

**Ref: 11/17802
August 2016**

Basement Impact Assessment (Hydrogeological and Structural)

At

Ornan Court, 2 Ornan Road, London, NW3 4PT

For

Ornan Court Limited

VOLUME 2 of 8

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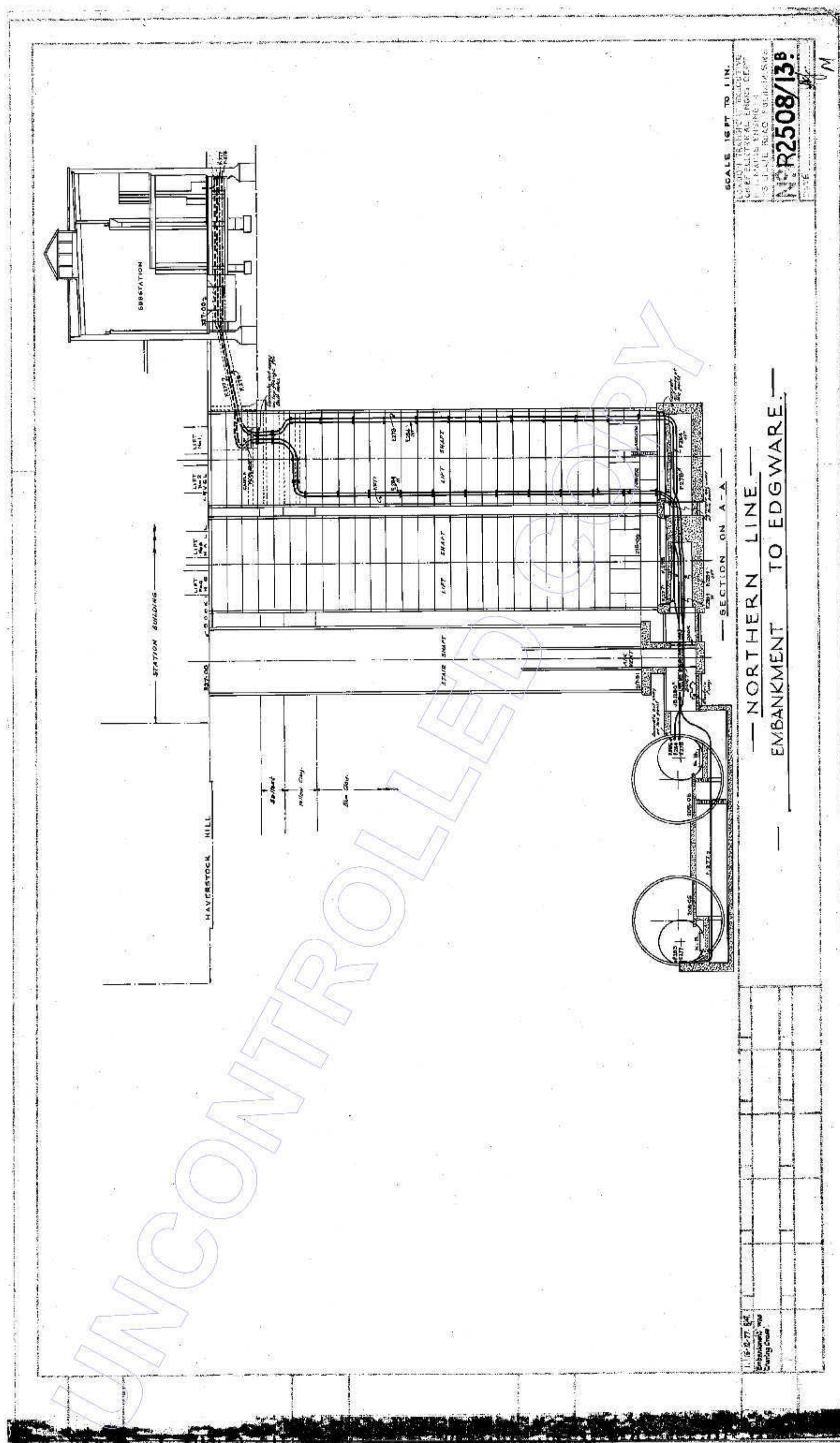
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2.1 Responses from LUL, Network Rail & Cross Rail

