

Highgate School Temporary Accommodation on Synthetic Sports Pitch

Utilities Assessment



October 2022

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Document Control

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Quality Assurance

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1 Introduction

- 1.1 The purpose of a Utilities Assessment is to present the information that has informed the design of the proposed development. The information included is as below-
- Existing services entry points
 - Existing surface and foul water drainage points.
 - Proposed utilities and services
 - Gas
 - Electricity
 - Water
 - Foul and Surface Water
 - Communications.

Proposed Works

- 1.2 The main redevelopment works will require existing buildings at the Senior School to be fully vacated. It will be impossible to maintain the daily operation of the Senior School in the existing buildings., requiring temporary classrooms, staff room, associated rest areas and toilet facilities. The Temporary building is intended to provide teaching facilities to cater for the decanting requirements of three schemes on a phased programme over a period of at least 5 to 6 years.
- 1.3 An energy assessment has been carried out for the temporary building and does not consider the temporary staff room marquee and mobile toilet units as part of this assessment
- 1.4 The proposed works in this submission include:
- Install a single-storey temporary modular teaching block at the south end of the synthetic playing sports pitch on the east side of Bishopswood Road.
 - Alterations to existing cricket area fencing and new temporary cricket fence divider.
 - Alterations and extensions to existing pathways to provide access around the perimeter of the site with low-level lighting for safety
 - Installation of a temporary utilities intake shed and connections to the existing sewer
 - Removal of the temporary buildings and reinstatement of the site
 - Replacement of the existing damaged synthetic turf with permanent new synthetic turf to meet current standards and SpEx (sports and exercise) curriculum requirements
 - Installation of a temporary staff room marquee in the Chapel Quad and mobile toilet units in the Garner Quad on the Senior School Island Site for a shorter period
- 1.5 Highgate School aims to maintain a high standard of the physical environment for all pupils throughout this interim period until the main redevelopment projects are completed.
- 1.6 The School will commit to returning the site as quickly and as practically possible to the original appearance and use once the proposed phased works have been completed.

Site

- 1.7 The address is Synthetic Pitch (adjacent to Mallinson Sports Centre,) Bishopswood Road, Highgate, Haringey, London N6 4NY.
- 1.8 The synthetic playing field forms part of the school estate and is near other essential School buildings such as the Mills Centre, the Dining Hall, the Pre Prep School and the Junior School.



Figure 1 Aerial view of the site of the synthetic playing sports pitch outlined in red



Figure 2 Site location in context (Open Street Map)



