2005+A1:2011
- BS 5930:2015 and BS EN ISO 22476-2&3:2005+A1:2011
- BS 5930:2015 and BS EN ISO 22476-3:2005+A1:2011
- BS EN 1997-1:2004+A1:2013 Eurocode 7. Geotechnical design
- BS EN ISO 14688-1:2018 - Geotechnical investigation and testing - Identification and description
- BS EN ISO 14688-2:2018 - Geotechnical investigation and testing - Principles for a classification
- BS 10175:2011+A2:2017 - Investigation of potentially contaminated sites
- LCRM 2021 Environment Agency
- BS 8004:2015 – Code of practice for foundations
- BS 1377:1990 Parts 1 to 8
- BRE Digest 241 “Low-rise buildings on shrinkable clay soils: Part 2
- BRE Special Digest 1, 2005, ‘Concrete in Aggressive Ground’
- Stroud, M. A. 1974, “The Standard Penetration Test – its application and interpretation”, Proc. ICE Conf. on Penetration Testing in the UK, Birmingham. Thomas Telford, London.
- N.E. Simons, B.K. Menzies, “A Short Course in Foundation Engineering”
- NHBC Standards Chapter 4.2, January 2022.
- SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination December 2014
- CIRIA C733, Asbestos in soil and made ground: a guide to understanding and managing risks and CAR2012 regulations.
- CIRIA C574, Engineering in Chalk; 2002
- Google Earth
- British Geological Survey Website & iGeology App

## **Appendix B    Field Work**

### **Appendix B.1    Engineers Logs**

**Figure 3 – Exploratory Hole  
Plan**

|                                                      |
|------------------------------------------------------|
| <b>Project</b>                                       |
| 19 Swaythling Road, West End,<br>Hampshire, SO30 3AE |
| <b>Client</b>                                        |
| Maldanbuild Homes Ltd                                |
| <b>Date</b>                                          |
| October 2022                                         |
| <b>Job Number</b>                                    |
| 20395                                                |



| Start & End of Shift Observations                                            |        |           |            |           | Borehole Diameter |          | Casing Diameter |          | Remarks:                       |            |            |             |             |         |
|------------------------------------------------------------------------------|--------|-----------|------------|-----------|-------------------|----------|-----------------|----------|--------------------------------|------------|------------|-------------|-------------|---------|
| Date                                                                         | Time   | Depth (m) | Casing (m) | Water (m) | Depth (m)         | Dia (mm) | Depth (m)       | Dia (mm) |                                |            |            |             |             |         |
|                                                                              |        |           |            |           |                   |          |                 |          | Rootlets observed to 0.4m bgl. |            |            |             |             |         |
|                                                                              |        |           |            |           |                   |          |                 |          |                                |            |            |             |             |         |
|                                                                              |        |           |            |           | Water Strikes     |          |                 |          |                                |            |            |             |             |         |
| Chiselling                                                                   |        |           |            |           | Installation      |          |                 |          | Strike (m)                     | Casing (m) | Sealed (m) | Time (mins) | Rose to (m) | Remarks |
| From (m)                                                                     | To (m) | Duration  | Remarks    |           | Top (m)           | Base (m) | Type            | Dia (mm) | 2.70                           |            |            | 20          | 3.40        |         |
|                                                                              |        |           |            |           |                   |          |                 |          |                                |            |            |             |             |         |
| Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm. |        |           |            |           |                   |          |                 |          |                                |            |            |             |             |         |

|                                                |                     |                                  |                          |                           |                  |
|------------------------------------------------|---------------------|----------------------------------|--------------------------|---------------------------|------------------|
| Contract Name:<br>19 Swaythling Road, SO30 3AG |                     | Client:<br>Maidanbuild Homes Ltd |                          | Hole ID:<br>WS2           |                  |
| Contract Number:<br>20395                      | Start and End Date: | Logged By:<br>EF                 | Checked By:              | Status:<br>FINAL          | Hole Type:<br>WS |
| Easting:                                       | Northing:           | Ground Level:                    | Plant Used:<br>Premier 3 | Print Date:<br>31/10/2022 | Scale:<br>1:50   |

Weather: Termination: Sheet 1 of 1

| Samples & In Situ Testing |      |         |              | Strata Details        |        |                                                                                                                                                                                                                                               |  | Groundwater  |                       |
|---------------------------|------|---------|--------------|-----------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------|-----------------------|
| Depth                     | Type | Results | Level (mAOD) | Depth (m) (Thickness) | Legend | Strata Description                                                                                                                                                                                                                            |  | Water Strike | Backfill/Installation |
| 0.10                      | D    |         |              | 0.10                  |        | Reddish brown sandy Gravel. Gravel is angular to subangular fine to medium flint, brick and chalk. Sand is fine to medium. Rare ceramic fragments. MADE GROUND.                                                                               |  |              |                       |
| 0.30                      | D    |         |              | (0.40)                |        | Dark brown clayey gravelly SAND. Sand is fine to medium. Gravel is angular to subangular fine to medium flint, brick, chalk and clinker. Occasional rootlets, woody material and rare eggshell 35mm in diameter. MADE GROUND.                 |  |              |                       |
| 0.60                      | D    |         |              | 0.50                  |        | Soft orangish multicoloured mottled slightly silty slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is angular to well rounded fine to medium flint and rare clinker within bioturbations (<5%). WEATHERED LONDON CLAY FORMATION. |  |              |                       |
| 0.90                      | D    |         |              | (1.00)                |        |                                                                                                                                                                                                                                               |  |              |                       |
| 1.20                      | D    |         |              | 1.50                  |        | Soft greyish brown multicoloured mottled becoming orangish brown multicoloured mottled with depth slightly sandy silty CLAY. Sand is fine. Frequent inter-laminated layers of silt and clay 2-8mm in depth. WEATHERED LONDON CLAY FORMATION.  |  |              |                       |
| 1.70                      | D    |         |              | (1.40)                |        |                                                                                                                                                                                                                                               |  |              |                       |
| 2.20                      | D    |         |              | 2.90                  |        | Soft orangish brown multicoloured mottled with depth slightly sandy silty CLAY. Sand is fine. Frequent inter-laminated layers of silt and clay 2-8mm thick. LONDON CLAY FORMATION.                                                            |  |              |                       |
| 2.60                      | D    |         |              | (0.75)                |        |                                                                                                                                                                                                                                               |  |              |                       |
| 3.30                      | D    |         |              | 3.65                  |        | Soft blueish grey mottled light grey slightly sandy silty CLAY. Sand is fine. Frequent silt laminations 1-3mm in depth. LONDON CLAY FORMATION.                                                                                                |  |              |                       |
| 3.80                      | D    |         |              | (0.35)                |        |                                                                                                                                                                                                                                               |  |              |                       |
|                           |      |         |              | 4.00                  |        | End of Borehole at 4.00m                                                                                                                                                                                                                      |  |              |                       |

|                                                                              |        |           |            |           |                   |          |                 |          |                                    |            |             |             |         |
|------------------------------------------------------------------------------|--------|-----------|------------|-----------|-------------------|----------|-----------------|----------|------------------------------------|------------|-------------|-------------|---------|
| Start & End of Shift Observations                                            |        |           |            |           | Borehole Diameter |          | Casing Diameter |          | Remarks:<br>Rootlets not observed. |            |             |             |         |
| Date                                                                         | Time   | Depth (m) | Casing (m) | Water (m) | Depth (m)         | Dia (mm) | Depth (m)       | Dia (mm) |                                    |            |             |             |         |
|                                                                              |        |           |            |           |                   |          |                 |          |                                    |            |             |             |         |
| Chiselling                                                                   |        |           |            |           | Installation      |          |                 |          | Water Strikes                      |            |             |             |         |
| From (m)                                                                     | To (m) | Duration  | Remarks    |           | Top (m)           | Base (m) | Type            | Dia (mm) | Strike (m)                         | Casing (m) |             |             |         |
|                                                                              |        |           |            |           |                   |          |                 |          | 3.00                               |            |             |             |         |
|                                                                              |        |           |            |           |                   |          |                 |          |                                    |            |             |             |         |
|                                                                              |        |           |            |           |                   |          |                 |          |                                    | Sealed (m) | Time (mins) | Rose to (m) | Remarks |
|                                                                              |        |           |            |           |                   |          |                 |          |                                    |            | 20          | 2.63        |         |
| Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm. |        |           |            |           |                   |          |                 |          |                                    |            |             |             |         |



## Appendix C Geotechnical In-Situ and Laboratory Testing

### Appendix C.1 Classification

#### *Classification based on SPT “N” values:*

The inferred undrained strength of the cohesive soils was based on the SPT “N” blow counts, derived from the relationship suggested by Stroud (1974) and classified using Table C.1.1. (Ref: Stroud, M. A. 1974, “The Standard Penetration Test – its application and interpretation”, Proc. ICE Conf. on Penetration Testing in the UK, Birmingham. Thomas Telford, London.).

