PROPERTY ASSURANCE
Giving our all

# SITE INVESTIGATION
# FACTUAL REPORT

| | |
|---|---|
| Report No: | [redacted] |
| Client: | Cunningham Lindsey - Maidstone |
| Site: | 40 Elsworthy Road, London |
| Client Ref: | 7941448[redacted] |
| Date of Visit: | 03/06/2015 |

ISO 9001 REGISTERED FIRM | ISO 14001 REGISTERED FIRM | OHSAS 18001 REGISTERED FIRM | Link-up Qualified via Audit | SAFEcontractor APPROVED | CHAS Accredited Contractor | constructionline



Unit E2 First Floor Suite, Boundary Court
Willow Farm Business Park, Castle Donington
Leicestershire, DE74 2NN

[redacted]

# Investigation Layout Plan

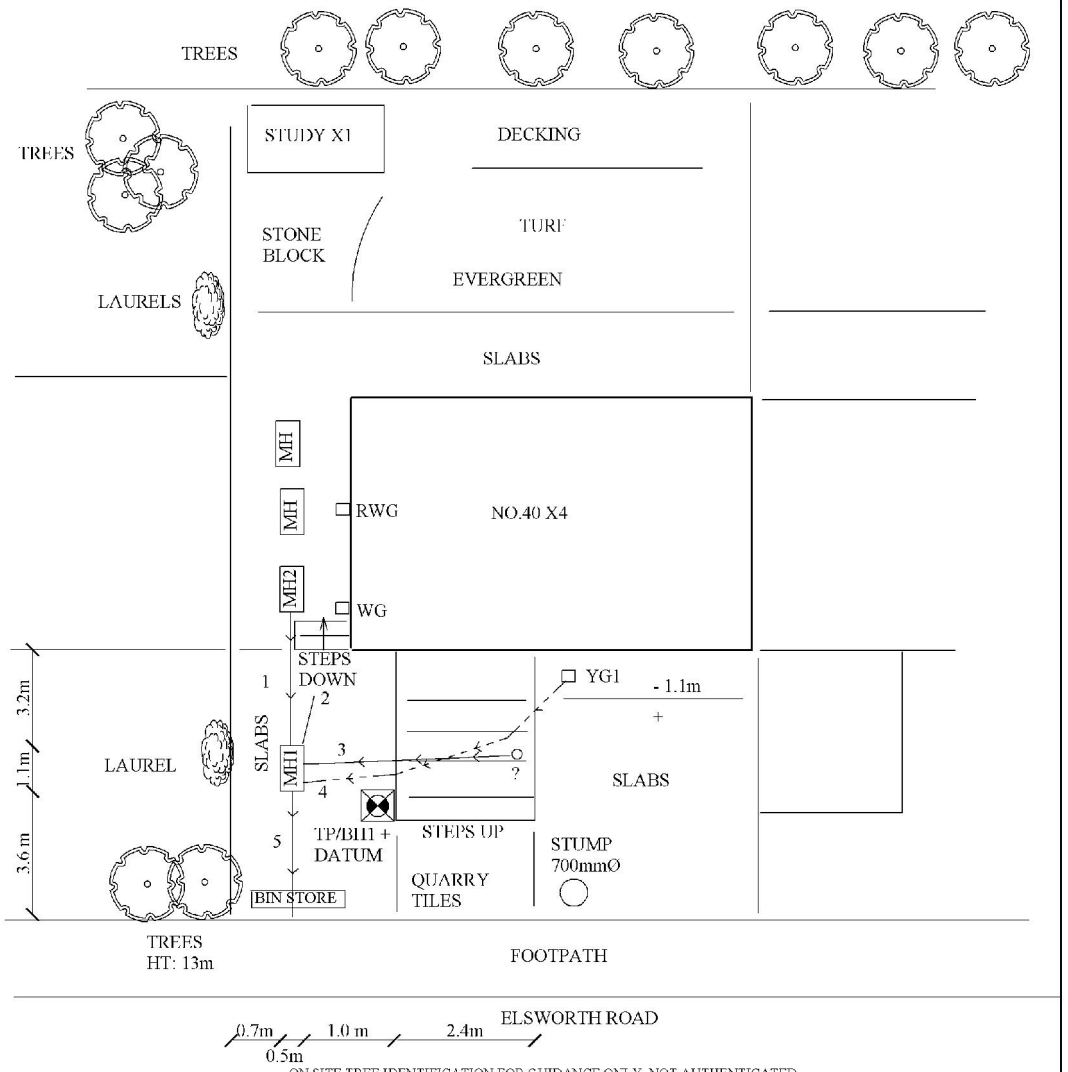
Sheet: 1 of 1
Job No: 263336
Date: 03/06/2015

Site: 40 Elsworthy Road, NW3

Work carried out for: Cunningham Lindsey

| MII | MD/SE | AR |
|---|---|---|
| (SI) | (Checked) | (Drawn) |

Weather: DRY




ON SITE TREE IDENTIFICATION FOR GUIDANCE ONLY. NOT AUTHENTICATED.

Remarks:

Scale: N.T.S.

Key:

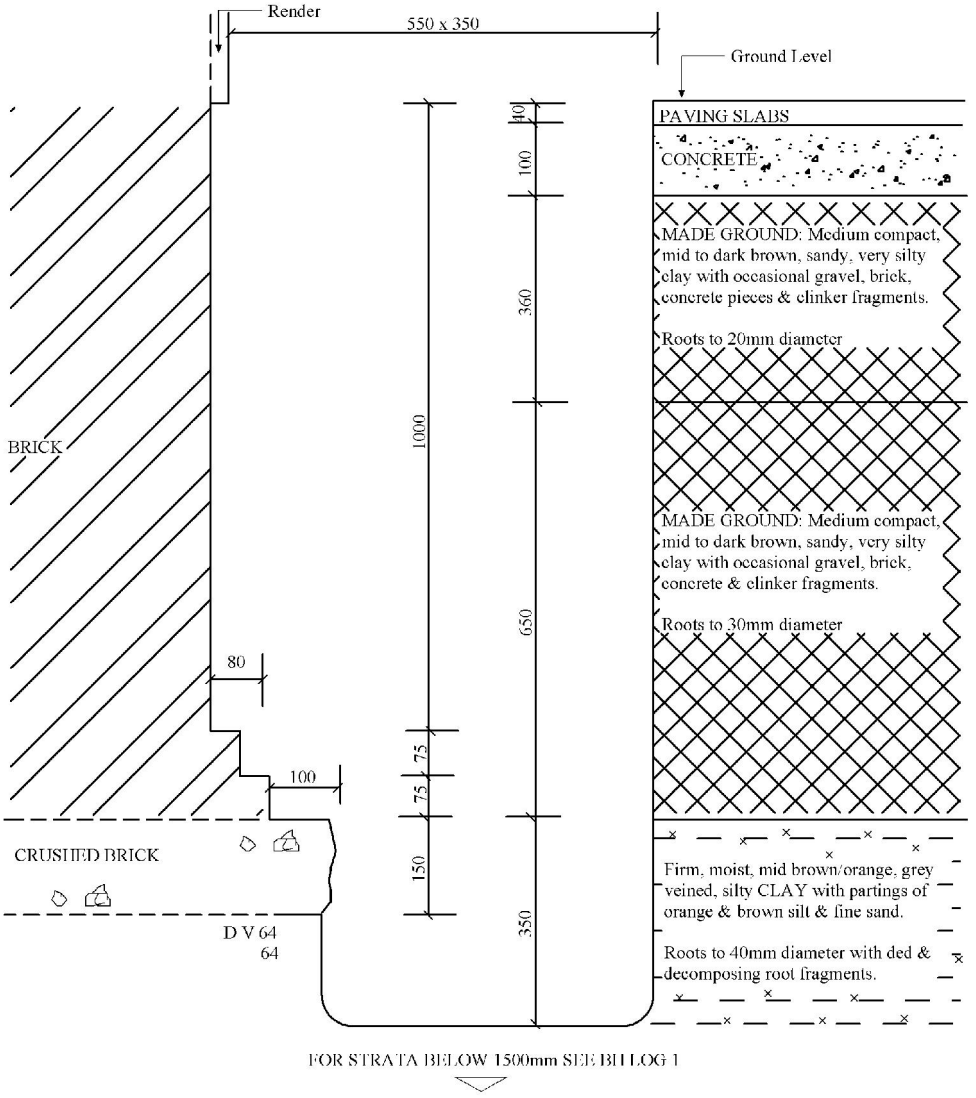
| | | |
|---|---|---|
| Combined Gulley | RWWG | Surface Water Drain |
| Manhole | MH | Foul Water Drain |
| Rain Water Pipe | RWP | Tree / Bush (approx. ht in m) |
| Rain Water Gulley | RWG | Trial Pit |
| Soil Vent Pipe | SVP | Borehole |
| Waste Gulley | WG | O/D - Open Discharge |
| Waste Pipe | WP | |

