BROOKBANKS

Banbury Oil Depot

Service Supply Statement

Motor Fuel Ltd

Document Control Sheet

Document Title Service Supply Statement

Document Ref 10682 SS01 Rv1

Project Name Banbury Oil Depot

Project Number 10682

Client Motor Fuel Ltd

Document Status

Rev	Issue Status	Prepared / Date	Checked / Date	Approved / Date
0	Draft	AM 30.11.20	JK 17.12.20	JK 17.12.20
1	Draft	AM 15.03.21	JK 15.03.21	JK 15.03.21

Issue Record

Name / Date & Revision	17.12.20	15.03.21				
Debbie Jones – Framptons	0	1				

Contents

Figures

Tables

Appendix

1 Introduction

1.1 Brookbanks is appointed by Motor Fuel Ltd to complete a Service Supply Statement for a proposed residential development at Banbury Oil Depot.

1.2 The objective of the study is to demonstrate that the development proposals can adequately be provided with service supplies and to identify the outline requirement for any necessary reinforcements to existing networks.

1.3 This report presents the findings of the study and specifically addresses the following issues:

- Existing network apparatus
- Supply requirements for the Proposed Development
- Consultations with the incumbent supply network operators
- Development of outline proposals to supply the Proposed Development.

1.4 At the time of consultation with the utility companies the maximum development was set at 150 residential dwellings. However, evolution of the masterplan has derived that a quantum of 143 dwellings, and 166m² of community/retail/commercial space is more feasible; although it has been judged that the minor quantum change will remain deliverable and robust, in line with the supply data received. This report will outline the supply response provided for 150 dwellings.

2 Background Information

Location and Details

2.1 The proposed development is a brownfield site that lies within Banbury City Centre. The site is bound to the north and south by existing employment land, to the east by Banbury train station and the River Cherwell to the west.

