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# The Old Power Station, Vastern Road, Reading

## Superfast Broadband Strategy Statement

On behalf of **Berkley Homes (Oxford and Chiltern) Ltd**

**Berkeley**  
Designed for life

Project Ref: 47500/2001 | Rev 2 | Date: November 2019

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## Document Control Sheet

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**Project Ref: 47500**

**Report Title: Superfast Broadband Strategy Statement**

**Doc Ref: 2001/R002**

**Date: November 2019**

|                                                        | Name       | Position    | Signature                                                                           | Date       |
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# 1 Introduction

## 1.1 Introduction

1.1.1 Peter Brett Associates LLP (PBA), now part of Stantec, has been commissioned by Berkeley Homes (Oxford and Chiltern) Ltd to prepare a Superfast Broadband Strategy Statement (SBSS) to support the detailed planning application for the proposed development at The Old Power Station, 53-55 Vastern Road, Reading.

## 1.2 Purpose of the Strategy

1.2.1 This SBSS has been prepared to address item 19 of Reading Borough Council's (RBC) planning application validation checklist and guidance (December 2016), which requires a SBSS to be submitted for all proposals of housing development with over 50 units. The guidance states;

*"SBSS documents should outline how the developer has considered facilitating the proposed development with Superfast Broadband (24Mbps+) and what discussions they may have had with the Operators in advance of submitting a formal planning application".*

1.2.2 The SBSS considers the provision of superfast broadband to the proposed development.

## 1.3 Existing Site Description

1.3.1 The site is located along Vastern Road, Reading, RG1 8BU. Reading Station is situated to the south of the site and the River Thames to the north. Christchurch Bridge is located along the northern boundary of the development.

1.3.2 The total development site area covers approximately 0.76ha and the land was previously occupied by former SSE offices. A primary transformer and its associated plant is located adjacent to the site.

1.3.3 **Figure 1.1** below show the site location of the proposed development site.

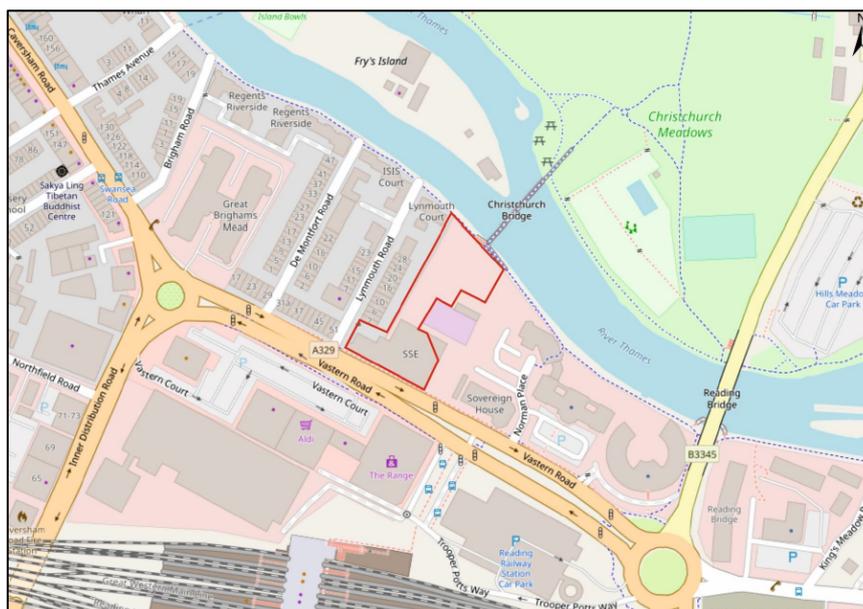


Figure 1.1 Site Location Plan

## 1.4 Proposed Development

- 1.4.1 Demolition of existing structures and erection of a series of buildings ranging in height from 1 to 11 storeys including residential dwellings (C3 use class) and leisure floorspace (A3 use class), together with a new north-south pedestrian link, connecting Christchurch Bridge to Vastern Road.

## 2 Superfast Broadband

### 2.1 What is Superfast Broadband?

- 2.1.1 The UK Government's Broadband Delivery Guidance defines superfast broadband as providing data download speeds to premises in excess of 24 Mbps (Megabits per second). This can be achieved over fibre or copper infrastructure.
- 2.1.2 Superfast broadband connections enable users to surf the internet, download files and stream data at speeds far higher than regular internet users. Superfast broadband infrastructure delivers download speeds of up to 1 Gbps (Gigabits per second).
- 2.1.3 Superfast broadband also provides much faster upload data speeds and, in some cases, symmetrical data speeds, where the download and upload speeds are identical.
- 2.1.4 Superfast broadband is usually provided over fibreoptic infrastructure. This infrastructure is made up of glass or plastic filaments that rapid pulses of light are transmitted through. The receiver converts these pulses into binary data that can be read by a computer.

### 2.2 Benefits and drawbacks of Superfast Broadband

- 2.2.1 The main attribute attracting developers to installing superfast broadband is the increased service that they can market to potential homeowners and tenants with no or very little capital outlay compared to fully copper services.
- 2.2.2 Homeowners and commercial tenants are attracted by the increased download speed that they will receive as the end user. The data transmitted over fibre infrastructure is also less susceptible to noise and interference than copper.
- 2.2.3 The main drawback compared to conventional telecommunications infrastructure is that the fibre cables are understood to be more fragile. This has led to lifts and special alarms still requiring a copper connection for security of supply.

### 2.3 Types of Superfast Broadband Connections

- 2.3.1 There are generally two types of fibre broadband connections;

#### Fibre-to-the-Cabinet (FTTC)

- 2.3.2 FTTC involves laying fibre optic cables from the telephone exchange or distribution point to street cabinets or joint boxes that contain converters switching the signal for transmission through copper cabling to the premise.
- 2.3.3 There can be reductions in download and upload speed using this method when the premise is located over 100m from the joint box or cabinet that the copper/fibre joint is located within. A distance larger than 5km between the exchange and roadside cabinet will increase the latency or time delay in the service. An increase in latency will reduce the quality and reliability of the connection.
- 2.3.4 A simplified diagram of this method is shown in **Figure 2.1**.

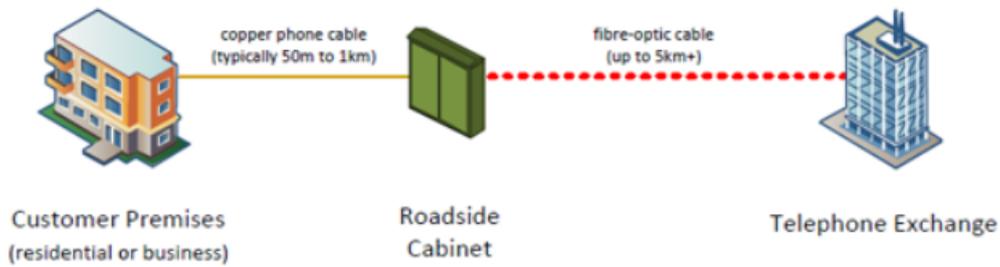


Figure 2.1 FTTC example

### Fibre-to-the-Premises (FTTP)

- 2.3.5 FTTP, also often referred to as Fibre-to-the-Home (FTTH) provides end to end fibre optic connection the full distance from the exchange to the building.
- 2.3.6 This method provides faster upload speeds and download speeds and less latency when the last cabinet/joint box is located over 100m from the premise when compared to FTTC.
- 2.3.7 A simplified diagram of this method is shown in **Figure 2.2**.

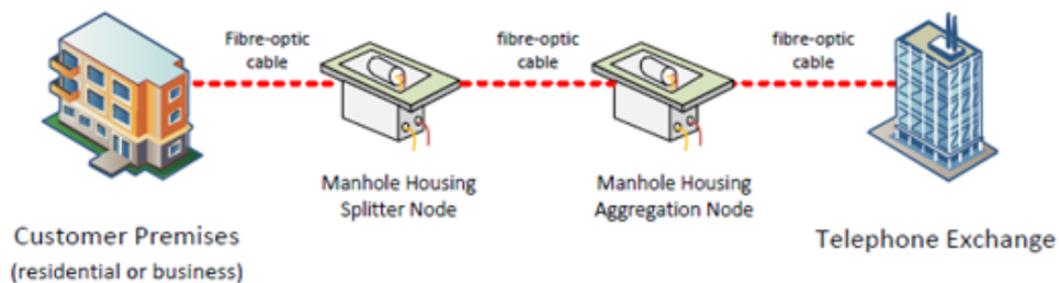


Figure 2.2 FTTP example

## 3 Policy Context

### 3.1 Introduction

- 3.1.1 This section provides a summary of Britain's superfast broadband strategy, as well as the national and local policy context for its adoption.

### 3.2 Britain's Superfast Broadband Strategy

- 3.2.1 The UK Government's Autumn Statement 2016 commits spending of over £1 billion by 2020-2021 through the NPIF (National Productivity Investment Fund). With the aim of bringing faster and more reliable broadband for homes and businesses across Britain.
- 3.2.2 Broadband infrastructure is considered vital in supporting the overall growth agenda in Britain. Building Digital UK (BDUK) part of the Department for Digital, Culture, Media and Sport, is delivering superfast broadband and local full fibre networks to the UK. The Government is supporting investment to provide superfast broadband coverage to as many premises as possible beyond the 95% level achieved in December 2017.
- 3.2.3 The Government is also introducing a broadband Universal Service Obligation so that by 2020 everyone within the UK will have an enforceable right to request high speed broadband.
- 3.2.4 Stimulation of private investment in full fibre connections is also support by the Government through a programme that is currently funded through March 2021.
- 3.2.5 The Office of Communications (Ofcom) reported that as of February 2018, 95% of UK premises has access to superfast broadband (based on the Government's definition of 24 Mbps). The Government expects that superfast broadband coverage will extend to 97% by 2020.
- 3.2.6 The November 2018 House of Commons briefing paper states under the superfast broadband programme, the UK Government has been and will be providing funding to local bodies in England and the devolved administrations to support the roll-out superfast broadband infrastructure in their regions.
- 3.2.7 In the March 2015 Budget, the Government announced a new ambition that ultrafast broadband (speeds of at least 100 Mbps) would be available to nearly all UK premises, however no target date was given.