Figure 4 Synthetic playing sports pitch aerial view

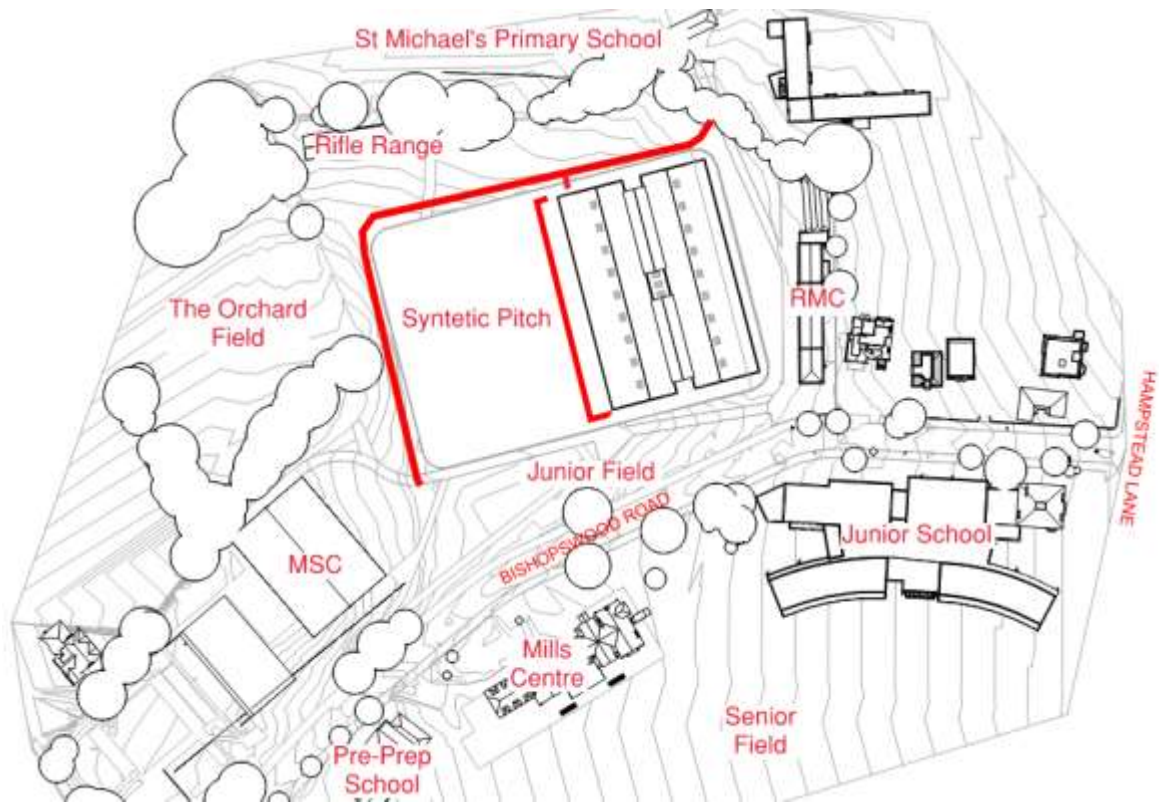


Figure 3 Site – Named and Referenced Areas

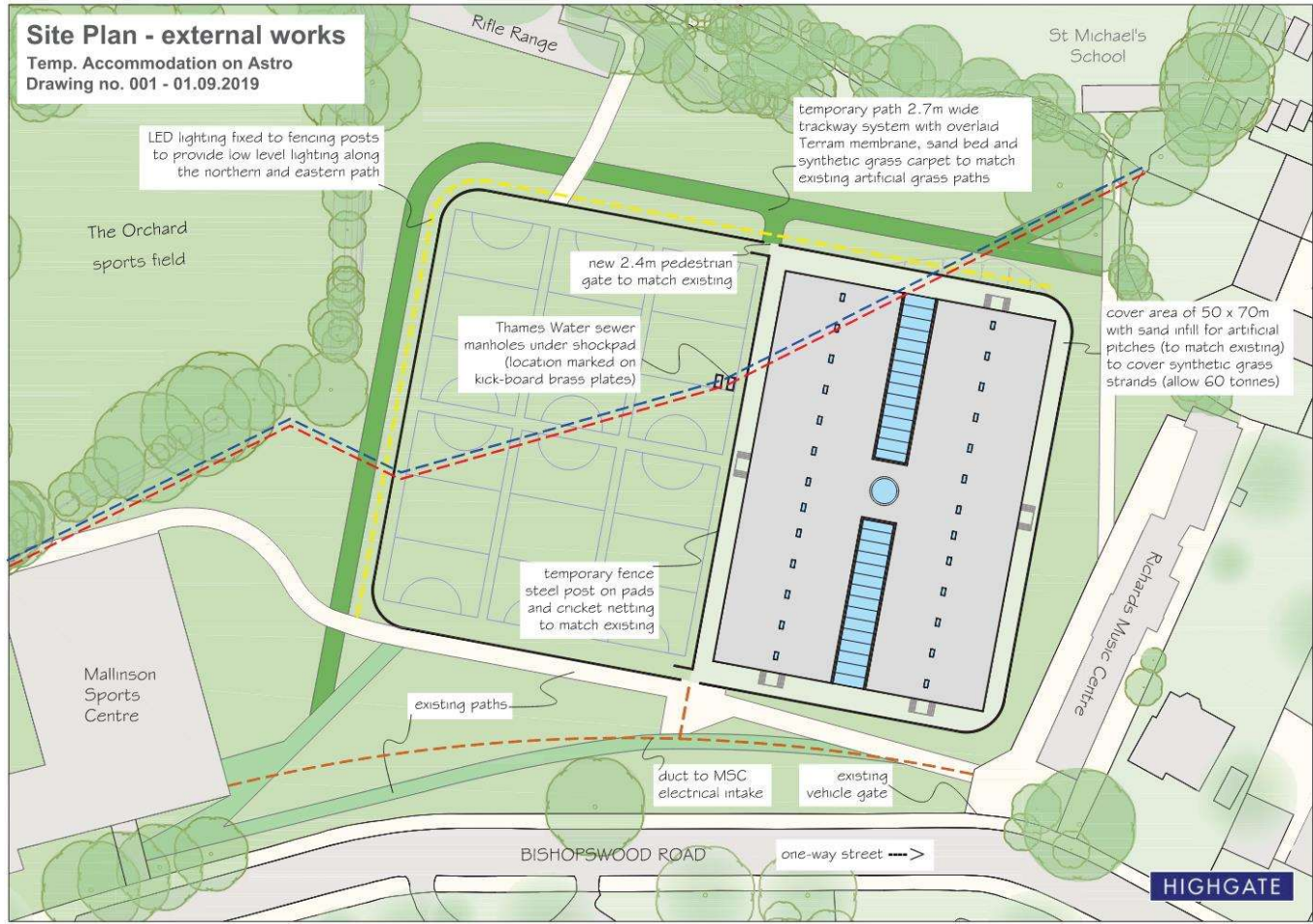