# Trial Pit No: 1
# STEPS

Sheet: 1 of 1
Job No: 263336E
Date: 03.06.15

Site: 40 Elsworthy Road
Work carried out for: Cunningham Lindsey

Excavation Method: Hand Tools
Weather: DRY
Drawn by: DVC
Ground Level mOD:




FOR STRATA BELOW 1500mm SEE BH LOG 1

Remarks: All measurements in millimetres.

Key:
D Small disturbed sample
B Bulk disturbed sample
W Water sample
TDTD Too dense to drive
J Jar sample
V Pilcon Vane (kPa)
M Mackintosh probe

Logged: MH | Checked: SE | Approved: | Scale: N.T.S.

| Borehole No: 1 & Datum | Sheet: 1 of 1 | |
|---|---|---|
| | Job No: 263336E | Site: 40 Elsworthy Road |
| Boring Method: CFA | Date: 03.06.15 | |
| Diameter: 100mm / Coordinates: | Ground Level mOD: | Work Carried out for: Cunningham Lindsey |

| Depth (m) | Description of Strata | Thick-ness (m) | Legend | Sample | Test Type | Test Result | Depth (m) | Field Records/Comments | Depth to water (m) |
|---|---|---|---|---|---|---|---|---|---|
| | As Trial Pit 1 | 1.50 | | | | | | | |
| 1.50 | | | | | | | | Roots to 4mm diameter to 1.8m | |
| | | | | D | V | 78<br>84 | 2.00 | Roots to 2mm diameter to 2.5m | |
| | | | | D | | | 2.50 | Roots to 1mm diameter to 4m | |
| | Stiff, mid brown, grey veined, silty CLAY with partings of orange & brown silt & fine sand & occasional claystone nodules. | 3.50 | | D | V | 90<br>96 | 3.00 | | |
| | | | | D | | | 3.50 | | |
| | | | | D | V | 118<br>108 | 4.00 | Dead & decomposing roots to 6m | |
| | | | | D | | | 4.50 | | |
| 5.00 | | | | D | V | 130+<br>130+ | 5.00 | | |
| | Very stiff, as above. | 1.00 | | | | | | | |
| 6.00 | | | | | | | | | |

Remarks: Borehole dry and open on completion. Datum installed at 6m. No samples taken or insitu strength tests carried out below 5m

*Key:* T.D.T.D. Too Dense to Drive
D Small disturbed sample
B Bulk disturbed sample
W Water sample
J Jar sample
V Pilcon Vane (kPa)
M Mackintosh Probe

| Logged: MII | Checked: SF | Typed by: DVC | Scale: NTS | Weather: DRY |
|---|---|---|---|---|

# Laboratory Summary Results

Our Ref : 263336

Location : 40, Elsworthy Road, NW3

Work carried out for: Cunningham Lindsey - Maidstone

Date Sampled: 03/06/2015

Date Received : 04/06/2015

Date Tested : 04/06/2015

Date of Report : 12/06/2015

| Sample Ref TP/BH No | Depth (m) | Type | Moisture Content (%) /1/ | Soil Fraction > 0.425mm (%) /2/ | Liquid Limit (%) /3/ | Plastic Limit (%) /4/ | Plasticity Index (%) /5/ | Liquidity * Index /5/ | Modified * Plasticity Index (%) [6] | Soil * Class /7/ | Filter Paper Contact Time (h) | Soil Sample Suction (kPa) [8] | Oedometer Strain /9/ | Estimated Heave Potential (Dd) /mm/[10] | In situ * Shear Vane Strength (kPa) /11/ | Organic * Content (%)/12/ | pH * Value /13/ | Sulphate Content * (g/l) $SO_3$ /14/ | Sulphate Content * (g/l) $SO_4$ /15/ | * Class /16/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | U/S 1.30 | D | 34 | <5 | 61 | 26 | 35 | 0.23 | 35 | CH | 168 | 116 | | | 64 | | | | | |
| | 2.0 | D | 30 | <5 | | | | | | | | | | | 81 | | | | | |
| | 2.5 | D | 30 | <5 | 75 | 27 | 48 | 0.07 | 48 | CV | 168 | 459 | | | | | | | | |
| | 3.0 | D | 33 | <5 | | | | | | | | | | | 93 | | | | | |
| | 3.5 | D | 32 | <5 | 77 | 29 | 48 | 0.07 | 48 | CV | 168 | 660 | | | | | | | | |
| | 4.0 | D | 32 | <5 | | | | | | | | | | | 113 | | | | | |
| | 4.5 | D | 32 | <5 | | | | | | | 168 | 742 | | | | | | | | |
| | 5.0 | D | 32 | <5 | | | | | | | 168 | 711 | | | > 130 | | | | | |

**Test Methods / Notes**

/1/ BS 1377 : Part 2 : 1990, Test No 3.2

/2/ Estimated if <5%, otherwise measured

/3/ BS 1377 : Part 2 : 1990, Test No 4.4

/4/ BS 1377 : Part 2 : 1990, Test No 5.3

/5/ BS 1377 : Part 2 : 1990, Test No 5.4

/6/ BRE Digest 240 : 1993

/7/ BS 5930 : 1981 : Figure 31 - Plasticity Chart for the classification of fine soils

/8/ In-house method S9a adapted from BRE IP 4/93

/9/ In-house Test Procedure S17a: One Dimensional Swell/Strain Test

/10/ Estimated Heave Potential (Dd)

/11/ Values of shear strength were determined in situ by CET using a Pilcon hand vane or Geonor vane (GV).