R2508/13B



SECTION ON A-A

SECTION ON B-B

SECTION ON C-C

SECTION ON D-D

PLAN

SCALE: 1" = 10'

NORTHERN LINE —

— EMBANKMENT TO EDGWARE —

NO. 2508/13A

1934

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London Underground

Our Ref: PU48358
Your Ref: 14657JS
Date: 30 October 2014



Name: JOE SHAWYER

Title

Address:
GROUNDWISE SEARCHES LTD
SUITE 8 CHICHESTER HOUSE
45 CHICHESTER ROAD
SOUTHEND-ON-SEA
ESSEX

London Underground
Asset Performance Power
Units 7 & 8, Station Road
Drawing Office
Tufnell park
London
N19 5UW
0203 054 8418

Dear Sir/Madam

Subject Ornan Court, 2 Ornan Road, Hampstead, London, NW3 4PT

We acknowledge receipt of your Letter / New Roads & Street Works Act Enquiry, dated 28-Oct-14

We do have apparatus in the area in question, as shown on the enclosed plan(s).

With Drg No(s): R2508/13, R2508/14

Please note we only manage High Voltage and Pilot Cables for London Underground distribution network.

For further assistance please contact Sylvie Stroud in our Drawing Office on 0203 054 8354.

Please ensure that any contractors or sub-contractors engaged by you for these works are made aware of this response and its contents. In some cases our cable ducts may be used by a third party, for which we have no information or drawing records.

Yours sincerely

On behalf of Mr D Beavan, H.V. Cables Manager

Name: Anis Naili

Title: NRSWA co-ordinator

Email: LULHVpowerassets@tfl.gov.uk



The figure is a detailed engineering plan view of a road project. It shows a central road alignment with stationing markers ranging from 100+00 to 100+50. Key features include:

- Section Lines:** Labeled 'SECTION A-A' and 'SECTION B-B'.
- North Line:** Indicated by a dashed line with arrows.
- Embankment to Edgware:** A feature on the right side of the road.
- Other Labels:** 'ROAD', 'DRAINAGE', 'CUTTING', 'FILL', 'BRIDGE', 'TUNNEL', 'CULVERT', 'DRAINAGE', 'CUTTING', 'FILL', 'BRIDGE', 'TUNNEL', 'CULVERT'.
- Scale:** 1" = 100'.
- North Arrow:** Located in the upper right corner.
- Stationing:** Markers are placed at 100+00, 100+10, 100+20, 100+30, 100+40, and 100+50.
- Dimensions:** Various dimensions are shown, such as 100+00, 100+10, 100+20, 100+30, 100+40, and 100+50.

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SECTION TRANSMISSIONS RECEIVED
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20541
DATE: 2508/14

part 6

Date 04 November 2014
Our Ref 20878-SI-N044
Your Ref 14657JS
To Joe Shawyer
Groundwise
JShawyer@groundwise.com



London Underground Limited

Hello Joe,

2 Ornan Road Hampstead London NW3 4PT

Thank you for your communication of 28th October 2014.

Attached is a 1:1,250 plan @A4 showing the alignment and tunnel crown levels of the Northern line in relation to the above location.

Please note:

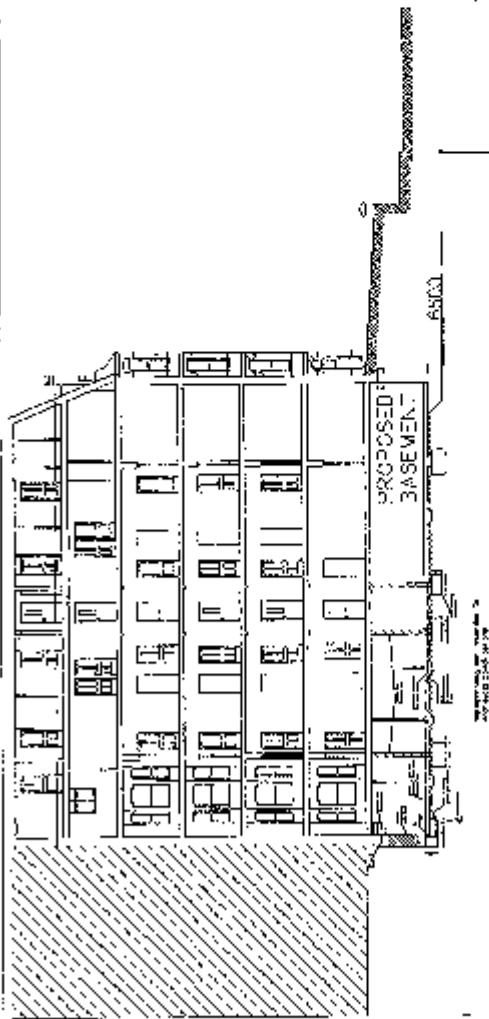
- shaded areas represent sub-surface structures which can be as shallow as 0.2 metres below surface level
- the positions of the tunnels on this plan are indicative only and must not be used for design purposes
- for more accurate tunnel location information a survey will need to be undertaken
- this letter must be distributed with the drawing which it refers to

If you or any other intends undertaking the following at the above location London Underground Infrastructure Protection must be provided with details of the proposals so that the safety of our railway can be assured:

- demolition
- structural works
- excavation
- boreholes or piling
- highway works above shaded areas

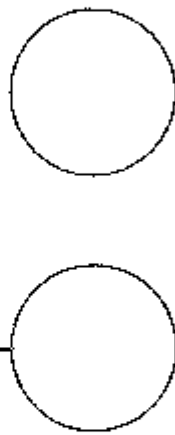
Should you have any further enquiries, please do not hesitate to contact me.

Shahina Inayathusein
Information Manager
LUL Infrastructure Protection
E-mail: locationenquiries@tube.tfl.gov.uk
Tel: 0207 918 0016



FINISH

57000



Northern Line
Tunnels

Rev	Date	Description	By
Title: HAVERSTOCK			
Section: HILL SECTION			
Martin Reddick Associates Consulting Civil & Structural Engineers 2 Edgar Street, London N1 0SE, UK Tel: 020 7837 5377 Fax: 020 7837 2211 6 Park Lane, London W1K 3W Tel: 020 7837 1869 Fax: 020 8002 8503			
Date	14.04.00	Sheet No.	06
Eng. No.		Scale	
Job No.	06.002	Project	HH 1
Origin: C&A, B&B&P&K, NWS			

Martin Redston Associates

Consulting Civil & Structural Engineers

3 Edward Square, London N1 0SP

Tel: 020 7837 5377 Fax: 020 7837 3211

6 Hale Lane, London NW7 3NX

Tel: 020 8959 1666 Fax: 020 8906 8503

Email: martin@redston.org

Date 5.01.15

Eng. GO

Job No. 06.462

Sheet No.

A

ORNAN COURT

EFFECTS OF EXCAVATING A BASEMENT BENEATH ORNAN COURT

Depth excavated = 2.5m

Area excavated = 23×10

\therefore Volume excavated = 575 m^3

Density of Clay = 18 kN/m^3

\therefore Weight removed = 10350 kN

Original depth of foundation = 1200

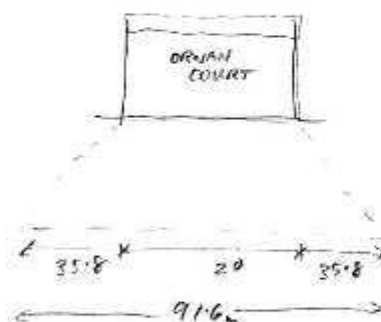
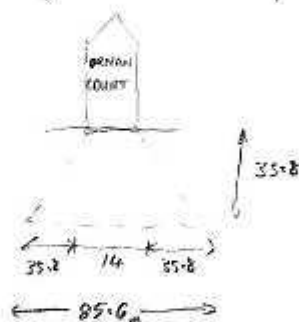
Proposed depth of foundation = 3200

Depth of tunnel below Ground level = 37m

Existing Building load = 13569 (See Calc Sheet c)

Load at tunnel level assuming 45° load spread

depth below foundation = $37 - 1.2 = 35.8 \text{ m}$



$$\therefore \text{GBP at tunnel level due to building} = \frac{15751}{(85.6)(91.6)} = \underline{\underline{2 \text{ kN/m}^2}}$$

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6 Hale Lane, London NW7 3NX

Tel: 020 8959 1666 Fax: 020 8906 8503

Email: martin@redston.org

Date 5.01.15

Sheet No.