### 3.3 National Planning Policy Framework 2019

- 3.3.1 The National Planning Policy Framework (NPPF) 2019 acts as national guidance for local planning authorities and decision makers, both in drawing up plans and making decisions about planning applications.
- 3.3.2 Chapter 10: Supporting high quality communications, states;

*“Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. Policies should set out how high-quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time; and should prioritise full fibre connections to existing and new developments (as these connections will, in almost all cases, provide the optimum solution).”*

*“Local planning authorities should not impose a ban on new electronic communications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of electronic communications development, or insist on minimum distances between new electronic communications development and existing development.”*

### **3.4 Reading Borough Council's (RBC) Planning Policies**

3.4.1 RBC's key policy in relation to superfast broadband provision is OU3: Telecommunications Development of the Local Plan, adopted November 2019 which states;

3.4.2 *“Proposals for telecommunications development will be permitted provided that:*

- *They do not have an adverse impact on the visual amenity of the surrounding area or of the significance of a heritage asset;*
- *The apparatus will be sited and designed to minimise its visual impact by the use of innovative design solutions such as lamp column ‘swap-outs’ or concealment/camouflage options; and*
- *“Alternative sites and site-sharing options have been fully investigated and it has been demonstrated that no preferable alternative sites are potentially available which would result in a development that would be less visually intrusive”.*

3.4.3 Figure 10.2 from RBC's Local Plan (November 2019) provides a Summary Infrastructure Delivery Schedule that states *‘the need for the Berkshire superfast broadband scheme is to ensure sufficient capacity to accommodate future growth; support the economic growth by increasing digital connectivity’.*

3.4.4 The scheme requirements include: *“Implementation of broadband infrastructure to 24mb wherever possible; ensure a minimum superfast infrastructure for 98% of properties by 2019 and; private sector is developing fibre-based gigabit solutions.”*

## 4 Existing telecommunications Infrastructure

4.1.1 There are a number of various telecommunication duct routes and apparatus, owned and operated by telecommunication undertakers, present in close proximity to the site. The asset records are contained within **Appendix A** of this report.

4.1.2 The asset records indicate a number of connections to the former SSE building. These include Openreach, SSE fibre optic and Virgin Media connections.

### 4.2 Openreach

4.2.1 Two Openreach duct routes are located in the footway on the northern side of Vastern Road and a duct crossing can be observed crossing Vastern Road and extending to Trooper Potts Way to the east of the site.

4.2.2 Five Openreach joint boxes are present within the northern footway directly in front of the existing SSE building. A spur can be observed extending from the footway and entering the site at the eastern edge of the boundary before entering the existing building, providing the telecommunications connection. Two Openreach joint boxes are present within the site boundary supplying the existing building.

4.2.3 Multiple ducts are present within the Lynmouth Road western footway to the west of the site boundary. The ducts extend to the riverbank and one of the duct routes connects to the island located in the River Thames.

### 4.3 SSE Telecoms

4.3.1 The SSE high voltage asset records indicate that there two SSE fibre optic cables located along Vastern Road, one in the carriageway and one in the northern footway. Each of these duct routes provides a connection to the former SSE building.

### 4.4 Vodafone

4.4.1 Two Vodafone duct routes are located in the footway on the northern side of Vastern Road. Based on asset records received from Vodafone, the southernmost duct is shown to be running within the carriageway before entering the footway in front of the former SSE building.

4.4.2 A Vodafone joint box is present within the northern footway directly in front of the former SSE building.

### 4.5 Virgin Media

4.5.1 A single Virgin Media duct route is located in the footway on the northern side of Vastern Road. A spur can be observed extending up to the existing SSE building.

4.5.2 Two Virgin Media chambers are present within the northern footway directly in front of the former SSE building.

4.5.3 Multiple ducts are present within both footways on Lynmouth Road to the west of the site. The ducts extend to the riverbank and assumed to supply the residential units to the north, outside of the site boundary.

### 4.6 Zayo

4.6.1 Asset records indicate that two Zayo duct routes are located within the carriageway of Vastern Road.

## 5 Infrastructure Delivery Options

### 5.1 Introduction

- 5.1.1 There are numerous infrastructure providers who can supply the proposed development with superfast broadband. These providers own the infrastructure rather than the end billing company that provides the service to the premise (service provider). These companies use different types of infrastructure and funding mechanisms appropriate to specific developments.
- 5.1.2 A selection of infrastructure providers, that PBA has been in discussions with, has been summarised below with a breakdown of their proposed infrastructure, developer cost and maximum download data speeds.

### 5.2 Openreach

- 5.2.1 Openreach is the licenced open network operator for the UK and is required by OFCOM to provide a connection to a property should the developer/ tenant request it. Openreach will also fund up to £3,400 for any reinforcement of their network that may be required.
- 5.2.2 Openreach regulation states that any development with over 30 units will qualify for fibre provisions automatically.
- 5.2.3 Openreach will likely take a connection from their existing infrastructure located in either Lynmouth Road or Vastern Road.
- 5.2.4 This development site is currently served via the Reading Central telephone exchange. This exchange currently serves 23,005 residential properties and 1,915 commercial properties.
- 5.2.5 For multi dwelling units (MDUs), like the proposed development, a fibre connection is made from the externally located footway joint box. This feeds into the internal fibre joint cabinet, which should be located in the ground floor communication intake room or at the bottom of risers (at a height of between 200mm and 1500mm).
- 5.2.6 The dimensions of internal fibre joint box cabinets are 260mm (l) x 250mm (w) x 105mm (d). A secondary internal fibre joint box may be required in larger MDUs.
- 5.2.7 From this point a fibre connection will be made to a customer splice point (CSP) and an optical network termination (ONT) within each of the apartments (FTTH). From here the internal cabling within the units will be the responsibility of the developer to install.
- 5.2.8 Openreach will free issue all ducting and joint box frames.
- 5.2.9 Openreach can currently provide up to 100 Mbps download speeds.

### 5.3 Fibre Options

- 5.3.1 Fibre options (FO) are an alternative fibre infrastructure provider who would be able to deliver a telecommunications service across an underground fibre network connecting each of the buildings and provide a fibre optic connection into each property via the vertical risers and horizontal floor containment.
- 5.3.2 FO would free issue all the cabling required for installation within each of the units.
- 5.3.3 The fibre cabling will terminate in the home Optical Network Terminal (ONT) in the units (FTTH) which would facilitate the delivery of high-speed broadband, telephony and Wi-Fi services.

- 5.3.4 FO would install and maintain the entire external infrastructure.
- 5.3.5 From a financial point of view FO will share the cost of installation with the developer, the line rental (charged by the service provider) paid by the apartment tenants will be split providing a return to the developer. The usual payback period is approximately 10 years. The co-investment model would involve the developer taking the role of Network Owner and FO the role of Network Operator.
- 5.3.6 Subject to the adherence of the contractual obligations, FO would be granted a 10-year Network Operating Licence which would require them to provide appropriate hardware to enable delivery of services over the infrastructure. FO would be responsible for replacing any faulty equipment during this period and would be liable for any technology refresh during this term, although equipment upgrades to provide feature enhancements may well be deployed on a commercial basis, with the onus for paying for such upgrades falling upon the service providers or the subscriber.
- 5.3.7 As the network is developed, FO would encourage the creation of a Community Service Provider, based on site, which would take over the customer care and billing responsibilities, leaving FO to concentrate on network operation.
- 5.3.8 FO can currently provide up to 100 Mbps download speeds.
- 5.3.9 PBA has held discussions with FO who has confirmed that they would be interested in supplying the proposed development at Vastern Road.

## 5.4 Hyperoptic

- 5.4.1 Hyperoptic are a separate alternative fibre provider who specialise in high download speeds.
- 5.4.2 Hyperoptic will deliver a fibre connection from their network directly to a central communications cabinet within the development and terminate it on an optical fibre switch.
- 5.4.3 A series of cabinets would be located within the site, these will house fibre/copper cables, terminations points and switches. Each of these cabinets will require a LV connection off the electricity network.
- 5.4.4 There is no financial model for the proposal by Hyperoptic. They will free issue all the infrastructure and undertake the internal fit out works themselves.
- 5.4.5 Hyperoptic can currently provide up to 1 Gbps download speeds.
- 5.4.6 PBA has held discussions with Hyperoptic who has confirmed that they could provide infrastructure for the development. Hyperoptic has also confirmed that they would be accepting of dual laying with Openreach to supply the development.

## 5.5 Further Providers

- 5.5.1 There are further alternative fibre providers that have not been contacted at this stage of the development. Additional providers (some of which have been listed below) should be contacted and assessed at the detailed design stage.
  - SSE Telecoms
  - Virgin Media Telecoms
  - Vodafone Telecoms

## 5.6 Preferred Approach for Vastern Road

- 5.6.1 There are a range of options for the delivery of superfast broadband for 53-55 Vastern Road. It is Berkeley Homes intention to provide the latest specification in broadband capacity for the site, delivering superfast broadband to all premises.
- 5.6.2 For the following reasons it is considered at this stage that having both Openreach and Hyperoptic are likely to provide the optimum service for supplying the development:
- Hyperoptic currently provide faster broadband speeds than other providers (up to 1 Gbps);
  - Openreach are obliged to allow line rentals, thus ensuring end users have flexibility of supplier;
  - There is Openreach infrastructure in proximity to the development, reducing the level of civil works that may be required to supply the site. It should be noted that cable works may still be required.
- 5.6.3 It should be noted that this is preliminary advice and the installation strategy will be confirmed at the detailed design stage.