/12/ BS 1377 : Part 3 : 1990, Test No 4

/13/ BS 1377 : Part 2 : 1990, Test No 9

/14/ BS 1377 : Part 3 : 1990, Test No 5.6

/15/ $SO_4 = 1.2 \times SO_3$

[16] BRE Special Digest One (Concrete in Aggressive Ground) August 2005 Note that if the SO4 content falls into the DS-4 or DS-5 class, it would be prudent to consider the sample as falling into the DS-4M or DS-5M class respectively unless water soluble magnesium testing is undertaken to prove otherwise.

* These tests are not UKAS accredited

Full reports can be provided upon request

**Key**

| | |
|---|---|
| D | Disturbed sample ( small ) |
| B | Disturbed sample ( bulk ) |
| U | Undisturbed sample |
| W | Groundwater sample |
| ENP | Essentially Non-Plastic by inspection |
| U/S | Underside of Foundation |

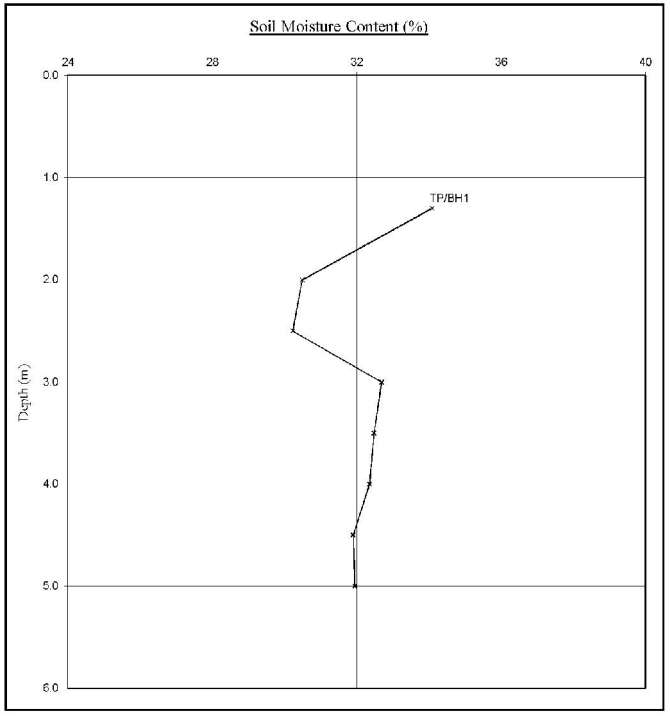
UKAS TESTING

8618

Version: 5BH V1.4 - 11/05/15

# Moisture Content Profiles

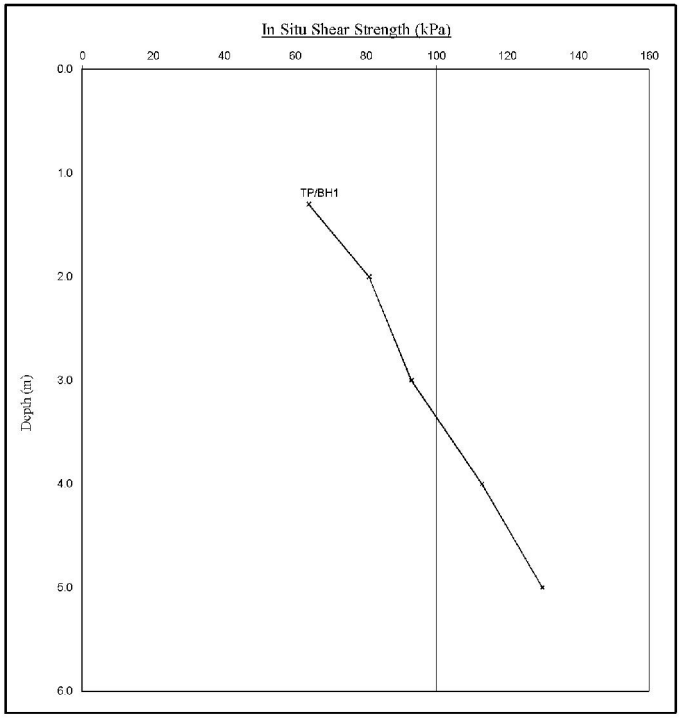
Our Ref : 263336
Location : 40, Elsworthy Road, NW3
Work carried out for: Cunningham Lindsey - Maidstone




Notes
1. If plotted, 0.4 LL and PL-2 ( after Driscoll, 1983 ) should only be applied to London Clay ( and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

# Shear Strength Profiles

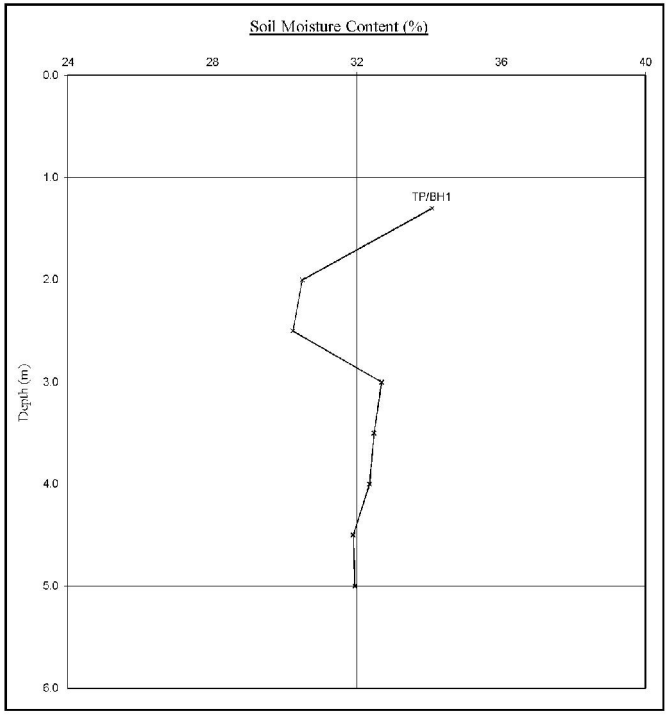
Date Sampled : 03/06/2015
Date Received : 04/06/2015
Date Tested : 04/06/2015
Date of Report : 12/06/2015




Note
1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Pilcon Hand Vane the calibration of which is limited to a maximum reading of 130 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