Figure 5 Proposed location for temporary accommodation building.

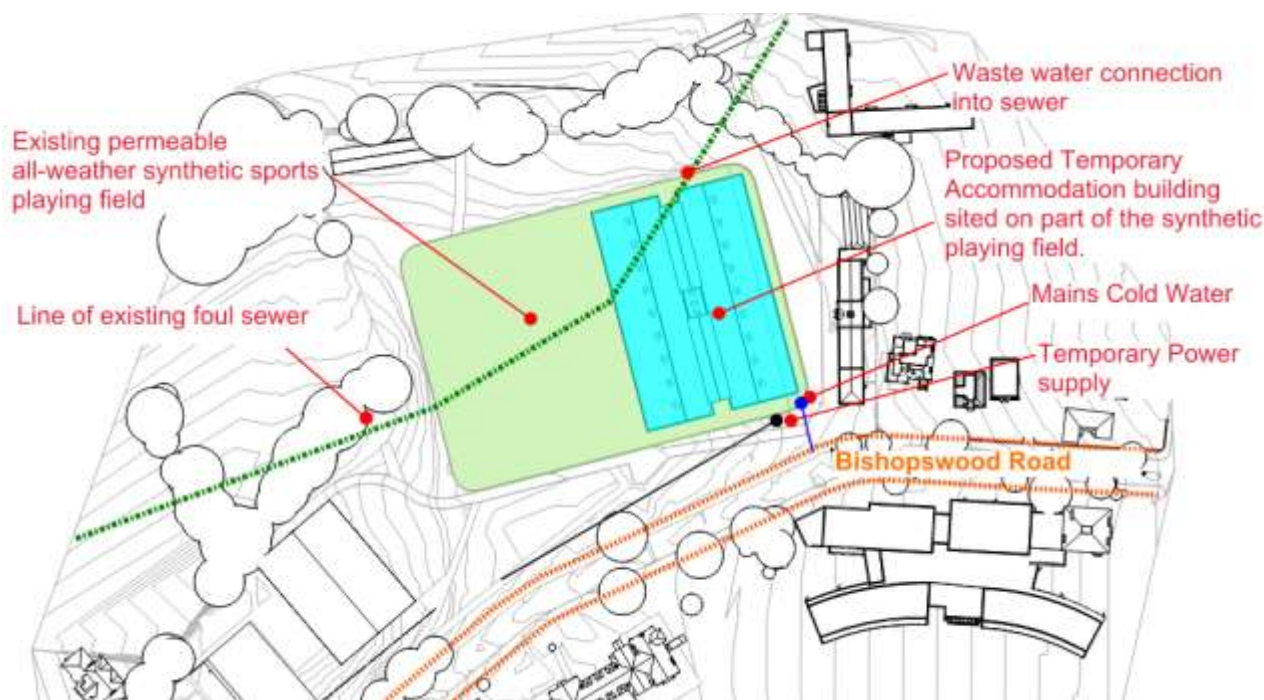


Figure 6 Proposed utility connections to temporary accommodation building.

