The Pavilions Shopping Centre Uxbridge

Site Access on High Street

Date: 8 October 2015

Introduction

The report is written in relation to the planning permission granted on 28 July 2015 reference number 31254/APP/2014/2232 to create a Major Shop Unit (MSU) at the Pavilions Shopping Centre in Uxbridge. A Heavy Duty Footway Crossing (HDFC) has been proposed for temporary site access and deliveries during the construction period.

Multiple meetings and correspondence has been held between Gilbert Ash and London Borough of Hillingdon Highways regarding proposals, design and approval of the crossover.

London Borough of Hillingdon (LBH) requires Gilbert-Ash to obtain agreement of utility providers where plant is located less than 450mm from pavement level. The following paper summarises the status of the utility provider's agreement to Gilbert-Ash's proposals to bridge over services running with 450mm of the pavement.

Summary of Proposal

Design & Construction

As it has been established that BT services are located within the 450mm Ga propose to bridge over the services with the current pavement level. The HDFC is designed as shown in the attached Appendix A and will consist of a 200mm reinforced concrete slab suitable for heavy duty vehicles to cross. It is proposed that the construction of this crossover will be carried out in two stages to as not to disrupt pedestrian movement on the highstreet.

The crossover will access the site at a perpendicular angle to avoid the effect on the nearby pedestrian crossing.

Within Appendix A, the attached drawing number 4796-C01-T1 details the HDFC make-up and angle into the development. This drawing was prepared in reference to the LBH drawings included in Appendix B (SD20C, SD24C and SD34) indicating the recommended make-up of the crossover.

Note that the surface level of the new HDFC will be the same as the existing footway pavings.

Structural Certificate

In the attached Appendix C are the structural engineer Brian W Murray's design certificate and calculations in relation to the slab and heavy duty crossover proposal and its design for a 12T Axle load into the construction site. This was used in discussion with utilities providers in the area when seeking approval for the crossover which is detailed below.

Utilities

Following the recent meeting with Hillingdon Highways Managers John Fern and Wayne Greenshield, they stated that any services in the area of the works would need to be more than 450mm BGL, it was recommended that Gilbert Ash carry out investigations into the location of BT fibre optic cables. Following the email dated 18 September 2015 it was recommended investigations were undertaken into other utility providers in the

area which may have been affected by the crossover works. The outcomes and approvals following these investigations are detailed below:

Media - BT

BT fibre optic cables were located in the area (Appendix D) and confirmed at a depth of 390mm by BT Openreach engineer J Joshi during a site visit on 22 September 2015. It was then proposed that the crossover height could be increased by 60mm to reach the 450mm Highways requirement however this was rejected for Health & Safety concerns. Further correspondence was undertaken with the road planning department at BT Openreach and the proposal of a reinforced concrete slab was produced as detailed earlier in the report.

BT was able to review the proposals and certification in the attached Appendices A, B & C and confirm acceptance of the crossover proposals by letter (Appendix E) providing conditions were met. Gilbert Ash's acceptance of these conditions is detailed in the letter also contained in Appendix E.

Water - Affinity Water

The ring main is located under the roadway and is therefore not affected. A mains supply runs along the line of the proposed HDFC as confirmed by the drawing in Appendix F. Following telephone conversations between Emmett Teggart (Gilbert Ash) and Affinity Water they were able to confirm that all their services are installed at a depth of 750mm BGL and so no further investigation would be required and a Heavy Duty Crossover wouldn't affect them. The email in Appendix G shows the follow up to this phone call.

Gas - National Grid

The drawing in Appendix H indicates the gas mains and demonstrates they are not within the area of the proposed HDFC.

Media - Virgin Media

Further investigations were undertaken into the manholes in the area and pictures were taken to reveal that no cables were contained within the ducts (Appendix J). These pictures were sent to Virgin Media who confirmed that they were happy for the works to proceed. The email correspondence in Appendix K shows that Virgin Media were also contact with regard to services in the area.

Electricity - SSE

SSE have provided mapping investigations and produced the drawings attached in Appendix L. The drawings state that all services within footways are installed at a depth normal depth of 450mm or lower and so meet the sufficient depth required by Highways.

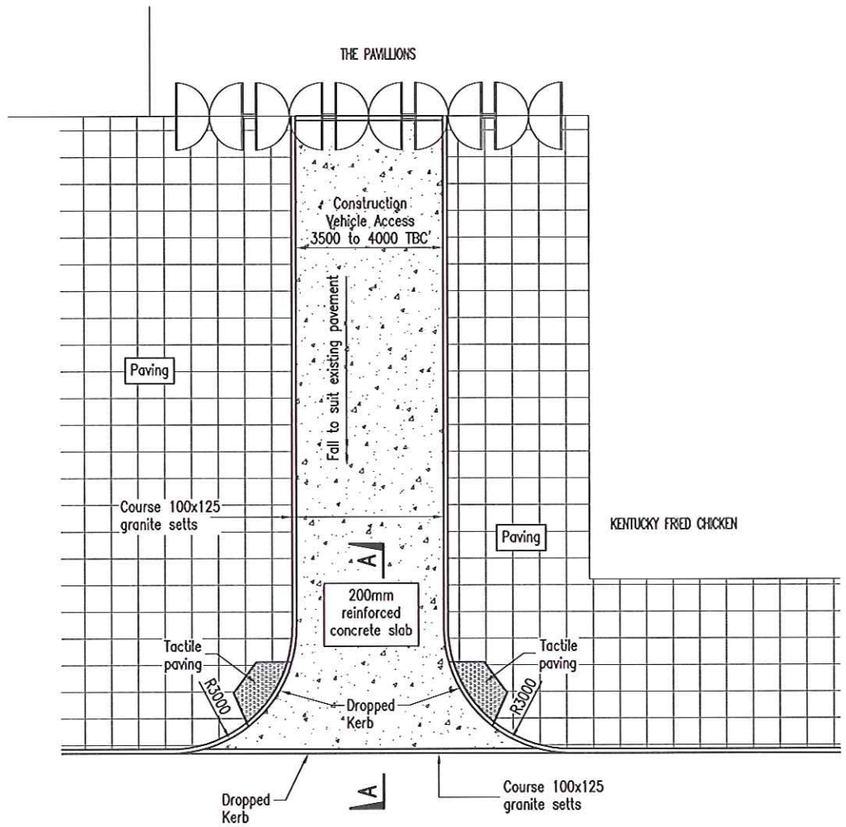
Sewers

The drawing in Appendix M shows that there are no sewers located below the area of the Heavy Duty Crossover works.

Appendices

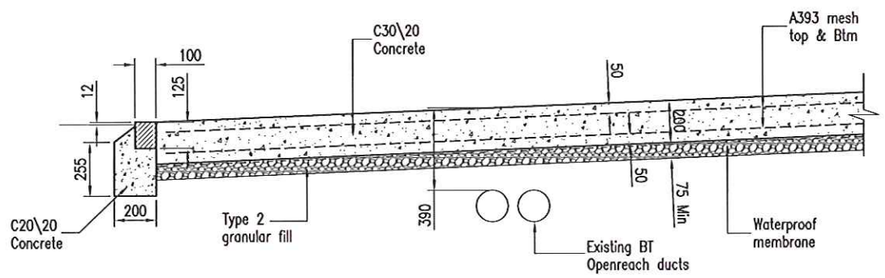
Appendix A
Heavy Duty Crossover drawing no. 4796-C01-T1

Brian W Murray (Gilbert-Ash)



Plan On Footway

1:100



SECTION A–A

1:20

DRAWING NOTES

1. Drawing remains at all times the property of Brian W Murray Ltd.
2. Drawing to be read in conjunction with all relevant architects, services and structural engineers drawings and the project specifications.
3. Do not scale from this drawing. Work to figured dimensions only.
4. Contractor is responsible for verifying all dimensions on site and ensuring that all dimensions and levels shown on this drawing are consistent with all other relevant drawings. Any discrepancies are to be reported to the engineer immediately.
5. These drawings have been based on project drawings received from Lead Consultant and, as such, their drawings take priority for all items apart from engineering details specified on Brian W. Murray Ltd drawings.
6. It is the Main Contractors responsibility to ensure that all construction products used are to have the appropriate CE accreditation; including marking and or paperwork confirming same.

drawing revisions	rev	description	by	checked	date
	T1	ISSUED FOR INFORMATION	ST	KMcD	18/09/15

job title	The Pavilions Uxbridge
drawing title	Heavy Duty Footway Crossing
architect	–
client	–
drawn by	ST
checked by	KMcD
scale	1:50 @ A2
date	18/09/15

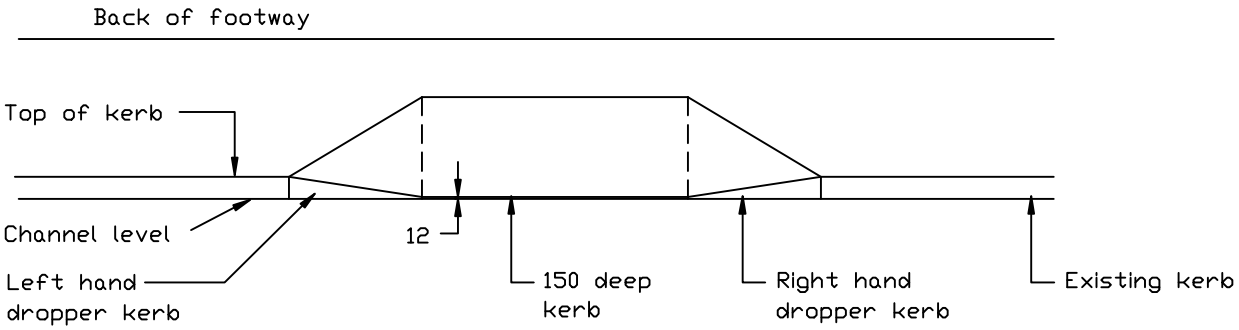
company address: 15 downshire road, holywood, county down, BT18 9JJ — 70 cowcross street, london, EC1M 6EJ
contact links: t. 028 9080 8900 — 020 7608 0677; e. info@bwmurray.com — w. www.bwmurray.com
brian w murray ltd.