# Moisture Content Profiles

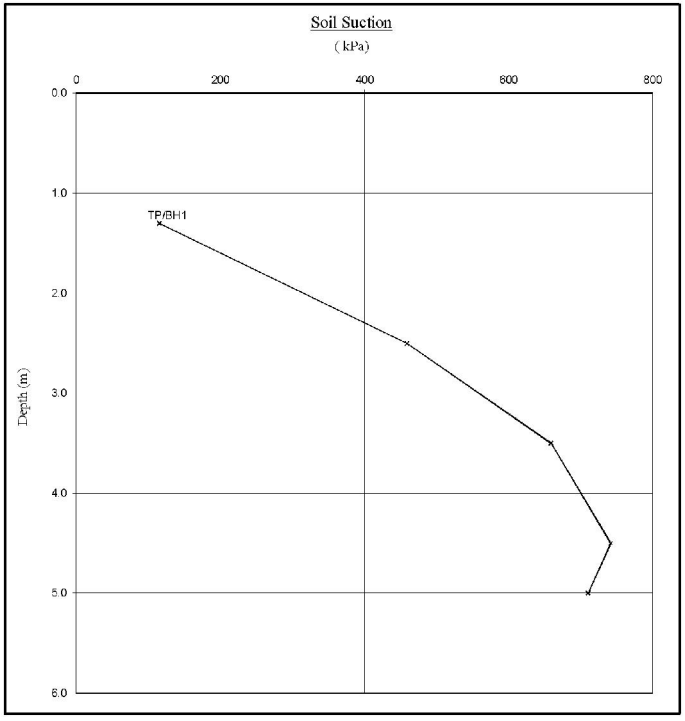
Our Ref : 263336
Location : 40, Elsworthy Road, NW3
Work carried out for: Cunningham Lindsey - Maidstone




Notes
1. If plotted, 0.4 LL and PL-2 ( after Driscoll, 1983 ) should only be applied to London Clay ( and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

# Soil Suction Profiles

Date Sampled : 03/06/2015
Date Received : 04/06/2015
Date Tested : 04/06/2015
Date of Report : 12/06/2015




Note
When shown, the theoretical equilibrium suction profiles are based on conventional assumptions associated with London Clay (and similarly overconsolidated clays) at shallow depths. Note that the sample disturbance component is dependant on the method of sampling and any subsequent recompaction. The above plots show this to be 100kPa which is the value suggested by the BRE on the basis of their limited number of tests on recompacted samples. This may or may not be appropriate in this instance and judgement should be exercised.

| | | |
|---|---|---|
| **Tree Root Identification Ltd** | Sheet: 1 of 1<br>Job No: 263336<br>Date: 09/06/2015<br>Order No: 706531<br>Our Ref: CET090615 | Site: 40 Elsworthy Road, London.<br>Work carried out for: Cunningham Lindsey |

## *Certificate of Analysis*

The following work was commissioned by CET on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.
The results were as follows -

| Trial pit/ Borehole number | Root diameter (mm) | Tree, shrub or climber from which root originates | Result of starch test# |
|---|---|---|---|
| TP1 (underside) | 30.0 | a member of the family Leguminosae* (4 roots) | positive |
| BH1 (roots to a depth of 4.0m) | 2.5 | a member of the family Leguminosae* (2 roots) | positive |

# The presence of starch indicates that the root was alive in the recent past.

* Members of the Leguminosae include Laburnum, Robinia (false acacia) and the climber, Wisteria.

[redacted]
DR RONALD D MACLEOD
Principal Scientist

*Address for correspondence: 'Mandaya', Highfield Place, BANKFOOT, By Perth, PH1 4AX.*
[redacted]
*web site* : www.treerootidentification.com
***Principal Scientist:*** R.D. MacLeod, B.Sc., Ph.D..
***Accounts/Quality Manager:*** Fiona M. Sinclair, BA English Studies (Merit)
Registered in Scotland, No. 358068. Registered Office: "Mandaya", Highfield Place, Bankfoot, PH1 4AX.

To: Cunningham Lindsey - Maidstone
4 North Court
South Park Business Village
Armstrong Road
Kent
ME15 6JZ

Our Ref: **263336**

Your Ref: **7941448**

Date: **04-Jun-15**

Ftao: Yiu-Shan Wong

# ESTIMATE

Site:- **40 Elsworthy Road, London**

| Item | | | Amount |
|---|---|---|---|
| 1.0 | Location | **Manhole 1 upstream. Run 2.** | [redacted] |
| | Shared System | No | |
| | Condition Grade | B | |
| | Drain Serviceability | Unserviceable | |
| | Work Spec | From manhole 1 excavate and replace 1 metre of pipe work upstream(to repair faulty liner) and then cctv, repair as necessary. If findings or repair exceptional then discuss with engineer before repair. | |
| 2.0 | Location | **Manhole 1 upstream to yard gully. Run 4.** | |
| | Shared System | No | |
| | Condition Grade | B | |
| | Drain Serviceability | Unserviceable | |
| | Work Spec | Excavate and replace gully plus 0.5 metres of pipe work and then high pressure water jet to clear silt and line run downstream to original liner. | |
| 3.0 | Location | **Manhole 1 downstream to boundary. Run 5.** | |
| | Shared System | No | |
| | Condition Grade | B | |
| | Drain Serviceability | Unserviceable | |
| | Work Spec | From manhole/interceptor high pressure water jet to clear roots and line run downstream 1 metre. | |

**Notes**
Repairs to shared runs and off boundary pipe-work may be the responsibility of the water authority.

[redacted]

**Condition Grade**
A - Structurally sound with no leakage evident.
B - Cracks and fractures observed.
C - Structurally unsound

Quotation is binding only if accepted within 28 days from date of issue and is subject to our Standard Terms and Conditions
The price qualification notes, stated on the drainage solutions schedule of rates, apply to this quotation.
CET Structures Ltd undertakes to return to site free of charge to carry out remedial work to the drainage repairs set out above for a period of 2 months from the date of this invoice. The company standard charge rates will apply to the visit should the work requested be unrelated to the said repairs.

## ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE

**Site:-** **40 Elsworthy Road, London**

**Client :-** **Cunningham Lindsey - Maidstone**

**Attention of:-** **Yiu-Shan Wong**

| | |
|---|---|
| Client ref | 7941448 |
| Job Number :- | 263336 |
| Insurer | Sterling Insurance |
| Date:- | 04-Jun-15 |
| Recommendation | 1 |