Utilities connections

1. Temporary power supplies from the new substation to supply the school site.
2. Temporary water supply from water mains in Bishopswood Road
3. The foul sewer connection to the sewer under the synthetic pitch

2 Local Policies

- 2.1 New temporary buildings are expected to be constructed to the highest sustainable design and construction standards as proposed by the GLA London Plan (2016) and the London Borough of Haringey Local Plan (2017). These policies are designed to promote the inclusion of on-site renewable energy production and the use of decentralised energy systems. This approach will help reduce the dependency on conventional fuels for electricity and heating needs and will contribute towards achieving regional and national CO2 reduction targets, hence mitigating climate change. These policies relate to major projects with over ten Domestic units and/or Non-Domestic projects over 1,000m² in area.
- 2.2 Greater London Policies (major developments) London Plan (2016):

London Plan Policy 5.14

Development proposals must ensure adequate wastewater infrastructure capacity is available in tandem with development. Proposals that would benefit water quality, the delivery of the policies in this Plan and the Thames River Basin Management Plan should be supported, while those with adverse impacts should be refused.

London Plan Policy 5.14

Development should minimise the use of mains water by:

incorporating water saving measures and equipment

designing residential development so that mains water consumption would meet a target of 105 litres or less per head per day

- 2.7 The energy assessment must fully comply with Policies 5.2 to 5.9 inclusive and, recognising the integrated nature of London Plan policies, take account of relevant design, spatial, air quality, transport and climate change adaptation policies in the Plan
- 2.8 The London Plan 2016 requirements for major development may not be fully financially viable or technically feasible for major non-domestic developments. Much will depend on individual site constraints and the proposed development scale. However, the Council is mindful of the cumulative impact of the new developments in the Borough and will therefore seek to ensure that all proposals consider and deliver opportunities for incorporating sustainable design, layout, and construction principles wherever possible. Consideration should be made early in the design process to ensure maximum use and benefit.

London Borough of Haringey Policies

Haringey Local Plan Strategic Policies 2013 – 2026 March 2013

- 2.9 Haringey's Local Plan is made up of several individual planning policy documents. These are currently adopted or in development. In addition to this Development Management DPD, the Local Plan documents include the following:
- 2.10 Haringey's Local Plan Strategic Policies 2013 – 2026 (formerly the Core Strategy) March 2013 consolidated with alterations since 2017 – sets out the Council's spatial strategy and critical policies for the future development of the Borough through to 2026;
- 2.11 SP4 Working towards a Low Carbon Haringey -The Local Plan has an important role in reducing Haringey's environmental impact and achieving sustainable development – meeting Haringey's social, environmental and economic needs in ways that protect the environment and do not harm our ability to meet our needs in the future. An Environmentally Sustainable Future is one of the priorities of Haringey's Sustainable Community Strategy.
- 2.12 London Borough of Haringey Local Development Plan sets out Haringey's spatial strategy for managing development and growth in the Borough up to 2026. The Local Plan provides a positive framework for ensuring that housing, employment, infrastructure, and other needs are met to contribute to sustainable development in both the Borough and Greater London. Several key objectives, which are set across five overarching themes, as follows, guide the Local Plan:
- People at the heart of change;
 - An environmentally sustainable future;
 - All share economic vitality and prosperity;
 - Safer for all; and

- Healthier people with a better quality of life.

SP6: Waste and Recycling

The Council supports the objectives of sustainable waste management set out by the Government in PPS10 Planning for Sustainable Waste Management and the Mayor's London Plan. To achieve these, the Council shall:

- **Safeguard existing waste sites unless compensatory provision is made;**
- **Maximise self-sufficiency in a waste management capacity;**
- **Seek to minimise waste creation, and increase recycling rates in relation to commercial, industrial and municipal waste in order to achieve the Mayor's recycling targets;**
- **Address waste as a resource and look to disposal as the last option, in line with the Mayor's waste hierarchy;**
- **Require integrated, well-designed recycling facilities to be incorporated into all new developments;**
- **Monitor changes in the stock of waste management facilities, waste arising's, and the amount of waste recycled recovered and going for disposal; and**
- **Continue working with its partners in the North London Waste Authority to adopt the North London Waste Plan (NLWP), which has identified locations suitable for waste management facilities to meet the London Plan apportionment of 1.9 - 2.1m tonnes and the Haringey apportionment of 237,000 182,000 tonnes.**

Haringey will require Site Waste Management Plans for all major applications to identify the volume and types of demolition and construction waste and to demonstrate how waste will be minimised and managed during construction and occupation.

New waste management facilities will be required to consider and minimise pollution and nuisance issues. This is addressed in more detail in the Development Management Policies document.

