



CHARLTON RIVERSIDE

PHASE 1

UTILITIES ASSESSMENT

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CHARLTON RIVERSIDE: PHASE 1
NOVEMBER 2016



OCSC

O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers



CHARLTON RIVERSIDE: PHASE 1

Utilities Assessment



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CONTENTS	Page
1.0 INTRODUCTION	1
1.1 EXISTING SITE DESCRIPTION	1
1.2 LIMITATIONS OF REPORT	2
1.3 BASIS OF INCOMING SERVICES SIZING	2
2.0 ELECTRICITY	3
2.1 EXISTING SERVICES	3
2.2 PROPOSED NEW ELECTRICITY SERVICES	5
2.3 PROPOSED SITE ELECTRICITY LAYOUT	5
3.0 GAS	6
3.1 EXISTING SERVICES	6
3.2 PROPOSED NEW GAS SERVICES	7
3.3 PROPOSED SITE GAS SERVICES	7
4.0 WATER	8
4.1 EXISTING SERVICES	8
4.2 PROPOSED NEW WATER SERVICES	8
4.3 PROPOSED SITE WATER SERVICES	8
5.0 TELECOMMUNICATIONS	9
5.1 EXISTING SERVICES	9
5.2 PROPOSED NEW TELECOMMUNICATIONS SERVICES	10
6.0 FOUL WATER DRAINAGE	11
6.1 EXISTING SERVICES	11
6.2 PROPOSED NEW FOUL WATER DRAINAGE	11
6.3 PROPOSED SITE FOUL WATER DRAINAGE	11
7.0 CONCLUSION	12
7.1 DRAINAGE	12
7.2 GAS	12
7.3 WATER	12
7.4 ELECTRICITY	13
7.5 B.T.	
APPENDIX A	14
APPENDIX B	15
APPENDIX C	16



1. GENERAL DESCRIPTION

1.0 Introduction

This report reviews the existing services upon and available to the proposed development at Charlton Riverside, Anchor & Hope Lane, London, SE7 7SQ. The proposed development involves the demolition of all buildings and structures on site to provide an area for a new residential development of 975 apartments across two plots A & B, access and associated parking, open space and landscaping. The 975 apartments are split across 11 buildings of varying height and capacity. Plot A having 8 buildings with 537 apartments and Plot B having 3 buildings with 438 apartments.



Figure 1 Charlton Riverside Proposed Site

All location references are from facing the site from Anchor & Hope Lane.

1.1 Existing Site Description

The existing developments cover the two plots A & B which occupy an area of approximately 1.67 Hectares and 0.87 Hectares respectively. Plot A is currently occupied by large industrial warehouses used for tool manufacturing and truck alignment facilities. Plot B is occupied with a large warehouse and parking area for industrial vehicle hire.

The site is located on relatively flat landscape and is in close proximity to the River Thames, approximately 800m north of the development.



Figure 2 Site Location

The surrounding area is made up of mostly of commercial and industrial developments with some small areas of terraced housing located near to the proposed development.

1.2 Limitations of Report

Enquiries have been sent to the appropriate authorities to ascertain this and obtain quotations, limitations or reinforcement works that may prove necessary, as well as copies of the latest records.

This report will be a live document and be updated as new information becomes available.

Local service providers do not generally retain records of “on site” final connections, only the primary infrastructure or points of entry. We therefore recommend that a site services survey, which may involve hand digging, is commissioned to ascertain the exact routes of existing services serving any buildings to remain operational during phase 1 works so any protection or diversion requirements can be established.

1.3 Basis of Incoming Services Sizing

The new supplies to the development will be based on the industry standards.