Size	Status	Drawing Number	Revision
A2	PRELIMINARY	4796–C01	T1

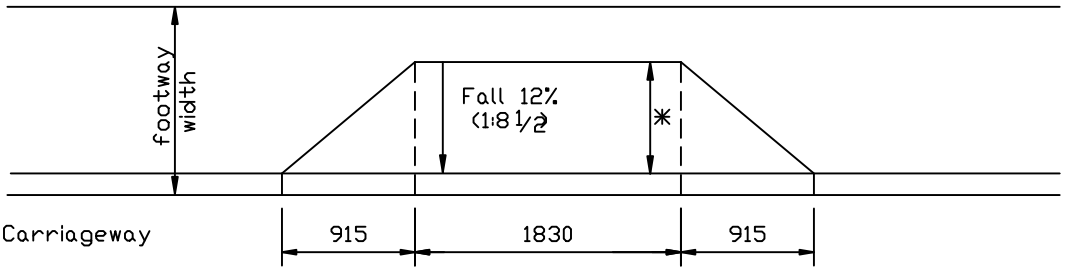
Appendix B
Heavy Duty Crossover drawings no. SD20C, SD24C and SD34

London Borough of Hillingdon

Revision		
A	7.80	First issue
B	11.86	Dropped kerb tilted level with carriageway
C	1.92	Reference to BS7263 1990



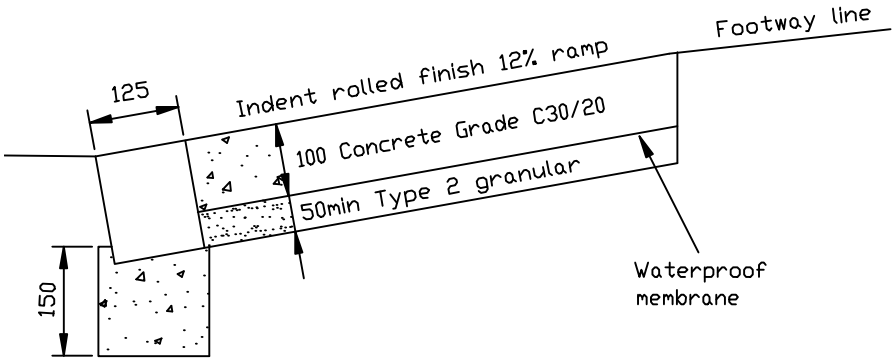
ELEVATION



PLAN

* eg. with 4% crossfall on footway & 100 kerbface

Ramp depth = 1100



SECTION

Not to Scale

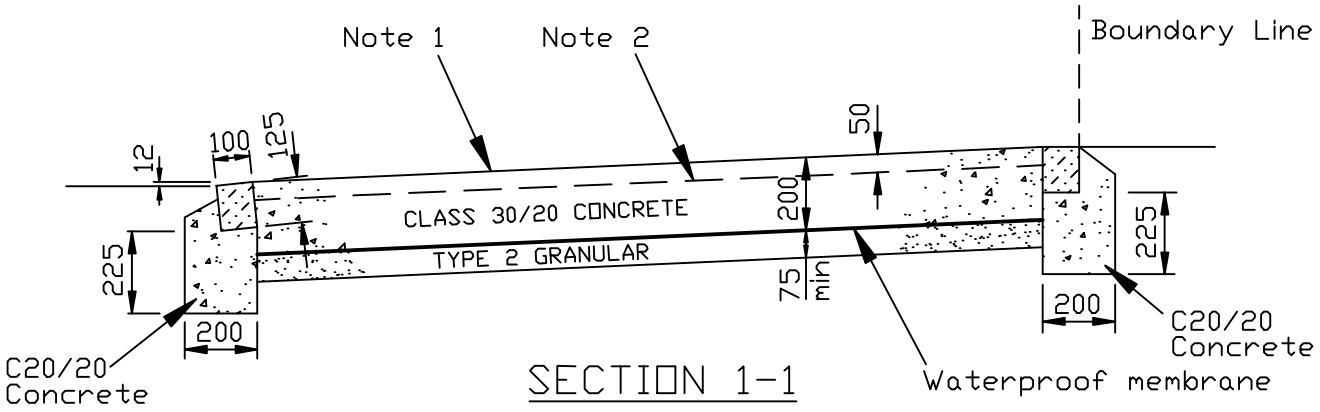
Notes
2 New kerbs to match existing
1 Kerb refer to BS7263 Part 1 1990

London Borough of Hillingdon
ENGINEERING CONSULTANCY
ENVIRONMENT AND CONSUMER PROTECTION
CIVIC CENTRE 4W/06
HIGH STREET
UXBRIDGE
UB8 1UW
Tel No. 01895 250111
Fax No. 01895 250676

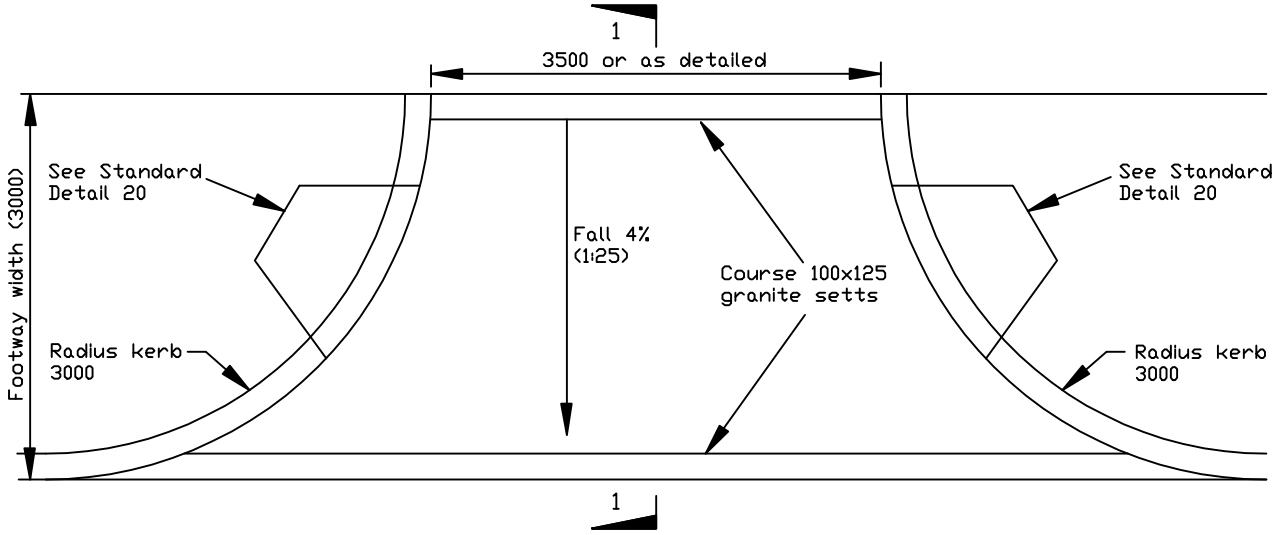
Description: RAMP. PRAM, WHEELCHAIR formed in existing footway

STANDARD DETAIL | 20C

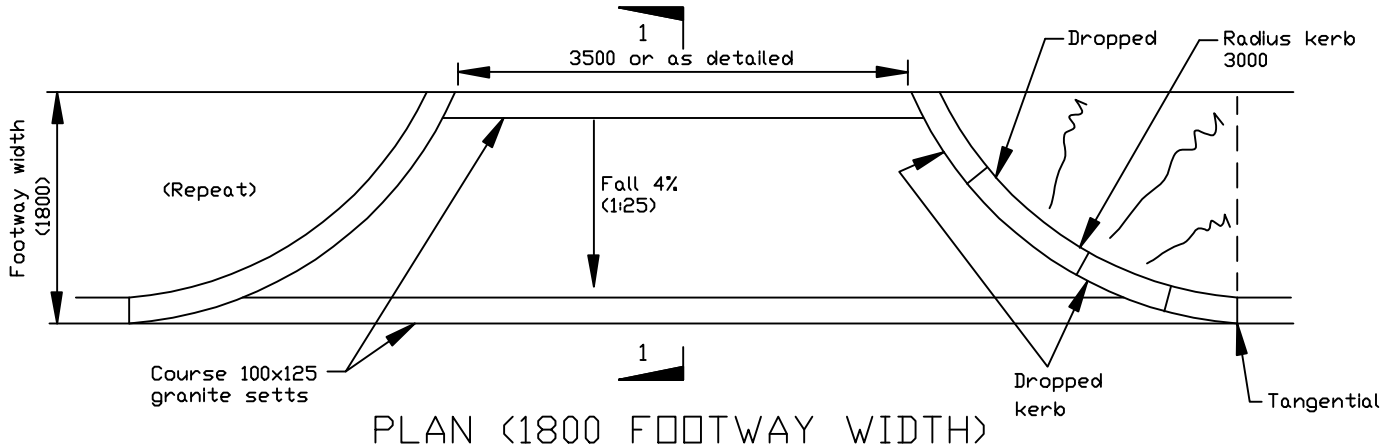
Revision		
A	7.80	First Issue
B	10.85	Redrawn
C	11.86	1800 Footway added



SECTION 1-1



PLAN (3000 FOOTWAY WIDTH)



PLAN (1800 FOOTWAY WIDTH)

Not to Scale

Notes 1. Tamped finish at right angles to carriageway.
2. Fabric reinforcement 3.02 kg/m2 (Ref: A193).