2.2 The Site location and boundary is indicatively shown below on **Figure 2-1**:

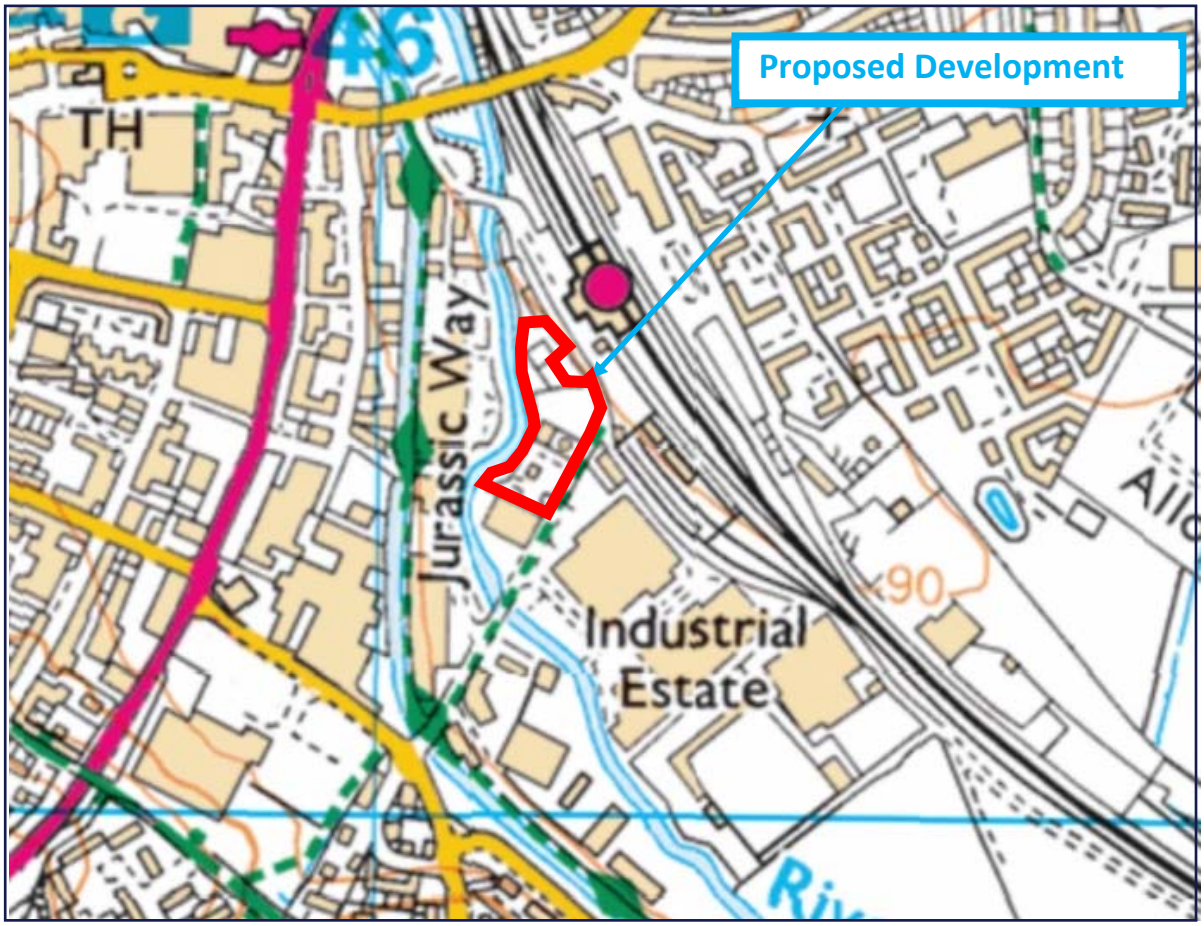

Figure 2-1: Site Location

Development Criteria

2.3 Outline planning application for the redevelopment of the Banbury Oil Depot, to include the demolition/removal of buildings and other structures associated with the oil depot use and the construction of up 143 apartments, and up 166m² of community/retail/commercial space, with all matters (relating to appearance landscaping, scale and layout) reserved except for access off Tramway Road.

Supply Loading

2.4 The following loading assumptions shown in **Table 2-1** have been made to determine the Supply loadings to provide to the incumbent potable water, foul water, electricity and gas suppliers, based on a quantum of 150 Dwellings.

Development Type	Potable Water	Foul Water	Electricity	Peak Gas	Annual Gas
Residential Dwellings	Daily Water Demand of 125l/ person/ day over an 18 our day*	Assuming 95% of Potable Water Demand	2kW/ Dwelling	23kW/Dwelling	17000 kW/Dwelling

Table 2-1: Supply Loading Assumptions

**Peaking Factor of 3*

2.5 Following the assumptions made above, **Table 2-2** below outlines the supply loadings which have been provided to each incumbent utility company (Thames Water, Western Power Distribution and SGN) in order for them to confirm whether they have capacity in their existing network to supply the proposed development.

Peak Potable Water Demand (l/s)	Peak Foul Water Demand (l/s)	Electricity Demand (kVA)	Peak Gas Demand (kWh)	Annual Gas Demand (kWh)
2.00	1.90	300	3,450	2,550,000

Table 2-2: Supply Loadings

Sources of Information

2.6 The following bodies have been consulted whilst completing this study:

- Thames Water - Potable Water
- Thames Water - Foul Water
- Western Power Distribution - Electricity
- SGN - Gas
- BT Openreach - Telecommunications
- Sam Knows Website - Broadband Availability
- Multi Utility Company - GTC - Electricity, Gas and Fibre

3 Water Supply

Existing Conditions

3.1 **Thames Water (TW**) has been consulted regarding the location and capacity of their existing network within the vicinity of the Site. Location details of their existing water supply network has been provided and transferred to a composite existing services plan, which is contained in the Appendix.

3.2 TW operate a potable water mains to the west of the Site along Haslemere Way and to the south of the Site along Tramway Road.