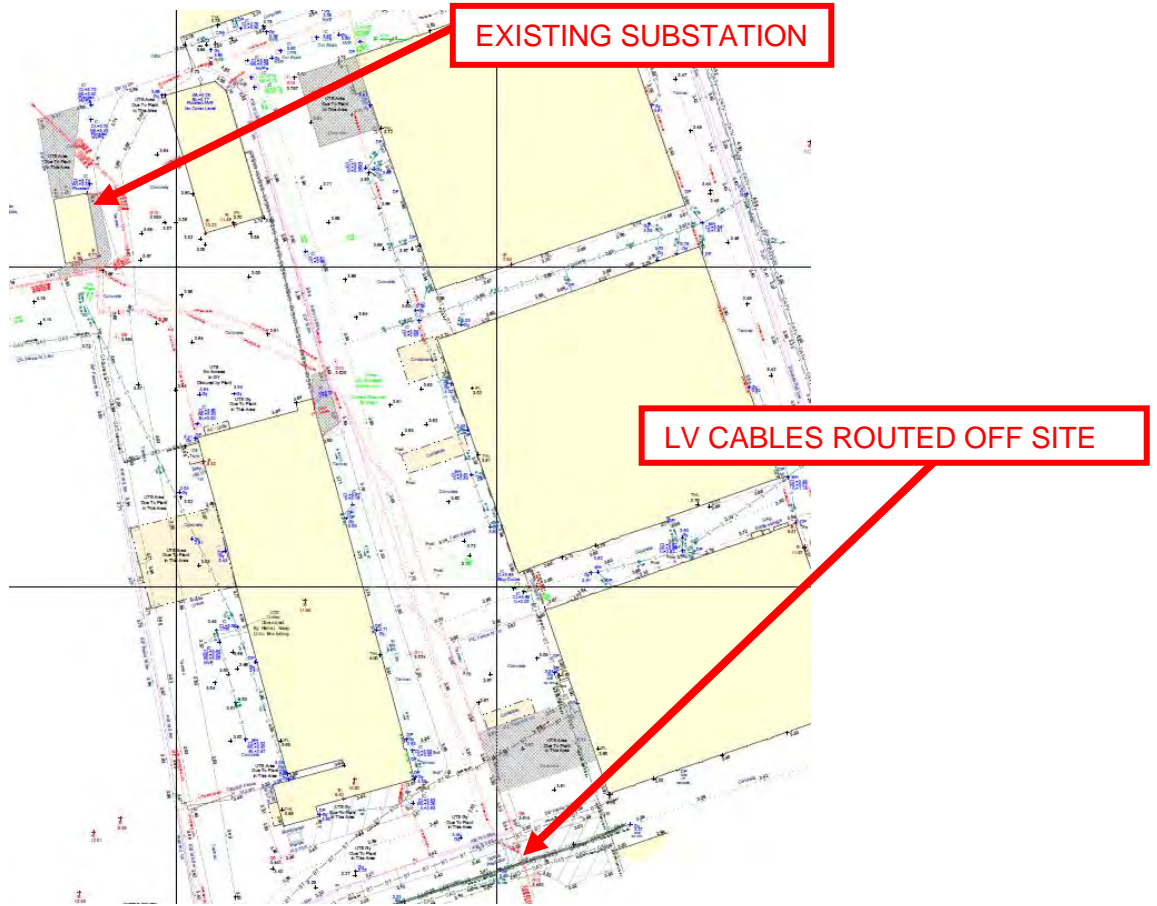


Figure 4 Topo Survey

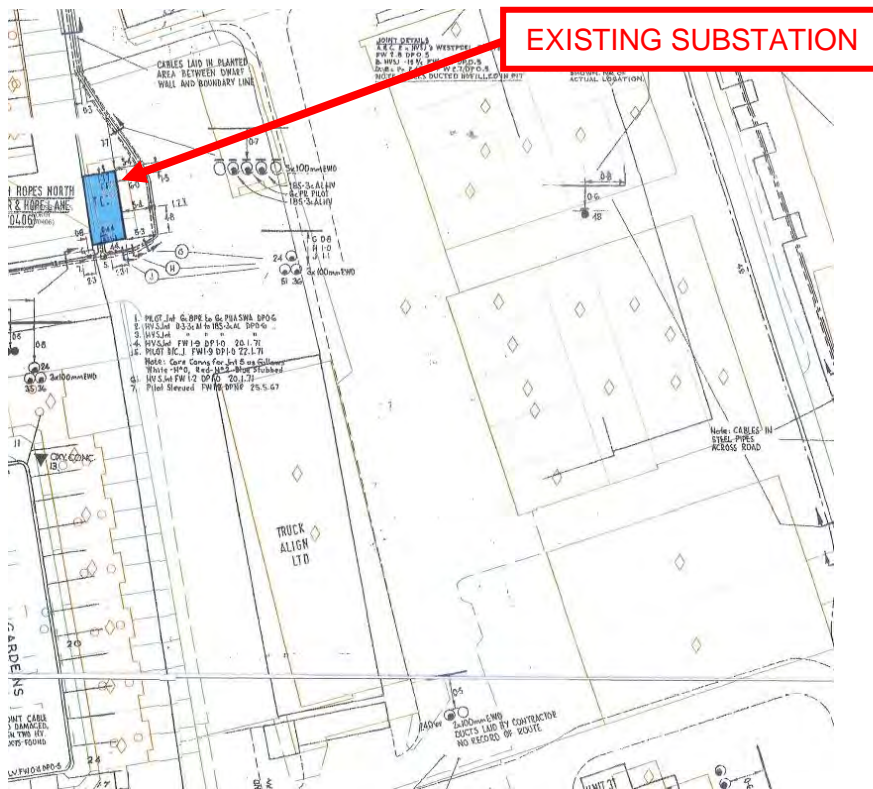


Figure 5 UKPN Drawing



It should be noted that the UKPN drawings do not indicate the LV supplies from the substations to each individual unit on the site.

Refer to existing electrical services plan within appendix B

2.2 Proposed New Services

The proposed development will be served from the existing substations

It is not anticipated at this point that the sub-stations will require upgrading.

The existing substations serve the existing industrial buildings on the site as well as a small proportion of existing services outside the proposed boundary line. When the existing industrial buildings are demolished as part of the re-development this will create additional spare capacity in the existing network.

Based on a proposed new site loading for Site A of 1004kVA and Site B of 906kVA, this gives a total proposed future site demand of 1910kVA. It is understood that the sites 3 no. substations are 1000kVA each, giving an existing site capacity allowance of 3000kVA.

2.3 Proposed Site New Services

The proposed layout is detailed on OCSC's drawing CSK/001 Rev A in Appendix A



3.0 GAS

3.1 Existing Gas Services

Scottish Gas Networks (SGN) are the gas providers for this area and have advised that the following gas networks exist around the development and surrounding areas. These include;

- Low pressure gas network
- Intermediate pressure gas network
- High pressure gas network

The extent of the low pressure gas pipe is laid either side of Anchor & Hope Lane and also serves the two small residential terraced housing plots located near the development and surrounding commercial developments.

Low and intermediate pressure pipework lies in the lane that runs through the industrial estate running east from Anchor and Hope Lane. The current facilities that occupy the proposed development areas are served from the low pressure gas network. The intermediate network also runs in close proximity to the front of the existing vehicle hire warehouse parallel to Anchor & Hope Lane and the boundary of the site.



Figure 6 SGN Gas (LP in Red, IP in Green, HP in Yellow)

The intermediate and high pressure gas network is routed from Bugsby's Way. The intermediate gas network serves the development as mentioned above. The high pressure



gas network runs south on Anchor and Hope Lane away from the existing development, but, a tee connection runs to the south of the vehicle hire facilities and connects into the intermediate network at that point.

3.2 Proposed New Services

The proposed development will be provided with new gas supplies from the existing low pressure gas (LPG) main running along Anchor and Hope Lane and the existing LPG line running through the industrial estate.

It is proposed to have multiple connections, one connection serving each building 11 no. in total.

The anticipated gas demand for the total residential gas supply is 585.9m³/hour, with an annual demand of 23652197.1 kW hours.

3.3 Proposed Site Gas Supply Layout

The proposed layout is detailed on OCSC's drawing CSK/002 Rev A in appendix A



4.0 WATER

4.1 Existing Services

Thames Water is the main utility provider of water for this area. The main water pipework runs either side of the road in Anchor & Hope Lane. The side of the road closest to the site has a 125mm HPPE pipework running parallel to the existing development. There is a customer connection point at the entrance to the drive into the existing industrial estate, and it is assumed that this serves the existing development as neither the map of waterworks provided by Thames Water nor the topographical survey indicate any water mains within the boundaries of the site.