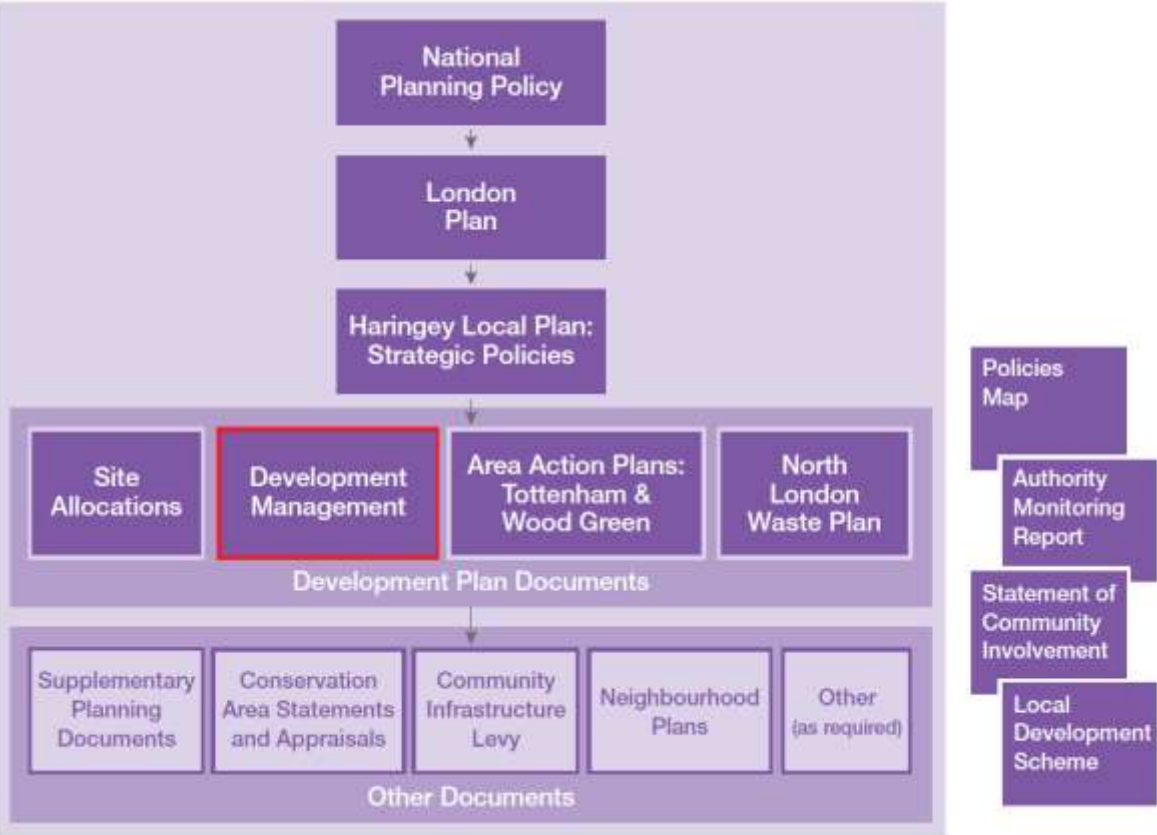


Figure 7 London Borough of Haringey policy hierarchy

Development Management DPD Adopted July 2017

Policy DM48: Use of Planning Obligations

A) Planning obligations will be sought on a scheme-by-scheme basis having regard to the relevant policy requirements of the Local Plan, development specific impacts, appropriate mitigation, viability, and the statutory tests for the use of planning obligations.

B) The following is a list of some areas where the Council may seek planning obligations. Other types of obligations may be necessary to mitigate site specific impacts:

- Affordable Housing
- Transport and Highways
- Employment and Skills Training
- Amenity Space
- Open Space
- Children's Play Space
- Public Realm
- Public Art
- Sustainable Design and Construction
- Carbon Reduction
- Decentralised Energy Networks
- Biodiversity
- Flood Risk
- Utilities
- Historic Environment
- Community Safety

- 2.13 The Council will seek to ensure adequate surface water, foul drainage and sewerage treatment capacity to serve all existing and new development. All proposals for further action will be required to:
- Demonstrate that the local public sewer network has adequate capacity to serve the existing and proposed development, or where such capacity does not exist, provide for suitable alternative arrangements for discharging waste;
 - Ensure the separation of surface and foul water systems, including by investigating and rectifying any identified misconnections; and
 - Implement sustainable drainage systems, in line with Policy DM25.
- 2.14 The Council will give preference to discharge to mains foul drainage and will seek to restrict the use of non-mains drainage for foul water disposal, particularly in Source Protection Zones, in line with Environment Agency guidance. Where non-main drainage is proposed for removing foul water, a foul drainage assessment will be required to ensure the most sustainable drainage option will be implemented.