**Table C.1.1 SPT “N” Blow Count Cohesive Classification**

| <b>Classification</b> | <b>Undrained Cohesive Strength <math>C_u</math> (kPa)</b> |
|-----------------------|-----------------------------------------------------------|
| Extremely low         | <10                                                       |
| Very low              | 10 – 20                                                   |
| Low                   | 20 – 40                                                   |
| Medium                | 40 – 75                                                   |
| High                  | 75 – 150                                                  |
| Very high             | 150 – 300                                                 |
| Extremely high        | > 300                                                     |

**Note(s):** (Ref: BS EN ISO 14688-2:2004+A1:2013 Clause 5.3.)

The relative density of granular soils was classified based of the relationship given in Table C.1.2.

The *UK National Annex to Eurocode 7: Geotechnical design – Part 2: Ground investigation and testing*, NA 3.7 SPT test, BS EN 1997-2:2007, Annex F states “Relative density descriptions on borehole records should also be based on uncorrected SPT N values, unless significantly disturbed, using the density classification in BS 5930:2015, Table 7.

**Table C.1.2 SPT “N” Blow Count Granular Classification**

| <b>Classification</b> | <b>SPT “N” blow count (blows/300mm)</b> |
|-----------------------|-----------------------------------------|
| Very loose            | 0 to 4                                  |
| Loose                 | 4 to 10                                 |
| Medium dense          | 10 to 30                                |
| Dense                 | 30 to 50                                |
| Very dense            | Greater than 50                         |

**Note(s):** (Ref: The Standard Penetration Test (SPT): Methods and Use, CIRIA Report 143, 1995)

## Appendix C.2 Interpretation

**Table C.2.1 Interpretation of DPSH Blow Counts**

| DP  | Strata                                             | Equivalent SPT<br>N60 Blow<br>Counts | Inferred Cohesive Strength                           |
|-----|----------------------------------------------------|--------------------------------------|------------------------------------------------------|
| DP1 | wLC<br>0.40 – 1.55<br>Silty Sandy Clay             | <4 - 9                               | Very Low to Medium<br>( $C_u = <20 - 45\text{kPa}$ ) |
|     | wLC<br>1.55 – 2.10<br>Clayey sandy<br>GRAVEL       | 4 - 22                               | Loose to Medium Dense                                |
|     | wLC<br>2.10 – 2.90<br>Silty Sandy Clay             | 4 - 9                                | Low to Medium<br>( $C_u = 20 - 45\text{kPa}$ )       |
|     | LC<br>2.90 – 6.00 <sup>1</sup><br>Silty Sandy Clay | 9 - 22                               | Medium to High<br>( $C_u = 45 - 90\text{kPa}$ )      |
| DP2 | wLC<br>0.50 – 1.50<br>Sandy Gravelly<br>CLAY       | <4 - 9                               | Very Low to Medium<br>( $C_u = <20 - 45\text{kPa}$ ) |
|     | wLC<br>1.40 – 2.90<br>Silty Sandy CLAY             | 4 - 9                                | Low to Medium<br>( $C_u = 20 - 45\text{kPa}$ )       |
|     | LC <sup>1</sup><br>2.90 – 6.00<br>Silty Sandy CLAY | 9 - 17                               | Medium to High<br>( $C_u = 45 - 85\text{kPa}$ )      |
| DP3 | wLC<br>0.50 – 2.00<br>Silty Sandy CLAY             | <4 – 4                               | Very Low<br>( $C_u = <20 - 20\text{kPa}$ )           |
|     | wLC<br>2.00 – 2.60<br>Sandy Gravelly<br>CLAY       | 4 - 9                                | Low to Medium<br>( $C_u = 20 - 45\text{kPa}$ )       |
|     | LC <sup>1</sup><br>2.60 – 6.00<br>Silty Sandy CLAY | 9 - 30                               | Medium to High<br>( $C_u = 45 - 150\text{kPa}$ )     |

**Note(s):** <sup>1</sup> Ground conditions inferred past the base of windowless sampler boreholes. <sup>2</sup> High values anticipated to be gravel within clay.

**Table C.2.2 Interpretation of Atterberg Limit Tests**

| Stratum | Moisture Content (%) | Plasticity Index (%) | Passing 425µm Sieve (%) | Modified Plasticity Index (%) | Soil Classification | Volume Change Potential |        |
|---------|----------------------|----------------------|-------------------------|-------------------------------|---------------------|-------------------------|--------|
|         |                      |                      |                         |                               |                     | BRE                     | NHBC   |
| wLC     | 16 - 31              | 16 - 34              | 89 - 100                | 14 - 34                       | CL - CH             | Low to Medium           | Medium |
| LC      | 31                   | 32                   | 100                     | 32                            | CH                  | Medium                  | Medium |

**Note(s):** BRE Volume Change Potential refers to BRE Digest 240 (based on Atterberg results)

NHBC Volume Change Potential refers to NHBC Standards Chapter 4.2

Soils Classification based on British Soil Classification System

*The most common use of the term clay is to describe a soil that contains enough clay-sized material or clay minerals to exhibit cohesive properties. The fraction of clay-sized material required varies, but can be as low as 15%. Unless stated otherwise, this is the sense used in Digest 240. The term can be used to denote the clay minerals. These are specific, naturally occurring chemical compounds, predominately silicates. The term is often used as a particle size descriptor. Soil particles that have a nominal diameter of less than 2 µm are normally considered to be of clay size, but they are not necessarily clay minerals. Some clay minerals are larger than 2 µm and some particles, 'rock flour' for example, can be finer than 2 µm but are not clay minerals.*

(The Atterberg Limit Tests were undertaken in accordance with BS 1377:Part 2:1990 Clauses 3.2, 4.3 and 5)

**Table C.2.3 Interpretation of PSD Tests**

| Location | Depth (m bgl) | Soil Description                                        | Volume Change Potential |      | Passing 63µm Sieve (%) |
|----------|---------------|---------------------------------------------------------|-------------------------|------|------------------------|
|          |               |                                                         | BRE                     | NHBC |                        |
| WSI      | 1.70          | Brown slightly silty/clayey sandy fine to coarse GRAVEL | No                      | No   | 9                      |

**Note(s):** BRE 240 states that a soil has a volume change potential when the clay fraction exceeds 15%. Only the silt and clay combined fraction are determined by sieving therefore the volume change potential is estimated from the percentage passing the 63µm sieve. NHBC Standards Chapter 4.2 states that a soil is shrinkable if the percentage of silt and clay passing the 63µm sieve is greater than 35% and the Plasticity Index is greater than 10%.