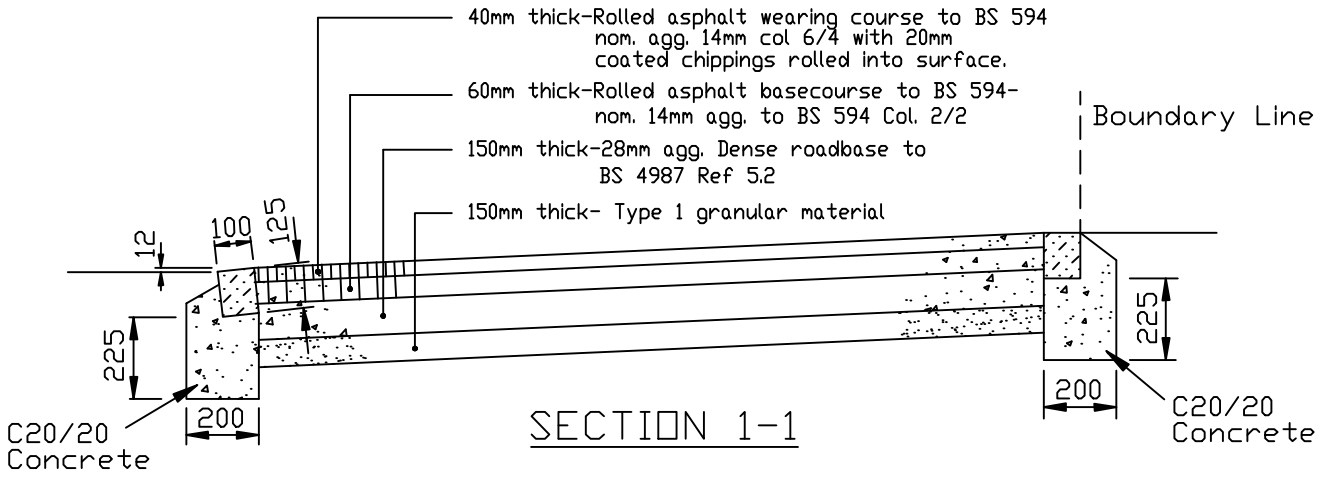
London Borough of Hillingdon
ENGINEERING CONSULTANCY
ENVIRONMENT AND CONSUMER PROTECTION
CIVIC CENTRE 4W/06
HIGH STREET
UXBRIDGE
UB8 1UW
Tel No. 01895 250111
Fax No. 01895 250676

Description

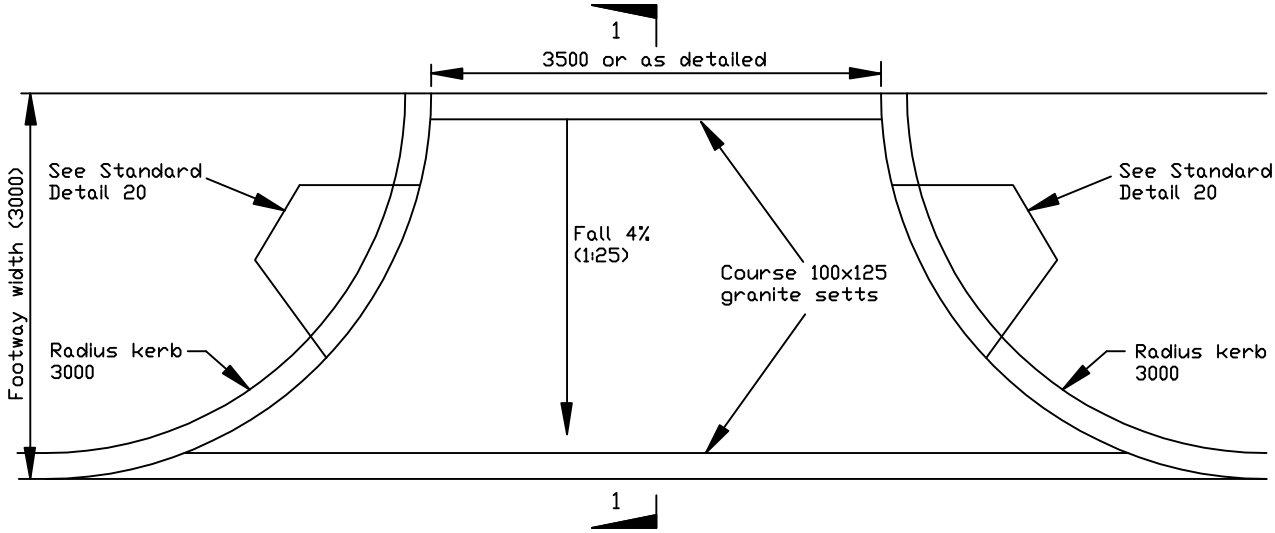
FOOTWAY CROSSING
HEAVY DUTY

STANDARD DETAIL | 24C

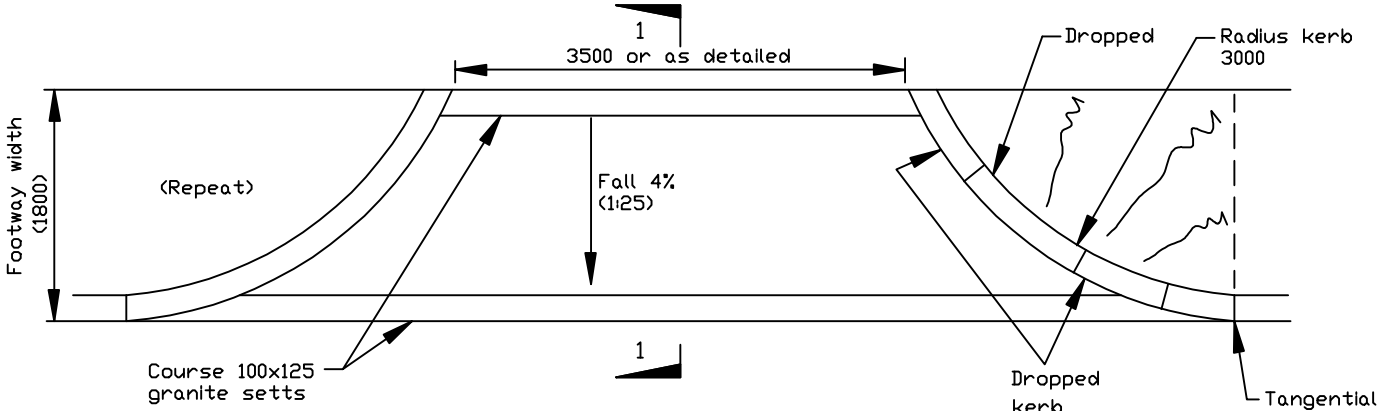
Revision



SECTION 1-1



PLAN (3000 FOOTWAY WIDTH)



PLAN (1800 FOOTWAY WIDTH)

Not to Scale

Notes

Description

FOOTWAY CROSSING
HEAVY DUTY-FLEXIBLE CONSTRUCTION

STANDARD DETAIL | 34

London Borough of Hillingdon

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ENVIRONMENT AND CONSUMER PROTECTION GROUP

Appendix C
B W Murray Structural Engineer Design Certificate and Calculations

Brian W Murray (Gilbert-Ash)

bwm

STRUCTURAL AND CIVIL CONSULTING ENGINEERS

London ▸ 70 Cowcross Street, London EC1M 6EJ. +44 (0) 20 7608 0677

Belfast ▸ 15 Downshire Road, Holywood, Co. Down BT18 9LU. +44 (0) 28 9080 8900

E ▸ info@bwmurray.com

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BUILDING REGULATIONS

STRUCTURAL DESIGN CERTIFICATE

Project: The Pavilions Uxbridge	Project No: 4796
Location: Entrance, slab protection to cables.	Date: September 15
Client/Architect:	Engineer: kmcd

Proposed Works:

(Heavy Duty concrete protection slab designed for 12T Axle load.)

I certify that the new STRUCTURAL ENGINEERING ELEMENTS of the above proposed works have been designed by calculations in accordance with the requirements of the current Building Regulations and all relevant British Standards and Design Codes.

Signed:

Kirk Mc Dermott
MEng (hons) CEng MIStructE

The following BWM Ltd drawings and reports are to accompany this certificate:	4796 – C01 BWM calculations PW1-PW6

The Institution of Structural Engineers

ice Institution of Civil Engineers

SER Structural Engineers Registration Ltd

constructionline

MOODY INTERNATIONAL UKAS ISO 9001:2008

MOODY INTERNATIONAL UKAS ISO 14001:2004

bwm

STRUCTURAL AND CIVIL CONSULTING ENGINEERS

Project ▸		Project Ref ▸
Uxbridge :- The Pavilions.		4796
Element ▸		Page No ▸
Protection to slab.		(1)
Date ▸	Made By ▸	Checked By ▸
	UMS.	PW (1)

REF		OUTPUT

Brief:- Protection to existing pavement slab & protection to cables to allow construction traffic to cross over.

Standards — Highways loading
BS 8110 Concrete desig.

Informatives:- Standard slab protection measures for footway crossing from London Borough of Hillingdon.

Loading — Consider a 12T axel loading as max allowed by Highways = 120 KN., 4 wheel = 120/4 = 30kN per wheel.
or Consider 2 wheels per 1m width = 60 KN point load.

∴ i) Design slab to TR34 based on an industrial slab.

ii) Design local spread @ cable location as supported slab check. the increased B.P @ edges.

bwm

STRUCTURAL AND CIVIL CONSULTING ENGINEERS

Project ▸	Project Ref ▸
Uxbridge - The Pavilions	4796
Element ▸	**Page No ▸**
Protecta to Slab.	②
Date ▸	**Made By ▸** / **Checked By ▸**
	MW / MW(2)

REF | OUTPUT

i) Slab to TR34 Based on 200mm thick & wheel load = 60kN @ 2000mm c/cs.



Dynamic load.

$f_{cu} = 35 N/mm^2$

Pavement Construction compacted stone

∴ Modulus of subgrade reaction $K = 0.2 - 0.3 N/mm^2$ for crushed stone

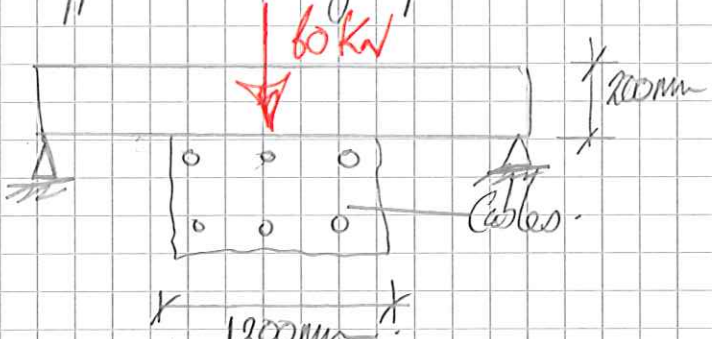
for Conservative design allow. $0.1 N/mm^2$ (clay/sand)

∴ Based on a $K_{762} = 0.1$ 200mm slab mesh will work.

∴ pressure based on 1.25mm deflection

∴ See Teddo printout ⇒ 200mm slab O.K.

ii) Consider as Si Supported over a soft spot



∴ $BM = (60 \times 1.15) \times 1.2/4 = 21 kNm$.