## 6 Conclusions

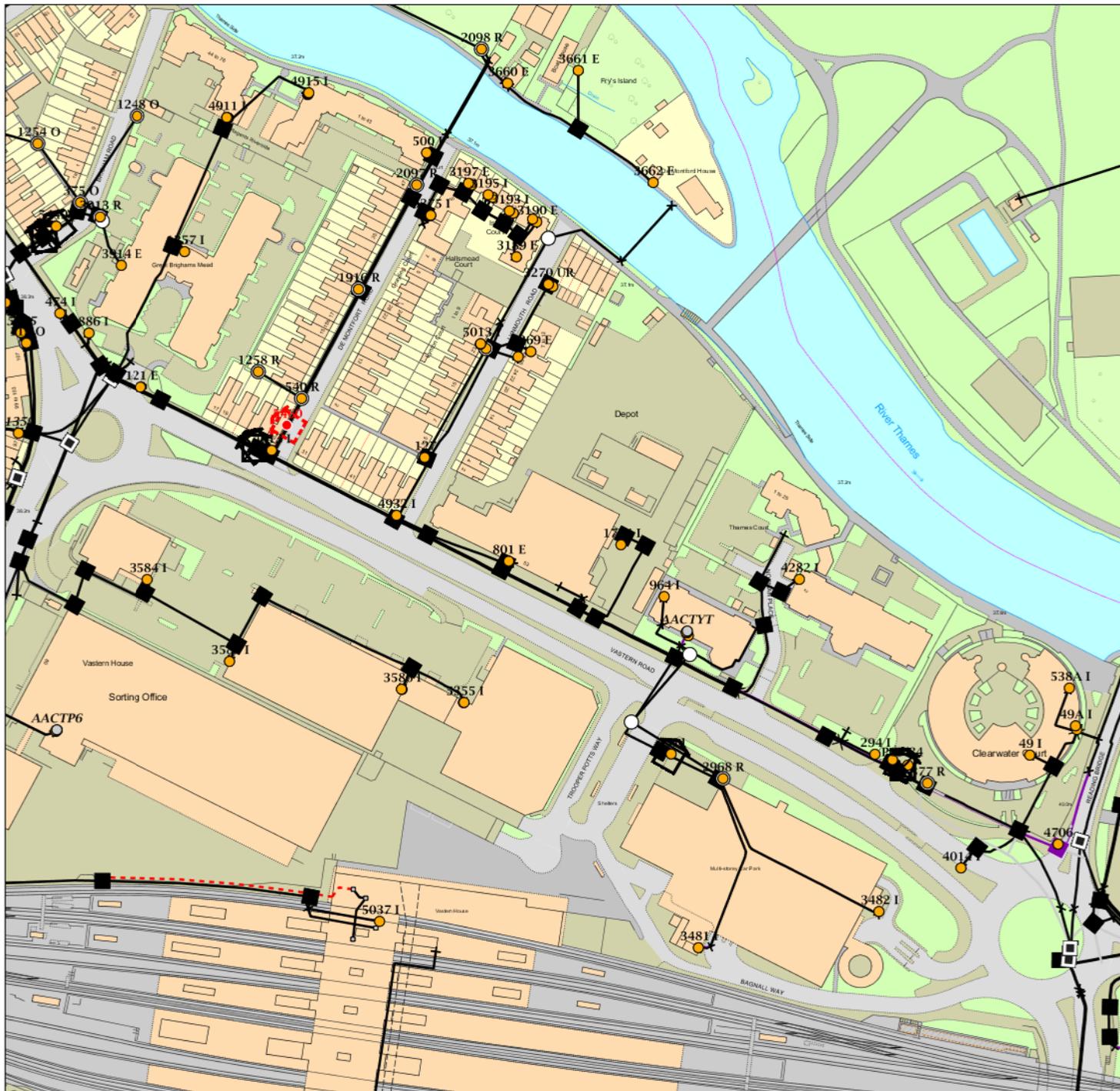
- 6.1.1 This SBSS has been prepared to address item 19 of RBC's planning validation checklist (December 2016). It outlines how the client has considered facilitating the proposed development with superfast broadband (speeds of 24 Mbps and more) and the discussions to date with potential operators.
- 6.1.2 There are a range of potential options for the delivery of superfast broadband at this site. This SBSS has focussed on Openreach, Fibre Options, Hyperoptic as the best placed companies to provide telecommunication infrastructure to the site.
- 6.1.3 At this stage in the development process, it is considered that a combination of Openreach and Hyperoptic is likely to provide the optimum service for several reasons:
- Hyperoptic currently provide faster broadband speeds than other providers (up to 1 Gbps);
  - Openreach are obliged to allow line rentals, thus ensuring end users have flexibility of supplier;
  - There is Openreach infrastructure in proximity to the development, reducing the level of civil works that may be required to supply the site. It should be noted that cable works may still be required.
- 6.1.4 The preferred superfast broadband installer and installation strategy will be confirmed as the detailed design progresses. This SBSS presents an outline strategy to ensure the provision of the optimum superfast broadband service is available for the site.

## 7 Recommendations

- 7.1.1 It is recommended that once planning permission is granted detailed discussions are held with each of the infrastructure providers as their technologies and funding models may have changed since the production of this report.
- 7.1.2 Disconnections will be required to existing telecommunications infrastructure. Early liaison with the undertakers is advised.
- 7.1.3 Should Openreach and Hyperoptic be taken forward, it is advised that designs are obtained at the earliest opportunity to ensure that the infrastructure can be accommodated within the development proposals.
- 7.1.4 As per the NPPF all proposed telecommunications infrastructure laid or constructed should be designed to have the least (as reasonably practical) effect on the local amenities.

# Appendix A Telecommunications Asset Records

# Maps by email Plant Information Reply



## IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



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## KEY TO BT SYMBOLS

|             |  |
|-------------|--|
| DP          |  |
| Planned DP  |  |
| PCP         |  |
| Planned PCP |  |
| Built       |  |
| Planned     |  |
| Inferred    |  |
| Building    |  |
| Kiosk       |  |
| Hatchings   |  |

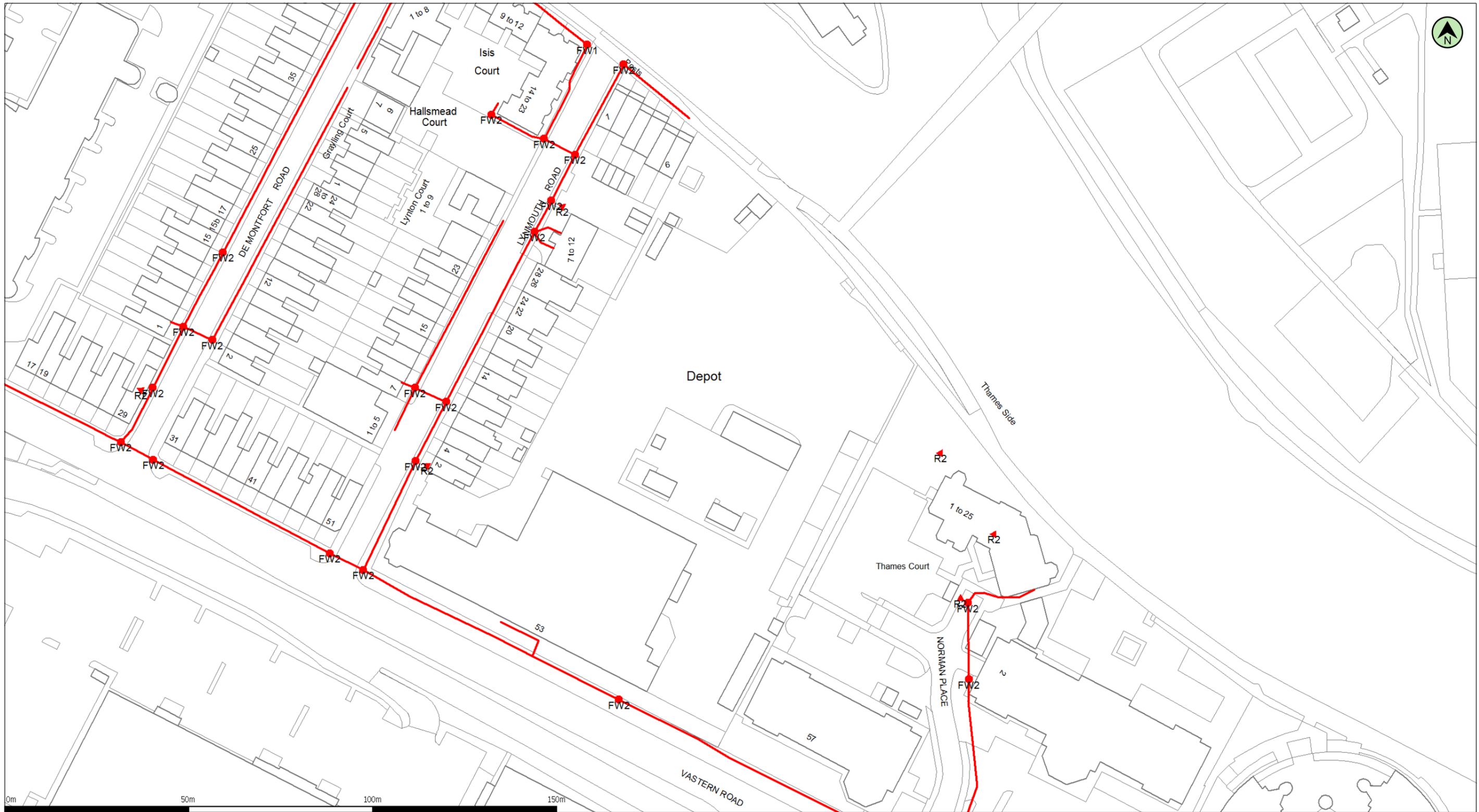
|                 |  |
|-----------------|--|
| Pole            |  |
| Planned Pole    |  |
| Joint Box       |  |
| Change Of State |  |
| Split Coupling  |  |
| Duct Tee        |  |
| Planned Box     |  |
| Manhole         |  |
| Planned Manhole |  |
| Cabinet         |  |
| Planned Cabinet |  |

Other proposed plant is shown using dashed lines.  
BT Symbols not listed above maybe disregarded.  
Existing BT Plant may not be recorded.  
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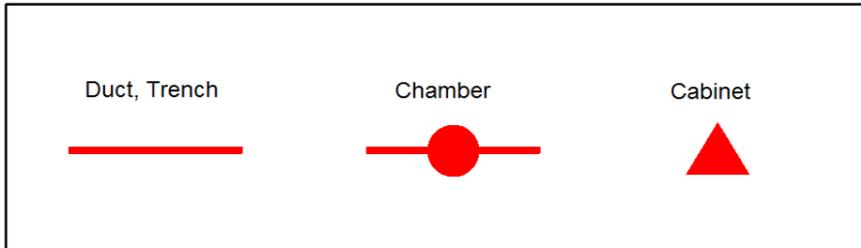
BT Ref : VMO04546A  
Map Reference : (centre) SU7153674089  
Easting/Northing : (centre) 471536,1740  
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Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2016 Ordnance Survey 100019209.



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| 39444 - Vastern Road |
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Requested by: Timothy Yau

Company: Peter Brett Associates

Job Reference: 9608153

Your Scheme/Reference: 39444 - SSE Vastern Road

 ZAYO DUCT

 or  ZAYO CHAMBER

Dig Sites: Line  Area 

Scale on A4 paper: 1:1000

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# The Old Power Station, Vastern Road, Reading

## Superfast Broadband Strategy Statement

On behalf of **Berkley Homes (Oxford and Chiltern) Ltd**

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Project Ref: 47500/2001 | Rev 1 | Date: November 2019

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## Document Control Sheet

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**Project Ref:** 47500

**Report Title:** Superfast Broadband Strategy Statement

**Doc Ref:** 2001/R002

**Date:** November 2019

|                                                        | Name       | Position    | Signature                                                                           | Date       |
|--------------------------------------------------------|------------|-------------|-------------------------------------------------------------------------------------|------------|
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| <b>For and on behalf of Peter Brett Associates LLP</b> |            |             |                                                                                     |            |

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# 1 Introduction

## 1.1 Introduction

1.1.1 Peter Brett Associates LLP (PBA), now part of Stantec, has been commissioned by Berkeley Homes (Oxford and Chiltern) Ltd to prepare a Superfast Broadband Strategy Statement (SBSS) to support the detailed planning application for the proposed development at The Old Power Station, 53-55 Vastern Road, Reading.