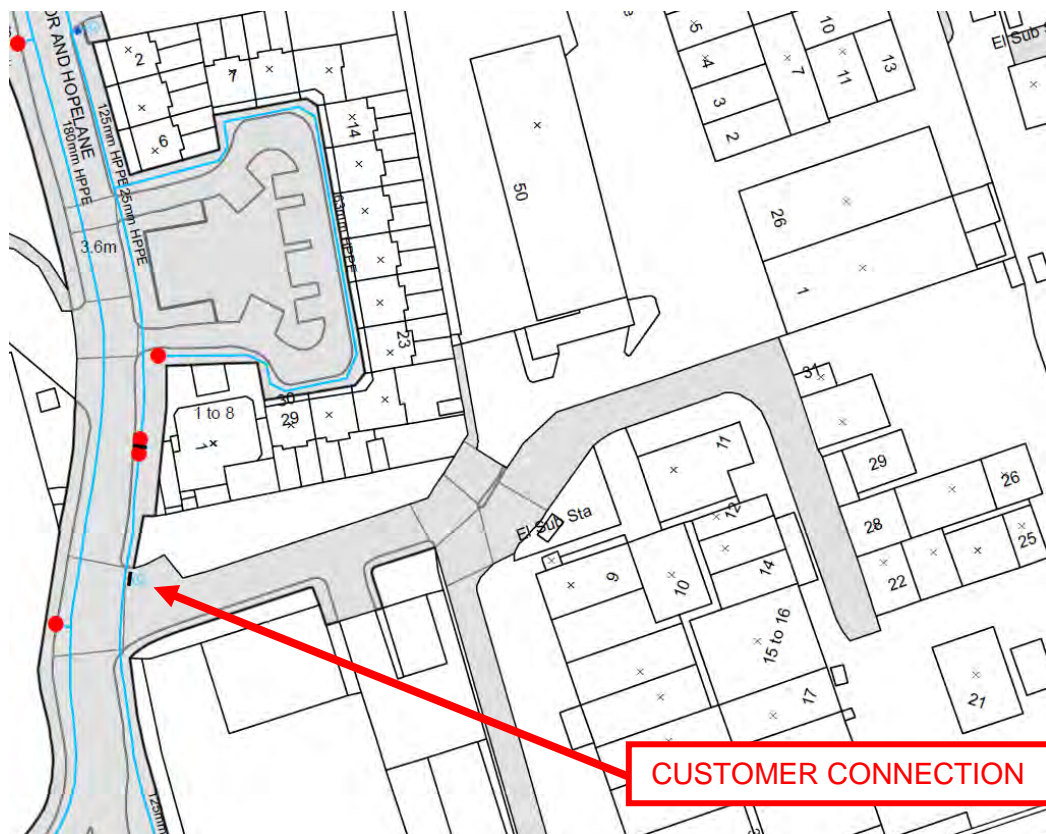


Figure 7 Customer Connection into Proposed Site

On the opposite side of Anchor & Hope Lane lies a 180mm HPPE with customer connection points at the entrance into the commercial/retail park. It is assumed that this development is served from this customer connection point. The site is also surrounded by numerous fire hydrants.

4.2 Proposed New Services

It is proposed to serve the new development by connecting into the existing water main on the site side of Anchor & Hope Lane. The connecting pipe will then be located under the access road/ pavement.

4.3 Proposed Site Water Supply Layout

The proposed layout is detailed on OCSC's drawing CSK/002 Rev A in appendix A



5.0 TELECOMMUNICATIONS

5.1 Existing Services

There are numerous existing BT (Open Reach) service running within the site boundary lines. The services are generally routed below ground within a duct/draw pit installation. There is also an existing overhead service to the west of the site.

All of the underground services to the site, apart from one, are derived from Anchor and Hope lane. This service is derived from adjacent industrial park area, and can be isolated and removed at boundary of the site. This service is installed within underground ducts and flush access chambers, so there are no above ground services to be removed.

Various service ducts and in ground access chambers are located across the remainder of the site, which serve the various existing properties on the site. The existing infrastructure can be isolated and removed to suit any new proposed development for the site.

There is an existing overhead line that is routed across the North West corner of the site



Figure 8 BT Services (Underground in Black, Overhead in Purple)

This existing service currently supplies the industrial unit adjacent to Kent Plant and Tools unit. The existing service cuts across the corner of the proposed site, which may affect the proposed buildings on plots 2 and 4-6.

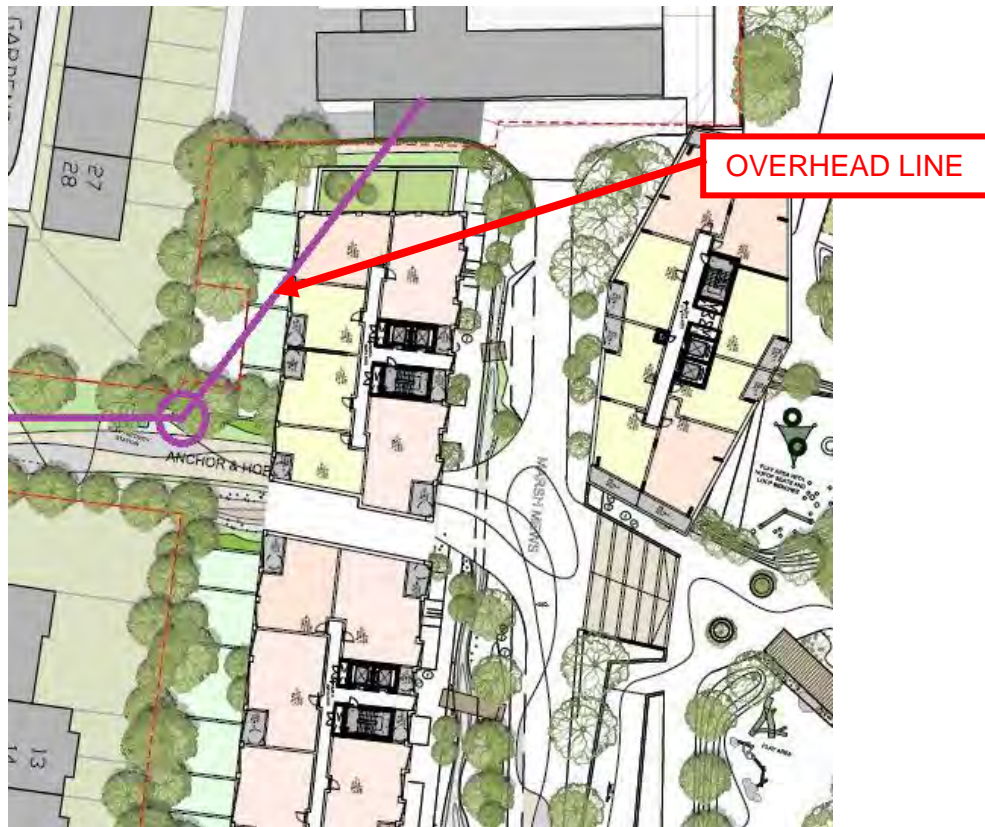


Figure 9 North West Corner of Site

5.2 Proposed New Services and Works

The new development will be served via a new duct and draw pit installation connecting into the existing installation along Anchor and Hope Lane

If the existing overhead service that runs from an existing BT pole located outside of the current boundary line to an existing industrial unit, impacts on the proposed construction of plots 2, and 4-6, then the service will need to be relocated.

It is unlikely that BT will be able to reroute this service below ground back into the existing industrial unit. Therefore a second BT pole would need to be installed between the existing BT pole and the existing industrial unit so to reduce the impact on the proposed development. The new BT pole would need to be installed along the site boundary to the left of plot 2.