3.3 In addition, potable water mains operated by TW are shown to the east of the Site along the road adjacent to the Train Station Car Park and within the Train Station Car Park.

Supply Loading

3.4 To assist Thames Water in their capacity assessment of their existing network, a total Peak Clean Water Demand of 2.00l/s was provided. Further details of the supply loadings and assumptions are outlined in Tables 2-1 and 2-2, above.

Network Requirements

3.5 TW has confirmed that they have sufficient capacity in their clean water network to serve the first 50 properties of the residential dwellings. However, they will need potential reinforcement to supply the remainder of the development. Modelling, at Thames Water's cost, will be required. A Point of Connection is provided to the potable water main shown just east of the Site, south of the substation onsite.

3.6 However, Ofwat has recently instigated significant changes into the charging regimes of the water companies. Whereas prior to April 2018, the water companies would charge developers for any reinforcement works to the existing network directly attributable to the new demand, under the new charging rules the developer has to only fund infrastructure works to the nearest practicable point of connection (defined as network of an equal or greater size to the infrastructure supplying the site). As such any reinforcement works are covered by the Infrastructure Charge, payable per plot for all new connections.

Diversions

3.7 TW operate potable water mains along Tramway Road to the south and to the adjacent Site boundary along the Train Station Car Park. Once confirmed at the detailed design stage, TW may be contacted to confirm whether any necessary diversions will be required which affects the onsite layout and/or Site Access.

Regulatory Background

3.8 The introduction of the Water Act 2003 has:

- Formalised the procedures for developers wishing to complete self-lay schemes through multi-utility businesses.
- Implemented revised financial procedures, being more developer focused by offsetting capital costs of infrastructure against supply revenue.

3.9 Under current regulations, the new off-site and on-site infrastructure can be implemented by multi-utility contractors, except for a small element of non-contestable works where the new supply is connected to the existing network.

3.10 The Water Act 2003 allows two principal options in terms of financial arrangement between the developer and water infrastructure business. Both take into account the revenue earned by the business as a result of the new supplies.

- The Discounted Aggregate Deficit (DAD) / Commuted Sum method calculates the cost of implementing and funding the required infrastructure over a ten-year period. The year on year income from new supplies is then offset against the funding, which when brought forward to an equivalent present-day cost, identifies the contribution attributed to the developer. The mains are then installed by the water infrastructure company.
- The Asset Value method, whereby the mains may be laid by a multi-utility contractor, calculates the year on year income generated from the water supply, which is then paid back to the developer on the adoption of the mains. As a multi-utility contractor generally completes the work at a lower cost than the water supplying company, the Asset Payment method can often be the most cost effective.

3.11 The procedures outlined in the Water Act 2003 should result in all water businesses (including the incumbent operator) giving similar rebates through either the Asset Value or Commuted Sum procedures. The Asset Value method generally offers a cheaper scheme for site developers wishing to procure services through a multi-utility contract.

3.12 Ofwat has recently instigated significant changes into the charging regimes of the water companies. Whereas prior to April 2018, the water companies would charge developers for any reinforcement works to the existing network directly attributable to the new demand, under the new charging rules the developer has to only fund infrastructure works to the nearest practicable point of connection (defined as network of an equal or greater size to the infrastructure supplying the site). As such any reinforcement works are covered by the Infrastructure Charge, payable per plot for all new connections.

4 Foul Water Sewage and Storm Water Drainage

Existing Conditions

4.1 **Thames Water (TW)** been consulted regarding the location and capacity of their existing sewerage network within the vicinity of the Site. Existing details of their Foul Water supply network are still to be provided by Thames Water. Once returned these will be transferred to a composite existing services plan, which is contained in the Appendix.

Supply Loading

4.2 To assist Thames Water in their capacity assessment of their existing foul network, a total Foul Water demand for the site of 1.90l/s was provided. Further details of the supply loading and assumptions are outlined in Tables 2-1 and 2-2, above.

