

Lochailort Reading Ltd
in conjunction with
Canmoor Developments Ltd

UTILITIES REPORT

Outline: erection of 12 storey landmark office building with publically-accessible sky garden, car & cycle parking, and associated works (all matters for consideration other than landscaping)

The Arc, Reading

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1.0 INTRODUCTION

Background

- 1.1 This Statement accompanies and supports an outline planning application (with all matters for consideration other than landscaping) for the comprehensive redevelopment of a former car dealership site that is currently in temporary use as a public car park. The applicants propose the demolition of an existing multi-storey car park and the erection of a single new building of outstanding bespoke design comprising:
- 1.1.1 Modern office accommodation over 10 storeys (levels 01 – 11);
 - 1.1.2 A publically-accessible sky garden, with dedicated Sky Garden welcome lobby accessed from Vastern Road leading to direct public lift access to the Sky Garden;
 - 1.1.3 A Sky Garden on level 12, with a mezzanine sky garden on level 13;
 - 1.1.4 Car and cycle parking in the basement and on mezzanine levels 00, 01 & 02;
 - 1.1.5 Several entrances on Kings Meadow Road to the office reception lobby, giving active frontages to both Vastern Road and Kings Meadow Road;
 - 1.1.6 Car parking and servicing access via the existing site access point at Vastern Court;
 - 1.1.7 Public realm enhancements (proposed at this stage in outline only);
 - 1.1.8 Reservation of land along the Kings Meadow Road frontage to provide for the Local Authority's highway improvement works that will facilitate the *Mass Rapid Transport* (MRT) route in due course.
- 1.2 A more detailed assessment and explanation of the proposed development can be found in the ***Design & Access Statement*** that accompanies the application.

Scope of this report

- 1.3 The purpose of the Report is to identify the following:
- 1.3.1 The position and size of any existing plant in and around the vicinity of the site;
 - 1.3.2 The available networks to serve the proposed development;
 - 1.3.3 The scope of off-site reinforcement works that may be required; and
 - 1.3.4 The scope of any protection/diversion/lowering works that may be required.
- 1.4 The contents of the Report are based upon utility company and public sector records, historical mapping, a ground radar survey by Sumo Survey Services Limited and a topographic survey by Siteline.
- 1.5 An on-site services scan survey has also been commissioned with Sumo Survey Services Limited to confirm the size and location of all services, including drainage, within the boundary of the site.

2.0 EXISTING UTILITIES

- 2.1 All service enquiries were placed at the time of our instruction from Lochailort Investments with most replies being received prior to the compilation of this report.
- 2.2 All written enquiries were followed up with a telephone conversation with the relevant service utility companies, plus Thames Water and Reading Borough Council to confirm details and seek further clarification.
- 2.3 Relevant local utility companies are as follows:
- | | | |
|-------|--------------------|--|
| 2.3.1 | Water and Sewerage | Thames Water |
| 2.3.2 | Gas | Southern Gas Networks |
| 2.3.3 | Electricity | Scottish and Southern Electricity |
| 2.3.4 | Telecommunications | British Telecom |
| 2.3.5 | Other | Vodafone (Formerly Cable and Wireless) |

Thames Water ("TW")

- 2.4 There is a 150 mm diameter Thames Water potable water distribution main located in Kings Meadow Road and Napier Road.
- 2.5 There is a 300 mm diameter TW potable water distribution main located in Vastern Road.
- 2.6 There is a 150 mm diameter service main which crosses the frontage of the site (within the site boundary).
- 2.7 There are two large diameter surface water sewers that cross the site from south to north (under the existing multi-storey car park). These sewers drain a significant proportion of Reading Town Centre, are considered to be critical infrastructure and must be protected from damage by the proposed redevelopment of the site.

Southern Gas Networks ("SGN")

- 2.8 There is a 24" Southern Gas Networks (SGN) gas main along the western edge of the site and an 18" intermediate pressure gas main along Kings Meadow Road.
- 2.9 There is an existing 63 mm PE service connection to the existing showroom and workshops from the 24" gas main.