(The Particle Size Distribution Tests were undertaken in accordance with BS 1377: Part 2: 1990 Clause 9)

## **Appendix C.3 Geotechnical In-Situ and Laboratory Results**

|               |                              |             |            |          |  |           |      |
|---------------|------------------------------|-------------|------------|----------|--|-----------|------|
| Project Name: | 19 Swaythling Road, SO30 3AG | Project No. | 20395      | Co-ords: |  | Hole Type | DP   |
| Location:     | 19 Swaythling Road, SO30 3AG | Level:      | m AOD      |          |  | Scale     | 1:50 |
| Client:       | Maidanbuild Homes Ltd        | Dates:      | 19/08/2022 |          |  | Logged By |      |

| Depth (m) | Blows/100mm |    |    |    | Torque (Nm) |
|-----------|-------------|----|----|----|-------------|
|           | 10          | 20 | 30 | 40 |             |
| 0         | 3           |    |    |    |             |
| 0.1       | 4           |    |    |    |             |
| 0.2       | 2           |    |    |    |             |
| 0.3       | 2           |    |    |    |             |
| 0.4       | 1           |    |    |    |             |
| 0.5       | 1           |    |    |    |             |
| 0.6       | 1           |    |    |    |             |
| 0.7       | 1           |    |    |    |             |
| 0.8       | 1           |    |    |    |             |
| 0.9       | 1           |    |    |    |             |
| 1.0       | 0           |    |    |    | 5           |
| 1.1       | 0           |    |    |    |             |
| 1.2       | 2           |    |    |    |             |
| 1.3       | 1           |    |    |    |             |
| 1.4       | 4           |    |    |    |             |
| 1.5       | 10          |    |    |    |             |
| 1.6       | 5           |    |    |    |             |
| 1.7       | 7           |    |    |    | 15          |
| 1.8       | 1           |    |    |    |             |
| 1.9       | 1           |    |    |    |             |
| 2.0       | 1           |    |    |    |             |
| 2.1       | 2           |    |    |    |             |
| 2.2       | 1           |    |    |    |             |
| 2.3       | 1           |    |    |    |             |
| 2.4       | 2           |    |    |    |             |
| 2.5       | 1           |    |    |    |             |
| 2.6       | 2           |    |    |    |             |
| 2.7       | 1           |    |    |    |             |
| 2.8       | 2           |    |    |    |             |
| 2.9       | 1           |    |    |    |             |
| 3.0       | 2           |    |    |    | 20          |
| 3.1       | 2           |    |    |    |             |
| 3.2       | 2           |    |    |    |             |
| 3.3       | 2           |    |    |    |             |
| 3.4       | 2           |    |    |    |             |
| 3.5       | 3           |    |    |    |             |
| 3.6       | 2           |    |    |    |             |
| 3.7       | 2           |    |    |    |             |
| 3.8       | 3           |    |    |    |             |
| 3.9       | 2           |    |    |    |             |
| 4.0       | 2           |    |    |    | 10          |
| 4.1       | 1           |    |    |    |             |
| 4.2       | 2           |    |    |    |             |
| 4.3       | 2           |    |    |    |             |
| 4.4       | 3           |    |    |    |             |
| 4.5       | 2           |    |    |    |             |
| 4.6       | 3           |    |    |    |             |
| 4.7       | 3           |    |    |    |             |
| 4.8       | 3           |    |    |    |             |
| 4.9       | 3           |    |    |    |             |
| 5.0       | 3           |    |    |    | 40          |
| 5.1       | 3           |    |    |    |             |
| 5.2       | 3           |    |    |    |             |
| 5.3       | 4           |    |    |    |             |
| 5.4       | 3           |    |    |    |             |
| 5.5       | 4           |    |    |    |             |
| 5.6       | 4           |    |    |    |             |
| 5.7       | 4           |    |    |    |             |
| 5.8       | 5           |    |    |    |             |
| 5.9       | 3           |    |    |    | 70          |
| 6.0       | 3           |    |    |    |             |
| 6.1       |             |    |    |    |             |
| 6.2       |             |    |    |    |             |
| 6.3       |             |    |    |    |             |
| 6.4       |             |    |    |    |             |
| 6.5       |             |    |    |    |             |
| 6.6       |             |    |    |    |             |
| 6.7       |             |    |    |    |             |
| 6.8       |             |    |    |    |             |
| 6.9       |             |    |    |    |             |
| 7.0       |             |    |    |    |             |
| 7.1       |             |    |    |    |             |
| 7.2       |             |    |    |    |             |
| 7.3       |             |    |    |    |             |
| 7.4       |             |    |    |    |             |
| 7.5       |             |    |    |    |             |
| 7.6       |             |    |    |    |             |
| 7.7       |             |    |    |    |             |
| 7.8       |             |    |    |    |             |
| 7.9       |             |    |    |    |             |
| 8.0       |             |    |    |    |             |
| 8.1       |             |    |    |    |             |
| 8.2       |             |    |    |    |             |
| 8.3       |             |    |    |    |             |
| 8.4       |             |    |    |    |             |
| 8.5       |             |    |    |    |             |
| 8.6       |             |    |    |    |             |
| 8.7       |             |    |    |    |             |
| 8.8       |             |    |    |    |             |
| 8.9       |             |    |    |    |             |
| 9.0       |             |    |    |    |             |
| 9.1       |             |    |    |    |             |
| 9.2       |             |    |    |    |             |
| 9.3       |             |    |    |    |             |
| 9.4       |             |    |    |    |             |
| 9.5       |             |    |    |    |             |
| 9.6       |             |    |    |    |             |
| 9.7       |             |    |    |    |             |
| 9.8       |             |    |    |    |             |
| 9.9       |             |    |    |    |             |
| 10.0      |             |    |    |    |             |

|         |               |        |                    |        |
|---------|---------------|--------|--------------------|--------|
| Remarks | Fall Height   | 760mm  | Cone Base Diameter | mm     |
|         | Hammer Weight | 64kg   | Final Depth        | 6m     |
|         | Probe Type    | DPSH-B | Energy Ratio (Er)  | 90.53% |

|               |                              |             |            |          |  |           |      |
|---------------|------------------------------|-------------|------------|----------|--|-----------|------|
| Project Name: | 19 Swaythling Road, SO30 3AG | Project No. | 20395      | Co-ords: |  | Hole Type | DP   |
| Location:     | 19 Swaythling Road, SO30 3AG | Level:      | m AOD      |          |  | Scale     | 1:50 |
| Client:       | Maidanbuild Homes Ltd        | Dates:      | 19/08/2022 |          |  | Logged By |      |

| Depth (m) | Blows/100mm |    |    |    | Torque (Nm) |
|-----------|-------------|----|----|----|-------------|
|           | 10          | 20 | 30 | 40 |             |
| 0.0       | 2           |    |    |    |             |
| 0.1       | 3           |    |    |    |             |
| 0.2       | 1           |    |    |    |             |
| 0.3       | 1           |    |    |    |             |
| 0.4       | 0           |    |    |    |             |
| 0.5       | 1           |    |    |    |             |
| 0.6       | 1           |    |    |    |             |
| 0.7       | 0           |    |    |    |             |
| 0.8       | 1           |    |    |    |             |
| 0.9       | 1           |    |    |    |             |
| 1.0       | 2           |    |    |    | 10          |
| 1.1       | 3           |    |    |    |             |
| 1.2       | 2           |    |    |    |             |
| 1.3       | 2           |    |    |    |             |
| 1.4       | 1           |    |    |    |             |
| 1.5       | 1           |    |    |    |             |
| 1.6       | 1           |    |    |    |             |
| 1.7       | 1           |    |    |    |             |
| 1.8       | 1           |    |    |    |             |
| 1.9       | 1           |    |    |    |             |
| 2.0       | 1           |    |    |    | 10          |
| 2.1       | 1           |    |    |    |             |
| 2.2       | 1           |    |    |    |             |
| 2.3       | 1           |    |    |    |             |
| 2.4       | 1           |    |    |    |             |
| 2.5       | 1           |    |    |    |             |
| 2.6       | 1           |    |    |    |             |
| 2.7       | 1           |    |    |    |             |
| 2.8       | 1           |    |    |    |             |
| 2.9       | 1           |    |    |    |             |
| 3.0       | 2           |    |    |    | 20          |
| 3.1       | 1           |    |    |    |             |
| 3.2       | 2           |    |    |    |             |
| 3.3       | 2           |    |    |    |             |
| 3.4       | 2           |    |    |    |             |
| 3.5       | 2           |    |    |    |             |
| 3.6       | 2           |    |    |    |             |
| 3.7       | 2           |    |    |    |             |
| 3.8       | 2           |    |    |    |             |
| 3.9       | 2           |    |    |    |             |
| 4.0       | 3           |    |    |    | 40          |
| 4.1       | 3           |    |    |    |             |
| 4.2       | 3           |    |    |    |             |
| 4.3       | 3           |    |    |    |             |
| 4.4       | 3           |    |    |    |             |
| 4.5       | 3           |    |    |    |             |
| 4.6       | 3           |    |    |    |             |
| 4.7       | 3           |    |    |    |             |
| 4.8       | 3           |    |    |    |             |
| 4.9       | 3           |    |    |    |             |
| 5.0       | 4           |    |    |    | 80          |
| 5.1       | 4           |    |    |    |             |
| 5.2       | 4           |    |    |    |             |
| 5.3       | 4           |    |    |    |             |
| 5.4       | 4           |    |    |    |             |
| 5.5       | 4           |    |    |    |             |
| 5.6       | 4           |    |    |    |             |
| 5.7       | 4           |    |    |    |             |
| 5.8       | 4           |    |    |    |             |
| 5.9       | 4           |    |    |    |             |
| 6.0       | 4           |    |    |    | 80          |
| 6.1       | 4           |    |    |    |             |
| 6.2       | 4           |    |    |    |             |
| 6.3       | 4           |    |    |    |             |
| 6.4       | 4           |    |    |    |             |
| 6.5       | 4           |    |    |    |             |
| 6.6       | 4           |    |    |    |             |
| 6.7       | 4           |    |    |    |             |
| 6.8       | 4           |    |    |    |             |
| 6.9       | 4           |    |    |    |             |
| 7.0       |             |    |    |    |             |
| 7.1       |             |    |    |    |             |
| 7.2       |             |    |    |    |             |
| 7.3       |             |    |    |    |             |
| 7.4       |             |    |    |    |             |
| 7.5       |             |    |    |    |             |
| 7.6       |             |    |    |    |             |
| 7.7       |             |    |    |    |             |
| 7.8       |             |    |    |    |             |
| 7.9       |             |    |    |    |             |
| 8.0       |             |    |    |    |             |
| 8.1       |             |    |    |    |             |
| 8.2       |             |    |    |    |             |
| 8.3       |             |    |    |    |             |
| 8.4       |             |    |    |    |             |
| 8.5       |             |    |    |    |             |
| 8.6       |             |    |    |    |             |
| 8.7       |             |    |    |    |             |
| 8.8       |             |    |    |    |             |
| 8.9       |             |    |    |    |             |
| 9.0       |             |    |    |    |             |
| 9.1       |             |    |    |    |             |
| 9.2       |             |    |    |    |             |
| 9.3       |             |    |    |    |             |
| 9.4       |             |    |    |    |             |
| 9.5       |             |    |    |    |             |
| 9.6       |             |    |    |    |             |
| 9.7       |             |    |    |    |             |
| 9.8       |             |    |    |    |             |
| 9.9       |             |    |    |    |             |
| 10.0      |             |    |    |    |             |