Network Requirements

4.3 TW has been contacted and confirm that reinforcement will be required to supply the proposed development from Manhole SP46401101. Modelling will be undertaken at Thames Water's expense.

4.4 As with the potable water, Ofwat has recently instigated significant changes into the charging regimes of the water companies. Whereas prior to April 2018, the water companies would charge developers for any reinforcement works to the existing network directly attributable to the new demand, under the new charging rules the developer has to only fund infrastructure works to the nearest practicable point of connection (defined as network of an equal or greater size to the infrastructure supplying the site). As such, any reinforcement works are covered by the Infrastructure Charge, payable per plot for all new connections.

Diversions

4.5 Once TW provide details of their asset plans, if there are any affected mains, TW may be contacted to confirm whether any necessary diversions/protections will be required.

Storm Drainage

4.6 The development drainage system has the potential to manage stormwater by way of SuDS management train and ensure peak discharges from the developed land are reduced to circa 69% below the appraised baseline rates. The system will also provide improvements to the quality of water discharged from the development. Further information is provided within the Flood Risk Assessment (FRA) report.

5 Electricity Supply

Existing Conditions

5.1 **Western Power Distribution (WPD)** has been consulted regarding their existing network locations. Existing details of the electricity supply network have been provided and transferred to a composite existing services plan, which is contained in the Appendix.

5.2 WPD operate Low Voltage (LV) assets which are shown to cross the Site in the north of the Site, and High Voltage (HV) and LV cables are shown along the south-eastern boundary.

5.3 WPD also operate a Substation adjacent to the east of the Site, with Low Voltage and High Voltage being supplied from this adjacent to the Site.

5.4 In addition, WPD operate HV and LV networks to the west and east of the Site along individual roads, supplying the adjacent residential development and commercial developments.

Supply Loading

5.5 To assist Western Power Distribution in their capacity assessment of their existing network, a total Electricity Demand for the Site of 300kVA was provided. Further details of the supply loadings and assumptions are outlined in **Tables 2-1** and **2-2**.

Network Requirements

5.6 Western Power Distribution has provided a budget estimate of £78,560.61 to supply the proposed development. The estimate has included for the installation of a 500kVA substation, along with extending 2 further Low Voltage feeders throughout the Site and providing the low voltage infrastructure for the new development.

Diversions

5.7 WPD operate LV assets shown to cross the north of the Site, along with HV and LV cables along ht south-eastern boundary. Once confirmed at the detailed design stage, WPD may be contacted to confirm whether any necessary diversions of their existing assets are required for those affected by the proposed redline boundary and/or the Site access.

Regulatory Background

5.8 Competition in the electrical market is now reasonably mature and a developer is free to procure third party Distribution Network Operators (DNOs) to provide an embedded network, or indeed multi-utility / third party installations. The likes of Metropolitan and GTC take a holistic view in putting together infrastructure reinforcements, site distribution and supply packages and off-set the costs with anticipated future revenue through the transmission and supply of service to give a better financial arrangement and single point of responsibility for the developer.

6 Gas Supply

Existing Conditions

6.1 **SGN** has been consulted regarding the location of their existing network in the vicinity of the Site. Existing details of the gas supply network have been provided and transferred to composite existing services plan, which is contained in the appendix.

6.2 SGN operate a Medium Pressure (MP) gas main and Low Pressure (LP) Gas Mains potentially crossing the proposed development in the south-east of the Site along the existing road layout. Further MP and LP assets are shown adjacent to the Site along with an Intermediate Pressure (IP) gas main to the west of the Site, west of the river.

6.3 SGN operate further MP and LP gas main to the west and east of the Site along individual roads, supplying the adjacent residential and commercial developments.

Supply Loading

6.4 To assist SGN in their capacity assessment of their existing network, a Total Peak Gas Demand for the Site of 3,450kWh and an Annual Gas Demand of 2,550,000kWh were provided. Further details of the supply loadings and assumptions are outlined in Tables 2-1 and 2-2.