$R = 60/2 = 30 kN/m$ per r = Reasonable.

= BM @ edge of slab

bwm

STRUCTURAL AND CIVIL CONSULTING ENGINEERS

Project ▸ Uxbridge - The Pavilions		Project Ref ▸
Element ▸ Protection to Slab		Page No ▸ (3)
Date ▸	Made By ▸	Checked By ▸ PW (3)

REF		OUTPUT

$d = 200 - 30 - 6 = 164\,mm$

$K = 21\times10^6 / 1000\times164^2\times30 = 0.026.$

$Z \geq 0.95d = 156\,mm.$

$\therefore A_{s\,req'd} = 21\times10^6 / 0.95\times460\times156 = 308\,mm^2/m.$

$\therefore$ Provide A393 mesh Bottom All locations.

iii) B pressure @ edges of $30\,Kn/m^2$.

Based on pavement design Minimum, compacted design CBR = 15 Minimum

Take CBR = 10.

$\therefore C_u = 27.15 \times CBR^{0.586}$

$\therefore C_u = 27.15 \times 10^{0.586} = (104.1\times2) = Bp = 208\,Kn/m^2$ ✓

Else:- $Bp = (K_{7d2} \times 25/3) \times 1000 = (0.1\times25/3)\times1000 = 833\,Kn/m^2/3$ for

$= 270\,Kn/m^2$ B.A

$\therefore$ Increased Bp due to spread across trench = $30\,Kn/m^2$

Allowable Bp based on pavement design > $200\,Kn/m^2$.

$\therefore$ localised increase in Bp is no issue.

Summary Room slab on compacted H/Core, A393 mesh Bottom o/k

CSC TEDDS	Project: Uxbridge The Pavillions				Job Ref.: 4796	
	Section: Slab protection				Sheet no./rev.: PW 4	
	Calc. by: Kmcd	Date: 18/09/2015	Chk'd by:	Date:	App'd by:	Date:

CONCRETE INDUSTRIAL GROUND FLOOR DESIGN TO TR34 THIRD EDITION

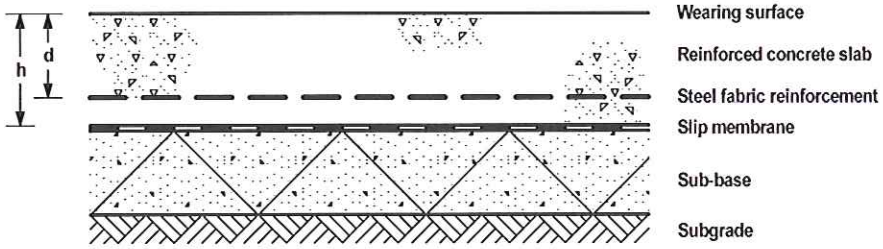
TEDDS calculation version 1.0.02

Slab details

Slab description	**Uxbridge**
Slab type	**Fabric reinforced**
Slab thickness	h = **200** mm

Reinforcement details

Characteristic strength of steel	f_y = **500** N/mm^2
Fabric reinforcement to bottom of slab	**A193**
Area of reinforcement in each direction	A_s = **193** mm^2/m
Percentage of reinforcement provided	$A_{s\_percent} = A_s / h$ = **0.096%**
	Reinforcement is within recommended limits
Diameter of reinforcement	ϕ_s = **7** mm
Depth of nominal cover to reinforcement	c_{nom} = **30** mm
Average effective depth of reinforcement	$d = h - c_{nom} - \phi_s$ = **163** mm



Strength properties for concrete from table 9.1

Characteristic compressive strength (cube)	f_{cu} = **30** N/mm^2
Characteristic compressive strength (cylinder)	f_{ck} = **25** N/mm^2
Mean compressive strength (cylinder)	$f_{cm} = f_{ck} + 8$ N/mm^2 = **33** N/mm^2
Mean axial tensile strength	$f_{ctm} = 0.3$ N/mm^2 $\times (f_{ck} / 1$ N/mm$^2)^{2/3}$ = **2.6** N/mm^2
Characteristic axial tensile strength (5% fractile)	$f_{ctk\_0.05} = 0.7 \times f_{ctm}$ = **1.8** N/mm^2
Secant modulus of elasticity	$E_{cm} = 22000$ N/mm^2 $\times (f_{cm} / 10$ N/mm$^2)^{0.3}$ = **31** kN/mm^2
Characteristic flexural strength of concrete	$f_{ctk\_fl} = \min(2, [1 + (200$ mm $/ h)^{1/2}]) \times f_{ctk\_0.05}$ = **3.6** N/mm^2
	$k_1 = 1 + (200$ mm $/ d)^{1/2}$ = **2.1**
Minimum shear strength of concrete	$v_{Rd\_ct} = 0.035$ N/mm^2 $\times k_1^{3/2} \times (f_{ck} / 1$ N/mm$^2)^{1/2}$ = **0.5** N/mm^2

Subgrade construction

Modulus of subgrade reaction	k = **0.100** N/mm^3

Partial safety factors

Bar and fabric reinforcement	γ_s = **1.15**
Reinforced concrete	γ_c = **1.50**
Permanent actions	γ_G = **1.20**
Variable actions	γ_Q = **1.50**
Dynamic actions	γ_D = **1.60**

Properties of reinforced slabs

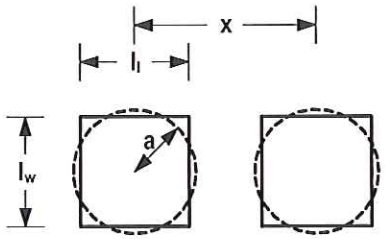
Allowance for restraint stresses	f_{rest} = **1.5** N/mm^2

Negative moment capacity	$M_n = (f_{ctk\_fl} - f_{rest}) \times h^2 / (6 \times \gamma_c) = \mathbf{9.3}$ kNm/m
Positive moment capacity	$M_p = \min(0.95 \times A_s \times f_y \times d / \gamma_s, M_n) = \mathbf{9.3}$ kNm/m
Poisson's ratio	$\nu = 0.2$
Radius of relative stiffness	$l = [E_{cm} \times h^3 / (12 \times (1 - \nu^2) \times k)]^{1/4} = \mathbf{0.684}$ m
Characteristic of system	$\lambda = [3 \times k / (E_{cm} \times h^3)]^{1/4} = \mathbf{1.045}$ m^{-1}

wheel load - Internal point loads

Loading details

Number of point loads	$N = \mathbf{2}$
Permanent point load	$G_k = \mathbf{0}$ kN
Variable point load	$Q_k = \mathbf{0}$ kN
Dynamic point load	$D_k = \mathbf{60}$ kN
Length of loaded area	$l_l = \mathbf{200}$ mm
Width of loaded area	$l_w = \mathbf{200}$ mm



Spacing between point loads	$x = \mathbf{2000}$ mm

Calculate contact radius ratio

Equivalent contact radius of single load	$a = \sqrt{[(l_l \times l_w) / \pi]} = \mathbf{113}$ mm
Radius ratio	$a / l = \mathbf{0.165}$

Ultimate capacity under dual internal concentrated loads

For a / l = 0	$P_{u\_0} = [2 \times \pi + (1.8 \times x / l)] \times [M_p + M_n] = \mathbf{214.6}$ kN
For a / l = 0.2	$P_{u\_0.2} = [(4 \times \pi / [1 - (a / (3 \times l))]) + (1.8 \times x / [l - (a / 2)])] \times [M_p + M_n]$
	$P_{u\_0.2} = \mathbf{353.8}$ kN
Thus for a / l = 0.165	$P_u = P_{u\_0} + (P_{u\_0.2} - P_{u\_0}) \times (a / (l \times 0.2)) = \mathbf{329.5}$ kN

Check ultimate load capacity of slab

Loading applied to slab	$F_{uls} = F = N \times [(G_k \times \gamma_G) + (Q_k \times \gamma_Q) + (D_k \times \gamma_D)] = \mathbf{192.0}$ kN

PASS - Ultimate capacity of slab is adequate for internal loads

Punching shear at the face of the loaded area

Design concrete compressive strength (cylinder)	$f_{cd} = f_{ck} / \gamma_c = \mathbf{17}$ N/mm^2
Shear factor	$k_2 = 0.6 \times [1 - (f_{ck} / 250\ \text{N/mm}^2)] = \mathbf{0.54}$
Length of perimeter at face of loaded area	$u_0 = 4 \times (l_l + l_w) = \mathbf{1600}$ mm
Shear stress at face of contact area	$v_{max\_f} = 0.5 \times k_2 \times f_{cd} = \mathbf{4.500}$ N/mm^2
Maximum load capacity in punching	$P_{p\_max} = v_{max\_f} \times u_0 \times d = \mathbf{1173.6}$ kN

PASS - Maximum load capacity in punching shear at face of loaded area is adequate for internal loads

Punching shear at the critical perimeter

Shear factor	$k_1 = \min(1 + (200\ \text{mm} / d)^{0.5}, 2) = \mathbf{2.00}$
Ratio of reinforcement by area in x-direction	$\rho_x = A_s / d = \mathbf{0.001}$