| Item No | Description<br>Manhole 1 upstream. Run 2. | Unit | Quantity | Rate<br>(£) | Price<br>(£) |
|---|---|---|---|---|---|
| 1.0 | **Emergency Drain Blockage Clearance** | | | | |
| 1.1 | Unblock drain 8am-6pm - First 1/2 Hour | Item | | | |
| 1.2 | Unblock drain 8am-6pm- Subsequent 1/2 Hour | Item | | | |
| 1.3 | Unblock drain 6pm-midnight | Item | | | |
| 1.4 | Unblock drain 6pm-midnight - Subsequent 1/2 hour | Item | | | |
| 2.1 | **CCTV Surveys** | | | | |
| 2.2 | Undertake CCTV survey 8am-6pm (up to 3 hours) | Item | 1 | | |
| 2.3 | Additional 1/2 hr survey charge | Item | | | |
| 3.0 | **Replacing Underground Drainage** | | | | |
| 3.1 | **Gullies** | | | | |
| 3.2 | Take out and replace gulley (100mm outlet) | Item | | | |
| 3.3 | Take out and replace rodding point (100mm outlet) | Item | | | |
| 3.4 | **Bends/junctions** | | | | |
| 3.5 | Excavate and replace rest bend (100mm outlet) | Item | | | |
| 3.6 | Excavate and replace rest bend (150mm outlet) | Item | | | |
| 3.7 | Excavate and replace junction/bend (100mmØ), Excavation depth 0-1m. | Item | | | |
| 3.8 | Excavate and replace junction/bend (150mmØ), Excavation depth 0-1m | Item | | | |
| 3.9 | Excavate and replace junction/bend (100mmØ), Excavation depth 1-1.5m. | Item | | | |
| 3.10 | Excavate and replace junction/bend (150mmØ), Excavation depth 1-1.5m. | Item | | | |
| 3.11 | Excavate and replace junction/bend (100mmØ), Excavation depth 1.5-2.0m. | Item | | | |
| 3.12 | Excavate and replace junction/bend (150mmØ), Excavation depth 1.5-2.0m. | Item | | | |
| 3.13 | **Pipes** | | | | |
| 3.14 | Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m, First 10m. | m | | | |
| 3.15 | Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m, First 10m. | m | | | |
| 3.16 | Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m. | m | | | |
| 3.17 | Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m. | m | | | |
| 3.18 | Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m, First 10m. | m | | | |
| 3.19 | Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m, First 10m. | m | | | |
| 3.20 | Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m. | m | | | |
| 3.21 | Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m. | m | | | |
| 3.22 | Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m, First 10m. | m | | | |
| 3.23 | Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m, First 10m. | m | | | |
| 3.24 | Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m. | m | | | |
| 3.25 | Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m. | m | | | |
| | Excavate trench and replace 100mm pipe work. Excavation depth 2-2.5m. | m | 1 | | |
| 3.26 | **Surface Reinstatement of Trenches** | | | | |
| 3.27 | Excavate through and reinstate turf. | | | | |
| 3.28 | Excavate through and replace concrete paving slabs | m | 2 | | |
| 3.29 | Excavate through and replace block paving. | m | | | |
| 3.30 | Excavate through and reinstate plain concrete, maximum thickness 100mm. | m | | | |
| 3.31 | Excavate through and reinstate plain concrete, thickness 100- 200mm. | m | | | |
| 3.32 | Excavate through and reinstate reinforced concrete, maximum thickness 100mm. | m | | | |
| 3.33 | Excavate through and reinstate reinforced concrete, thickness 100-200mm. | m | | | |
| 3.34 | Excavate through and reinstate Tarmac - Cold rolled | m | | | |
| 3.35 | Excavate through and reinstate Tarmac - Hot rolled | m | | | |
| 3.36 | Reinstatement of crazy paving | m | | | |
| 4.0 | **Lining** | | | | |
| 4.1 | Set up lining rig for drain lining including first 3m of lining per run, for 100mm or 150mm | Item | | | |
| 4.2 | Line 100mmØ drain | m | | | |
| 4.3 | Line 150mmØ drain | m | | | |
| 4.4 | Post lining CCTV survey | no | | | |
| 4.5 | Minimum lining charge | Item | | | |
| 4.6 | Root cutting of drain prior to lining | hr | | | |
| 4.7 | Set up lining rig for patch lining | Item | | | |
| 4.8 | Patch line 100mmØ drain | no | | | |
| 4.9 | Patch line 150mmØ drain | no | | | |
| 4.10 | Post patch lining CCTV survey | Item | | | |
| 4.11 | Minimum patch lining charge | Item | | | |
| 4.12 | Re-open lateral branch up to 2m length, pipe up to 150mm | no | | | |
| 4.13 | Re-open lateral branch over 2m length, pipe up to 150mm | no | | | |
| 5.0 | **Miscellaneous** | | | | |
| 5.1 | Excavation and backfill of soakaway (1m3) with stone | Item | | | |
| 5.2 | % Uplift on disbursements and suppliers charges | % | | | |
| 5.3 | Daywork - Hourly labour rate | hr | | | |
| 5.4 | Minimum project value | Item | | | |
| 5.5 | Skip hire incl. delivery and collection(estimated cost). Cost – 25% | Item | £1.25 | | |
| 5.6 | | | | | |
| 5.7 | | | | | |
| 5.8 | | | | | |
| 6.0 | **Additional items** | | | | |
| 6.1 | De-scaling (fat/grime) | hr | | | |
| 6.2 | De-scaling (scale using chain flails) | hr | | | |
| 6.3 | Gully surround | item | | | |
| 6.4 | Manhole works (up to 1.2m) | item | | | |
| 6.6 | Oversize soakaway (1.5m3) | item | | | |
| 6.7 | Soakaway >1.5m3 | item | | | |
| 6.8 | Waste disposal | m | 8 | | |
| 6.9 | Shoring | m | 16 | | |
| | **Total Estimate Price For Recommendation Number** | | 1.0 | | |
| | Subject to discount | | **0.00** | | |
| | Total subject to VAT @ 20% | | | | |

Note: Subject to the attached Terms and Conditions

A - When calculating prices, all measurements are rounded up

B - Depths are taken to the base of excavations

C - Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed

D - All rates exclude VAT

G - Day work rates do not include for materials that are charged at cost plus 25%

F - The above rates are subject to re-measurement

KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour

E - Depths are taken to the base of excavations

## ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE

**Site:-** **40 Elsworthy Road, London**

**Client :-** **Cunningham Lindsey - Maidstone**

**Attention of:-** **Yiu-Shan Wong**

| | |
|---|---|
| Client ref | 7941448 |
| Job Number :- | 263336 |
| Insurer | Sterling Insurance |
| Date:- | 04-Jun-15 |
| Recommendation | 2 |