The proposed layout is detailed on OCSC's drawing CSK/001 Rev A in Appendix A



6.0 FOUL WATER DRAINAGE

6.1 Existing Services

The existing site is split across 2 plots A+B which are 1.67 hectares and 0.87 hectares respectively and currently there are numerous industrial buildings/businesses situated on the site. The foul/storm discharges from these businesses currently flow via gravity in 100mm/150mm diameter pipes and outfall to the existing Thames Water combined sewer pipe located in Anchor and Hope Lane. For the existing Thames Water Records please refer to Appendix B. The existing foul and storm discharge from the site is shown below;

FOUL WATER

Commercial/Industrial Area = 6100 sqm
Flow = 4 l/day per person/m²
Current peak flow discharge rate: **1.7 l/s**

SURFACE WATER

Size of existing site = 2.4 Hectares
Current discharge rate: **225 l/s**

6.2 Proposed New Drainage Network

The proposed development is to demolish the existing buildings and construct 975 apartments across 11 buildings. The discharge rate of the new development has been calculated as follows:

FOUL WATER

Size of proposed development = 975 units @ 375 l/day per unit
Proposed discharge rate: **25 l/s**

SURFACE WATER

Size of existing site = 2.4 Hectares
Proposed discharge rate: **105 l/s**

It is envisaged that the proposed development will discharge foul and storm water under gravity to the existing 1050Ømm Thames Water combined sewer located in Anchor & Hope Lane. Each new block shall have a separate connection to a new main drain, and each building will have its drainage constructed in accordance with Part H of the Building Regulations Approved Document.

6.3 Proposed New Layout

The proposed layout is detailed on OCSC's drawing CSK/003 Rev A in Appendix A.



7.0 CONCLUSION

7.1 Drainage

The existing site is split across 2 plots A+B which are 1.67 hectares and 0.87 hectares respectively and currently there are numerous industrial buildings/businesses situated on the site. The foul and storm water from these premises are currently routed back into the main combined Thames Water sewer pipe located in Anchor and Hope Lane.

To serve the new proposed development it is envisaged that all buildings located in Plot A and B will discharge foul and storm water under gravity into the existing 1050Ømm Thames Water combined sewer located in Anchor & Hope Lane. Each new building shall have its drainage constructed in accordance with Part H. To ensure that the network can handle the additional capacity it is recommend that a formal application is made through Thames Water.

7.2 Gas

The existing development is surrounded by a mixture of low pressure, intermediate pressure and high pressure gas networks. The low pressure network lies mainly in Anchor and Hope Lane and the existing development located at the site is served via this low pressure network.

It proposed to serve the new development via the existing LPG located in Anchor and Hope Lane. To ensure that the current network capacity can handle the proposed development it is recommended that a formal application is made to SGN.

The anticipated annual gas demand for the development is 23652197.1 Kw/Hrs.

7.3 Water

Thames Water are the main utility provider for this area. A 125mm HPPE lies in Anchor and Hope which runs parallel to the development. It is assumed that the existing development is served via this network as the information provided by Thames Water and the topographical survey do not indicate any internal mains within the site boundary.

It is proposed to serve the existing development via this 125mm HPPE network which lies in Anchor and Hope Lane. It is envisaged to locate the pipework under the access road/pavement and serve each building accordingly. To ensure that the network can handle the additional capacity it is recommend that a formal application is made through Thames Water.

7.4 Electrical

The existing site is currently served via 3No. existing substations that will be retained as part of the redevelopment of the site. The existing substations are understood to be 1000kVA units (3000KVA in total).

The proposed demand for the future development of the site is 1910kVA. To provide an increased level of comfort in relation to existing capacity it is recommended that a formal application is made to UKPN which will ensure that there is sufficient capacity within the existing infrastructure. This capacity could then be secured for an associated charge.



7.5 BT

Generally the existing BT infrastructure to the site will be removed back to the incoming points at the boundary of the site and a new below ground ducting network provided to serve the proposed development.

There is however a single existing overhead BT service that currently serves an existing industrial unit outside the site boundary.

If the existing overhead service that runs from an existing BT pole located outside of the current boundary line to an existing industrial unit impacts on the proposed construction of plots 2 and 4-6, then the service will need to be relocated.

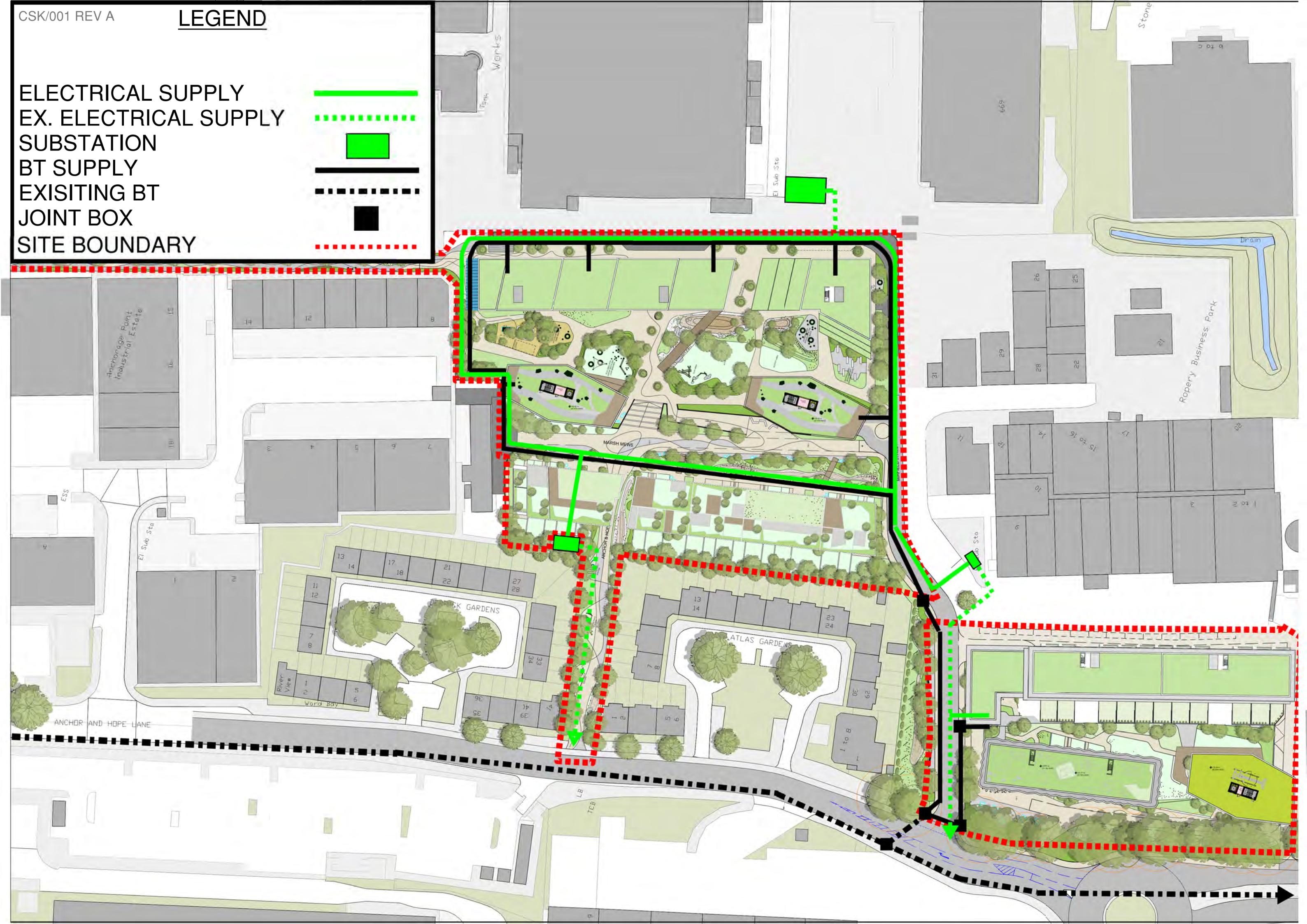
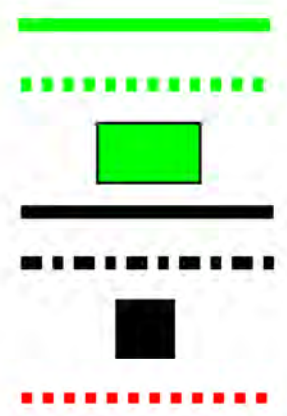
It is unlikely that BT will be able to reroute this service below ground back into the existing industrial unit. Therefore a second BT pole would need to be installed between the existing BT pole and the existing industrial unit so to reduce the impact on the proposed development. The new BT pole would need to be installed along the site boundary to the left of the proposed plot 2.