Scottish and Southern Electricity ("SSE")

- 2.10 There are two 132 kV oil filled underground cables which cross the site. It is understood that these cables are considered to be critical infrastructure and must be protected from damage by the proposed redevelopment of the site.
- 2.11 There are three 33 kV cables which cross the site frontage on to Kings Meadow Road.
- 2.12 There are two 11 kV cables which cross the site frontage on to Kings Meadow Road.
- 2.13 There are Low Voltage (LV) cables along Kings Meadow Road and Vastern Road.

2.14 There is a metered supply that used to serve the previous use of the site and the multi-storey car park.

2.15 National Grid have confirmed that there are none of their apparatus in the vicinity of the proposed site.

British Telecom ("BT")

2.16 There are British Telecom underground cables in both footways along Kings Meadow and Napier Road and along Vastern Road. It is understood that many of the BT cables are optical fibre and therefore will need to be protected from damage by the redevelopment of the site.

Other Telecommunications

2.17 There are (formerly Cable and Wireless) fibre optic telecommunication cables located along Kings Meadow Road and Vastern Road. These cables will also need to be protected from damage by the redevelopment of the site.

Easements and Wayleaves

2.18 The applicants' solicitors have obtained details of existing wayleaves, easements and covenants relating to the Thames Water utilities at the site. The easement granted for Thames Water allows Thames Water the unlimited right (subject to 24 hour notice) to access, inspect, maintain, clean, repair, alter or remove their infrastructure. Thames Water's standard easement for large diameter pipes such as those running under the existing multi-story car park is 3 metres from the outside face of each pipe.

2.19 The 132kV High Voltage cables which run west to east along the Kings Meadow Road frontage of the site are subject to a 6 metre easement (3 metres each side of the cables).

2.20 It is recommended that the 33kV and 11kV cables that are close to the site be protected by a 2 metre no planting zone.

2.21 The Gas mains that are routed along the western (Vastern Road) and northern (Kings Meadow Road) facades of the proposed building are inter-mediate pressure mains and are therefore subject to a 3 metre easement.

2.22 The route of all utilities adjacent to and crossing the site will need to be respected and access for the repair and maintenance will need to be maintained.

3.0 EXISTING DRAINAGE

Watercourses and Culverts

- 3.1 The River Thames is located 145 metres to the north of the site at Reading Bridge.
 - 3.2 Caversham Lock and sluices are located 230 metres downstream of Reading Bridge.
 - 3.3 Historical mapping indicates that a minor water course (referred to as the Portman Brook or Vastern Ditch), which drained the land between the railway line and the River Thames, flowed across the site into Kings Meadow and discharged into the River 450 metres downstream of Caversham Lock.
 - 3.4 Since 1880 as Reading has been developed this watercourse has been enclosed in a box culvert which extends from Richfield Avenue to Kings Meadow Road. The culvert crossed the site frontage.
 - 3.5 The records indicate that the culvert has a box cross section 1.35 m wide and 1.05 m deep. Originally, the invert was concrete, the walls were brickwork and the roof/cover slab was of stone or composite steel/concrete construction. In the 1970's the culvert at the Western end of Vastern Road collapsed and was repaired/replaced.
 - 3.6 The approximate alignment of the culvert is shown on the Constraints Plan at Appendix K.
- #### ***Surface Water Sewers***
- 3.7 A single 900 mm diameter Thames Water surface water sewer passed beneath the railway line. This terminates at a bifurcation manhole inside the southern site boundary.
 - 3.8 From this manhole 900 mm diameter and 975 mm diameter surface water sewers run south to north. These discharge into the culvert described above.
 - 3.9 There are five Thames Water manholes on the site.

Foul Water Sewers

- 3.10 There is a 225 mm diameter Thames Water Foul Water Sewer in Kings Meadow Road and Napier Road.
- 3.11 There is a 150 mm diameter foul water drain which crosses the forecourt of the existing car dealership. This appears to collect flows from the existing buildings on the site and also from the adjacent Napier Court offices. This is not identified as a Thames Water asset on the sewer records but may be maintainable by Thames Water under recent Section 42 legislation.
- 3.12 There is a small underground pumping station at the northwest corner of the existing building. This is not identified as a Thames Water asset. It appears to have been provided in connection with the construction of the existing car showroom and workshops to connect the site to the 225 mm diameter sewer because a conventional gravity connection may have clashed with the 24" gas main and twin 132 kV underground cables.