## 1.2 Purpose of the Strategy

1.2.1 This SBSS has been prepared to address item 19 of Reading Borough Council's (RBC) planning application validation checklist and guidance (December 2016), which requires a SBSS to be submitted for all proposals of housing development with over 50 units. The guidance states;

*"SBSS documents should outline how the developer has considered facilitating the proposed development with Superfast Broadband (24Mbps+) and what discussions they may have had with the Operators in advance of submitting a formal planning application".*

1.2.2 The SBSS considers the provision of superfast broadband to the proposed development.

## 1.3 Existing Site Description

1.3.1 The site is located along Vastern Road, Reading, RG1 8BU. Reading Station is situated to the south of the site and the River Thames to the north. Christchurch Bridge is located along the northern boundary of the development.

1.3.2 The total development site area covers approximately 0.76ha and the land was previously occupied by former SSE offices. A primary transformer and its associated plant is located adjacent to the site.

1.3.3 **Figure 1.1** below show the site location of the proposed development site.

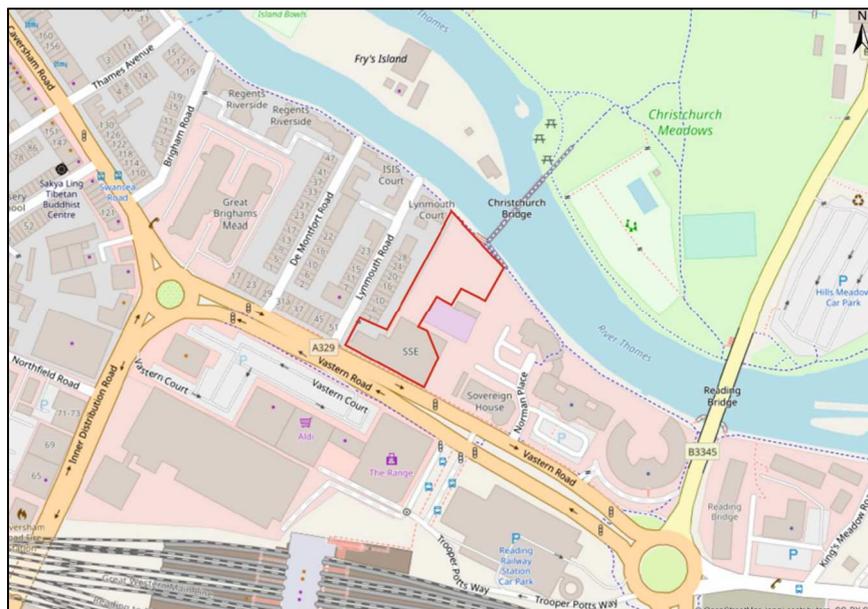


Figure 1.1 Site Location Plan

## **1.4 Proposed Development**

- 1.4.1 Proposals on the site are for the demolition of existing structures and erection of a series of buildings ranging in height up to 11 storeys, comprising 208 residential units, a café and associated parking together with a new north-south pedestrian link, connecting Christchurch Bridge to Vastern Road.

## 2 Superfast Broadband

### 2.1 What is Superfast Broadband?

- 2.1.1 The UK Government's Broadband Delivery Guidance defines superfast broadband as providing data download speeds to premises in excess of 24 Mbps (Megabits per second). This can be achieved over fibre or copper infrastructure.
- 2.1.2 Superfast broadband connections enable users to surf the internet, download files and stream data at speeds far higher than regular internet users. Superfast broadband infrastructure delivers download speeds of up to 1 Gbps (Gigabits per second).
- 2.1.3 Superfast broadband also provides much faster upload data speeds and, in some cases, symmetrical data speeds, where the download and upload speeds are identical.
- 2.1.4 Superfast broadband is usually provided over fibreoptic infrastructure. This infrastructure is made up of glass or plastic filaments that rapid pulses of light are transmitted through. The receiver converts these pulses into binary data that can be read by a computer.

### 2.2 Benefits and drawbacks of Superfast Broadband

- 2.2.1 The main attribute attracting developers to installing superfast broadband is the increased service that they can market to potential homeowners and tenants with no or very little capital outlay compared to fully copper services.
- 2.2.2 Homeowners and commercial tenants are attracted by the increased download speed that they will receive as the end user. The data transmitted over fibre infrastructure is also less susceptible to noise and interference than copper.
- 2.2.3 The main drawback compared to conventional telecommunications infrastructure is that the fibre cables are understood to be more fragile. This has led to lifts and special alarms still requiring a copper connection for security of supply.

### 2.3 Types of Superfast Broadband Connections

- 2.3.1 There are generally two types of fibre broadband connections;

#### Fibre-to-the-Cabinet (FTTC)

- 2.3.2 FTTC involves laying fibre optic cables from the telephone exchange or distribution point to street cabinets or joint boxes that contain converters switching the signal for transmission through copper cabling to the premise.
- 2.3.3 There can be reductions in download and upload speed using this method when the premise is located over 100m from the joint box or cabinet that the copper/fibre joint is located within. A distance larger than 5km between the exchange and roadside cabinet will increase the latency or time delay in the service. An increase in latency will reduce the quality and reliability of the connection.
- 2.3.4 A simplified diagram of this method is shown in **Figure 2.1**.

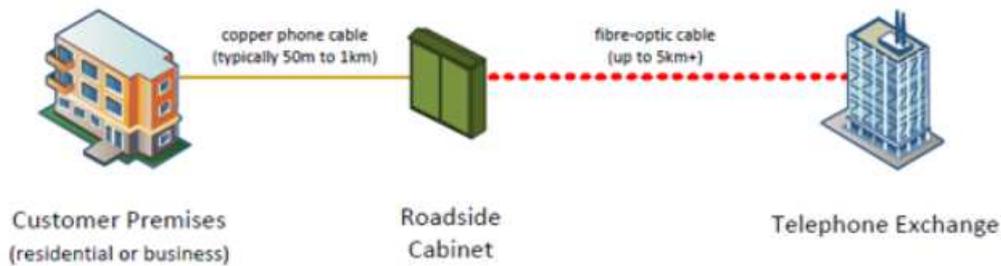


Figure 2.1 FTTC example

### Fibre-to-the-Premises (FTTP)

- 2.3.5 FTTP, also often referred to as Fibre-to-the-Home (FTTH) provides end to end fibre optic connection the full distance from the exchange to the building.
- 2.3.6 This method provides faster upload speeds and download speeds and less latency when the last cabinet/joint box is located over 100m from the premise when compared to FTTC.
- 2.3.7 A simplified diagram of this method is shown in **Figure 2.2**.

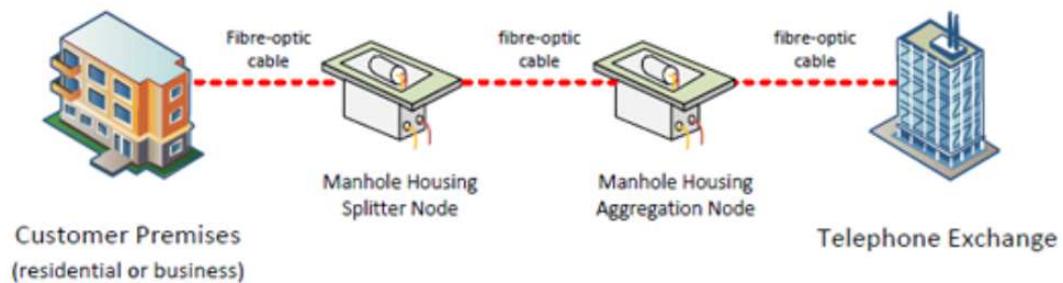


Figure 2.2 FTTP example

## 3 Policy Context

### 3.1 Introduction

- 3.1.1 This section provides a summary of Britain's superfast broadband strategy, as well as the national and local policy context for its adoption.

### 3.2 Britain's Superfast Broadband Strategy

- 3.2.1 The UK Government's Autumn Statement 2016 commits spending of over £1 billion by 2020-2021 through the NPIF (National Productivity Investment Fund). With the aim of bringing faster and more reliable broadband for homes and businesses across Britain.
- 3.2.2 Broadband infrastructure is considered vital in supporting the overall growth agenda in Britain. Building Digital UK (BDUK) part of the Department for Digital, Culture, Media and Sport, is delivering superfast broadband and local full fibre networks to the UK. The Government is supporting investment to provide superfast broadband coverage to as many premises as possible beyond the 95% level achieved in December 2017.
- 3.2.3 The Government is also introducing a broadband Universal Service Obligation so that by 2020 everyone within the UK will have an enforceable right to request high speed broadband.
- 3.2.4 Stimulation of private investment in full fibre connections is also support by the Government through a programme that is currently funded through March 2021.
- 3.2.5 The Office of Communications (Ofcom) reported that as of February 2018, 95% of UK premises has access to superfast broadband (based on the Government's definition of 24 Mbps). The Government expects that superfast broadband coverage will extend to 97% by 2020.
- 3.2.6 The November 2018 House of Commons briefing paper states under the superfast broadband programme, the UK Government has been and will be providing funding to local bodies in England and the devolved administrations to support the roll-out superfast broadband infrastructure in their regions.
- 3.2.7 In the March 2015 Budget, the Government announced a new ambition that ultrafast broadband (speeds of at least 100 Mbps) would be available to nearly all UK premises, however no target date was given.

### 3.3 National Planning Policy Framework 2019

- 3.3.1 The National Planning Policy Framework (NPPF) 2019 acts as national guidance for local planning authorities and decision makers, both in drawing up plans and making decisions about planning applications.
- 3.3.2 Chapter 10: Supporting high quality communications, states;

*“Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. Policies should set out how high-quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time; and should prioritise full fibre connections to existing and new developments (as these connections will, in almost all cases, provide the optimum solution).”*

*“Local planning authorities should not impose a ban on new electronic communications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of electronic communications development, or insist on minimum distances between new electronic communications development and existing development.”*

### **3.4 Reading Borough Council’s (RBC) Planning Policies**

3.4.1 RBC’s key policy in relation to superfast broadband provision is OU3: Telecommunications Development of the Local Plan, adopted November 2019 which states;

3.4.2 *“Proposals for telecommunications development will be permitted provided that:*

- *They do not have an adverse impact on the visual amenity of the surrounding area or of the significance of a heritage asset;*
- *The apparatus will be sited and designed to minimise its visual impact by the use of innovative design solutions such as lamp column ‘swap-outs’ or concealment/camouflage options; and*
- *“Alternative sites and site-sharing options have been fully investigated and it has been demonstrated that no preferable alternative sites are potentially available which would result in a development that would be less visually intrusive”.*

3.4.3 Figure 10.2 from RBC’s Local Plan (November 2019) provides a Summary Infrastructure Delivery Schedule that states *‘the need for the Berkshire superfast broadband scheme is to ensure sufficient capacity to accommodate future growth; support the economic growth by increasing digital connectivity’.*

3.4.4 The scheme requirements include: *“Implementation of broadband infrastructure to 24mb wherever possible; ensure a minimum superfast infrastructure for 98% of properties by 2019 and; private sector is developing fibre-based gigabit solutions.”*

## 4 Existing telecommunications Infrastructure

4.1.1 There are a number of various telecommunication duct routes and apparatus, owned and operated by telecommunication undertakers, present in close proximity to the site. The asset records are contained within **Appendix A** of this report.