| Item No | Description<br>Manhole 1 upstream to yard gully. Run 4. | Unit | Quantity | Rate<br>(£) | Price<br>(£) |
|---|---|---|---|---|---|
| 1.0 | **Emergency Drain Blockage Clearance** | | | | |
| 1.1 | Unblock drain 8am-6pm - First 1/2 Hour | Item | 1 | | |
| 1.2 | Unblock drain 8am-6pm- Subsequent 1/2 Hour | Item | | | |
| 1.3 | Unblock drain 6pm-midnight | Item | | | |
| 1.4 | Unblock drain 6pm-midnight - Subsequent 1/2 hour | Item | | | |
| 2.1 | **CCTV Surveys** | | | | |
| 2.2 | Undertake CCTV survey 8am-6pm (up to 3 hours) | Item | | | |
| 2.3 | Additional 1/2 hr survey charge | Item | | | |
| 3.0 | **Replacing Underground Drainage** | | | | |
| 3.1 | **Gullies** | | | | |
| 3.2 | Take out and replace gulley (100mm outlet) | Item | 1 | | |
| 3.3 | Take out and replace rodding point (100mm outlet) | Item | | | |
| 3.4 | **Bends/junctions** | | | | |
| 3.5 | Excavate and replace rest bend (100mm outlet) | Item | | | |
| 3.6 | Excavate and replace rest bend (150mm outlet) | Item | | | |
| 3.7 | Excavate and replace junction/bend (100mmØ), Excavation depth 0-1m. | Item | | | |
| 3.8 | Excavate and replace junction/bend (150mmØ), Excavation depth 0-1m. | Item | | | |
| 3.9 | Excavate and replace junction/bend (100mmØ), Excavation depth 1-1.5m. | Item | | | |
| 3.10 | Excavate and replace junction/bend (150mmØ), Excavation depth 1-1.5m. | Item | | | |
| 3.11 | Excavate and replace junction/bend (100mmØ), Excavation depth 1.5-2.0m. | Item | | | |
| 3.12 | Excavate and replace junction/bend (150mmØ), Excavation depth 1.5-2.0m. | Item | | | |
| 3.13 | **Pipes** | | | | |
| 3.14 | Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m, First 10m. | m | 0.5 | | |
| 3.15 | Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m, First 10m. | m | | | |
| 3.16 | Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m. | m | | | |
| 3.17 | Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m. | m | | | |
| 3.18 | Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m, First 10m. | m | | | |
| 3.19 | Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m, First 10m. | m | | | |
| 3.20 | Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m. | m | | | |
| 3.21 | Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m. | m | | | |
| 3.22 | Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m, First 10m. | m | | | |
| 3.23 | Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m, First 10m. | m | | | |
| 3.24 | Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m. | m | | | |
| 3.25 | Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m. | m | | | |
| 3.26 | **Surface Reinstatement of Trenches** | | | | |
| 3.27 | Excavate through and reinstate turf. | | | | |
| 3.28 | Excavate through and replace concrete paving slabs | m | | | |
| 3.29 | Excavate through and replace block paving | m | | | |
| 3.30 | Excavate through and reinstate plain concrete, maximum thickness 100mm. | m | 1 | | |
| 3.31 | Excavate through and reinstate plain concrete, thickness 100- 200mm. | m | | | |
| 3.32 | Excavate through and reinstate reinforced concrete, maximum thickness 100mm. | m | | | |
| 3.33 | Excavate through and reinstate reinforced concrete, thickness 100-200mm. | m | | | |
| 3.34 | Excavate through and reinstate Tarmac - Cold rolled | m | | | |
| 3.35 | Excavate through and reinstate Tarmac - Hot rolled | m | | | |
| 3.36 | Reinstatement of crazy paving | m | | | |
| 4.0 | **Lining** | | | | |
| 4.1 | Set up lining rig for drain lining including first 3m of lining per run, for 100mm or 150mm | Item | 1 | | |
| 4.2 | Line 100mmØ drain | m | | | |
| 4.3 | Line 150mmØ drain | m | | | |
| 4.4 | Post lining CCTV survey | no | 1 | | |
| 4.5 | Minimum lining charge | Item | | | |
| 4.6 | Root cutting of drain prior to lining | hr | | | |
| 4.7 | Set up lining rig for patch lining | Item | | | |
| 4.8 | Patch line 100mmØ drain | no | | | |
| 4.9 | Patch line 150mmØ drain | no | | | |
| 4.10 | Post patch lining CCTV survey | Item | | | |
| 4.11 | Minimum patch lining charge | Item | | | |
| 4.12 | Re-open lateral branch up to 2m length, pipe up to 150mm | no | | | |
| 4.13 | Re-open lateral branch over 2m length, pipe up to 150mm | no | | | |
| 5.0 | **Miscellaneous** | | | | |
| 5.1 | Excavation and backfill of soakaway (1m3) with stone | Item | | | |
| 5.2 | % Uplift on disbursements and suppliers charges | % | | | |
| 5.3 | Daywork - Hourly labour rate | hr | | | |
| 5.4 | Minimum project value | Item | | | |
| 5.5 | | | | | |
| 5.6 | | | | | |
| 5.7 | | | | | |
| 5.8 | | | | | |
| 6.0 | **Additional Items** | | | | |
| 6.1 | De-scaling (fat/grime) | hr | | | |
| 6.2 | De-scaling (scale using chain flails) | hr | | | |
| 6.3 | Gully surround | item | | | |
| 6.4 | Manhole works (up to 1.2m) | item | | | |
| 6.6 | Oversize soakaway (1.5m3) | item | | | |
| 6.7 | Soakaway >1.5m3 | item | | | |
| 6.8 | Waste disposal | m | 1 | | |
| 6.9 | Shoring | m | | | |
| | **Total Estimate Price For Recommendation Number** | | 2.0 | | |
| | Subject to discount | | **0.00** | | |
| | Total subject to VAT @ 20% | | | | |

Note: Subject to the attached Terms and Conditions

A - When calculating prices, all measurements are rounded up

B - Depths are taken to the base of excavations

C - Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed

D - All rates exclude VAT

G - Daywork rates do not include for materials that are charged at cost plus 25%

F - The above rates are subject to re-measurement

KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour

E - Depths are taken to the base of excavations

## ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE

**Site:-** **40 Elsworthy Road, London**

**Client :-** **Cunningham Lindsey - Maidstone**

**Attention of:-** **Yiu-Shan Wong**

| | |
|---|---|
| Client ref | 7941448 |
| Job Number :- | 263336 |
| Insurer | Sterling Insurance |
| Date:- | 04-Jun-15 |
| Recommendation | 3 |