|         |               |        |                    |        |
|---------|---------------|--------|--------------------|--------|
| Remarks | Fall Height   | 760mm  | Cone Base Diameter | mm     |
|         | Hammer Weight | 64kg   | Final Depth        | 6m     |
|         | Probe Type    | DPSH-B | Energy Ratio (Er)  | 90.53% |

|               |                              |             |            |          |      |           |    |
|---------------|------------------------------|-------------|------------|----------|------|-----------|----|
| Project Name: | 19 Swaythling Road, SO30 3AG | Project No. | 20395      | Co-ords: |      | Hole Type | DP |
| Location:     | 19 Swaythling Road, SO30 3AG | Level:      | m AOD      | Scale    | 1:50 | Logged By |    |
| Client:       | Maidanbuild Homes Ltd        | Dates:      | 19/08/2022 |          |      |           |    |

| Depth (m) | Blows/100mm |    |    |    | Torque (Nm) |
|-----------|-------------|----|----|----|-------------|
|           | 10          | 20 | 30 | 40 |             |
| 0.0       | 2           | 8  |    |    |             |
| 0.1       | 4           | 6  |    |    |             |
| 0.2       | 1           |    |    |    |             |
| 0.3       | 1           |    |    |    |             |
| 0.4       | 1           |    |    |    |             |
| 0.5       | 1           |    |    |    |             |
| 0.6       | 1           |    |    |    |             |
| 0.7       | 1           |    |    |    |             |
| 0.8       | 1           |    |    |    |             |
| 0.9       | 1           |    |    |    |             |
| 1.0       | 1           |    |    |    | 10          |
| 1.1       | 1           |    |    |    |             |
| 1.2       | 1           |    |    |    |             |
| 1.3       | 1           |    |    |    |             |
| 1.4       | 1           |    |    |    |             |
| 1.5       | 1           |    |    |    |             |
| 1.6       | 1           |    |    |    |             |
| 1.7       | 1           |    |    |    |             |
| 1.8       | 1           |    |    |    |             |
| 1.9       | 1           |    |    |    |             |
| 2.0       | 1           |    |    |    | 20          |
| 2.1       | 1           |    |    |    |             |
| 2.2       | 1           |    |    |    |             |
| 2.3       | 1           |    |    |    |             |
| 2.4       | 1           |    |    |    |             |
| 2.5       | 1           |    |    |    |             |
| 2.6       | 1           |    |    |    |             |
| 2.7       | 1           |    |    |    |             |
| 2.8       | 1           |    |    |    |             |
| 2.9       | 1           |    |    |    |             |
| 3.0       | 1           |    |    |    | 50          |
| 3.1       | 1           |    |    |    |             |
| 3.2       | 1           |    |    |    |             |
| 3.3       | 1           |    |    |    |             |
| 3.4       | 1           |    |    |    |             |
| 3.5       | 1           |    |    |    |             |
| 3.6       | 1           |    |    |    |             |
| 3.7       | 1           |    |    |    |             |
| 3.8       | 1           |    |    |    |             |
| 3.9       | 1           |    |    |    |             |
| 4.0       | 1           |    |    |    | 60          |
| 4.1       | 1           |    |    |    |             |
| 4.2       | 1           |    |    |    |             |
| 4.3       | 1           |    |    |    |             |
| 4.4       | 1           |    |    |    |             |
| 4.5       | 1           |    |    |    |             |
| 4.6       | 1           |    |    |    |             |
| 4.7       | 1           |    |    |    |             |
| 4.8       | 1           |    |    |    |             |
| 4.9       | 1           |    |    |    |             |
| 5.0       | 1           |    |    |    | 100         |
| 5.1       | 1           |    |    |    |             |
| 5.2       | 1           |    |    |    |             |
| 5.3       | 1           |    |    |    |             |
| 5.4       | 1           |    |    |    |             |
| 5.5       | 1           |    |    |    |             |
| 5.6       | 1           |    |    |    |             |
| 5.7       | 1           |    |    |    |             |
| 5.8       | 1           |    |    |    |             |
| 5.9       | 1           |    |    |    |             |
| 6.0       | 1           |    |    |    | 220         |
| 6.1       | 1           |    |    |    |             |
| 6.2       | 1           |    |    |    |             |
| 6.3       | 1           |    |    |    |             |
| 6.4       | 1           |    |    |    |             |
| 6.5       | 1           |    |    |    |             |
| 6.6       | 1           |    |    |    |             |
| 6.7       | 1           |    |    |    |             |
| 6.8       | 1           |    |    |    |             |
| 6.9       | 1           |    |    |    |             |
| 7.0       | 1           |    |    |    |             |
| 7.1       | 1           |    |    |    |             |
| 7.2       | 1           |    |    |    |             |
| 7.3       | 1           |    |    |    |             |
| 7.4       | 1           |    |    |    |             |
| 7.5       | 1           |    |    |    |             |
| 7.6       | 1           |    |    |    |             |
| 7.7       | 1           |    |    |    |             |
| 7.8       | 1           |    |    |    |             |
| 7.9       | 1           |    |    |    |             |
| 8.0       | 1           |    |    |    |             |
| 8.1       | 1           |    |    |    |             |
| 8.2       | 1           |    |    |    |             |
| 8.3       | 1           |    |    |    |             |
| 8.4       | 1           |    |    |    |             |
| 8.5       | 1           |    |    |    |             |
| 8.6       | 1           |    |    |    |             |
| 8.7       | 1           |    |    |    |             |
| 8.8       | 1           |    |    |    |             |
| 8.9       | 1           |    |    |    |             |
| 9.0       | 1           |    |    |    |             |
| 9.1       | 1           |    |    |    |             |
| 9.2       | 1           |    |    |    |             |
| 9.3       | 1           |    |    |    |             |
| 9.4       | 1           |    |    |    |             |
| 9.5       | 1           |    |    |    |             |
| 9.6       | 1           |    |    |    |             |
| 9.7       | 1           |    |    |    |             |
| 9.8       | 1           |    |    |    |             |
| 9.9       | 1           |    |    |    |             |
| 10.0      | 1           |    |    |    |             |

|         |               |        |                    |        |
|---------|---------------|--------|--------------------|--------|
| Remarks | Fall Height   | 760mm  | Cone Base Diameter | mm     |
|         | Hammer Weight | 64kg   | Final Depth        | 6m     |
|         | Probe Type    | DPSH-B | Energy Ratio (Er)  | 90.53% |