4.1.2 The asset records indicate a number of connections to the former SSE building. These include Openreach, SSE fibre optic and Virgin Media connections.

### 4.2 Openreach

4.2.1 Two Openreach duct routes are located in the footway on the northern side of Vastern Road and a duct crossing can be observed crossing Vastern Road and extending to Trooper Potts Way to the east of the site.

4.2.2 Five Openreach joint boxes are present within the northern footway directly in front of the existing SSE building. A spur can be observed extending from the footway and entering the site at the eastern edge of the boundary before entering the existing building, providing the telecommunications connection. Two Openreach joint boxes are present within the site boundary supplying the existing building.

4.2.3 Multiple ducts are present within the Lynmouth Road western footway to the west of the site boundary. The ducts extend to the river bank and one of the duct routes connects to the island located in the River Thames.

### 4.3 SSE Telecoms

4.3.1 The SSE high voltage asset records indicate that there two SSE fibre optic cables located along Vastern Road, one in the carriageway and one in the northern footway. Each of these duct routes provides a connection to the former SSE building.

### 4.4 Vodafone

4.4.1 Two Vodafone duct routes are located in the footway on the northern side of Vastern Road. Based on asset records received from Vodafone, the southernmost duct is shown to be running within the carriageway before entering the footway in front of the former SSE building.

4.4.2 A Vodafone joint box is present within the northern footway directly in front of the former SSE building.

### 4.5 Virgin Media

4.5.1 A single Virgin Media duct route is located in the footway on the northern side of Vastern Road. A spur can be observed extending up to the existing SSE building.

4.5.2 Two Virgin Media chambers are present within the northern footway directly in front of the former SSE building.

4.5.3 Multiple ducts are present within both footways on Lynmouth Road to the west of the site. The ducts extend to the river bank and assumed to supply the residential units to the north, outside of the site boundary.

### 4.6 Zayo

4.6.1 Asset records indicate that two Zayo duct routes are located within the carriageway of Vastern Road.

## 5 Infrastructure Delivery Options

### 5.1 Introduction

- 5.1.1 There are numerous infrastructure providers who can supply the proposed development with superfast broadband. These providers own the infrastructure rather than the end billing company that provides the service to the premise (service provider). These companies use different types of infrastructure and funding mechanisms appropriate to specific developments.
- 5.1.2 A selection of infrastructure providers, that PBA has been in discussions with, has been summarised below with a breakdown of their proposed infrastructure, developer cost and maximum download data speeds.

### 5.2 Openreach

- 5.2.1 Openreach is the licenced open network operator for the UK and is required by OFCOM to provide a connection to a property should the developer/ tenant request it. Openreach will also fund up to £3,400 for any reinforcement of their network that may be required.
- 5.2.2 Openreach regulation states that any development with over 30 units will qualify for fibre provisions automatically.
- 5.2.3 Openreach will likely take a connection from their existing infrastructure located in either Lynmouth Road or Vastern Road.
- 5.2.4 This development site is currently served via the Reading Central telephone exchange. This exchange currently serves 23,005 residential properties and 1,915 commercial properties.
- 5.2.5 For multi dwelling units (MDUs), like the proposed development, a fibre connection is made from the externally located footway joint box. This feeds into the internal fibre joint cabinet, which should be located in the ground floor communication intake room or at the bottom of risers (at a height of between 200mm and 1500mm).
- 5.2.6 The dimensions of internal fibre joint box cabinets are 260mm (l) x 250mm (w) x 105mm (d). A secondary internal fibre joint box may be required in larger MDUs.
- 5.2.7 From this point a fibre connection will be made to a customer splice point (CSP) and an optical network termination (ONT) within each of the apartments (FTTH). From here the internal cabling within the units will be the responsibility of the developer to install.
- 5.2.8 Openreach will free issue all ducting and joint box frames.
- 5.2.9 Openreach can currently provide up to 100 Mbps download speeds.

### 5.3 Fibre Options

- 5.3.1 Fibre options (FO) are an alternative fibre infrastructure provider who would be able to deliver a telecommunications service across an underground fibre network connecting each of the buildings and provide a fibre optic connection into each property via the vertical risers and horizontal floor containment.
- 5.3.2 FO would free issue all the cabling required for installation within each of the units.
- 5.3.3 The fibre cabling will terminate in the home Optical Network Terminal (ONT) in the units (FTTH) which would facilitate the delivery of high-speed broadband, telephony and Wi-Fi services.

- 5.3.4 FO would install and maintain the entire external infrastructure.
- 5.3.5 From a financial point of view FO will share the cost of installation with the developer, the line rental (charged by the service provider) paid by the apartment tenants will be split providing a return to the developer. The usual payback period is approximately 10 years. The co-investment model would involve the developer taking the role of Network Owner and FO the role of Network Operator.
- 5.3.6 Subject to the adherence of the contractual obligations, FO would be granted a 10-year Network Operating Licence which would require them to provide appropriate hardware to enable delivery of services over the infrastructure. FO would be responsible for replacing any faulty equipment during this period and would be liable for any technology refresh during this term, although equipment upgrades to provide feature enhancements may well be deployed on a commercial basis, with the onus for paying for such upgrades falling upon the service providers or the subscriber.
- 5.3.7 As the network is developed, FO would encourage the creation of a Community Service Provider, based on site, which would take over the customer care and billing responsibilities, leaving FO to concentrate on network operation.
- 5.3.8 FO can currently provide up to 100 Mbps download speeds.
- 5.3.9 PBA has held discussions with FO who has confirmed that they would be interested in supplying the proposed development at Vastern Road.

## 5.4 Hyperoptic

- 5.4.1 Hyperoptic are a separate alternative fibre provider who specialise in high download speeds.
- 5.4.2 Hyperoptic will deliver a fibre connection from their network directly to a central communications cabinet within the development and terminate it on an optical fibre switch.
- 5.4.3 A series of cabinets would be located within the site, these will house fibre/copper cables, terminations points and switches. Each of these cabinets will require a LV connection off the electricity network.
- 5.4.4 There is no financial model for the proposal by Hyperoptic. They will free issue all the infrastructure and undertake the internal fit out works themselves.
- 5.4.5 Hyperoptic can currently provide up to 1 Gbps download speeds.
- 5.4.6 PBA has held discussions with Hyperoptic who has confirmed that they could provide infrastructure for the development. Hyperoptic has also confirmed that they would be accepting of dual laying with Openreach to supply the development.

## 5.5 Further Providers

- 5.5.1 There are further alternative fibre providers that have not been contacted at this stage of the development. Additional providers (some of which have been listed below) should be contacted and assessed at the detailed design stage.
  - SSE Telecoms
  - Virgin Media Telecoms
  - Vodafone Telecoms

## 5.6 Preferred Approach for Vastern Road

- 5.6.1 There are a range of options for the delivery of superfast broadband for 53-55 Vastern Road. It is Berkeley Homes intention to provide the latest specification in broadband capacity for the site, delivering superfast broadband to all premises.
- 5.6.2 For the following reasons it is considered at this stage that having both Openreach and Hyperoptic are likely to provide the optimum service for supplying the development:
- Hyperoptic currently provide faster broadband speeds than other providers (up to 1 Gbps);
  - Openreach are obliged to allow line rentals, thus ensuring end users have flexibility of supplier;
  - There is Openreach infrastructure in proximity to the development, reducing the level of civil works that may be required to supply the site. It should be noted that cable works may still be required.
- 5.6.3 It should be noted that this is preliminary advice and the installation strategy will be confirmed at the detailed design stage.

## 6 Conclusions

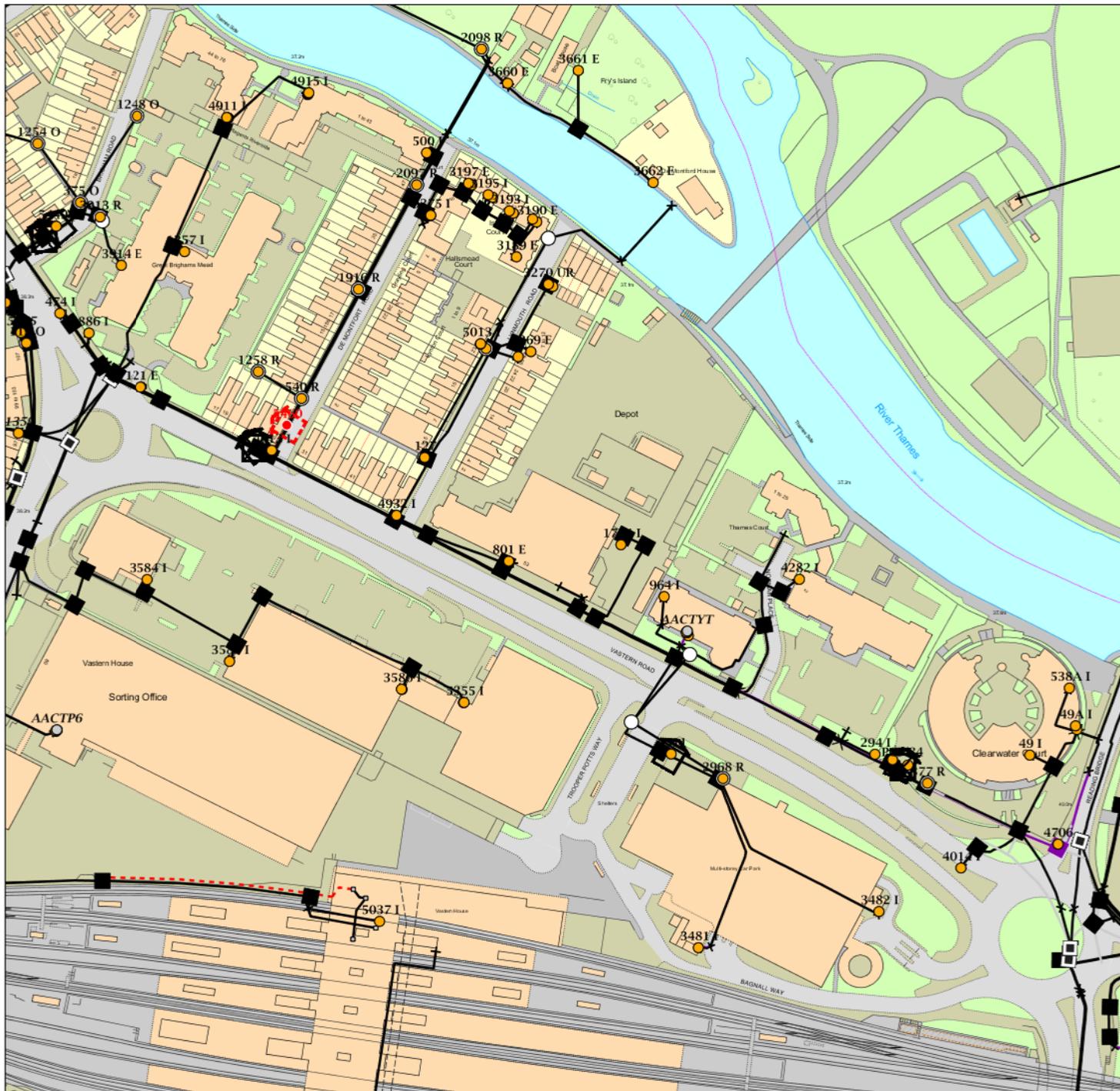
- 6.1.1 This SBSS has been prepared to address item 19 of RBC's planning validation checklist (December 2016). It outlines how the client has considered facilitating the proposed development with superfast broadband (speeds of 24 Mbps and more) and the discussions to date with potential operators.
- 6.1.2 There are a range of potential options for the delivery of superfast broadband at this site. This SBSS has focussed on Openreach, Fibre Options, Hyperoptic as the best placed companies to provide telecommunication infrastructure to the site.
- 6.1.3 At this stage in the development process, it is considered that a combination of Openreach and Hyperoptic is likely to provide the optimum service for several reasons:
- Hyperoptic currently provide faster broadband speeds than other providers (up to 1 Gbps);
  - Openreach are obliged to allow line rentals, thus ensuring end users have flexibility of supplier;
  - There is Openreach infrastructure in proximity to the development, reducing the level of civil works that may be required to supply the site. It should be noted that cable works may still be required.
- 6.1.4 The preferred superfast broadband installer and installation strategy will be confirmed as the detailed design progresses. This SBSS presents an outline strategy to ensure the provision of the optimum superfast broadband service is available for the site.