3 Electricity

- 3.1 The Highgate School are planning several developments on both sides of Bishopswood Road requiring additional electricity supplies. Recently the local UKPN network has been upgraded with a new substation design to provide extra power to the new school kitchens and future improvement to the school sporting facilities and educational buildings.
- 3.2 The proposal is to construct a new substation within the school grounds to supply all the school buildings along Bishopswood Road eventually. Supplying the school buildings from a single location will enable the School to

maximise the use of zero-carbon electricity generated from PV arrays on the various buildings. Any surplus electricity generated on one building will back feed along the network into another school building without a PV array.

3.3 The new high voltage (1,500kVA) power supply to the School included a high voltage transformer, switch room and site new cabling infrastructure. These works were completed in the spring of 2021.

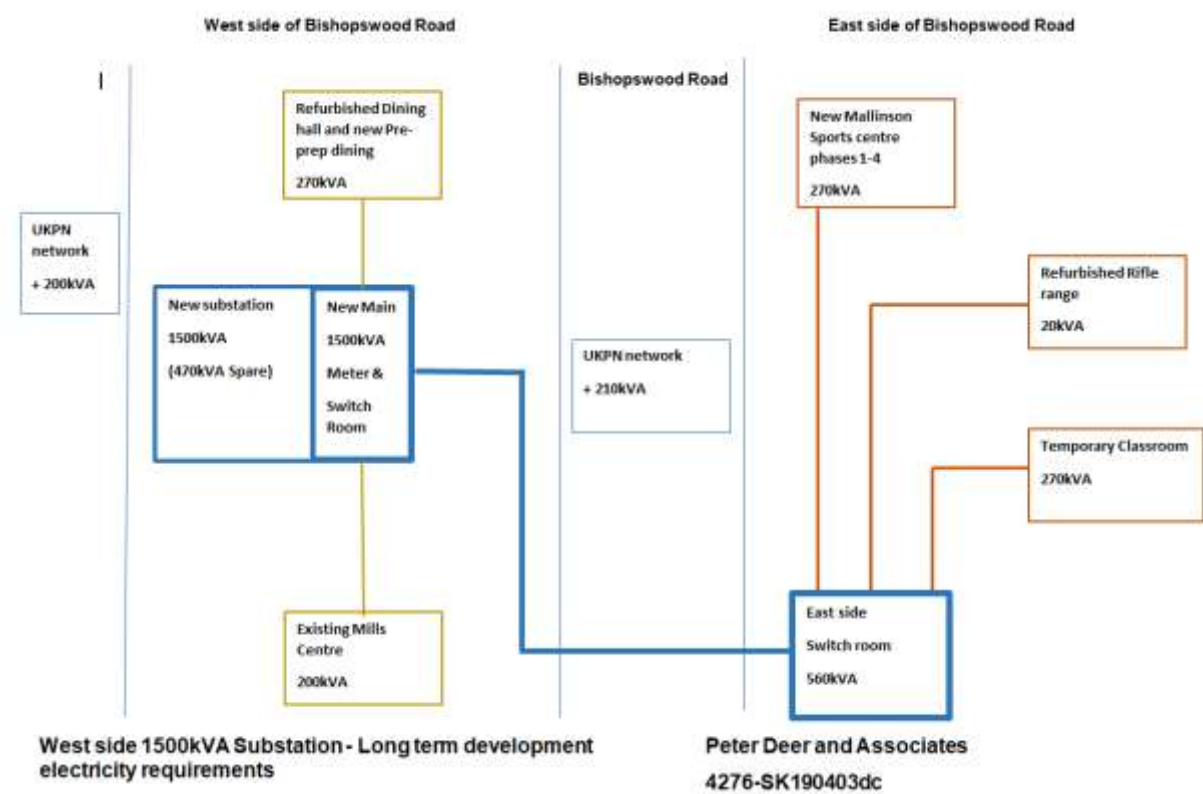


Figure 8 Proposed new electrical supply schematic diagram.