# Laboratory Report



**Contract Number: 61386**

Client Ref: **20395**  
Client PO: **20395**

Date Received: **15-09-2022**  
Date Completed: **30-09-2022**  
Report Date: **30-09-2022**

Client: **Soils Limited**  
**Newton House**  
**Cross Road**  
**Tadworth**  
**Surrey**  
**KT20 5SR**

This report has been checked and approved by:

*B. Evans*

**Brendan Evans**  
Office Administrator

Contract Title: **19 Swaythling Road**  
For the attention of: **Tom Rees-Blanchard**

Test Description

Qty

**Moisture Content of Soil**

6

BS1377 : Part 2 : Clause 3.2 : 1990 - \* UKAS

**1 Point Liquid & Plastic Limit**

6

BS 1377:1990 - Part 2 : 4.4 & 5.3 - \* UKAS

**PSD Wet & Dry Sieve method**

1

BS 1377:1990 - Part 2 : 9.2 - \* UKAS

**Disposal of samples for job**

1

**Notes: Observations and Interpretations are outside the UKAS Accreditation**

- \* - denotes test included in laboratory scope of accreditation
- # - denotes test carried out by approved contractor
- @ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

**Approved Signatories:**

Brendan Evans (Office Administrator) - Paul Evans (Director) - Richard John (Quality/Technical Manager)  
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Human Resources/ Health and Safety Coordinator)



**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX**  
( BS 1377:1990 - Part 2 : 4.4 & 5.3 )

|                 |                     |  |
|-----------------|---------------------|--|
| Contract Number | 61386               |  |
| Site Name       | 19 Swaythling Road  |  |
| Date Tested     | 27/09/2022          |  |
|                 | <b>DESCRIPTIONS</b> |  |

[illegible]

## Operators

Clayton Jenkins

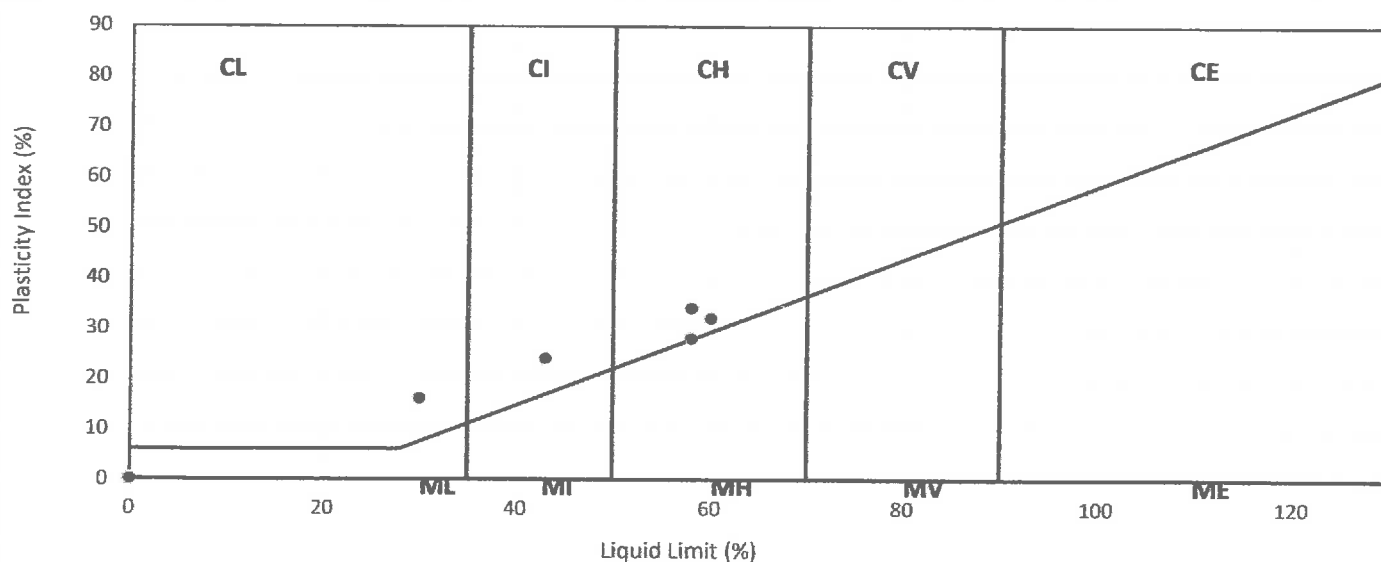
**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX**  
( BS 1377:1990 - Part 2 : 4.4 & 5.3 )

|                  |                    |  |
|------------------|--------------------|--|
| Contract Number  | 61386              |  |
| Project Location | 19 Swaythling Road |  |
| Date Tested      | 27/09/2022         |  |
|                  |                    |  |

[illegible]

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

### PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



## Operators

Clayton Jenkins



**PARTICLE SIZE DISTRIBUTION  
BS 1377 Part 2:1990  
Wet Sieve, Clause 9.2**

Contract Number 61386

Borehole/Pit No. WS1

Site Name 19 Swaythling Road

Sample No.

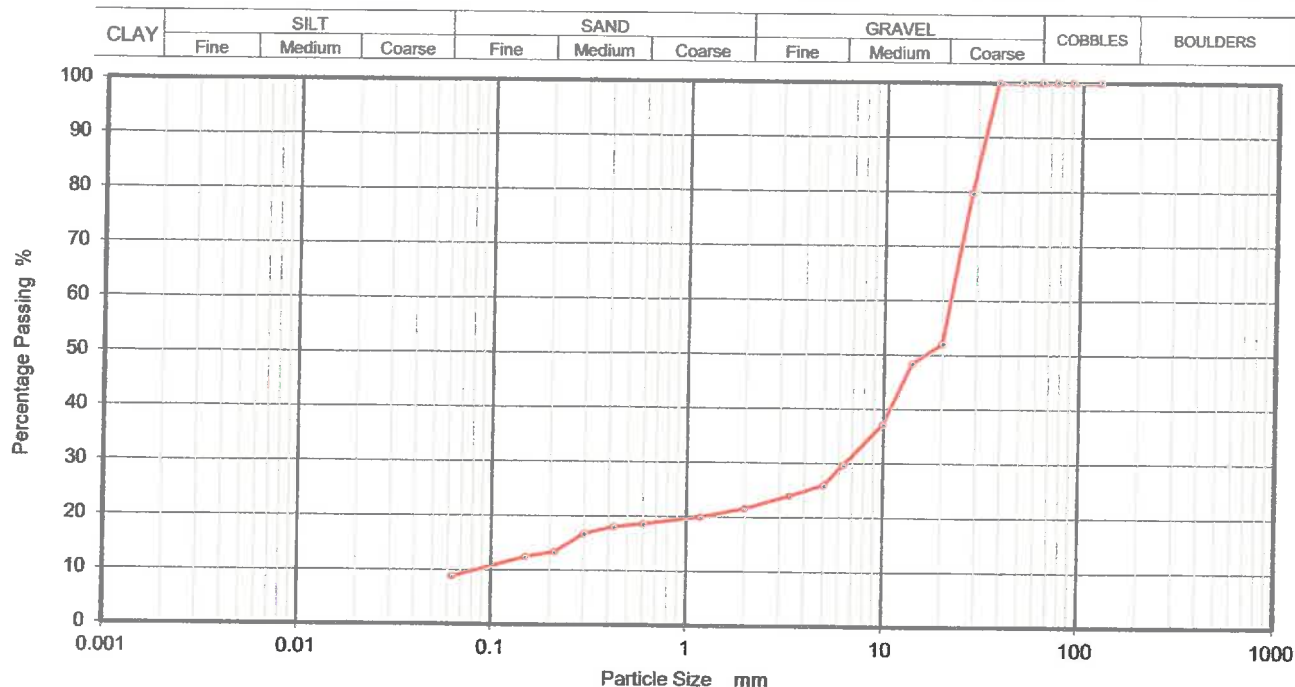
Soil Description Brown slightly silty/ clayey fine to coarse sandy fine to coarse GRAVEL