| Item No | Description<br>Manhole 1 downstream to boundary. Run 5. | Unit | Quantity | Rate<br>(£) | Price<br>(£) |
|---|---|---|---|---|---|
| 1.0 | **Emergency Drain Blockage Clearance** | | | | |
| 1.1 | Unblock drain 8am-6pm - First 1/2 Hour | Item | | [redacted] | |
| 1.2 | Unblock drain 8am-6pm- Subsequent 1/2 Hour | Item | | | |
| 1.3 | Unblock drain 6pm-midnight | Item | | | |
| 1.4 | Unblock drain 6pm-midnight - Subsequent 1/2 hour | Item | | | |
| 2.1 | **CCTV Surveys** | | | | |
| 2.2 | Undertake CCTV survey 8am-6pm (up to 3 hours) | Item | | | |
| 2.3 | Additional 1/2 hr survey charge | Item | | | |
| 3.0 | **Replacing Underground Drainage** | | | | |
| 3.1 | **Gullies** | | | | |
| 3.2 | Take out and replace gulley (100mm outlet) | Item | | | |
| 3.3 | Take out and replace rodding point (100mm outlet) | Item | | | |
| 3.4 | **Bends/Junctions** | | | | |
| 3.5 | Excavate and replace rest bend (100mm outlet) | Item | | | |
| 3.6 | Excavate and replace rest bend (150mm outlet) | Item | | | |
| 3.7 | Excavate and replace junction/bend (100mmØ), Excavation depth 0-1m. | Item | | | |
| 3.8 | Excavate and replace junction/bend (150mmØ), Excavation depth 0-1m | Item | | | |
| 3.9 | Excavate and replace junction/bend (100mmØ), Excavation depth 1-1.5m. | Item | | | |
| 3.10 | Excavate and replace junction/bend (150mmØ), Excavation depth 1-1.5m. | Item | | | |
| 3.11 | Excavate and replace junction/bend (100mmØ), Excavation depth 1.5-2.0m. | Item | | | |
| 3.12 | Excavate and replace junction/bend (150mmØ), Excavation depth 1.5-2.0m. | Item | | | |
| 3.13 | **Pipes** | | | | |
| 3.14 | Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m, First 10m. | m | | | |
| 3.15 | Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m, First 10m. | m | | | |
| 3.16 | Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m. | m | | | |
| 3.17 | Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m. | m | | | |
| 3.18 | Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m, First 10m. | m | | | |
| 3.19 | Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m, First 10m. | m | | | |
| 3.20 | Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m. | m | | | |
| 3.21 | Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m. | m | | | |
| 3.22 | Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m, First 10m. | m | | | |
| 3.23 | Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m, First 10m. | m | | | |
| 3.24 | Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m. | m | | | |
| 3.25 | Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m. | m | | | |
| 3.26 | **Surface Reinstatement of Trenches** | | | | |
| 3.27 | Excavate through and reinstate turf. | | | | |
| 3.28 | Excavate through and replace concrete paving slabs | m | | | |
| 3.29 | Excavate through and replace block paving. | m | | | |
| 3.30 | Excavate through and reinstate plain concrete, maximum thickness 100mm. | m | | | |
| 3.31 | Excavate through and reinstate plain concrete, thickness 100- 200mm. | m | | | |
| 3.32 | Excavate through and reinstate reinforced concrete, maximum thickness 100mm. | m | | | |
| 3.33 | Excavate through and reinstate reinforced concrete, thickness 100-200mm. | m | | | |
| 3.34 | Excavate through and reinstate Tarmac - Cold rolled | m | | | |
| 3.35 | Excavate through and reinstate Tarmac - Hot rolled | m | | | |
| 3.36 | Reinstatement of crazy paving | m | | | |
| 4.0 | **Lining** | | | | |
| 4.1 | Set up lining rig for drain lining including first 3m of lining per run, for 100mm or 150mm | Item | 1 | | |
| 4.2 | Line 100mmØ drain | m | | | |
| 4.3 | Line 150mmØ drain | m | | | |
| 4.4 | Post lining CCTV survey | no | | | |
| 4.5 | Minimum lining charge | Item | | | |
| 4.6 | Root cutting of drain prior to lining | hr | **1** | | |
| 4.7 | Set up lining rig for patch lining | Item | | | |
| 4.8 | Patch line 100mmØ drain | no | | | |
| 4.9 | Patch line 150mmØ drain | no | | | |
| 4.10 | Post patch lining CCTV survey | Item | | | |
| 4.11 | Minimum patch lining charge | Item | | | |
| 4.12 | Re-open lateral branch up to 2m length, pipe up to 150mm | no | | | |
| 4.13 | Re-open lateral branch over 2m length, pipe up to 150mm | no | | | |
| 5.0 | **Miscellaneous** | | | | |
| 5.1 | Excavation and backfill of soakaway (1m3) with stone | Item | | | |
| 5.2 | % Uplift on disbursements and suppliers charges | % | | | |
| 5.3 | Daywork - Hourly labour rate | hr | | | |
| 5.4 | Minimum project value | Item | | | |
| 5.5 | Confined space equipment | Item | 1 | | |
| 5.6 | | | | | |
| 5.7 | | | | | |
| 5.8 | | | | | |
| 6.0 | **Additional Items** | | | | |
| 6.1 | De-scaling (fat/grime) | hr | | | |
| 6.2 | De-scaling (scale using chain flails) | hr | | | |
| 6.3 | Gully surround | item | | | |
| 6.4 | Manhole works (up to 1.2m) | item | | | |
| 6.6 | Oversize soakaway (1.5m3) | item | | | |
| 6.7 | Soakaway >1.5m3 | item | | | |
| 6.8 | Waste disposal | m | | | |
| 6.9 | Shoring | m | | | |
| | **Total Estimate Price For Recommendation Number** | | 3.0 | | |
| | Subject to discount | | **0.00** | | |
| | Total subject to VAT @ 20% | | | | |

Note: Subject to the attached Terms and Conditions
A - When calculating prices, all measurements are rounded up
B - Depths are taken to the base of excavations
C - Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed
D - All rates exclude VAT
G - Daywork rates do not include for materials that are charged at cost plus 25%
F - The above rates are subject to re-measurement
KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour
E - Depths are taken to the base of excavations

| Underground Drainage Report | Sheet: 1 of 3<br>Job No: 263336<br>Date: 3-Jun-15 | Site: 40 Elsworthy Road, London<br>Work carried out for: Cunningham Lindsey - Maidstone |
|---|---|---|

**MANHOLE DETAILS**

| Manhole | Depth to Invert | Condition |
|---|---|---|
| MH1 | 2300mm | As built |

**CCTV Survey:-**

**1. Drainage Run:**

From manhole 1 run 1 to manhole 2 - 100mm clay combined - upstream (not shared)

| Metres: | Code: | Observations: | Surface Material/ Condition: |
|---|---|---|---|
| 0.0 | | Start | Slabs for 4.4m |
| 1.1 | WL | 10% | |
| 4.4 | FH | Survey ends - reached MH2 | |

**2 Drainage Run:**

From manhole 1 run 2 to upstream - 100mm lined foul water - upstream (not shared)

| Metres: | Code: | Observations: | Surface Material/ Condition: |
|---|---|---|---|
| 0.0 | | Start | Slabs |
| 0.6 | GO | Liner failure | |
| 0.7 | SA | Survey abandoned - unable to push | |

**Water Test Grade:**

0 - Unable to fill
1 - Heavy Loss
2 - Medium Loss over 2 minutes
3 - Slow Loss over 5 minutes
4 - No Loss

| Underground Drainage Report | Sheet: 2 of 3<br>Job No: 263336<br>Date: 3-Jun-15 | Site: 40 Elsworthy Road, London<br>Work carried out for: Cunningham Lindsey - Maidstone |
|---|---|---|

**3 Drainage Run:**

From manhole 1 run 3 to upstream - 100mm lined foul water - upstream (not shared)

| Metres: | Code: | Observations: | Surface Material/ Condition: |
|---|---|---|---|
| 0.0 | | Start | Slabs for 1m |
| 0.7 | LL | | then steps x1 for 2.1m |
| 3.1 | MC | To clay | |
| 3.1 | LU | | |
| 3.6 | FH | Survey ends - reached unknown | |

**4 Drainage Run:**

From manhole 1 run 4 to yard gully - 100mm lined foul water - upstream (not shared)

| Metres: | Code: | Observations: | Surface Material/ Condition: |
|---|---|---|---|
| 0.0 | | Start | |
| 0.7 | LL | | |
| 3.5 | DES | | |
| 3.6 | MC | To clay | |
| 3.8 | FC | From 12 o'clock to 12 o'clock | |
| 4.5 | OJM | | |
| 4.6 | FH | Survey ends - reached YG | |

**Water Test Grade:**

0 - Unable to fill
1 - Heavy Loss
2 - Medium Loss over 2 minutes
3 - Slow Loss over 5 minutes
4 - No Loss

| Underground Drainage Report | Sheet: 3 of 3<br>Job No: 263336<br>Date: 3-Jun-15 | Site: 40 Elsworthy Road, London<br>Work carried out for: Cunningham Lindsey - Maidstone |
|---|---|---|