## 7 Recommendations

- 7.1.1 It is recommended that once planning permission is granted detailed discussions are held with each of the infrastructure providers as their technologies and funding models may have changed since the production of this report.
- 7.1.2 Disconnections will be required to existing telecommunications infrastructure. Early liaison with the undertakers is advised.
- 7.1.3 Should Openreach and Hyperoptic be taken forward, it is advised that designs are obtained at the earliest opportunity to ensure that the infrastructure can be accommodated within the development proposals.
- 7.1.4 As per the NPPF all proposed telecommunications infrastructure laid or constructed should be designed to have the least (as reasonably practical) effect on the local amenities.

# Appendix A Telecommunications Asset Records

# Maps by email Plant Information Reply



## IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



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BT

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## KEY TO BT SYMBOLS

|             |  |
|-------------|--|
| DP          |  |
| Planned DP  |  |
| PCP         |  |
| Planned PCP |  |
| Built       |  |
| Planned     |  |
| Inferred    |  |
| Building    |  |
| Kiosk       |  |
| Hatchings   |  |

|                 |  |
|-----------------|--|
| Pole            |  |
| Planned Pole    |  |
| Joint Box       |  |
| Change Of State |  |
| Split Coupling  |  |
| Duct Tee        |  |
| Planned Box     |  |
| Manhole         |  |
| Planned Manhole |  |
| Cabinet         |  |
| Planned Cabinet |  |

Other proposed plant is shown using dashed lines.  
BT Symbols not listed above maybe disregarded.  
Existing BT Plant may not be recorded.  
Information valid at time of preparation

**openreach**  
a BT Group business



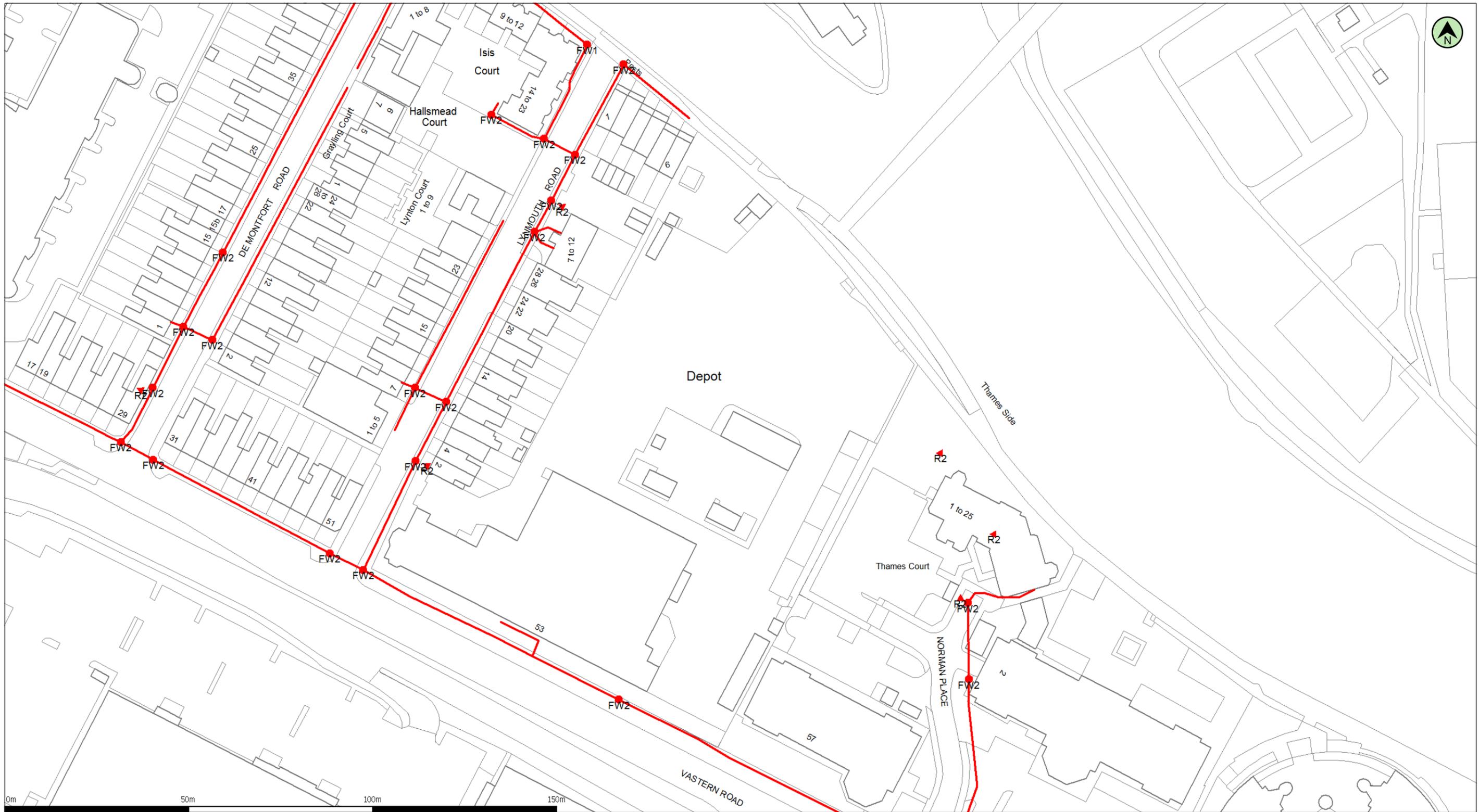
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Map Reference : (centre) SU7153674089

Easting/Northing : (centre) 471536,1740

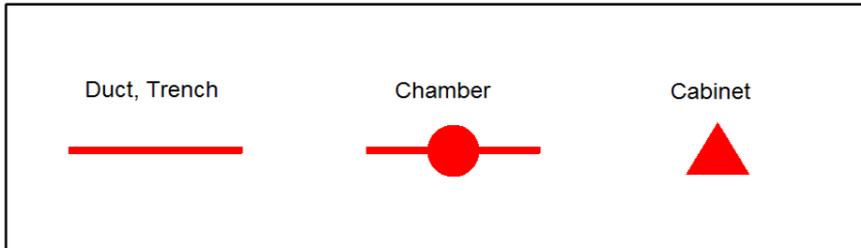
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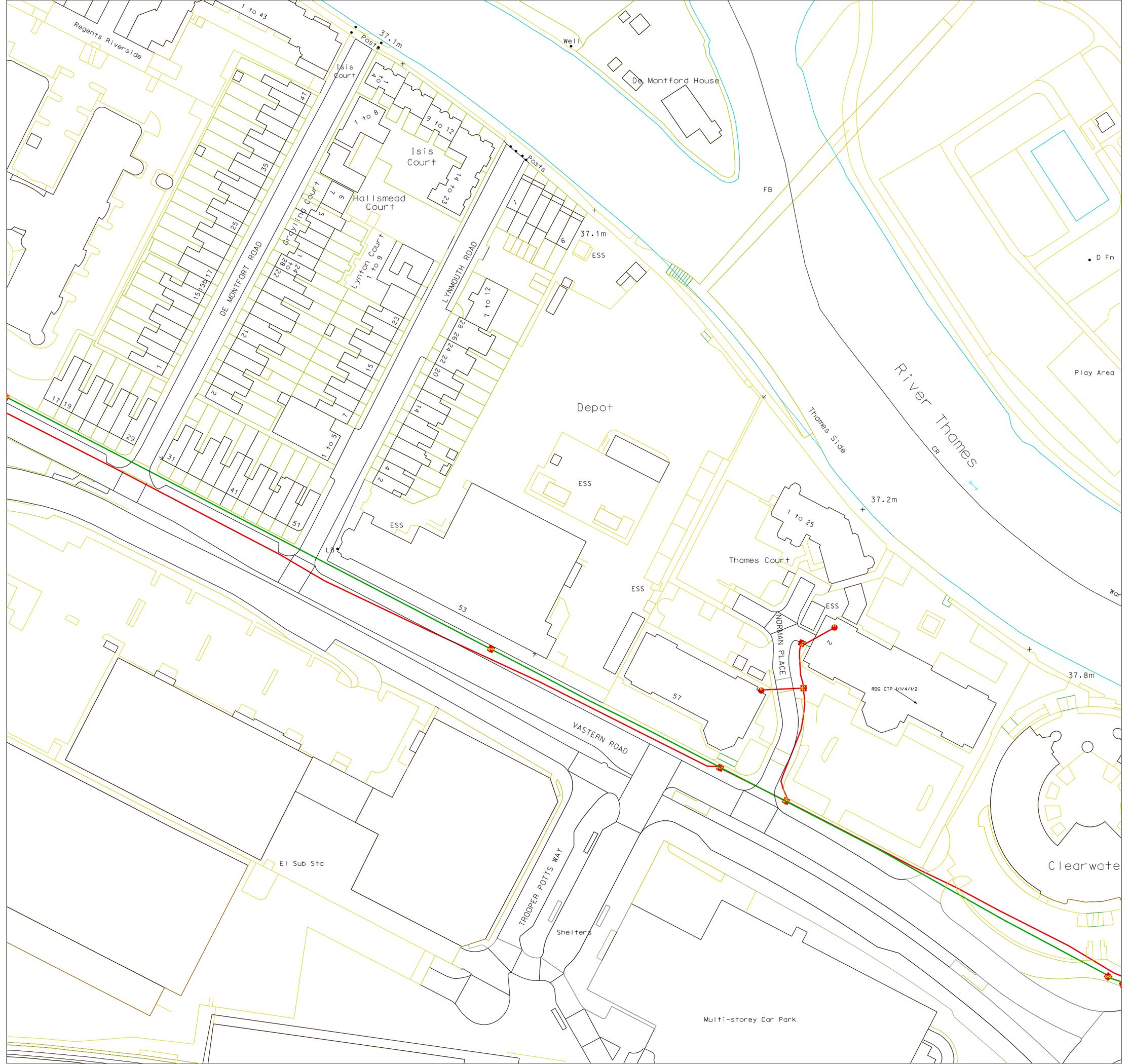
(c) Crown copyright and database rights 2016 Ordnance Survey 100019209      Date: 19/12/16      Scale: 1:1000      Map Centre: 471573,174142      Data updated: 06/11/16      Our Ref: 208213 - 1      Telecoms Plan A3

Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2016 Ordnance Survey 100019209.



|                      |
|----------------------|
| tyau@peterbrett.com  |
| 39444 - Vastern Road |
|                      |





Regents Riverside

1 to 43

37.1m

Isis Court

Isis Court

Hallismead Court

Lynton Court

Lynton Court

DE MONTFORT ROAD

LYNOUTH ROAD

Depot

River Thames

Thames Side

37.2m

Thames Court

NORMAN PLACE

37.8m

VASTERN ROAD

Clearwater

Multi-storey Car Park

E1 Sub Sta

TROOPER POTTS WAY

Shelters

RDG CTP 1/14/1/2

FB

D Fr

Play Area

Well

De Montford House

Posts

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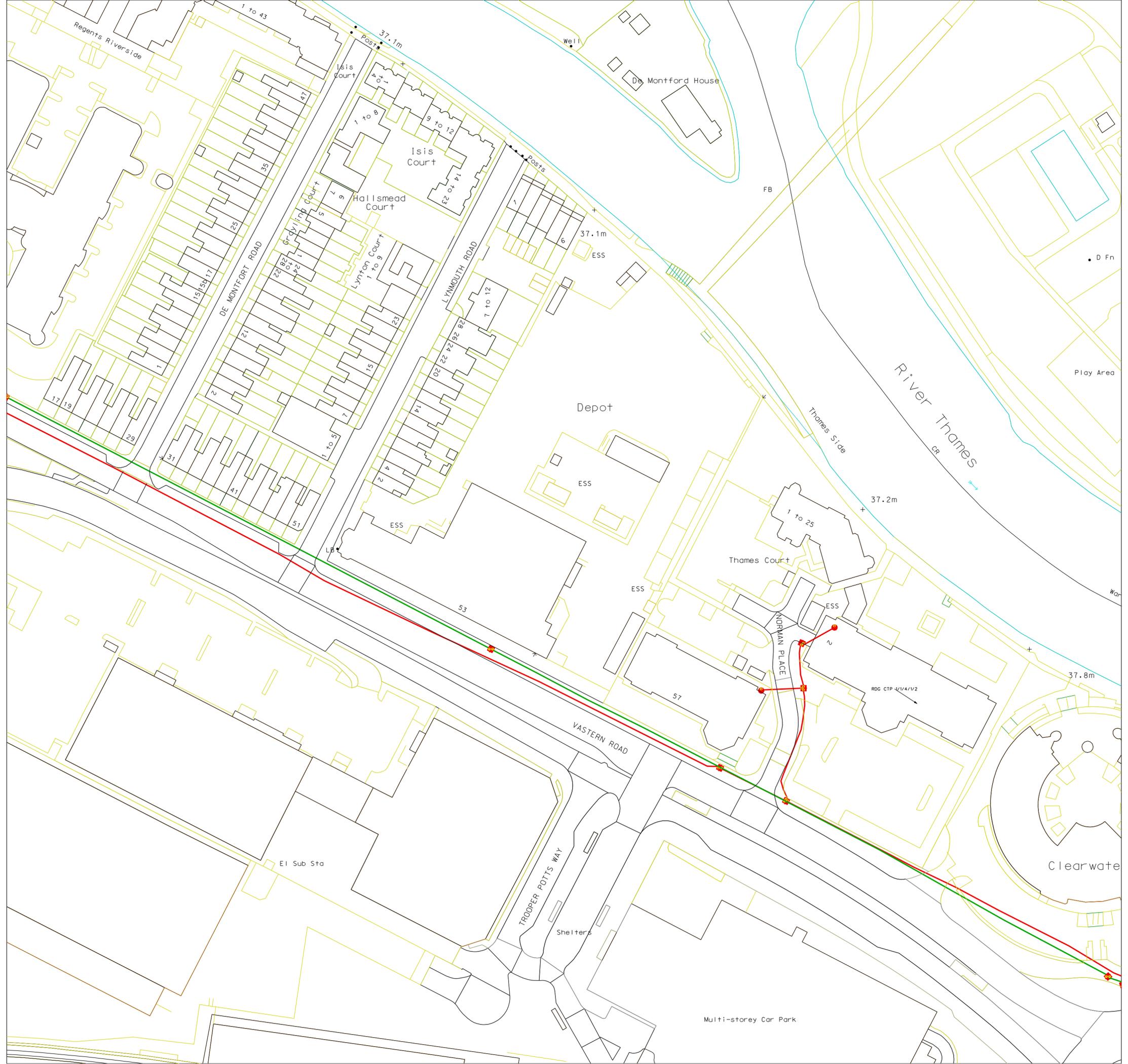
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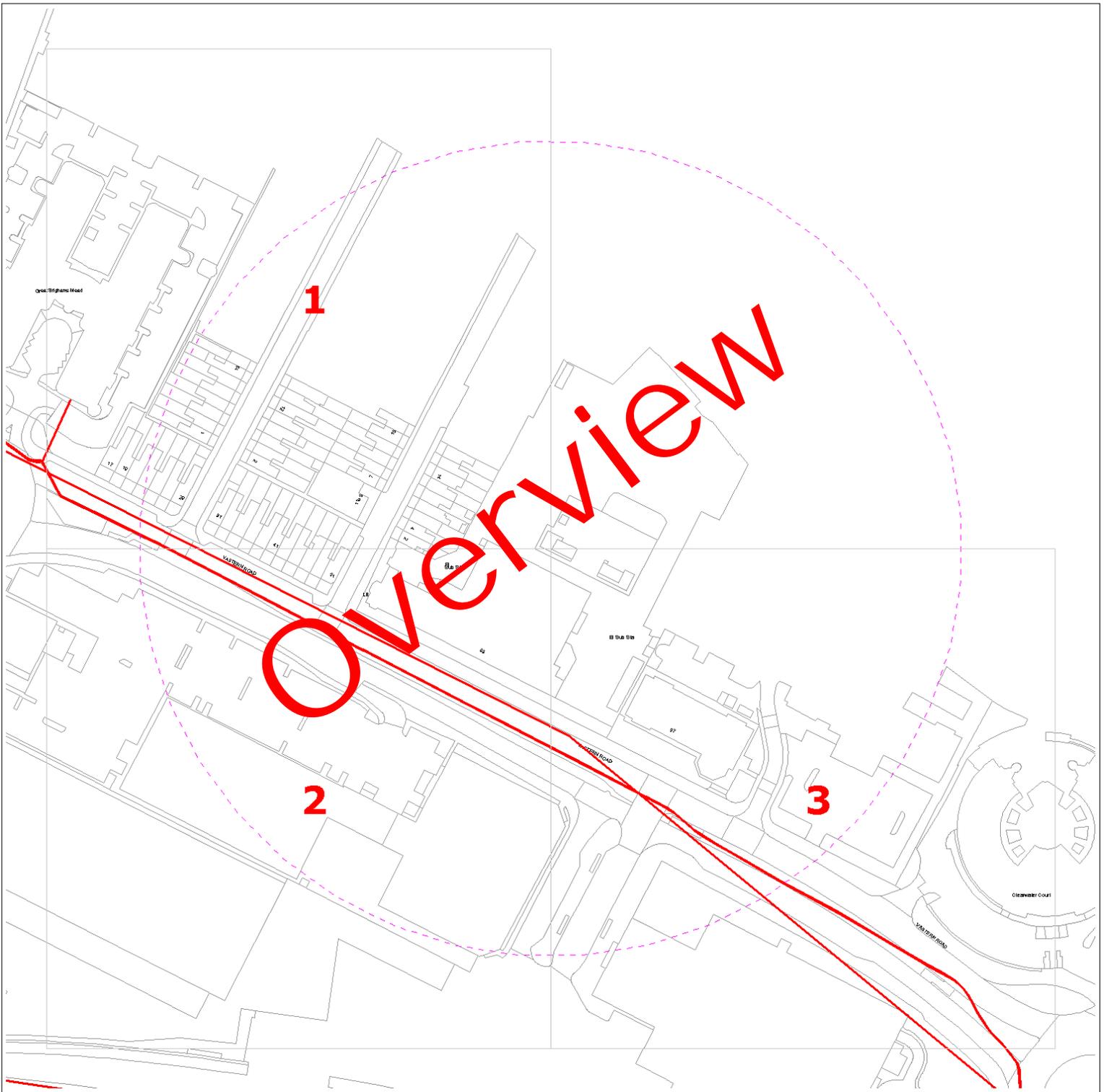
7 to 12