Depth Top 1.70

Depth Base

Date Tested 28/06/2022

Sample Type



| Sieving          |           | Sedimentation    |           |
|------------------|-----------|------------------|-----------|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125              | 100       |                  |           |
| 90               | 100       |                  |           |
| 75               | 100       |                  |           |
| 63               | 100       |                  |           |
| 50               | 100       |                  |           |
| 37.5             | 100       |                  |           |
| 28               | 80        |                  |           |
| 20               | 52        |                  |           |
| 14               | 48        |                  |           |
| 10               | 37        |                  |           |
| 6.3              | 30        |                  |           |
| 5                | 26        |                  |           |
| 3.35             | 24        |                  |           |
| 2                | 21        |                  |           |
| 1.18             | 20        |                  |           |
| 0.6              | 18        |                  |           |
| 0.425            | 18        |                  |           |
| 0.3              | 17        |                  |           |
| 0.212            | 13        |                  |           |
| 0.15             | 12        |                  |           |
| 0.063            | 9         |                  |           |

| Sample Proportions | % dry mass |
|--------------------|------------|
| Cobbles            | 0          |
| Gravel             | 79         |
| Sand               | 12         |
| Silt and Clay      | 9          |
|                    |            |
|                    |            |

**Remarks**

Preparation and testing in accordance with BS1377 unless noted below

Operator

David Edwards



2788



Tom Rees-Blanchard  
Soils Ltd  
Thomas Telford House - Unit 11  
Sun Valley Business Park  
Winnall Close  
Winchester  
SO23 0LB

**Derwentside Environmental Testing Services Ltd**  
Unit 1  
Rose Lane Industrial Estate  
Rose Lane  
Lenham Heath  
Kent  
ME17 2JN  
t: 01622 850410

## **DETS Report No: 22-07732**

**Site Reference:** 19 Swaythling Road

**Project / Job Ref:** 20395

**Order No:** 20395

**Sample Receipt Date:** 14/09/2022

**Sample Scheduled Date:** 14/09/2022

**Report Issue Number:** 1

**Reporting Date:** 21/09/2022

**Authorised by:**

Dave Ashworth  
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



DETS Ltd  
Unit 1, Rose Lane Industrial Estate  
Rose Lane  
Lenham Heath  
Maidstone  
Kent ME17 2JN  
Tel : 01622 850410



# Soil Analysis Certificate

|                                    |                 |               |               |               |  |  |
|------------------------------------|-----------------|---------------|---------------|---------------|--|--|
| DETS Report No: 22-07732           | Date Sampled    | None Supplied | None Supplied | None Supplied |  |  |
| Soils Ltd                          | Time Sampled    | None Supplied | None Supplied | None Supplied |  |  |
| Site Reference: 19 Swaythling Road | TP / BH No      | WS1           | WS2           | WS3           |  |  |
| Project / Job Ref: 20395           | Additional Refs | None Supplied | None Supplied | None Supplied |  |  |
| Order No: 20395                    | Depth (m)       | 1.70          | 0.90          | 2.20          |  |  |
| Reporting Date: 21/09/2022         | DETS Sample No  | 612706        | 612707        | 612708        |  |  |

| Determinand                                    | Unit     | RL     | Accreditation |        |        |      |  |  |
|------------------------------------------------|----------|--------|---------------|--------|--------|------|--|--|
| pH                                             | pH Units | N/a    | MCERTS        | 7.7    | 7.6    | 7.3  |  |  |
| Total Sulphate as SO <sub>4</sub>              | mg/kg    | < 200  | MCERTS        | < 200  | < 200  | 499  |  |  |
| Total Sulphate as SO <sub>4</sub>              | %        | < 0.02 | MCERTS        | < 0.02 | < 0.02 | 0.05 |  |  |
| W/S Sulphate as SO <sub>4</sub> (2:1)          | mg/l     | < 10   | MCERTS        | 14     | < 10   | 157  |  |  |
| W/S Sulphate as SO <sub>4</sub> (2:1)          | g/l      | < 0.01 | MCERTS        | 0.01   | < 0.01 | 0.16 |  |  |
| Total Sulphur                                  | %        | < 0.02 | NONE          | < 0.02 | < 0.02 | 0.03 |  |  |
| Ammonium as NH <sub>4</sub>                    | mg/kg    | < 0.5  | ISO17025      | 0.9    | 1      | 320  |  |  |
| Ammonium as NH <sub>4</sub>                    | mg/l     | < 0.05 | ISO17025      | 0.09   | 0.10   | 32   |  |  |
| W/S Chloride (2:1)                             | mg/kg    | < 1    | MCERTS        | 11     | 9      | 10   |  |  |
| W/S Chloride (2:1)                             | mg/l     | < 0.5  | MCERTS        | 5.6    | 4.7    | 4.9  |  |  |
| Water Soluble Nitrate (2:1) as NO <sub>3</sub> | mg/kg    | < 3    | MCERTS        | 8      | 24     | 3    |  |  |
| Water Soluble Nitrate (2:1) as NO <sub>3</sub> | mg/l     | < 1.5  | MCERTS        | 4.2    | 12.2   | 1.5  |  |  |
| W/S Magnesium                                  | mg/l     | < 0.1  | NONE          | 1      | 0.5    | 1.7  |  |  |

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion  
Subcontracted analysis (S)



DETS Ltd  
Unit 1, Rose Lane Industrial Estate  
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Lenham Heath  
Maidstone  
Kent ME17 2JN  
Tel : 01622 850410



#### Soil Analysis Certificate - Sample Descriptions

DETS Report No: 22-07732

Soils Ltd

Site Reference: 19 Swaythling Road

Project / Job Ref: 20395

Order No: 20395

Reporting Date: 21/09/2022

| DETS Sample No | TP / BH No | Additional Refs | Depth (m) | Moisture Content (%) | Sample Matrix Description       |
|----------------|------------|-----------------|-----------|----------------------|---------------------------------|
| ^ 612706       | WS1        | None Supplied   | 1.70      | 4.9                  | Brown gravelly sand with stones |
| ^ 612707       | WS2        | None Supplied   | 0.90      | 14.9                 | Brown sandy clay                |
| ^ 612708       | WS3        | None Supplied   | 2.20      | 20.9                 | Brown sandy clay                |

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample <sup>IS</sup>

Unsuitable Sample <sup>US</sup>

^ no sampling date provided; unable to confirm if samples are within acceptable holding times



**DETS Ltd**  
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**Rose Lane**  
**Lenham Heath**  
**Maidstone**  
**Kent ME17 2JN**  
**Tel : 01622 850410**