Eng. G.D.

B

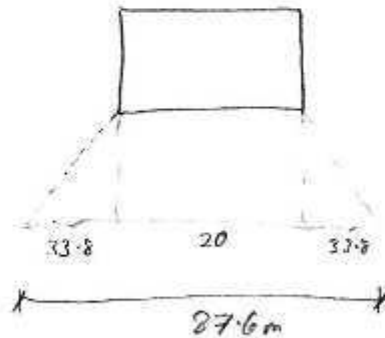
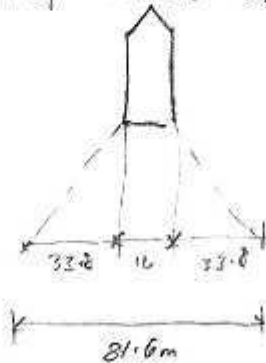
Job No. 06-462

ORNAN COURT

PROPOSED LOANS

Proposed Building Load = 18310 kN (See Calc Sheet D)
less removed clay $18310 - 10350 = \underline{6610 \text{ kN}}$

Depth of tunnel below foundations level = $37 - 3.2 = 33.8 \text{ metres}$



GBP at tunnel level due to building: $\frac{6610}{87.6(81.6)} = \underline{0.92 \text{ kN/m}^2}$
 $0.92 < 2 \text{ kN/m}^2$

GBP at tunnel level reduces

\therefore NO EFFECT

Martin Redston Associates

Consulting Civil & Structural Engineers

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6 Hale Lane, London NW7 3NX
Tel: 020 8959 1666 Fax: 020 8906 8503

Email: martin@redston.org

Date 05.01.15

Eng. 60

Job No. 06.462

Sheet No.

C

ORNAN COURT

EXISTING BUILDING LOAD

FLOORS + ROOF

$$\text{Roof } 2.1 (22.5) (9.2) = 436.7 \text{ kN}$$

$$\text{Manorad } 1 (3) (23+23+10.7) = 170.1$$

$$\text{5th Floor } 2.7 (8.2) (19.5) = 431.73$$

$$\text{4th Floor } 2.7 (10.4) (22.4) = 629$$

$$\text{3rd - 6th } 5 (22.6) (10.4) \times 4 = 4700$$

BRICKWORK

6366 kN

$$\text{330mm } 7.5 (13) (11.2) (0.85) = 928 \text{ kN} \quad \text{Flank Wall}$$

$$7.5 (13) (23.2) (0.85) \times 2 = 3845 \quad \text{Front + Rear}$$

$$\text{Party Wall } 7.5 (18.25) (11.2) = 1533$$

6306 kN

less 15% for windows

INTERNAL WALLS

$$\text{225mm } 4.8 (12.6) (14.5) = 877 \text{ kN (Centre Wall)}$$

$$4.8 (12.6) (10.4) \times 2 = 1258 \quad \text{(Grid B + G)}$$

$$4.8 (12.6) (5.2) \times 2 = 629 \quad \text{(Grid D + E)}$$

$$4.8 (12.6) (5.2) = 315 \quad \text{(Wall Behind Lift Area)}$$

3079 kN

$$\therefore \text{Total Load} = \underline{\underline{15751 \text{ kN}}}$$

Martin Redston Associates

Consulting Civil & Structural Engineers

3 Edward Square, London N1 0SP

Tel: 020 7837 5377 Fax: 020 7837 3211

6 Hale Lane, London NW7 3NX

Tel: 020 8959 1666 Fax: 020 8906 8503

Email: martin@redston.org

Date 05.01.15

Sheet No.