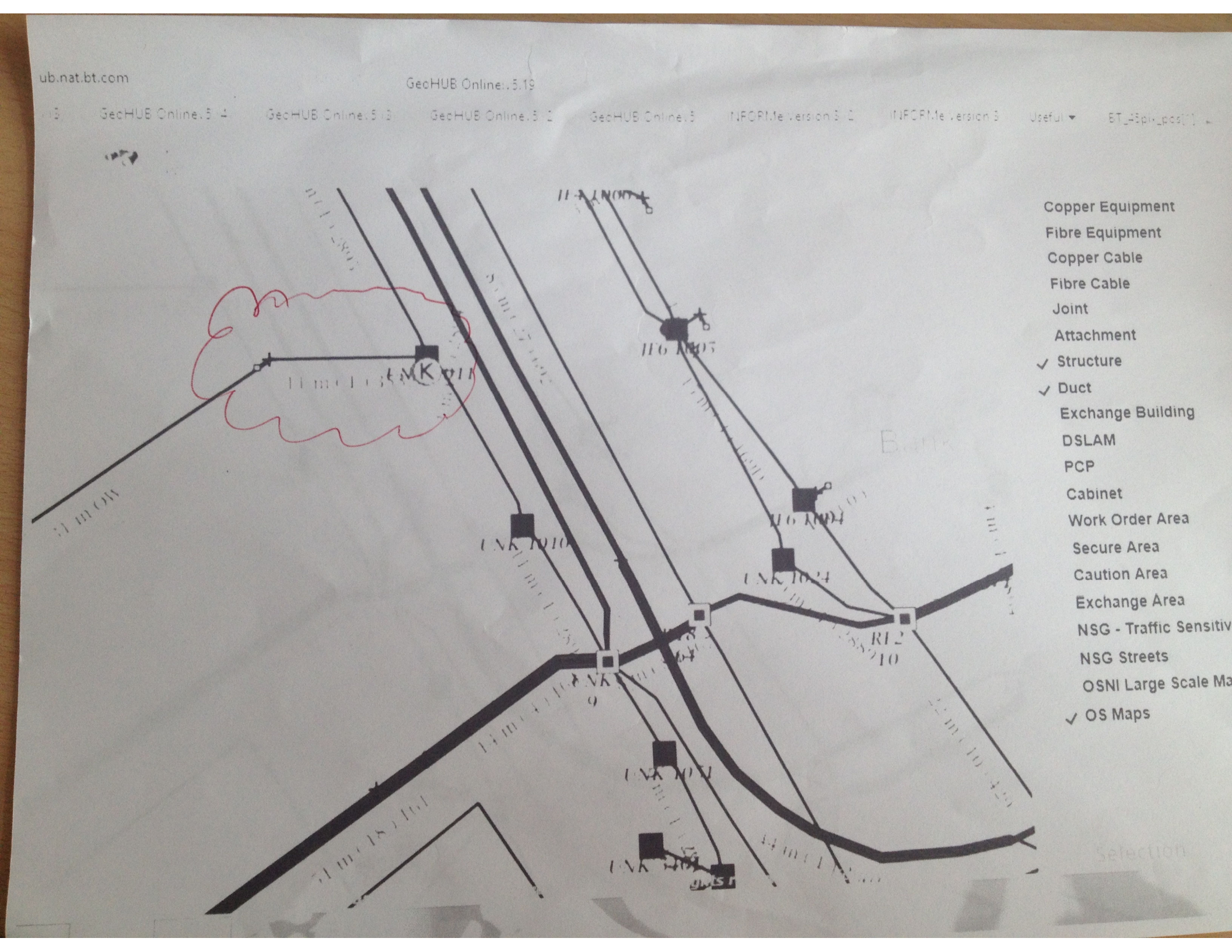
Ratio of reinforcement by area in y-direction	$\rho_y = A_s / d = \mathbf{0.001}$
Reinforcement ratio	$\rho_1 = \sqrt{(\rho_x \times \rho_y)} = \mathbf{0.001}$
Maximum shear stress at 2d from face of load	$v_{max\_2d} = 0.035 \times k_1^{3/2} \times (f_{ck} / 1\ N/mm^2)^{1/2} \times 1\ N/mm^2$
	$v_{max\_2d} = \mathbf{0.495}\ N/mm^2$
Length of perimeter at 2d from face of load	$\mathbf{u_1 = 4 \times (l_l + l_w + 2 \times d \times \pi) = 5697\ mm}$
Maximum load capacity in punching at 2d from face	$P_p = v_{max\_2d} \times u_1 \times d = \mathbf{459.6}\ kN$

PASS - Maximum load capacity in punching shear at 2d from face of loaded area is adequate for internal loads

Deflection of the slab

Serviceability limit state load	$F_{sls} = N \times (G_k + Q_k + D_k) = \mathbf{120}\ kN$
Deflection coefficient	$\mathbf{c = 0.125}$
Deflection of the slab	$\delta = c \times [F_{sls} / (k \times l^2)] = \mathbf{0.32}\ mm$

Appendix D
Photographs of BT Fibre Optic Cables


ub.nat.bt.com
GeoHUB Online: 5.19
GeoHUB Online: 5.4
GeoHUB Online: 5.3
GeoHUB Online: 5.2
GeoHUB Online: 5
INFORM Version 5.2
INFORM Version 5
Useful
Copper Equipment
Fibre Equipment
Copper Cable
Fibre Cable
Joint
Attachment
Structure
Duct
Exchange Building
DSLAM
PCP
Cabinet
Work Order Area
Secure Area
Caution Area
Exchange Area
NSG - Traffic Sensitiv
NSG Streets
OSNI Large Scale Ma
OS Maps

Appendix E
BT Openreach and Gilbert Ash confirmation letters

GILBERT-ASH
47 BOUCHER ROAD
BELFAST
BT12 6HR

Our Ref: 015276 / 233860

FAO: Mr Emmett Teggart

2nd October 2015

Dear Sir

Temporary Crossover for the Pavilions Shopping Centre, Uxbridge

Thank you for your enquiry in regards to protecting existing Openreach Apparatus within the footway outside the Pavilions Shopping Centre. My understanding is that this area of footway will be made into a temporary crossover, used by heavy duty vehicles to allow access for the construction works being carried out to the Shopping Centre.

Within the area that will be made into a temporary crossover, there is currently a footway jointing chamber and an existing duct route at a depth of 390mm. The required depth of this duct to accommodate the temporary crossover is 600mm. However, it is my understanding that the crossover will only be required until July 2016 as a temporary measure, after which, the footway will be restored to its original state.

You have proposed to protect our services with a 200mm thick reinforced concrete slab which will stop the need to alter the existing network. You have also advised that built in as part of the reinforced concrete slab, will be a heavy duty carriageway lid which is required to accommodate the existing footway box. It is important that this carriageway lid be marked up as Openreach network. Also, within the footway jointing chamber is Fibre Cable and Copper Cable with a Joint. For this reason, we may need access to our network at any point. This means that the proposed carriageway lid needs to be accessible to Openreach when required at all times.

As part of your proposal, you have also advised that the footway will be restored to its original state on completion of your construction works, which will leave our present ducts at their current acceptable depth in footway. Also, you have committed to reinstating the footway jointing chamber to its original condition on completion.

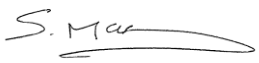
Acceptance to your proposal is on the basis that our network will be protected at all times by yourselves and that the crossover is only a temporary measure until July 2016. If at any time we assess that our network is not being protected or that the crossover is no longer temporary, we have the right to stop our agreed proposal and alter the existing network to a carriageway standard. We will require a site visit after the temporary concrete slab has been installed to inspect and make sure we are happy with the protection of our network. We will also require a second visit once the reinstatement has been completed to ensure we are happy that this has been completed to an acceptable level.

We will require written confirmation from you in the form of a signed letter, stating the following:

- Acceptance of liability to any damage occurred to the Openreach network during the temporary proposal
- Commitment to reinstate the footway jointing chamber to its original state on completion, accepting any costs uncured if a new frame and cover is required
- Commitment to allowing access to the jointing chamber during construction works when required by Openreach
- Commitment to ensure jointing chamber is marked up as Openreach network during construction works
- Acceptance that these works are only temporary with an expected completion date of July 2016.
- Acceptance to any costs that may occur if we feel that the reinstatement of the footway jointing chamber has not been completed to a satisfactory level on completion of your construction works
- Agreement to allow Openreach to stop the use of the temporary crossover at any time if we feel our network is no longer being protected to an acceptable level

If you wish to discuss your proposal further, please do not hesitate to contact me.

Yours faithfully



Scott Manton
Repayments Project Engineer

Tel: 0208 2804275
Fax: 01784 462078
Mob: 07551 215687
Email: scott.manton@openreach.co.uk
Address: PP R311, Staines TE/GSC, Fairfield Avenue, Staines, TW18 4AB

5th October 2015

Gilbert-Ash

For the attention of Scott Manton
BT Openreach
Staines repayments team
PP R311
Staines TE/GSC
Fairfield Avenue
Staines
TW18 4AB

Ref no: 015276/233860

Dear Scott,

RE: Temporary crossover for the Pavilions shopping centre, Uxbridge.

Further to your letter dated 2nd October 2015 we can confirm the following –

- Acceptance of liability to any damage occurred to the openreach network during the temporary proposal directly related to our works.
- We will reinstate the footway jointing chamber and cover to its original state on completion of the works at our own cost.
- Unrestricted access to the jointing chamber throughout the course of our works.
- We will mark up any new heavy duty covers to show as openreach equipment throughout the works.
- The works are temporary and we expect to complete the project in July 2016.
- We accept reinstatement costs to the jointing chamber if BT believes our reinstatement works are not of a satisfactory nature, which can be agreed with a meeting onsite on completion of all works.
- Agreement to allow Openreach to stop the use of the temporary crossover if you believe your network is no longer being protected to an acceptable level.

I trust you find the above acceptable, please do not hesitate to contact the writer should you have any further queries.

Assuring you of our best intentions at all times.

Yours faithfully
Gilbert-Ash Ltd

Emmett Teggart
Contracts manager

Appendix F
Water Services Drawing

Three Valleys Water PLC

N

1:1250

The Pavillion Shopping Centre



This plan is based upon the Ordnance Survey map by Three Valleys Water PLC
with the sanction of the controller of HM Stationery Office (c) Crown Copyright Reserved

The position of Company apparatus shown on this plan is provided for guidance only.
Therefore the Company accepts no responsibility in the event of inaccuracy.
The actual position of apparatus must be determined on site by making hand dug trial holes.
The Company requires a minimum of two working days' notice of the intention to excavate trial holes.

I	Sluice Valve	○	Washout Hydrant
►	Pressure Reducing Valve	—	Distribution Main
Ⓘ	Closed Valve	▭	Water Quality Zone
●	Fire Hydrant	▭	District Meter Zone

25/6/01

Appendix G
Gilbert Ash response email to Affinity Water

Eleanor Flavell

From: Emmett Teggart <Emmett.Teggart@gilbert-ash.co.uk>
Sent: 08 October 2015 15:05
To: Fraser Rumble
Subject: FW: URGENT - Footway cross over, Pavilions, Uxbridge

Categories: Uxbridge

Fraser please see below email.

Regards

Emmett Teggart
Project Manager
T: +44 (0)28 9066 4334
M: +44 (0)78 8546 5398

GILBERT-ASH.COM
A fresh perspective on building

Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

From: Emmett Teggart
Sent: 08 October 2015 07:56
To: Geographical Analysis Team Mailbox
Subject: Re: URGENT - Footway cross over, Pavilions, Uxbridge

Thanks Colin

Any idea on how long it would take for them to come back to me.