**5 Drainage Run:**

From manhole 1 run 5 to boundary - 100mm clay combined - downstream (not shared)

| Metres: | Code: | Observations: | Surface Material/ Condition: |
|---|---|---|---|
| 0.0 | | Start | Slab / bin store for 3.6m |
| 0.0 | JN | At 6 o'clock interceptor | |
| 0.4 | JDM | | |
| 0.4 | FC | From 12 o'clock to 12 o'clock | |
| 0.8 | RTJ | | |
| 1.4 | MC | To plastic | |
| 1.8 | MC | To lined | |
| 1.8 | V | | |
| 3.6 | FH | Survey ends - reached boundary | |

**- End of Survey -**

*Our assessment of the drainage system is based on our visual inspection and on information collated at the time of the survey. Where assumptions have been made these are based on our experience and do not constitute any form of guarantee, nor do we guarantee that further deterioration will not occur following this survey. CCTV video records will be stored for a period of 3 months from date of inspection and then destroyed.*

**Water Test Grade:**

0 - Unable to fill
1 - Heavy Loss
2 - Medium Loss over 2 minutes
3 - Slow Loss over 5 minutes
4 - No Loss

# Water Authority Sewer Condition Codes

| | |
|---|---|
| **B** | Broken pipe at… (or from… to..) o'clock |
| **BR** | Branch Major |
| **CC** | Crack circumferential from… to… o'clock |
| **CL** | Crack longitudinal @… o'clock |
| **CM** | Cracks multiple from… to… o'clock |
| **CN** | Connection at… o'clock, diameter… mm |
| **CNI** | Connection at… o'clock, diameter… mm, intrusion… mm |
| **CU** | Camera under water |
| **CX** | Connection defective at… o'clock |
| **CXI** | Connection defective at… o'clock, diameter… mm, intrusion… mm |
| **D** | Deformed sewer… % |
| **DB** | Displaced bricks at (or from.. to..) o'clock |
| **DC** | Dimension of sewer changes at this point |
| **DE** | Debris (non silt/grease)… % cross-sectional loss |
| **DEG** | Debris grease… % cross-sectional area loss |
| **DES** | Debris silt… % cross-sectional area loss |
| **DI** | Dropped invert, gap… mm |
| **EHJ** | Encrustation heavy from.. to.. o'clock % cross-sectional area loss (at joint) |
| **ELJ** | Encrustation light from.. to.. o'clock% |
| **EMJ** | Encrustation medium from.. to.. o'clock %, cross-sectional area loss (at joint) |
| **ESH** | Scale heavy… % cross-sectional area loss from... to… o'clock |
| **ESL** | Scale light from… to… o'clock |
| **ESM** | Scale medium… % cross-sectional area loss from… to… o'clock |
| **FC** | Fracture circumferential from… to… o'clock |
| **FL** | Fracture longitudinal at… o'clock |
| **FM** | Fractures multiple from… to… o'clock |
| **GO** | General observation at this point |
| **GP** | General photograph number… taken at this point |
| **H** | Hole in sewer at… o'clock |
| **IDJ** | Infiltration dripper at (or from… to…) o'clock (at joint) |
| **IGJ** | Infiltration gusher at (or from… to…) o'clock (at joint) |
| **IRJ** | Infiltration runner at (or from… to…) o'clock (at joint) |
| **ISJ** | Infiltration seeper at (or from… to…) o'clock (at joint) |
| **JDM** | Joint displaced medium |
| **JDL** | Joint displaced large |
| **JN** | Junction at…o'clock, diameter…mm |
| **JX** | Junction defective at.. o'clock, diameter.. mm |
| **LC** | Lining of sewer changes/starts/finishes at this point |
| **LD** | Line of sewer deviates down |
| **LL** | Line of sewer deviates left |
| **LN** | Line defect at (or from.. to.. ) o'clock |
| **LR** | Line of sewer deviates right |
| **LU** | Line of sewer deviates up |
| **MB** | Missing bricks at.. (or from.. to..) o'clock |
| **MC** | Material of sewer changes at this point |
| **MH** | Manhole/node |
| **MM** | Mortar missing medium at.. (or from.. to..) o'clock |
| **MS** | Mortar missing surface at.. (or from.. to..) o'clock |
| **MT** | Mortar missing total at.. (or from.. to..) o'clock |
| **OB** | Obstruction… % height/diameter loss |
| **OJL** | Open joint large |
| **OJM** | Open joint medium |
| **PC** | Length of pipe forming sewer changes at this point, new length…mm |
| **RFJ** | Roots fine (at joint) |
| **RMJ** | Roots mass… % cross-sectional area loss (at joint) |
| **RTJ** | Roots tap (at joint) |
| **SA** | Survey abandoned |
| **SC** | Shape of sewer changes at this point |
| **SSL** | Surface damage, spalling large at (or from.. to..) o'clock |
| **SSM** | Surface damage, spalling medium at (or from.. to..) o'clock |
| **SSS** | Surface damage, spalling slight at (or from.. to..) o'clock |
| **SWL** | Surface damage, wear large at… (or from.. to..) o'clock |
| **SWM** | Surface damage, wear medium at… (or from.. to..) o'clock |
| **SWS** | Surface damage, wear slight at.. (or from.. to..) o'clock |
| **V** | Vermin (rats and mice) |
| **WL** | Water level… % height/diameter |
| **X** | Sewer collapsed… % cross-sectional area loss |
| **FH** | End of survey |

**Contract:** 263336

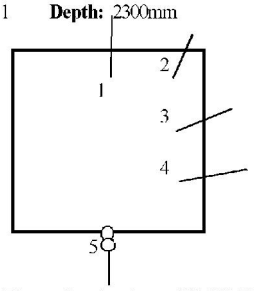
**Site Address:** 40 Elsworthy Road, London

**Date:** 03-Jun-15

**Operative Initial:** SA

**Page:** 1 of 1

**M/H:** 1 **Depth:** 2300mm




**Chamber Dimension (mm):** 500 X 1100

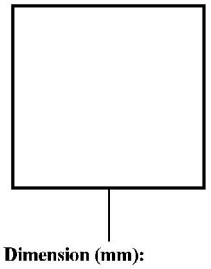
**Depths of run if different to invert level:-**

Run

**Manhole Condition**

As built

**M/H:** **Depth:**



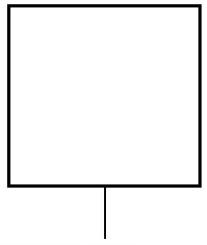
**Chamber Dimension (mm):**

**Depths of run if different to invert level:-**

Run

**Manhole Condition**

**M/H:** **Depth:**



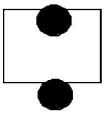
**Chamber Dimension (mm):**

**Depths of run if different to invert level:-**

Run

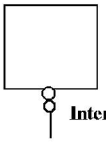
**Manhole Condition**

**KEY…**



**Internal Back Drop**

**External Back Drop**



**Interceptor**

**Water Pressure Test Results**

From: To: Pass / Fail