# **Soil Analysis Certificate - Methodology & Miscellaneous Information**

**DETS Report No: 22-07732**

**Soils Ltd**

**Site Reference: 19 Swaythling Road**

**Project / Job Ref: 20395**

**Order No: 20395**

**Reporting Date: 21/09/2022**

| Matrix | Analysed On | Determinand                                                                                                                                     | Brief Method Description                                                                                                                             | Method No |
|--------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Soil   | D           | Boron - Water Soluble                                                                                                                           | Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES                                                            | E012      |
| Soil   | AR          | BTEX                                                                                                                                            | Determination of BTEX by headspace GC-MS                                                                                                             | E001      |
| Soil   | D           | Cations                                                                                                                                         | Determination of cations in soil by aqua-regia digestion followed by ICP-OES                                                                         | E002      |
| Soil   | D           | Chloride - Water Soluble (2:1)                                                                                                                  | Determination of chloride by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | AR          | Chromium - Hexavalent                                                                                                                           | Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry | E016      |
| Soil   | AR          | Cyanide - Complex                                                                                                                               | Determination of complex cyanide by distillation followed by colorimetry                                                                             | E015      |
| Soil   | AR          | Cyanide - Free                                                                                                                                  | Determination of free cyanide by distillation followed by colorimetry                                                                                | E015      |
| Soil   | AR          | Cyanide - Total                                                                                                                                 | Determination of total cyanide by distillation followed by colorimetry                                                                               | E015      |
| Soil   | D           | Cyclohexane Extractable Matter (CEM)                                                                                                            | Gravimetrically determined through extraction with cyclohexane                                                                                       | E011      |
| Soil   | AR          | Diesel Range Organics (C10 - C24)                                                                                                               | Determination of hexane/acetone extractable hydrocarbons by GC-FID                                                                                   | E004      |
| Soil   | AR          | Electrical Conductivity                                                                                                                         | Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement                             | E022      |
| Soil   | AR          | Electrical Conductivity                                                                                                                         | Determination of electrical conductivity by addition of water followed by electrometric measurement                                                  | E023      |
| Soil   | D           | Elemental Sulphur                                                                                                                               | Determination of elemental sulphur by solvent extraction followed by GC-MS                                                                           | E020      |
| Soil   | AR          | EPH (C10 - C40)                                                                                                                                 | Determination of acetone/hexane extractable hydrocarbons by GC-FID                                                                                   | E004      |
| Soil   | AR          | EPH Product ID                                                                                                                                  | Determination of acetone/hexane extractable hydrocarbons by GC-FID                                                                                   | E004      |
| Soil   | AR          | EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)                                                                                   | Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS                                        | E004      |
| Soil   | D           | Fluoride - Water Soluble                                                                                                                        | Determination of Fluoride by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | D           | Fraction Organic Carbon (FOC)                                                                                                                   | Determination of TOC by combustion analyser.                                                                                                         | E027      |
| Soil   | D           | Organic Matter (SOM)                                                                                                                            | Determination of TOC by combustion analyser.                                                                                                         | E027      |
| Soil   | D           | TOC (Total Organic Carbon)                                                                                                                      | Determination of TOC by combustion analyser.                                                                                                         | E027      |
| Soil   | AR          | Exchangeable Ammonium                                                                                                                           | Determination of ammonium by discrete analyser.                                                                                                      | E029      |
| Soil   | D           | FOC (Fraction Organic Carbon)                                                                                                                   | Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate                     | E010      |
| Soil   | D           | Loss on Ignition @ 450oC                                                                                                                        | Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace                                       | E019      |
| Soil   | D           | Magnesium - Water Soluble                                                                                                                       | Determination of water soluble magnesium by extraction with water followed by ICP-OES                                                                | E025      |
| Soil   | D           | Metals                                                                                                                                          | Determination of metals by aqua-regia digestion followed by ICP-OES                                                                                  | E002      |
| Soil   | AR          | Mineral Oil (C10 - C40)                                                                                                                         | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge                                                  | E004      |
| Soil   | AR          | Moisture Content                                                                                                                                | Moisture content; determined gravimetrically                                                                                                         | E003      |
| Soil   | D           | Nitrate - Water Soluble (2:1)                                                                                                                   | Determination of nitrate by extraction with water & analysed by ion chromatography                                                                   | E009      |
| Soil   | D           | Organic Matter                                                                                                                                  | Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate                                 | E010      |
| Soil   | AR          | PAH - Speciated (EPA 16)                                                                                                                        | Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards                | E005      |
| Soil   | AR          | PCB - 7 Congeners                                                                                                                               | Determination of PCB by extraction with acetone and hexane followed by GC-MS                                                                         | E008      |
| Soil   | D           | Petroleum Ether Extract (PEE)                                                                                                                   | Gravimetrically determined through extraction with petroleum ether                                                                                   | E011      |
| Soil   | AR          | pH                                                                                                                                              | Determination of pH by addition of water followed by electrometric measurement                                                                       | E007      |
| Soil   | AR          | Phenols - Total (monohydric)                                                                                                                    | Determination of phenols by distillation followed by colorimetry                                                                                     | E021      |
| Soil   | D           | Phosphate - Water Soluble (2:1)                                                                                                                 | Determination of phosphate by extraction with water & analysed by ion chromatography                                                                 | E009      |
| Soil   | D           | Sulphate (as SO4) - Total                                                                                                                       | Determination of total sulphate by extraction with 10% HCl followed by ICP-OES                                                                       | E013      |
| Soil   | D           | Sulphate (as SO4) - Water Soluble (2:1)                                                                                                         | Determination of sulphate by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | D           | Sulphate (as SO4) - Water Soluble (2:1)                                                                                                         | Determination of water soluble sulphate by extraction with water followed by ICP-OES                                                                 | E014      |
| Soil   | AR          | Sulphide                                                                                                                                        | Determination of sulphide by distillation followed by colorimetry                                                                                    | E018      |
| Soil   | D           | Sulphur - Total                                                                                                                                 | Determination of total sulphur by extraction with aqua-regia followed by ICP-OES                                                                     | E024      |
| Soil   | AR          | SVOC                                                                                                                                            | Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS                                               | E006      |
| Soil   | AR          | Thiocyanate (as SCN)                                                                                                                            | Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry  | E017      |
| Soil   | D           | Toluene Extractable Matter (TEM)                                                                                                                | Gravimetrically determined through extraction with toluene                                                                                           | E011      |
| Soil   | D           | Total Organic Carbon (TOC)                                                                                                                      | Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate                                 | E010      |
| Soil   | AR          | TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)         | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS       | E004      |
| Soil   | AR          | TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44) | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS       | E004      |
| Soil   | AR          | VOCs                                                                                                                                            | Determination of volatile organic compounds by headspace GC-MS                                                                                       | E001      |
| Soil   | AR          | VPH (C6-C8 & C8-C10)                                                                                                                            | Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID                                                                            | E001      |

**D Dried**

**AR As Received**



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Lenham Heath  
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Kent ME17 2JN  
Tel : 01622 850410



**List of HWOL Acronyms and Operators**

DETS Report No: 22-07732

Soils Ltd

Site Reference: 19 Swaythling Road

Project / Job Ref: 20395

Order No: 20395

Reporting Date: 21/09/2022

| Acronym | Description                                                         |
|---------|---------------------------------------------------------------------|
| HS      | Headspace analysis                                                  |
| EH      | Extractable Hydrocarbons - i.e. everything extracted by the solvent |
| CU      | Clean-up - e.g. by florisil, silica gel                             |
| 1D      | GC - Single coil gas chromatography                                 |
| 2D      | GC-GC - Double coil gas chromatography                              |
| Total   | Aliphatics & Aromatics                                              |
| AL      | Aliphatics only                                                     |
| AR      | Aromatics only                                                      |
| #1      | EH_2D_Total but with humics mathematically subtracted               |
| #2      | EH_2D_Total but with fatty acids mathematically subtracted          |
| -       | Operator - underscore to separate acronyms (exception for +)        |
| +       | Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total   |

|               |
|---------------|
| Det - Acronym |
|               |
|               |

## **Appendix D    Information Provided by the Client**

Builder to check and clarify all levels, dimensions, drainage construction and specification prior to any works on site and to bring to the clients attention any variation or deviations for written confirmation before being carried out on site.

Do not scale from these drawings - if in doubt always ask first

Report any discrepancies and omissions to owner. These drawings are copyright ©

Drawings are prepared for the purpose of obtaining Town & Country Planning Permission and building regulations approval only.

All materials shall be fixed applied or mixed in accordance with all of the manufacturers instructions, recommendations & specifications. All materials shall be fit for the purpose that they are to be used for.

The contractor shall take into account everything necessary for the proper execution of the works and to the satisfaction of the Local Authority Building Surveyor, whether or not indicated on the drawings or in specification.