Regards

Sent from my iPhone

On 8 Oct 2015, at 07:45, Geographical Analysis Team Mailbox <Geographical.AnalysisTeam@affinitywater.co.uk> wrote:

> Hi Emmett,
>
> I have had to pass this over to our developer services department to review your drawings etc.. They will get back to you.
>
> Kind Regards,
>
> *Colin Nation*
> *GIS Technician*
> *Geographical Analysis Team*
>
> ***Affinity Water Ltd***
> *Tamblin Way, Hatfield, Herts, AL10 9EZ*
> *Mob: +44 (0)7770761278*
> *Mobex: 14857*

From: Emmett Teggart [mailto:Emmett.Teggart@gilbert-ash.co.uk]
Sent: 07 October 2015 15:05
To: Geographical Analysis Team Mailbox
Subject: URGENT - Footway cross over, Pavilions, Uxbridge
Importance: High

Hi Colin

Thanks for coming back to me.

We lifted some lids today at the proposed site entrance and we found your main which had some water meters located within the manholes. We checked the depth and found your water main to be approx 850mm bgl.

With this in mind we seem to have more than adequate cover on your main, is there anyway someone can give approval on the previously sent plans and protective slab design so I can push the process along to get a start on site?

Please don't hesitate to come back if you have any queries. I would appreciate if someone could come back to me ASAP please.

Regards

Emmett Teggart
Project Manager
T: +44 (0)28 9066 4334
M: +44 (0)78 8546 5398

Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

From: Geographical Analysis Team Mailbox [mailto:Geographical.AnalysisTeam@affinitywater.co.uk]
Sent: 05 October 2015 14:51
To: Emmett Teggart
Subject: RE: Footway cross over, Pavilions, Uxbridge

Dear Emmett,

Thank you for contacting Affinity Water to request records of our clean water apparatus. Before we can provide you with an asset plan we would like to make you aware of the process to ensure that Affinity Water Limited ("Affinity Water") complies with its New Roads and Street Works (NRSWA) obligations and Ordnance Survey copyright.

1. Affinity Water will provide to Public Bodies and Infrastructure Bodies (who are relevant persons under "Schedule 1 of the Utilities Contracts Regulations 2006") asset maps free of charge. Where information is requested by parties who are neither Public or Infrastructure Bodies, asset plans will continue to be issued free of charge to parties submitting a copy of their streetworks documentation for each located requested as per our NRSWA obligations. Streetworks documentation we deem acceptable will include either : the permit issued by the Highways Authority ("HA"), a copy of your S50 application to the HA, or any reasonable screenshot from your electronic notification system communicating directly with the HA. If streetworks cannot be provided then each plan issued will be charged our standard £63.11 administration fee (inclusive of VAT).

Please note that we can no longer accept any letters of authorisation on your behalf from Public or Infrastructure Bodies. We can provide information directly to them but if you are their contactor and you wish to receive this information directly from us then streetworks must be provided for each asset plan request, otherwise our standard charges apply.

2. Additionally Affinity Water are now contractually obliged by Ordnance Survey ("OS") to check that every asset plan recipient holds a current OS licence. Our asset maps contain OS background mapping e.g. road kerb and property boundary lines, and this information is provided to Affinity Water under strict copyright. If your organisation is neither a Public or Infrastructure Body, or a current contractor of Affinity Water, then we will ask to see a copy of your OS licence which we will keep on file. If you are unable to supply this information then Affinity Water may still choose to supply you with an asset plan but we are then obligated to pass your company details onto OS.

We are obligated by OS to send you this link explaining further why you need a licence :
https://www.ordnancesurvey.co.uk/business-and-government/commercial/land-property/pmcl.html
Further to all of the above we can confirm that asset plans will be issued free of charge and without OS licence obligations for Public Use i.e. if supplied directly to the property owner or occupier. We can also confirm that under Section 198 of the Water Industry Act 1991, and Section 79(3) of the New Roads and Street Works Act 1991, plans of the clean water network are available for inspection at our Hatfield, Manningtree and Folkestone office, during office hours and by appointment only.
I hope this explains the process. If you need further information please contact the Geographical Analysis Team at : maps@affinitywater.co.uk

Any questions please ask.

Kind Regards,

Colin Nation
GIS Technician
Geographical Analysis Team

_____

Affinity Water Ltd
Tamblin Way, Hatfield, Herts, AL10 9EZ
Mob: +44 (0)7770761278
Mobex: 14857
www.affinitywater.co.uk
affinitywater.co.uk || **facebook.com/affinitywater** || **twitter.com/affinitywater** || **linkedin.com/company/affinity-water**

From: Emmett Teggart [mailto:Emmett.Teggart@gilbert-ash.co.uk]
Sent: 05 October 2015 13:25
To: Geographical Analysis Team Mailbox
Subject: Footway cross over, Pavilions, Uxbridge

Good morning

We are planning on carrying out construction works to the Pavilions shopping centre, address as follows.
18 Chequers Square
Uxbridge
UB8 1LN

We need to access the site across an existing footway on High Street, Uxbridge, where currently I believe you have some services. We need to create a heavy duty cross over in this area as per the Hillingdon council request. Hillingdon have asked for us to ensure that all services within the footway are 450mm below ground level, if not we have already tabled a reinforced concrete slab solution to protect your services and carry any load that will cross the footway.

If the services are not more than 450mm and we use the slab option I will need your sign off that you are happy for us to cross the services- although we will still hold responsibility for protecting them during the works.

I attach for reference the structural slab option if even required, location plans, footway cross over details as provided by Hillingdon council.

Can I get someone out to site to identify the location of your equipment and the current depth please, I would appreciate a point of contact that I can deal with directly on the issue and that they could make any decision required if possible.

Thanks in advance for your help.

Kind Regards

<image006.jpg>

Emmett Teggart
Project Manager
T: +44 (0)28 9066 4334
M: +44 (0)78 8546 5398

Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

From: Colm Harmey
Sent: 28 September 2015 08:02
To: maps@afinitywater.co.uk
Subject: Footway crossing Uxbridge

Good morning

We are planning on carrying out construction works to the Pavilions shopping centre, address as follows.
18 Chequers Square
Uxbridge
UB8 1LN

We need to access the site across an existing footway on High Street, Uxbridge, where currently I believe you have some services. We need to create a heavy duty cross over in this area as per the Hillingdon council request. Hillingdon have asked for us to ensure that all services within the footway are 450mm below ground level, if not we have already tabled a reinforced concrete slab solution to protect your services and carry any load that will cross the footway.
If the services are not more than 450mm and we use the slab option I will need your sign off that you are happy for us to cross the services- although we will still hold responsibility for protecting them during the works.
Can I ask for someone to come back to me ASAP

Regards

Colm Harmey

Site Manager
T: +44 (0)28 9066 4334
M: +44 (0)75 7286 4525

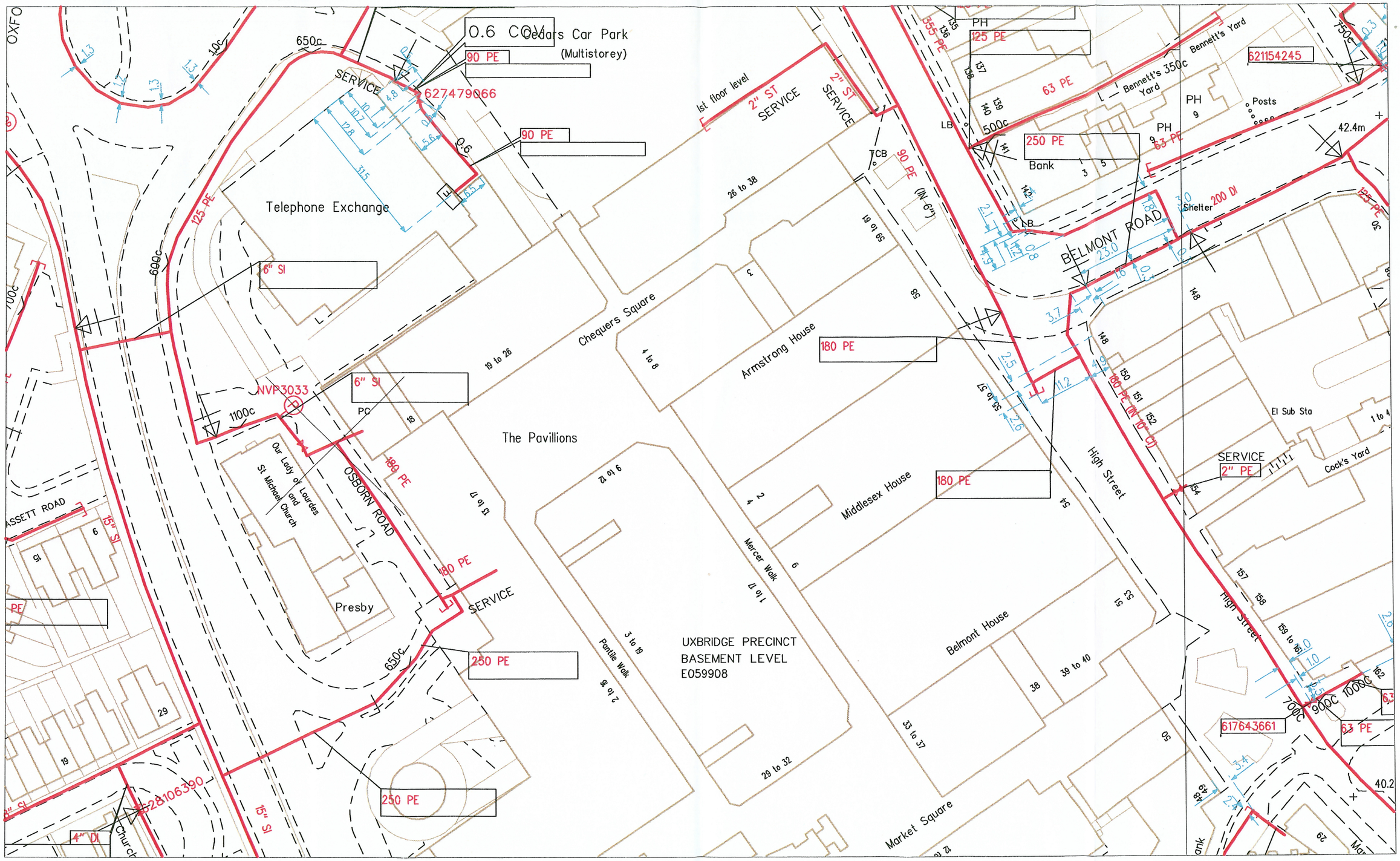
Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

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Appendix H
Gas Mains Drawing



Origin = (0505245,0184109) MapRef = TQ0584 Extent = (300m,184m) - This map view is not to scale. Data extracted on 09/06/2006 Printed on 08/09/2006
Plant Owner = Transco or the relevant Gas Distribution Network MAPS Viewer V4.10.0

This plan shows those pipes owned by Transco plc or the relevant Gas Distribution Network in their roles as a Licensed Gas Transporters (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Transco plc, the relevant Gas Distribution Network, or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus.