Network Requirements

6.5 SGN has provided a budget estimate to supply the proposed development of £106,500.00. The estimate includes for the installation of an appropriately sized gas infrastructure to a suitable location for the residential domestic properties.

6.6 SGN's estimate will provide all excavation and reinstatement of the trenches up to the Site boundary. No meter/meter work is included within the estimate.

Diversions

6.7 SGN operated Low Pressure and Medium Pressure gas networks to the south-east of the Site, which are potentially affected by the proposed development Site and/or the Site access. However, one confirmed at the detailed design stage, SGN may be contacted to confirm whether any necessary diversions will be required onsite or a the proposed Site access.

Regulatory Background

6.8 Early deregulation in the gas infrastructure market has led to a competitive environment. Third party shippers are permitted to offset the capital cost of infrastructure against the income generated from conveying the gas which may reduce future development costs.

7 Telecommunications

Existing Conditions

7.1 The main incumbent telecommunications provider is **BT Openreach**. Asset plans are still to be provided from BT Openreach, however it is anticipated that BT Openreach will operate assets within proximity of the Site along the individual roads supplying the adjacent residential and commercial areas.

Supply Requirements

7.2 A development of this nature will require a suite of communication services, typically being:

Fibre to the Premises (FTTP)

FTTP technology, where the fibre runs all the way to the home or business, from the local exchange is being deployed in certain areas. FTTP will offer the top current download speed of 330Mbp for residential properties and 1Gbps for commercial properties. This is labelled 'Ultrafast Broadband' by BT Openreach.

Cable Television

Cable television services provide an option for the proposed domestic dwellings to replace the need for satellite dishes. Cable Television is provided by Virgin Media, BT (BT Vision) and GTC.

Fibre to the Cabinet (FTTC)

FTTC relies on the existing copper network between the telephone cabinets but is then fed by fibre optic cables to the local exchange. This reduces the loss experienced over the copper network. Download speeds offered can be up to 80Mbps.

Local Loop Unbundling (LLU)

LLU is the process of opening up a telephone exchange so that it can be used by a number of different broadband providers. These broadband providers are then able to use connections from the telephone exchange through to the customer's homes to deliver home broadband.

Internet Service Providers (ISP)

ISP supplies the end user with internet access services over the telecom network. The speeds offered by the ISP are restricted by the physical network. The available ISPs delivering services over FTTP are currently limited but will increase as it is rolled out to more customers to increase the market.

Network Requirements

7.3 A Connectivity Assessment can be applied for through BT Openreach to confirm supply requirements for the proposed development. BT Openreach advise the ideal time for this request is at land purchase stage. The proposed development is covered by the Banbury Exchange. In addition to BT Openreach, ADSL, an initial review has identified the following LLU operators are present in the Banbury Exchange: Sky, Talk Talk (CPW) and Vodafone (enabled as of 03/06/2006).

7.4 The Banbury Exchange (approximately 850m north-west of the proposed development) can offer FTTC and FTTP.

Diversions

7.5 Once at the detailed design stage, BT Openreach could be contacted to confirm whether any necessary diversions of their existing assets are required onsite and/or at the Site access.

Regulatory Background

7.6 BT Openreach is the incumbent national communications business throughout most of the country, with the exception of K-Com in the Hull area. They own and operate the majority of fibre and copper telecoms network in the country.

7.7 With BT Openreach controlling the existing cables feeding residential development, and the exchange (known as the 'local loop' or 'last mile'), they have maintained a dominant position in controlling the communications sector.

7.8 The industry regulator, Ofcom, has completed much work in unbundling the local loop and bringing competition into the residential market. Following this deregulation, Virgin Media, TalkTalk and Vodafone are undertaking major investment to place switch equipment into BT's existing exchanges and hence allow direct access to their network. This system, known as Carrier Pre-Selection is becoming increasingly popular, although wholesale line provision down at local loop level, within the residential market, has yet to develop. Accordingly, BT or local cable franchise cable operators are the prime source of network connections on residential Sites.