It is the responsibility of the owner / client to serve a notice on the adjoining or adjacent neighbours for the proposed works under 'The Party Wall Act 1996'. Explanatory booklets can be obtained free of charge from the D.O.E. publications dispatch centre, Blackhorse Road, London, SE99 6TT

PROJECT

Swaythling Road

TITLE

Proposed Floor Plans

CLIENT

Maiden Build Ltd

DRAWN BY

GB

CHECKED BY

GB

DATE

16/05/22

SCALE (1:200)

PROJECT NUMBER

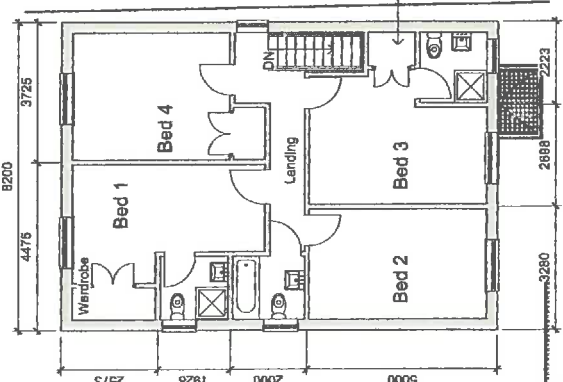
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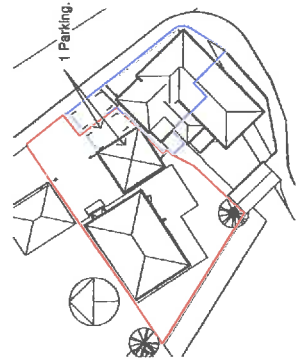
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4

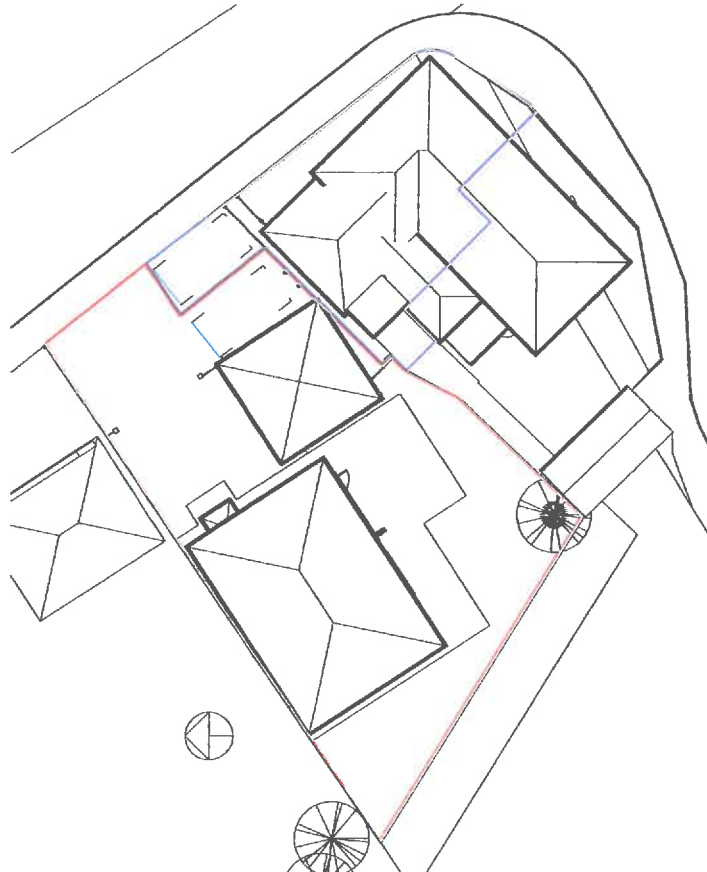
3 1:100



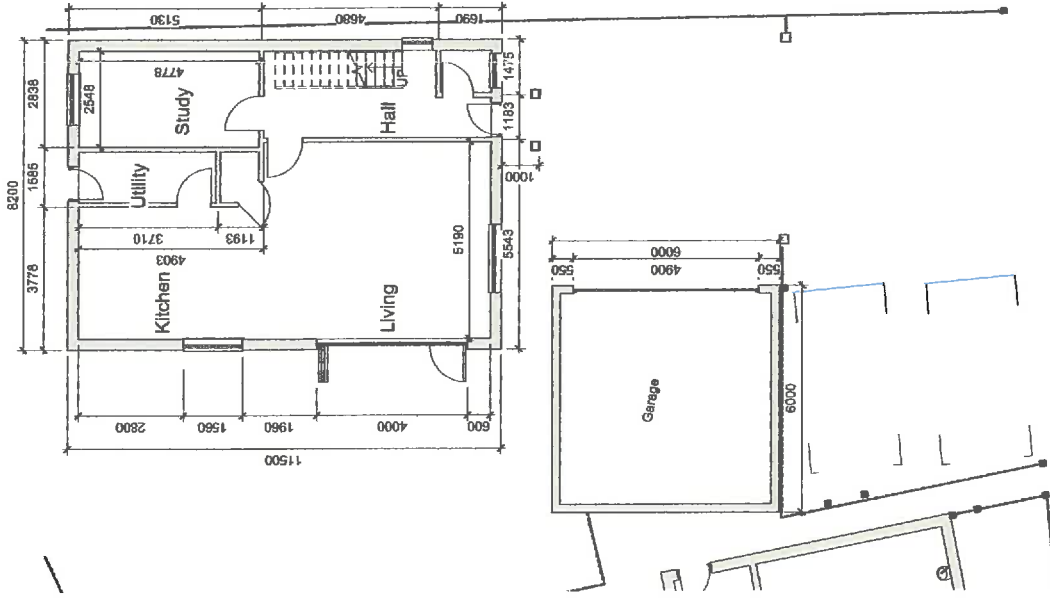
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1 1:200



2 1:100

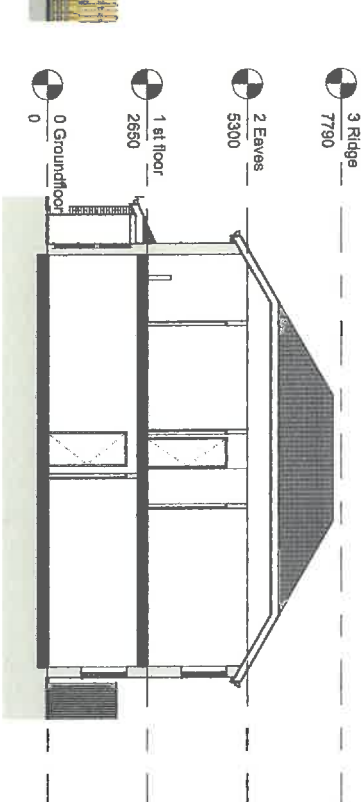




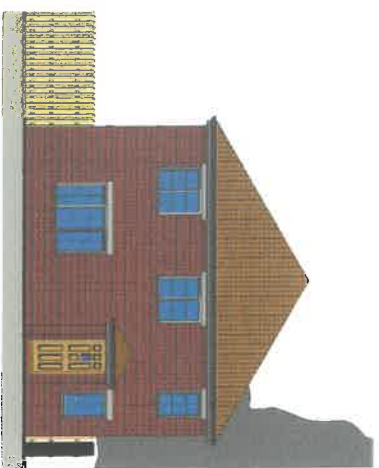
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1 : 100



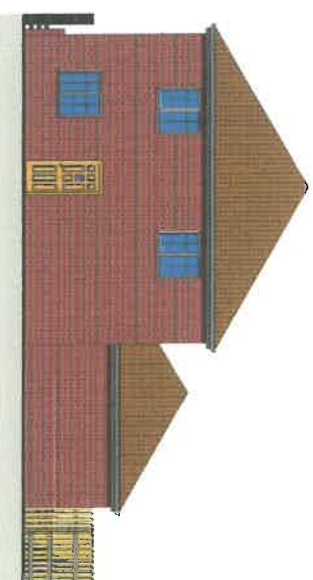
2 South  
1 : 100



5 Section 1  
1 : 100



3 East  
1 : 100



4 West  
1 : 100

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PROJECT

19 Swaythling Road

TITLE

Proposed/Elevations/Section

CLIENT

Maidan Build Ltd

|                |         |                |      |      |
|----------------|---------|----------------|------|------|
| DRAWN BY       | GB      | CHECKED BY     | GB   | DATE |
| SCALE: (A4)    | 1 : 100 | PROJECT NUMBER | 0098 | REV  |
| DRAWING NUMBER | A103    |                |      | 7    |



www.tycoh.co.uk  
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PROJECT

Swaythling Road

TITLE

Imagery

CLIENT

Malden Build Ltd

|                |                |            |
|----------------|----------------|------------|
| DRAWN BY       | CHECKED BY     | DATE       |
| GB             | GB             | Issue Data |
| SCALE (1:100)  | PROJECT NUMBER |            |
|                | 0066           |            |
| DRAWING NUMBER | REV            |            |
| A104           |                |            |