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Appendix J
Virgin Media manhole photos







Appendix K
Email correspondence with Virgin

Eleanor Flavell

From: >Div Works <TWDiversionary@virginmedia.co.uk>
Sent: 07 October 2015 14:30
To: Emmett Teggart
Subject: RE: Uxbridge Pavilions - Dial before you dig

Hi,

If there is none of our equipment there then proceed.

Regards

Gillian

Gillian Craig *Diversionary Works Co-ordinator*
Diversionary Works Administration Team | Network Expansion
Virgin Media | 1 Dove Wynd, Strathclyde Business Park, Bellshill, ML4 3AL

From: Emmett Teggart [mailto:Emmett.Teggart@gilbert-ash.co.uk]
Sent: 07 October 2015 09:53
To: >Div Works
Cc: Slawomir Niewinski; Ciaran Higgins; Frank Nolan
Subject: RE: Uxbridge Pavilions - Dial before you dig

Liam

We have conducted a quick survey on site this morning by lifting the lids that should have your equipment inside. I have attached some photos that show that there are no services within the service manhole that should contain virgin media cables.
On this basis I take it you will have no issue with us proceeding with our crossover as there are no services to damage?
Please come back to me to confirm.

Regards

Emmett Teggart
Project Manager
T: +44 (0)28 9066 4334
M: +44 (0)78 8546 5398



Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

From: >Div Works [mailto:TWDiversionary@virginmedia.co.uk]
Sent: 04 October 2015 11:00
To: Emmett Teggart
Subject: RE: Uxbridge Pavilions - Dial before you dig

Hi Emmett.

Due to a high volume of requests in the South area, we are advising a minimum of 25 working days before your request is assigned to a planner.

Sorry for any inconvenience caused.

Thanks,

Liam.

From: Emmett Teggart [mailto:Emmett.Teggart@gilbert-ash.co.uk]
Sent: 02 October 2015 08:07
To: >Div Works
Subject: Re: Uxbridge Pavilions - Dial before you dig

Hi Liam

Plant enquiries had redirected me to your department quoting 2 days for someone in diversionary works to respond?
Will it take a minimum of 25 working days for planning to respond, I appreciate your department is busy but 25 days seems excessive.
I just want someone to review the documents submitted and discuss with me over the phone or even on site the possibility of crossing over the services.
Apologies but my email below should have stated a start on site date of 21/9/15, so we are really up against it here.
Could I plead to your better nature and ask someone to review sooner I.e within the next week?

Regards
Emmett

Sent from my iPhone

Emmett Teggart
Project Manager
T: +44 (0)28 9066 4334
M: +44 (0)78 8546 5398



Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

On 1 Oct 2015, at 13:05, >Div Works <TWDiversionary@virginmedia.co.uk> wrote:

> Hi Emmett.
>
> I have now staged your request to our planning team.
>
> A response time is a minimum of 25 working days (03/11/15)
>
> Please advise if you have not had a response by this date.
>
> Your reference is VM/CIP/249073.
>
> Thanks,

Liam

From: Emmett Teggart [mailto:Emmett.Teggart@gilbert-ash.co.uk]
Sent: 01 October 2015 10:38
To: >Div Works
Subject: FW: Uxbridge Pavilions - Dial before you dig
Importance: High

Good Morning

Following this morning's telephone conversation with plant enquiries I have been forwarded to your department.
Please see below email and attachments reference our request to cross a footpath at the pavilions shopping complex, Uxbridge, London.
I would appreciate someone coming back to me asap on how to progress this please. The project start on site date depends upon whether we can cross the footway. We had originally planned to commence on the
My phone number is attached on the email, I would be grateful if someone could make contact with me please.

Regards

Emmett Teggart
Project Manager
T: +44 (0)28 9066 4334
M: +44 (0)78 8546 5398

Proud to have built the Everyman Theatre, winner of the RIBA Stirling Prize 2014

From: Emmett Teggart
Sent: 25 September 2015 11:31
To: 'plant.enquiries.team@virginmedia.co.uk'
Subject: Uxbridge Pavilions - Dial before you dig
Importance: High

Good morning

We are planning on carrying out construction works to the Pavilions shopping centre, address as follows.
18 Chequers Square
Uxbridge
UB8 1LN

We need to access the site across an existing footway on High Street, Uxbridge, where currently I believe you have some services. We need to create a heavy duty cross over in this area as per the Hillingdon council request. Hillingdon have asked for us to ensure that all services within the footway are 450mm below ground level, if not we have already tabled a reinforced concrete slab solution to protect your services and carry any load that will cross the footway.
If the services are not more than 450mm and we use the slab option I will need your sign off that you are happy for us to cross the services- although we will still hold responsibility for protecting them during the works.

I attach for reference the structural slab option if even required, location plans, footway cross over details as provided by Hillingdon council.

Can I get someone out to site to identify the location of your equipment and the current depth please, I would appreciate a point of contact that I can deal with directly on the issue and that they could make any decision required if possible.

Thanks in advance for your help.

Kind Regards

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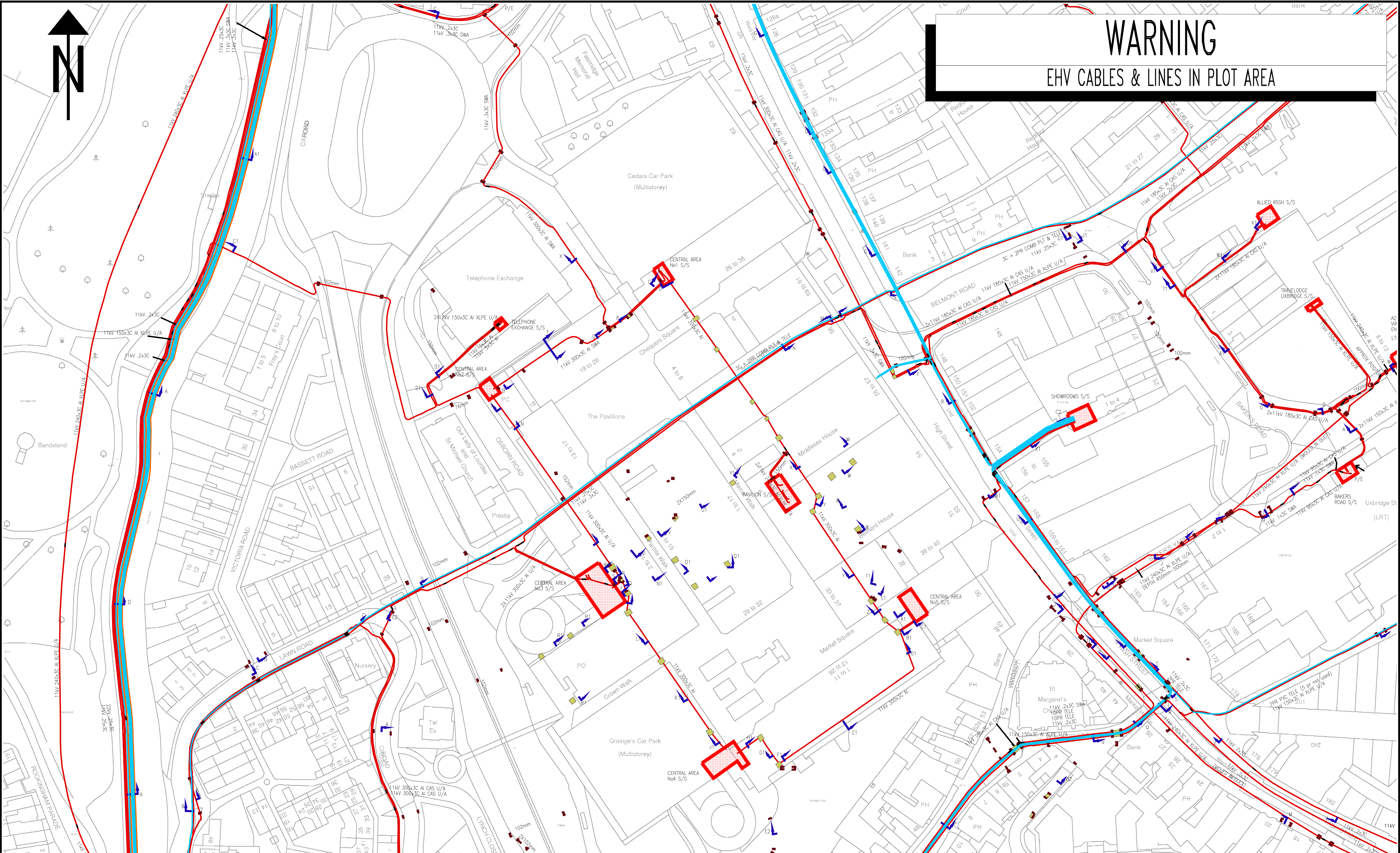
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Registered in England and Wales with number 2591237

Appendix L
SSE Cable Drawings



NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID				
	services	l.v.	h.v.	e.h.v.
FOOTPATH/UNMADE	0.45m	0.45m	0.60m	0.80m
ROAD CROSSING	0.60m	0.60m	0.75m	0.90m
AGRICULTURAL	1.00m	1.00m	1.00m	1.10m

l.v./services – up to 1000V.
h.v. – over 1000V. to 11,000V.
e.h.v. – 22,000V. to 132,000V.