7.9 Virgin Media and GTC offer rival options to supply telecoms to residential developments, although the choice of alternative ISPs is more restricted than via the BT Openreach network.

8 Multi Utility Companies

8.1 The Multi Utility Company **GTC** has been consulted to provide a budget estimate for supplying the proposed development with gas and electricity.

Supply Loading

8.2 The same electrical loading assumptions that were provided to Western Power Distribution and the gas loading assumptions that were provided to SGN have been provided to GTC in order for them to provide their connection budget estimate costs.

Network Requirements

GTC

Electricity and Gas

8.3 GTC have been approached to provide a budget estimate to provide electricity and gas for the proposed development, as an alternative option to the incumbent electricity and gas companies at **£204,755.20** (with onsite costs of £188,809.35 and offsite costs of £15,945.86).

Gas

8.4 The gas connection is assumed to the 8" Metallic Low Pressure gas main adjacent to the Site and have allowed for 7m of offsite works (7m in the road) from the connection point to the Site entrance.

8.5 The developer is responsible for all onsite excavation and reinstatement.

Electricity

8.6 The electricity connection is to be made to the High Voltage network, with 1 substation required and included within the quotation. The quotation also includes for the excavation and reinstatement costs in the public highway (1m in the road).

8.7 GTC has assumed that the Developer will carry out all civil works associated with the substation at their own cost.

8.8 The Developer shall be responsible for all on-site excavation and reinstatement.

9 Service Supply Competition

9.1 The traditional procurement route, up until recently, had been to provide service supplies to a new development through a local network operator. With the incumbent companies having somewhat of a monopoly, competition in the market was poor.

9.2 However, following deregulation of the service supply networks, through the likes of Ofgem, Ofcom and Ofwat, independent network operators have been able to enter the market and provide new service supplies to developments.

9.3 Companies such as GTC and Connect take a holistic view in putting together infrastructure reinforcements, site distribution and supply packages and off-set the costs with anticipated future revenue through the transmission and supply of service to give a better financial arrangement and single point of responsibility for the developer.

9.4 These businesses use a multi-utility approach to implement the infrastructure. The independent companies are still regulated by the relevant office of regulation and subsequently asset owners must:

- Ensure that the installed network meets regulated standards
- Design to an operating lifetime of 40+ years
- Manage a return on their investment
- Ensure that the existing network performance is not compromised

9.5 Throughout this document a review has been completed for the provision of service supply infrastructure at the site through the local network operators. This approach provides a good indication as to the likely upgrading requirements for the local infrastructure, but at this stage, does not demonstrate a competitive cost for services procurement.

9.6 Multi-utility companies provide significant investment to the provision of services at a development based on a whole life financial model, considering revenue from supply conveyance. Due to these investments, large reductions can be achieved to the capital cost for the provision of services at a site.

9.7 A development of this size has the potential to benefit a great deal from the financial investment of companies such as Connect and GTC. As such independent companies may be utilised to provide final network supplies for the Site.

9.8 This report summarises the details relating to the current network conditions outlining the requirements for reinforcements and provision of supply through the existing network.

10 Summary

10.1 This Services Statement has indicated that the proposed development on the Site has the potential to be supplied with normal network service supplies, potentially without prohibitive reinforcements to the existing networks.

10.2 However, some localised, non-prohibitive reinforcements may be necessary together with protections or diversions where existing plant is affected by the proposals. This will be confirmed once all enquiries have been completed by each respective utility company and once at the detailed design stage.