LB

1 to 25

2





Date Requested: 19/12/2016

Requested by: Timothy Yau

Company: Peter Brett Associates

Job Reference: 9608153

Your Scheme/Reference: 39444 - SSE Vastern Road

 ZAYO DUCT

 or  ZAYO CHAMBER

Dig Sites: Line  Area 

Scale on A4 paper: 1:1000



4th Floor Harmsworth House  
13-15 Bouverie Street  
London EC4Y 8DP



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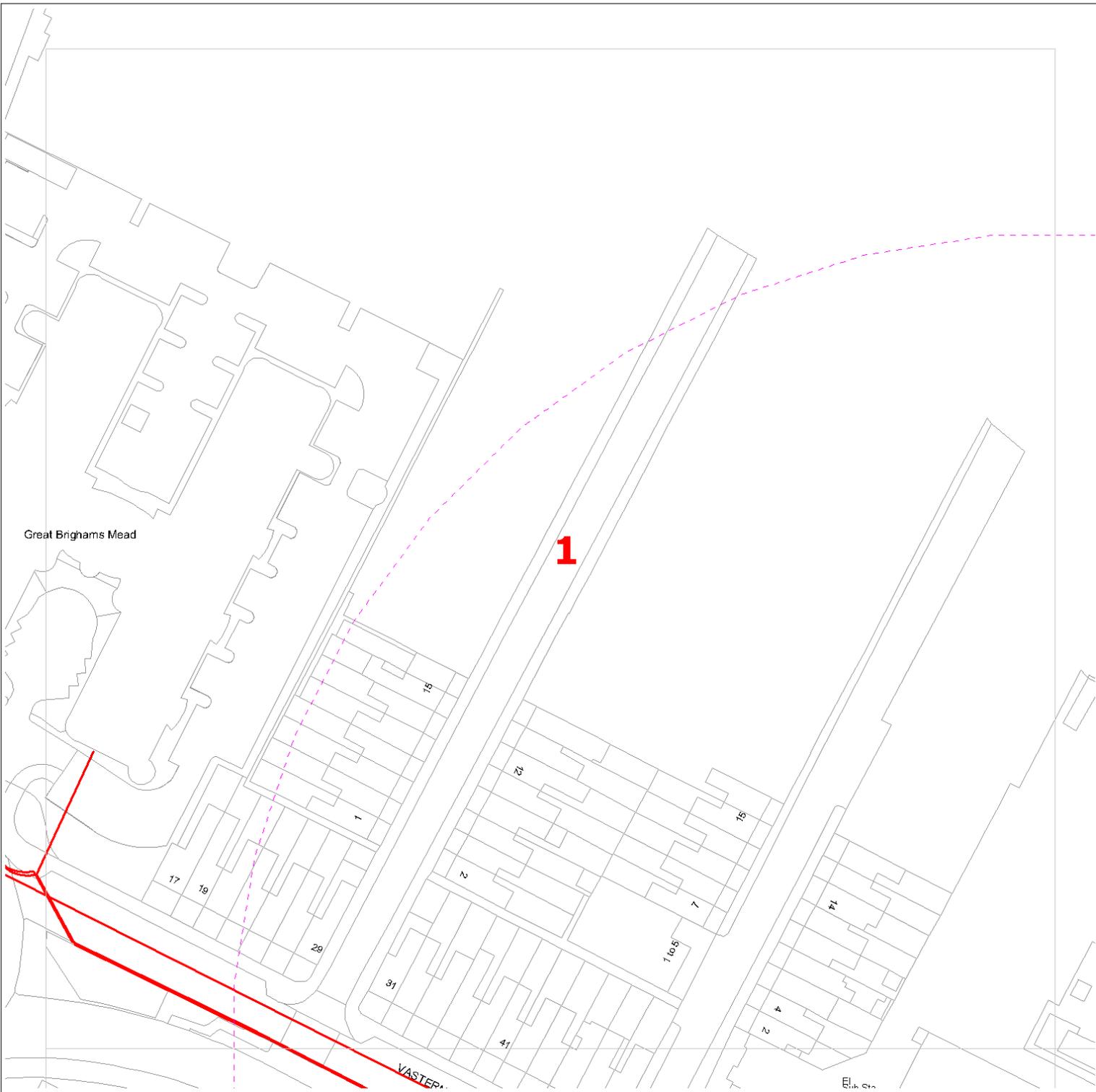
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Date Requested: 19/12/2016

Requested by: Timothy Yau

Company: Peter Brett Associates

Job Reference: 9608153

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 or  ZAYO CHAMBER  
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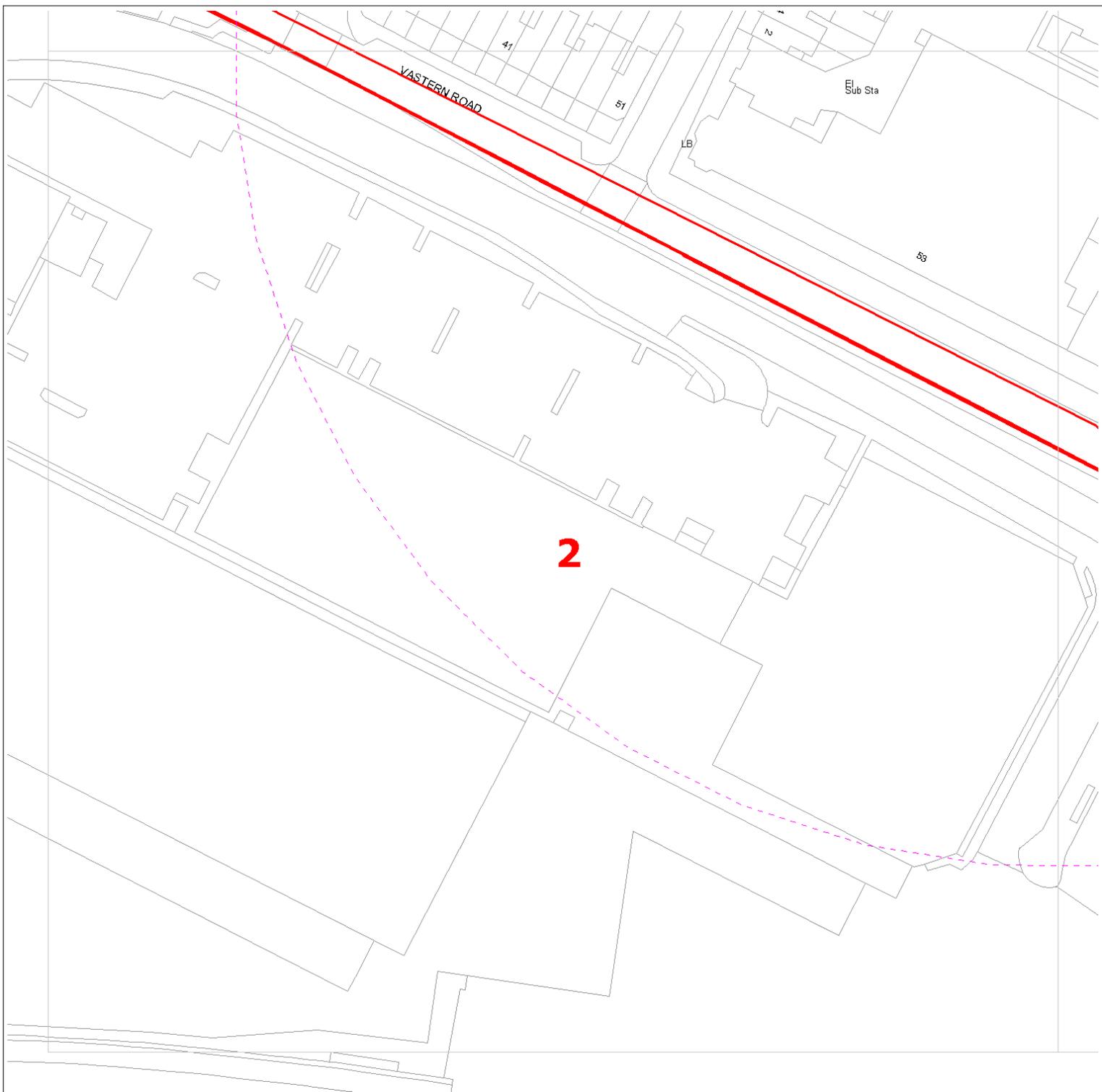
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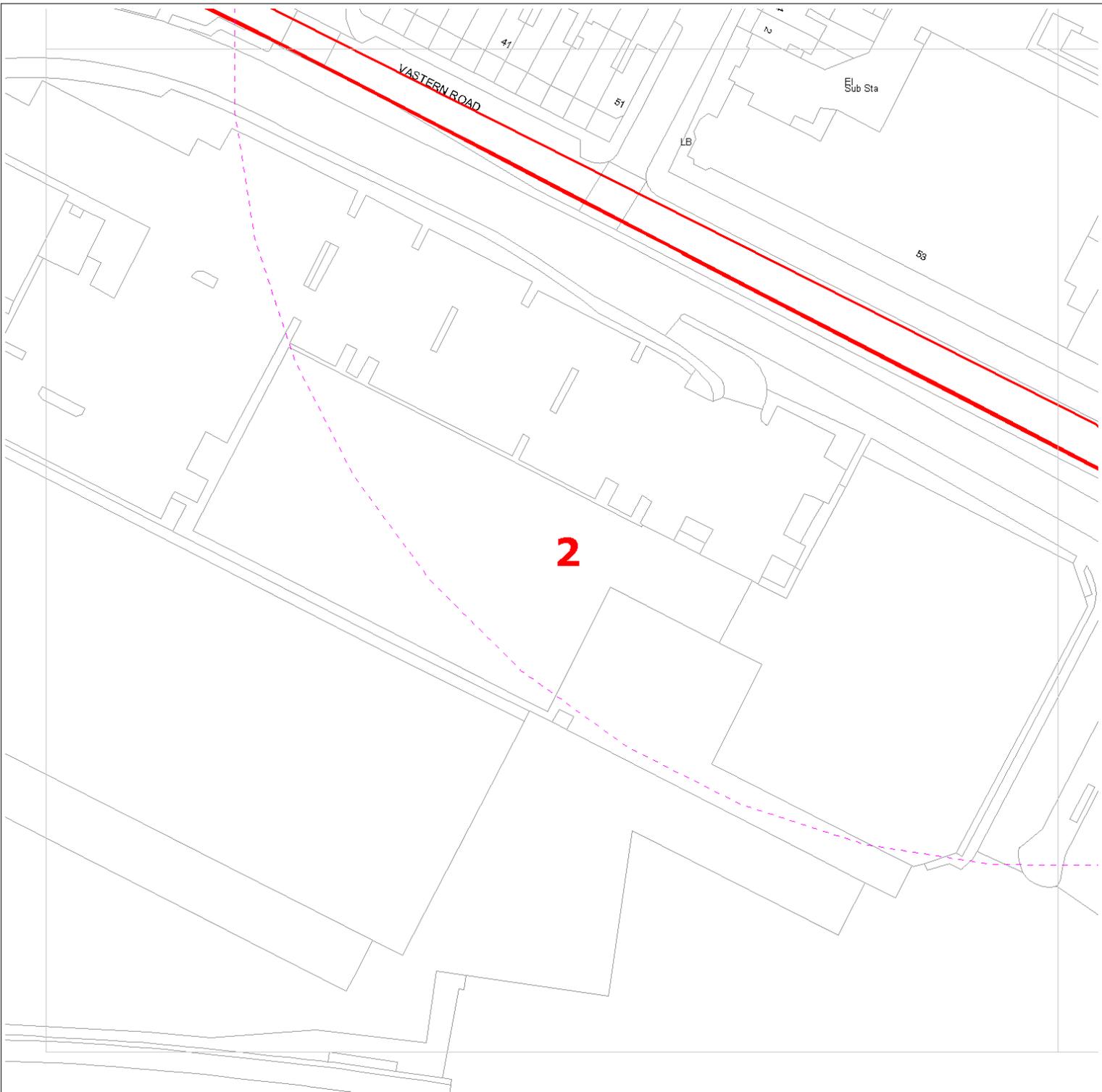
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