APPENDIX A

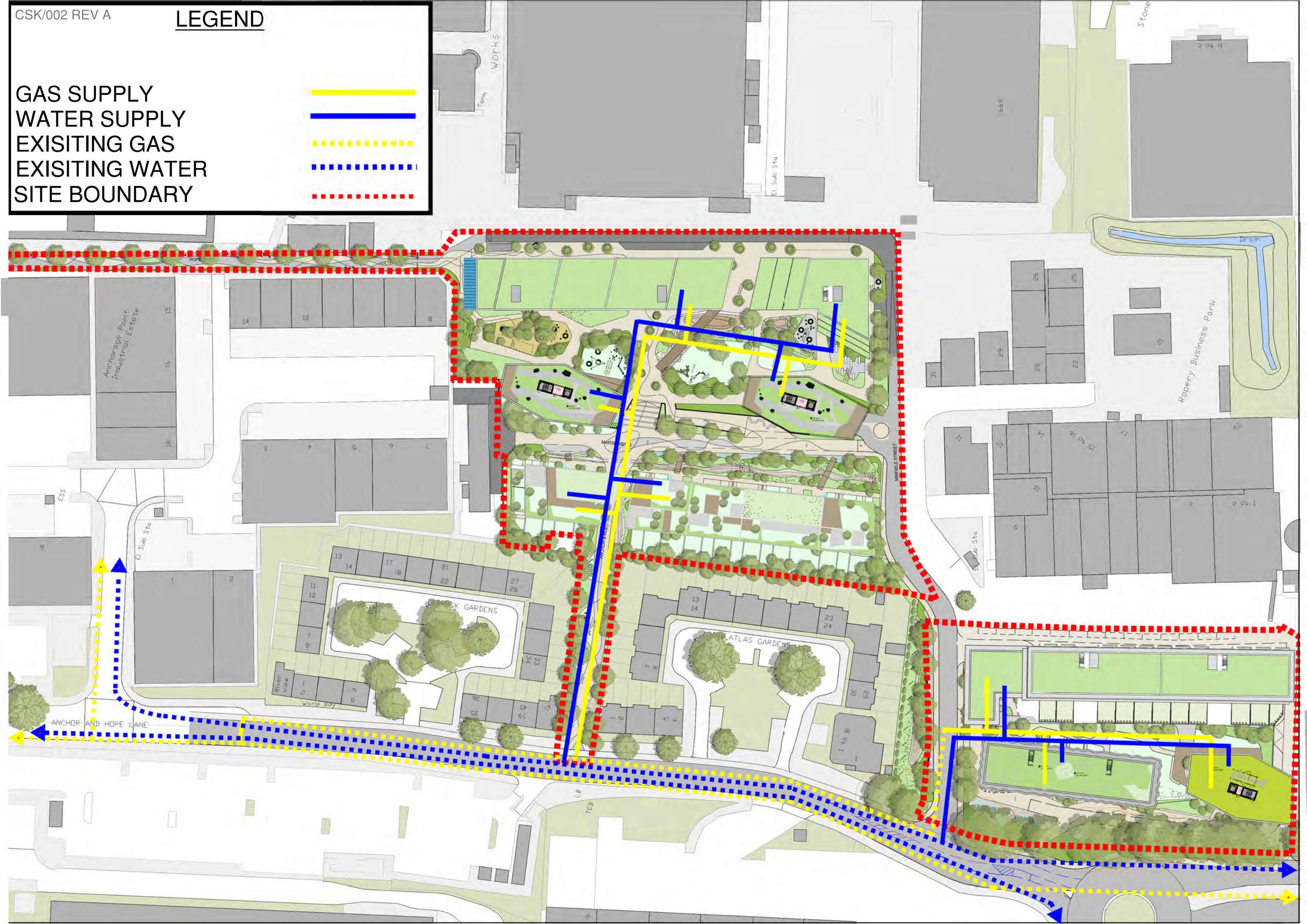
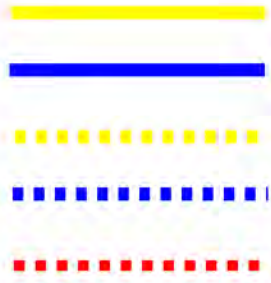
LEGEND