10.3 **Table 10-1** outlines the supply requirements for each incumbent company, along with the multi-utility company:

Utility Company	Service	Scope of Works
Thames Water	Potable Water	TW confirmed that they have sufficient capacity in their clean water network to serve the first 50 properties of the residential dwellings. However, they will need potential reinforcement to supply the remainder of the development. Modelling, at Thames Water's cost, will be required. A Point of Connection is provided to the potable water main shown just east of the Site, south of the substation onsite.
Thames Water	Foul Water	TW has been contacted and confirm that reinforcement will be required to supply the proposed development from Manhole SP46401101. Modelling will be undertaken at Thames Water's expense.
Western Power Distribution	Electricity	Budget Estimate has been provided, which includes for the installation of a 500kVA substation.
SGN	Gas	Budget Estimate has been provided from SGN, which includes for the installation of appropriately sized gas infrastructure.
GTC (Multi Utility)	Electricity and Gas	Gas Point of Connection assumed to the 8" Metallic PE Low Pressure Gas Main and the electricity to the High Voltage network.

Table 10-1: Summary of Supply Budget Estimates

11 Limitations

11.1 The conclusions and recommendations contained herein are limited to those given the general availability of background information and the planned usage of the Site.

11.2 Third Party information has been used in the preparation this report, which Brookbanks, by necessity assumes is correct at the time of writing. While all reasonable checks have been made on data sources and the accuracy of data, Brookbanks accepts no liability for the same.

11.3 Existing network appraisals and proposed reinforcements are based on current infrastructure. Ongoing load growth will occur that may feasibly affect network availability. It is therefore necessary to monitor and review the existing networks capacity regularly.

11.4 The benefits of this report are provided solely to Motor Fuel Ltd for the proposed development on the Site only.

11.5 Brookbanks excludes third party rights for the information contained in the report.

Appendix A – Existing Utilities Plan

Original Drawing Size A1

Construction Design and Management (CDM)
Key Residual Risks

Contractors entering the site should gain permission from the relevant land owners and/or principle contractor working on site at the time of entry. Contractors shall be responsible for carrying out their own risk assessments and for liaising with the relevant services companies and authorities. Listed below are Site Specific key risks associated with the project.

1) Overhead and underground services
2) Street Lighting Cables
3) Working adjacent to water courses and flood plain
4) Soft ground conditions
5) Working adjacent to live highways and railway line
6) Unchartered services
7) Existing buildings with potential asbestos hazards

NOTES:

1. Do not scale from this drawing.
2. All dimensions are in metres unless otherwise stated.
3. Brookbanks Consulting Ltd has prepared this drawing for the sole use of the client. The drawing may not be relied upon by any other party without the express agreement of the client and Brookbanks Consulting Ltd. Where any data supplied by the client or from other sources has been used, it has been assumed that the information is correct. No responsibility can be accepted by Brookbanks Consulting Ltd for inaccuracies in the data supplied by any other party. The drawing has been produced based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.
4. No part of this drawing may be copied or duplicated without the express permission of Brookbanks Consulting Ltd.

KEY:

- Red Line Boundary
- Potable Water Main (Thames Water)
- High Voltage Cable (Western Power Distribution)
- Low Voltage Cable (Western Power Distribution)
- Intermediate Pressure Gas Main (SGN)
- Medium Pressure Gas Main (SGN)
- Low Pressure Gas Main (SGN)

*Foul Water and BT Asset Plans to be confirmed.

N

-	First Issue	AM	JK	JK 15.03.21

BROOKBANKS

6150 Knights Court, Solihull Parkway, Birmingham, B37 7WY
T +44 (0)203 958 5400 E mail@brookbanks.com
W brookbanks.com

The Motor Fuel Group Ltd

Banbury Oil Depot

Existing Services Location Plan

Status		Status Date
Draft		March 2021
Drawn	**Checked**	**Date**
AM	JK	15.03.21
Scale	**Number**	**Rev**
1:500	10682-DU-01	-

0 10 20 30 40 50
METRES

UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR COMMENCE SITE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT HIS OWN RISK.

P:\10682\CAD\BCL\Working Drawings\10682-SU-01.dwg

Head Office Address

6150 Knights Court,

Solihull Parkway,

Birmingham Business Park,

Birmingham.

B37 7WY

T +44(0)121 329 4330

mail@brookbanks.com

brookbanks.com