4.0 PROPOSED UTILITIES

4.1 The proposed utilities works are summarized under four headings:

- Plant to be retained and protected;
- Plant to be removed or diverted;
- Development services (new supplies);
- Network reinforcement.

Plant to be retained and protected

4.2 The utilities plant set out below will be accurately located, retained and protected during demolition and building operations:

- Thames Water mains Kings Meadow Road and Vastern Road;
- Twin 132 kV underground cables;
- Two 33 kV underground cables;
- Three 11 kV underground cables;
- LV and street lighting cables on Kings Meadow Road and Vastern Road;
- BT underground cables in public highway;
- Fibre optic cables in public highway (Cable & Wireless);
- 24" diameter low pressure gas main on western boundary;
- 18" Intermediate pressure gas main in Kings Meadow Road.

4.3 The normal minimum clearance required under wayleaves, easements, New Roads and Street Works Act 1991 (NRSWA) and National Joint Utilities Group (NJUG) requirements is 3 metres. This may be relaxed, subject to the written approval of the relevant utility company.

4.4 The existing LV power supply to the Foul Water pumping station is to be retained and protected, until such time as the pumping station is decommissioned or relocated in connection with the proposed development.

4.5 All existing service connections to the existing showroom and workshops shall be disconnected and made safe prior to demolition.

4.6 The 150 mm diameter water pipe across the forecourt will need to be diverted.

4.7 The BT cables to Napier Court which cross the north east corner of the site may need to be diverted to suit the proposed building footprint.

4.8 The location and protection of existing plant in the vicinity of the site is paramount because these are key services which supply a large number of homes, businesses and community facilities in this part of the town.

Development Services (New Supplies)

4.9 Thames Water has undertaken a pressure test and confirmed that pressure is adequate for general residential and commercial usage.

- 4.10 A new connection is required to replace the existing 63 mm service pipe. The development would be supplied from the existing 24" diameter low pressure main.
- 4.11 A new electricity sub-station is required to supply the development. This would be located in the plant room or service yard.
- 4.12 BT is able to provide high speed broadband and telephone connections for the development from its local network.
- 4.13 Cable TV or satellite TV is available commercially in this area.

Network Reinforcement

- 4.14 Thames Water have confirmed that the existing water main pressure is 3.3 bar which is in excess of normal operating requirements. No network reinforcement is anticipated.
- 4.15 SSE Pipelines and SGN have indicated that no reinforcement of the gas network is required.
- 4.16 Local cabling and reinforcement works are required to feed the proposed sub-station and supply the development. These should not extend beyond Vastern Road and Kings Meadow Road.
- 4.17 Multiway BT ducts will be required to connect the existing network to the site. Some off site cabling is anticipated.

5.0 SUMMARY

- 5.1 The site is in a highly sustainable town centre location and all mains services are available on or immediately adjacent to the site.
- 5.2 There are underground services in the adjacent roads to the north and west of the site and beneath the existing temporary public car park. These are a constraint on the development footprint and are major hazards to be recorded in the Risk Register.
- 5.3 The identified services are to be accurately located by surveys and hand dug trial pits, and are to be protected during demolition and construction.
- 5.4 There is an existing box culvert and two large diameter surface water sewers on the site. These are to be retained and protected.
- 5.5 There is an existing foul water drain/sewer and pumping station on the site. These are to be repositioned and upgraded to serve the proposed development.
- 5.6 All mains services can be provided via connections to existing networks on or immediately adjacent to the site.
- 5.7 No water or gas reinforcement works are required.
- 5.8 A new electricity sub-station on site is required.
- 5.9 Localised water pipe, BT and cable diversions are required.
- 5.10 Surface water runoff will be attenuated on site with the potential for stored water to be recycled to irrigate the Sky Garden. Buffer storage for sewerage may be required on site to accommodate the increase in flow without significant and disruptive off site capacity improvements.
- 5.11 The proposed development would not result in undue stress on the delivery of those services to the wider community.