ELECTRICAL SUPPLY
 EX. ELECTRICAL SUPPLY
 SUBSTATION
 BT SUPPLY
 EXISTING BT
 JOINT BOX
 SITE BOUNDARY



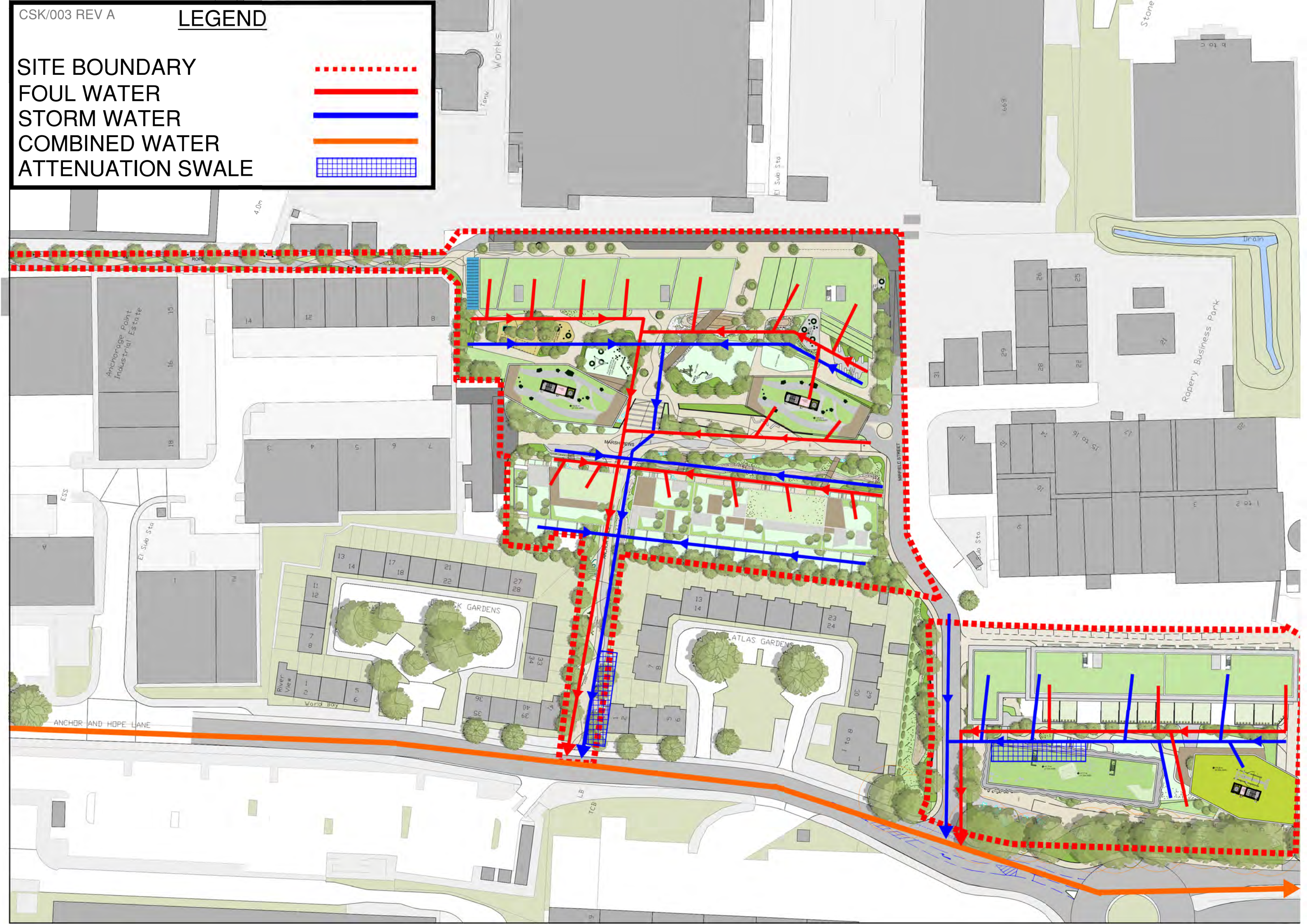
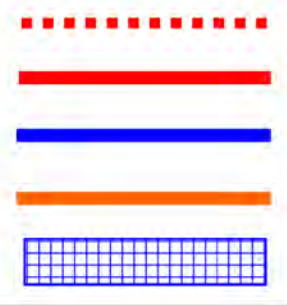
LEGEND