WARNING

There may have been subsequent alterations to the surface levels. Trial holes must be taken to determine positions and depth of cables. HS (G) 47 Booklet from the Health and Safety Executive – Avoiding Danger from Buried Cables – should be consulted before commencing excavation work. (available from HMSO)

WHEN WORKING IN THE VICINITY OF OVERHEAD LINES THE HEALTH AND SAFETY GUIDANCE NOTE GS6 SHOULD BE CONSULTED. (AVAILABLE FROM HMSO)

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Scottish and Southern Energy plc.
Registered in Scotland No 117119.
Registered Office: Inveralmond House
200 Dunkeld Road,
Perth, PH1 3AQ.

The Pavilions Shopping Centre, Uxbridge, UB8 1UJ

UNCONTROLLED COPY

Subject to Revision Master held at

Scottish and Southern Energy

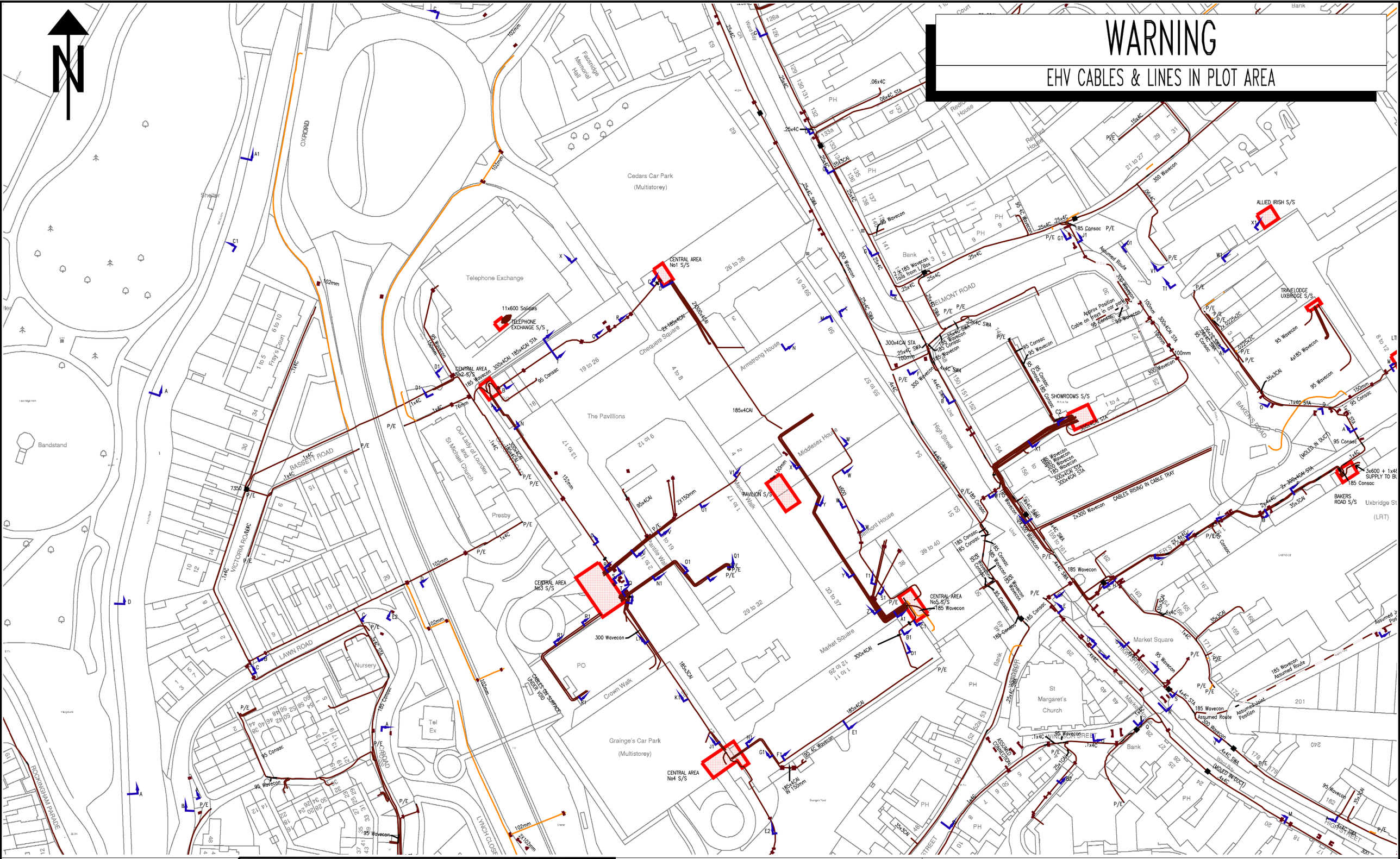
H.V. MAINS RECORD

If you are unsure & need to seek advice before commencing excavations please contact
WEST LONDON
020-8606-6400

Grid Ref: TQ05398419
Scale: 1:1250
Date: 07/10/2015
MSS285544

WARNING

EHV CABLES & LINES IN PLOT AREA



NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID

	services	l.v.	h.v.	e.h.v.
FOOTPATH/UNMADE	0.45m	0.45m	0.60m	0.80m
ROAD CROSSING	0.60m	0.60m	0.75m	0.90m
AGRICULTURAL	1.00m	1.00m	1.00m	1.10m

l.v./services – up to 1000V.
h.v. – over 1000V. to 11,000V.
e.h.v. – 22,000V. to 132,000V.

WARNING

There may have been subsequent alterations to the surface levels. Trial holes must be taken to determine positions and depth of cables. HS (G) 47 Booklet from the Health and Safety Executive – Avoiding Danger from Buried Cables – should be consulted before commencing excavation work. (available from HMSO)

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Perth, PH1 3AQ.

The Pavilions Shopping Centre, Uxbridge, UB8 1UD

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Scottish and Southern Energy

L.V. MAINS RECORD

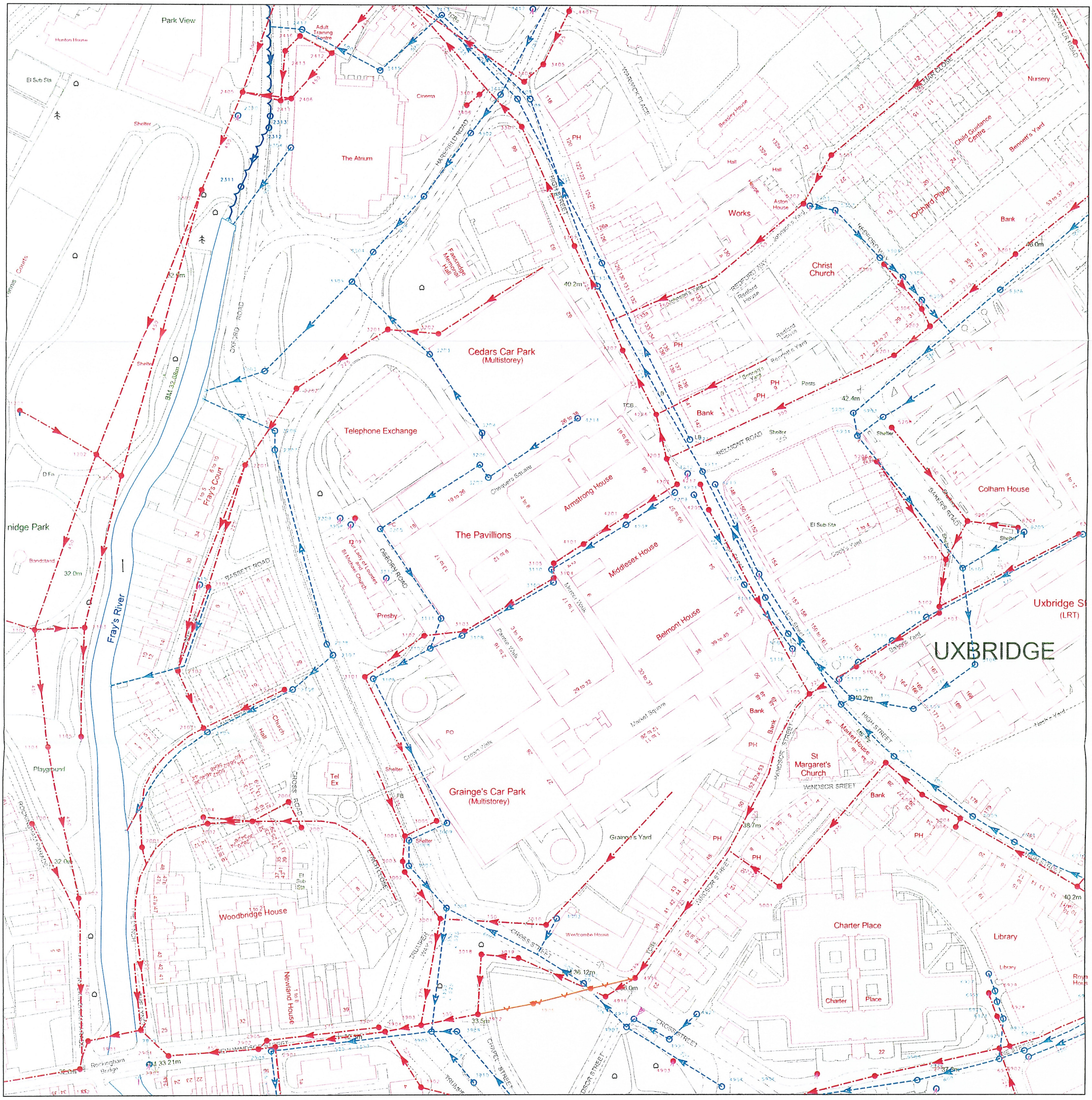
If you are unsure & need to seek advice before commencing excavations please contact
WEST LONDON
020-8606-6400

Grid Ref: TQ05398419
Scale: 1:1250
Date: 07/10/2015
MSS285544

Appendix M
Mains Sewer Drawing

Based on the Ordnance Survey map with the Sanction of the controller of H.M. Stationery Office, licence no. WU298557. Crown Copyright Reserved.

ALS/139890 "MAINS SEWERS"



The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

100 metre intervals

EAGLE hardcopy facility - Normal Map.
The plot is centred on (505395 , 184193), which is in TQ0584SW. Printed on 24 July 2002 at 13:37:45 by A1CLARK.

Comments:
A3 SCALE 1:4000 !!!