Eng. 60

Job No. 06.462

D

ORNAN COURT

PROPOSED BUILDING LOAD (EXTRA LOAD)

BASEMENT WALLS

FRONT + REAR (450 BRICK) $9.6 (3) (23) (0.85) \times 2 = 1126.1 \text{ kN}$

PARTY WALL (660 BRICK) $15 (3) (12) = 540$

FRANK WALL (R.C. WALL) $8.5 (3) (15) = 382.5$
350

REAR RET WALL $8.5 (3) (20) = 510$

2558.6 kN

EXISTING BUILDING LOAD

15751

TOTAL PROPOSED LOAD

18310 kN

less 15%
for openings

Your ref: 14657JS
Our ref: AD/NRSWA/ENQ/TfL:33330

4 November 2014

PLANT ENQUIRY: Ornan Court, 2 Ornan Road, Hampstead, NW3 4PT

Thank you for your email dated 28th October 2014.

Our records show no traffic control equipment, within the site of your anticipated works.

Should you vary the location of the works, please inform us so that further checks can be made.

The information relates to traffic control equipment, owned by Transport for London, and is believed to be correct.

Yours faithfully



Viv Lloyd, Plant Enquiry's Officer
RSM Operations ,Planned Interventions,
Surface Transport, Transport for London
Email: plantenquiries@tfl.gov.uk
Direct line: (020) 3054 6121



National Records Centre
Audax Road
York, YO30 3GS
Tel: +44 (0) 1904 386338

Joe Shawyer
Groundwise Searches Ltd

Your Ref: 14657JS
Our Ref: 14212

Date 30/10/14

Dear Joe Shawyer

Ornan Court, 2 Ornan Road, Hampstead, London

With regards to your enquiry dated 28/10/14, Network Rail does not believe there is any Network Rail owned apparatus or underground services within the area you have defined. As there is always the possibility new works could be planned and undertaken in this area by Network Rail this information is valid as at today's date and is supplied for general guidance only.

Please be aware that this response is based on Network Rail's records (many of which have been inherited from predecessor Organisations) and knowledge and no guarantee can be given regarding accuracy or completeness. CAT scans, safe digging practices (as contained in HSE publications) and other appropriate investigative techniques should always be carried out. There may be other apparatus or underground services owned or operated by Utility Companies and accordingly you should contact individual utilities for information.

If, in connection with your investigations and/or work, you become aware of Network Rail apparatus or underground services within your area of work, please ensure these are notified to me as a matter of urgency so that appropriate measures for avoidance of risk and damage can be put in place

Yours faithfully,

Alexis Xoufarides

Distribution Co-ordinator

Joe Shawyer

From: Safeguarding [Safeguarding@crossrail.co.uk]
Sent: 28 October 2014 14:51
To: Joe Shawyer
Subject: *Urgent* 14657JS - Ornan Court, 2 Ornan Road, Hampstead, London NW3 4PT
Crossrail Ref: CRL-00-128793

Importance: High

Dear Mr. Shawyer

Crossrail Ref: CRL-00-128793

Ornan Court, 2 Ornan Road, Hampstead, London NW3 4PT

Thank you for your letter dated 28 October 2014, requesting the views of the Crossrail Project Team on the above.

The area in question is outside the limits of consultation shown in the Safeguarding Direction issued by the Secretary of State for Transport on 24 January 2008.

The implications arising from Crossrail have been considered, and we do not wish to make any comments.

The Crossrail Bill which was introduced into Parliament by the Secretary of State for Transport in February 2005 was enacted as the Crossrail Act on the 22nd July 2008. The first stage of Crossrail preparatory construction works began in early 2009. Main construction works have started with works to the central tunnel section to finish in 2018, to be followed by a phased opening of services.

In addition, the latest project developments can be found on the Crossrail website www.crossrail.co.uk/safeguarding, which is updated on a regular basis.

I hope this information is helpful, but if you require any further assistance then please feel free to contact a member of the Safeguarding Team on 0345 602 3813, or by email to safeguarding@crossrail.co.uk

Yours sincerely

Helen McCarthy
Community Relations Assistant
CROSSRAIL HELPDESK
Tel (24 hour): 0345 602 3813
Helpdesk@crossrail.co.uk

MOVING LONDON FORWARD

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