GAS SUPPLY
 WATER SUPPLY
 EXISITING GAS
 EXISITING WATER
 SITE BOUNDARY



LEGEND

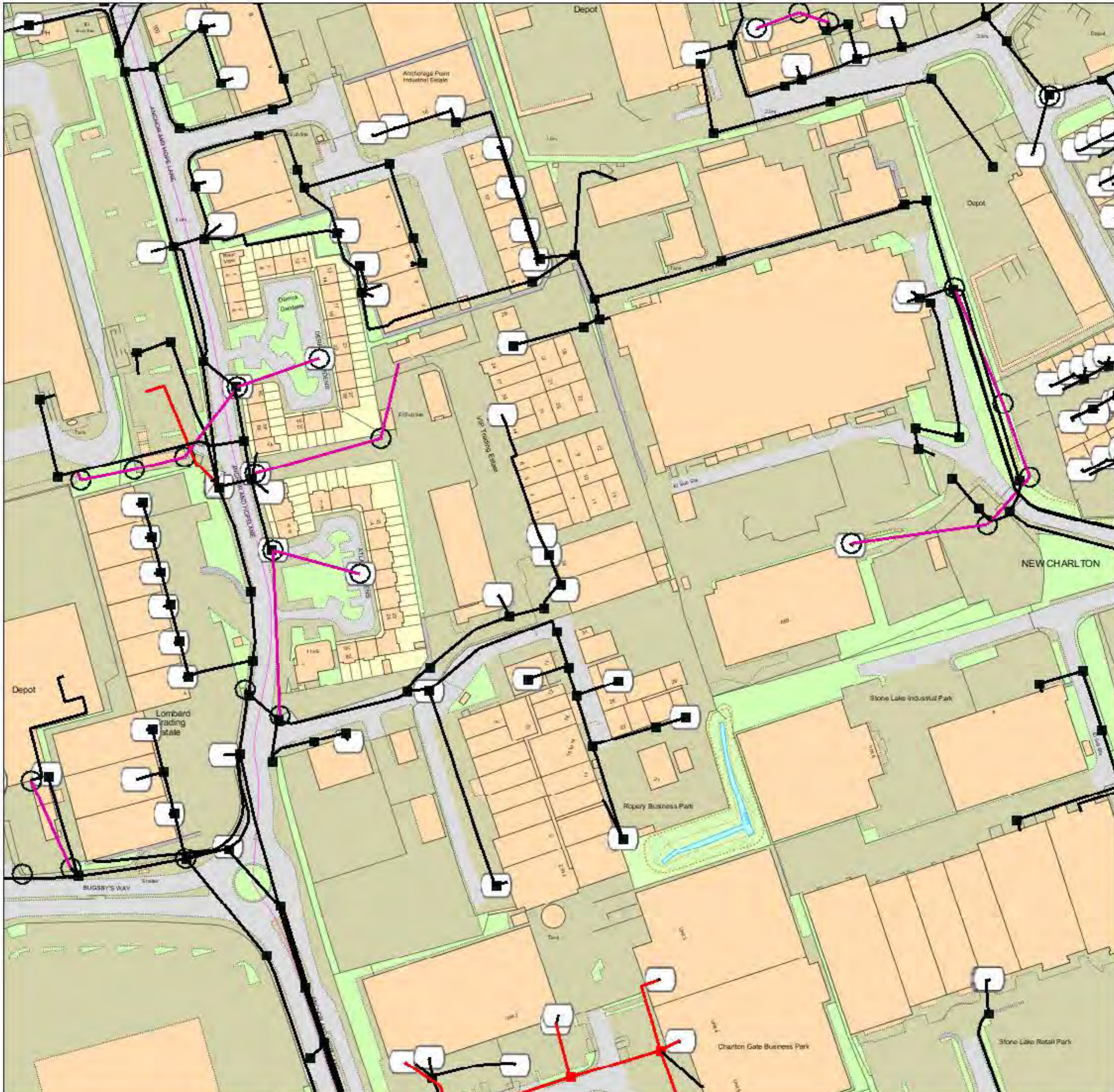
- SITE BOUNDARY
- FOUL WATER
- STORM WATER
- COMBINED WATER
- ATTENUATION SWALE





APPENDIX B

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.

DIAL BEFORE YOU DIG

FOR PROFESSIONAL ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS

ADVANCE NOTICE REQUIRED
(Office hours: Monday-Friday 08.00 to 17.00)

Tel: 0800 9173993
E-mail: dbyd@openreach.co.uk
Website: www.dialbeforeyoudig.com

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KEY TO BT SYMBOLS

	UNDERGROUND PLANT		POLE
	OVERHEAD PLANT		CABINET
	JOINT BOX		BURIED JOINT
	DISTRIBUTION POINT		JOINTING POST
	MANHOLE		PROPOSED U/G
	DP BOUNDARY		PROPOSED O/H
	OTHER BT BOUNDARY		PROPOSED BOX

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

openreach
a BT Group business

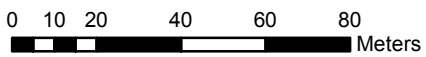
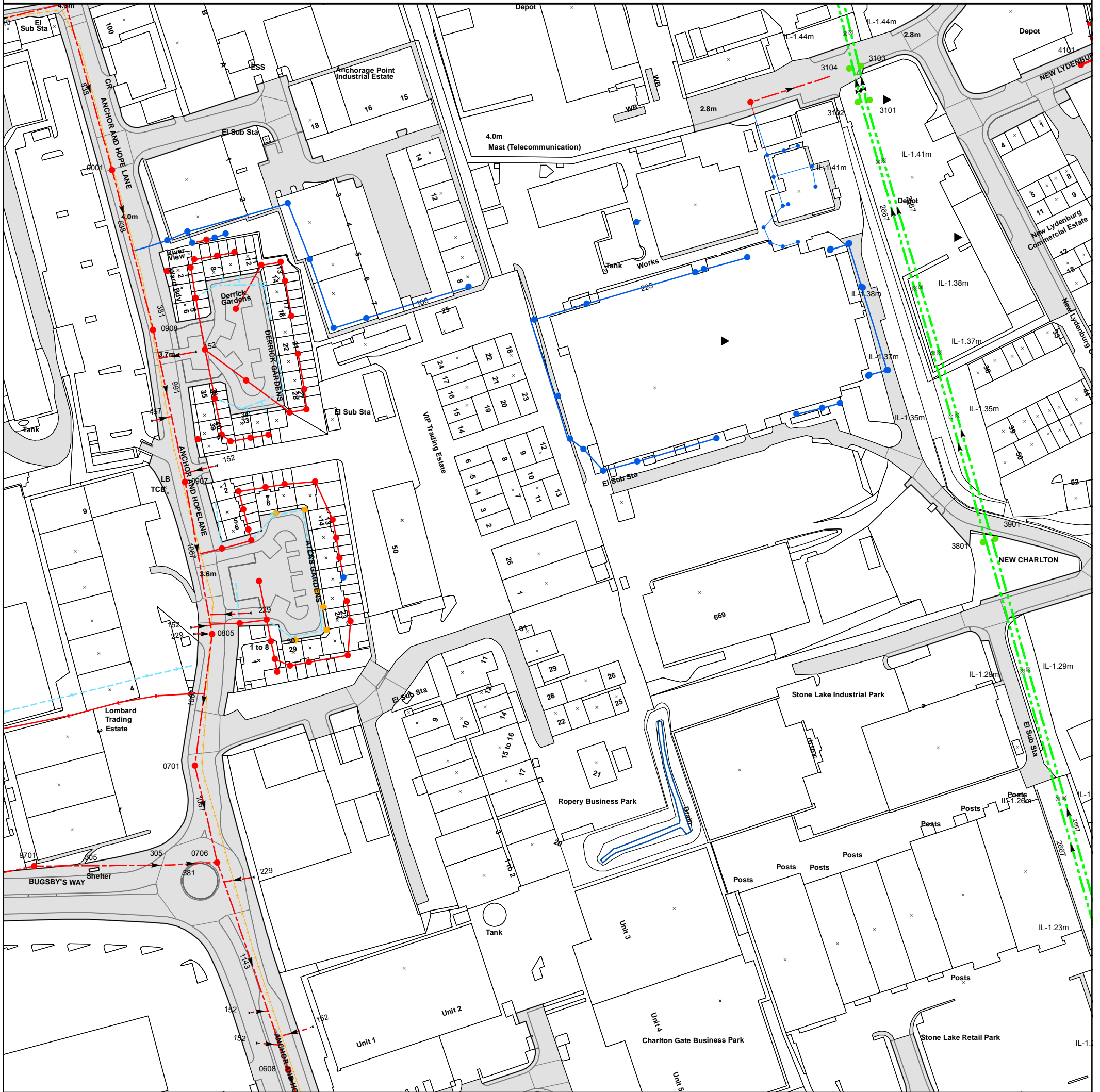
BT Ref : VAI12016U

Map Reference : (centre) TQ4116278897

Easting/Northing : (centre) 541162,178897

Issued : 17/03/2015 12:02:42

FOOTNOTE: WARNING IT IS ESSENTIAL THAT YOU CONTACT NATIONAL NETWORK HANDLING CENTRE BY EMAIL nnhc@openreach.co.uk BEFORE PROCEEDING WITH ANY WORK IN THE HATCHED AREA



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 before any works are undertaken. Crown copyright Reserved



















Scale:	1:1789
Width:	500m
Printed By:	nandinr
Print Date:	20/03/2015
Map Centre:	541184,178897
Grid Reference:	TQ4178NW

Comments:








Sewer Key - Commercial Drainage and Water Enquiry

Public Sewer Types (Operated & Maintained by Thames Water)

-  **Foul:** A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
-  **Surface Water:** A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
-  **Combined:** A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
-  Trunk Surface Water
-  Trunk Foul
-  Storm Relief
-  Trunk Combined
-  Vent Pipe
-  Bio-solids (Sludge)
-  Proposed Thames Surface Water Sewer
-  Proposed Thames Water Foul Sewer
-  Gallery
-  Foul Rising Main
-  Surface Water Rising Main
-  Combined Rising Main
-  Sludge Rising Main
-  Proposed Thames Water Rising Main
-  Vacuum





Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

-  Air Valve
-  Dam Chase
-  Fitting
-  Meter
-  Vent Column




Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

-  Control Valve
-  Drop Pipe
-  Ancillary
-  Weir






End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

-  Outfall
-  Undefined End
-  Inlet






Other Symbols

Symbols used on maps which do not fall under other general categories








-  /  Public/Private Pumping Station
-  Change of characteristic indicator (C.O.C.I.)
-  Invert Level
-  Summit

Areas

Lines denoting areas of underground surveys, etc.

-  Agreement
-  Operational Site
-  Chamber
-  Tunnel
-  Conduit Bridge

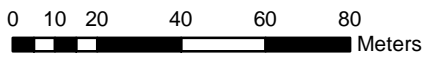
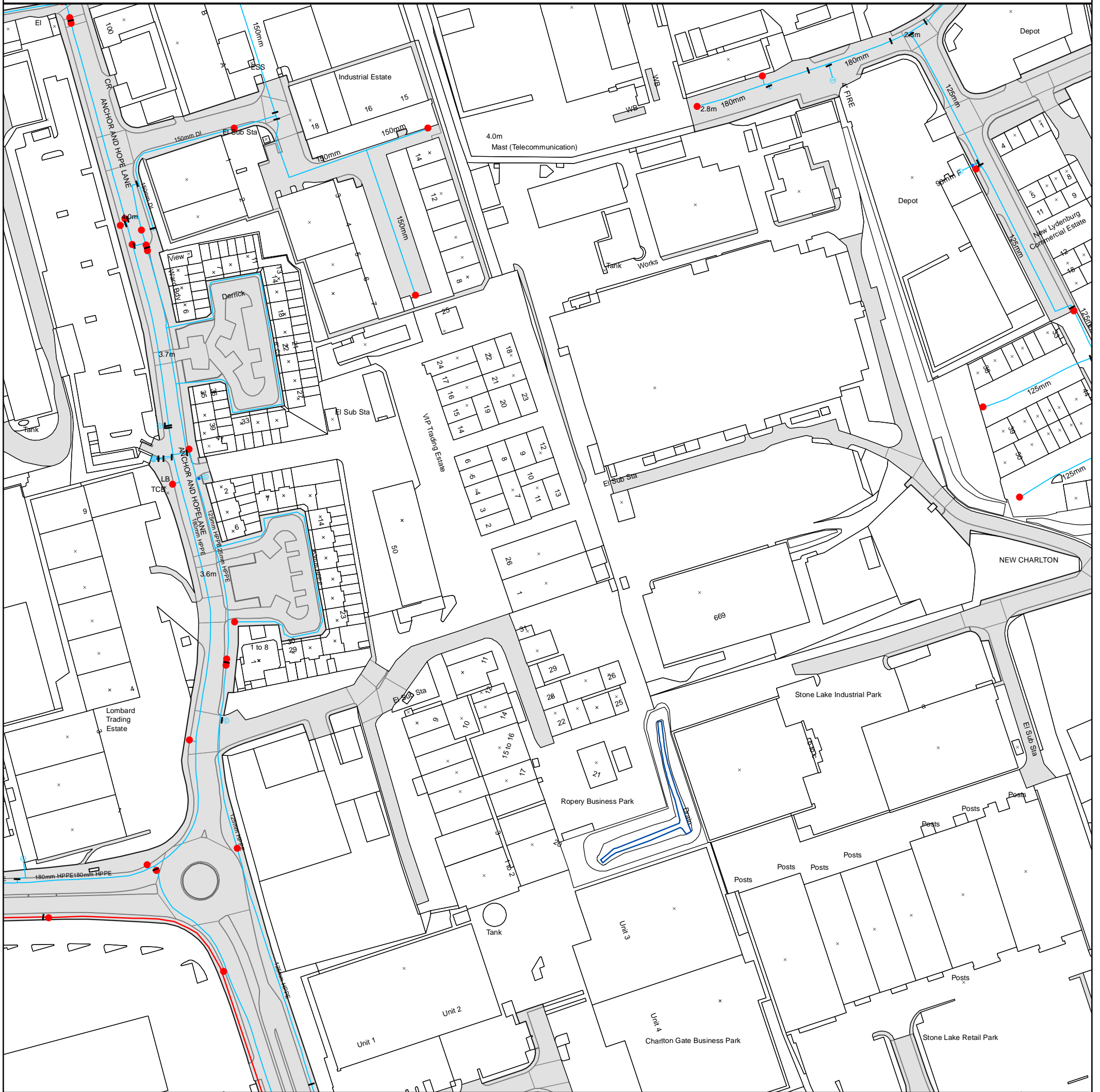
Other Sewer Types (Not Operated or Maintained by Thames Water)

-  Foul Sewer
-  Surface Water Sewer
-  Combined Sewer
-  Gully
-  Culverted Watercourse
-  Proposed
-  Abandoned Sewer

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Searches on 0118 925 1504.



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 before any works are undertaken. Crown copyright Reserved








Scale: 1:1789
Width: 500m
Printed By: nandinr
Print Date: 20/03/2015
Map Centre: 541184,178897
Grid Reference: TQ4178NW

Comments:







Waterworks Key - Commercial Drainage and Water Enquiry


Water Pipes (Operated & Maintained by Thames Water)

- 
4" Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 
16" Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- 
3" SUPPLY Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 
3" FIRE Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 
3" METERED Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
- 
Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
- 
Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

Valves

-  General Purpose Valve
-  Air Valve
-  Pressure Control Valve
-  Customer Valve

Hydrants








-  Single Hydrant

Meters










-  Meter

End Items


Symbol indicating what happens at the end of a water main.

-  Blank Flange
-  Capped End
-  Emptying Pit
-  Undefined End
-  Manifold
-  Customer Supply
-  Fire Supply



Operational Sites

-  Booster Station
-  Other
-  Other (Proposed)
-  Pumping Station
-  Service Reservoir
-  Shaft Inspection
-  Treatment Works
-  Unknown
-  Water Tower

Other Symbols

-  Data Logger

Other Water Pipes (Not Operated or Maintained by Thames Water)

-  **Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
-  **Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