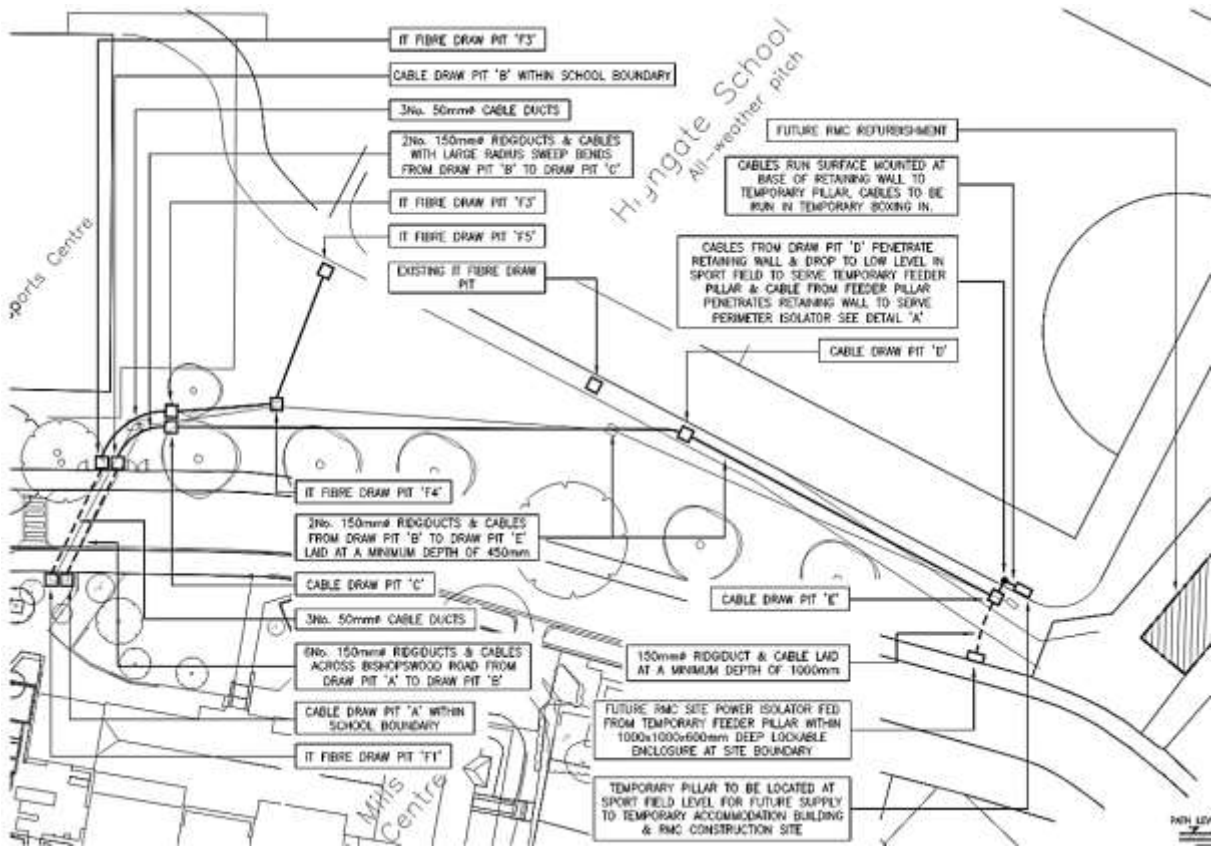


Figure 9 Site plan east side infrastructure buried cabling and containment, (PDA 4276/E/300. Jan 2020)

STAGE 6:

- RUN POWER SUPPLY TO EAST SIDE OF BISHOPSWOOD ROAD AS OUTLINED WITHIN SPECIFICATION & DRAWINGS

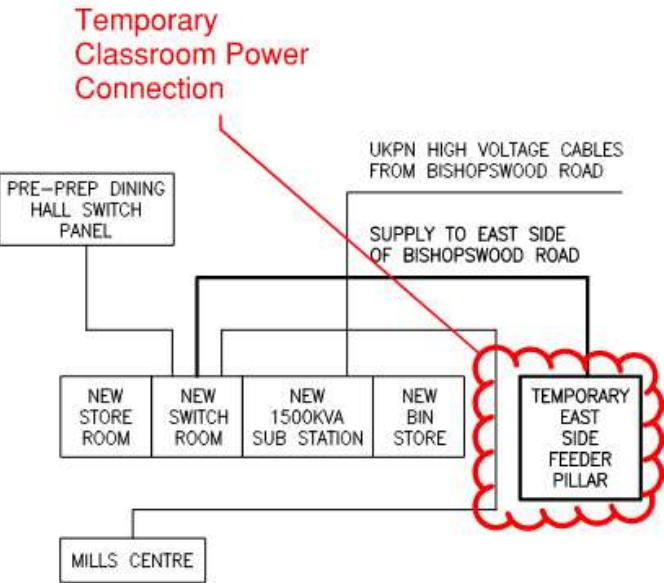
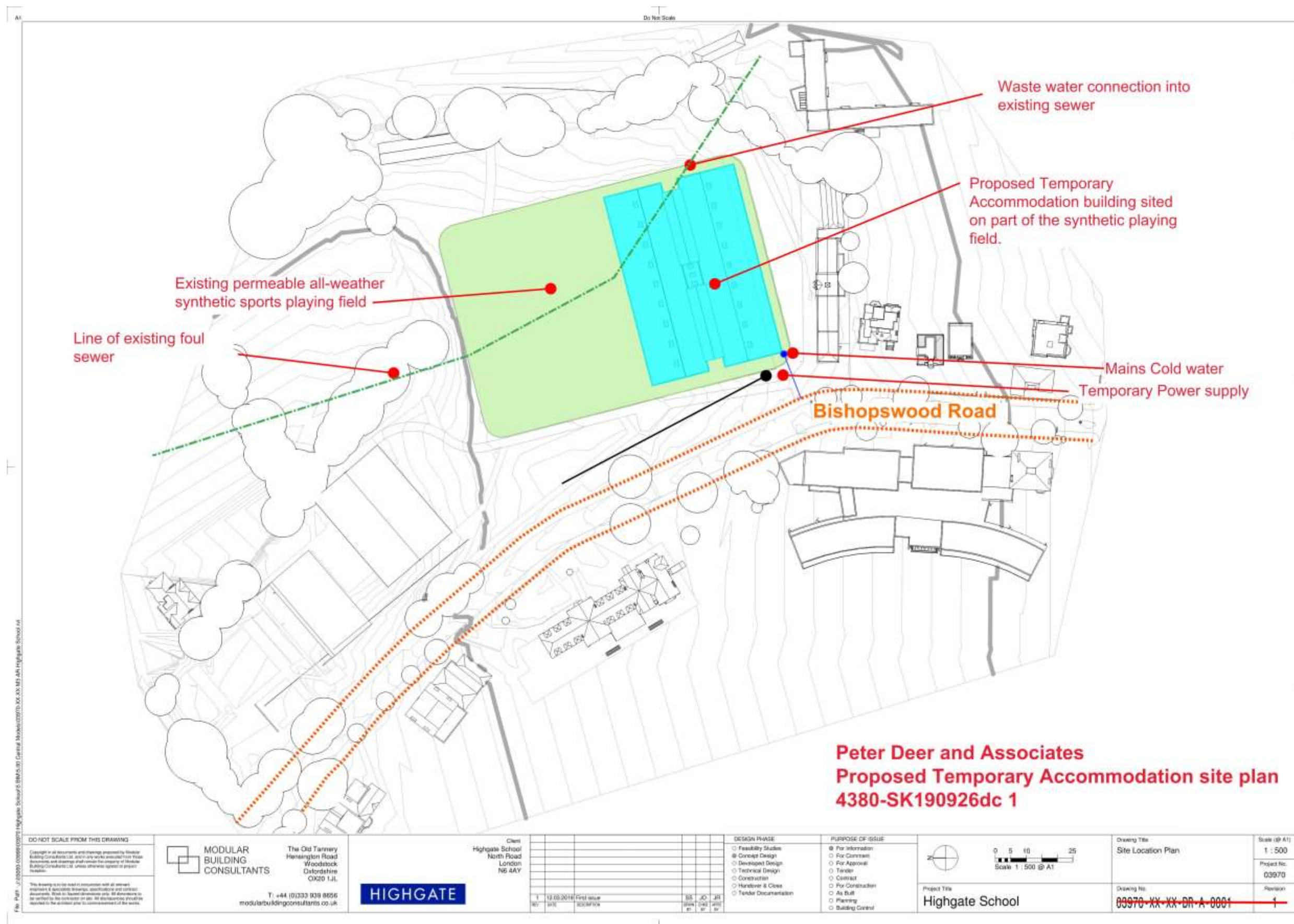


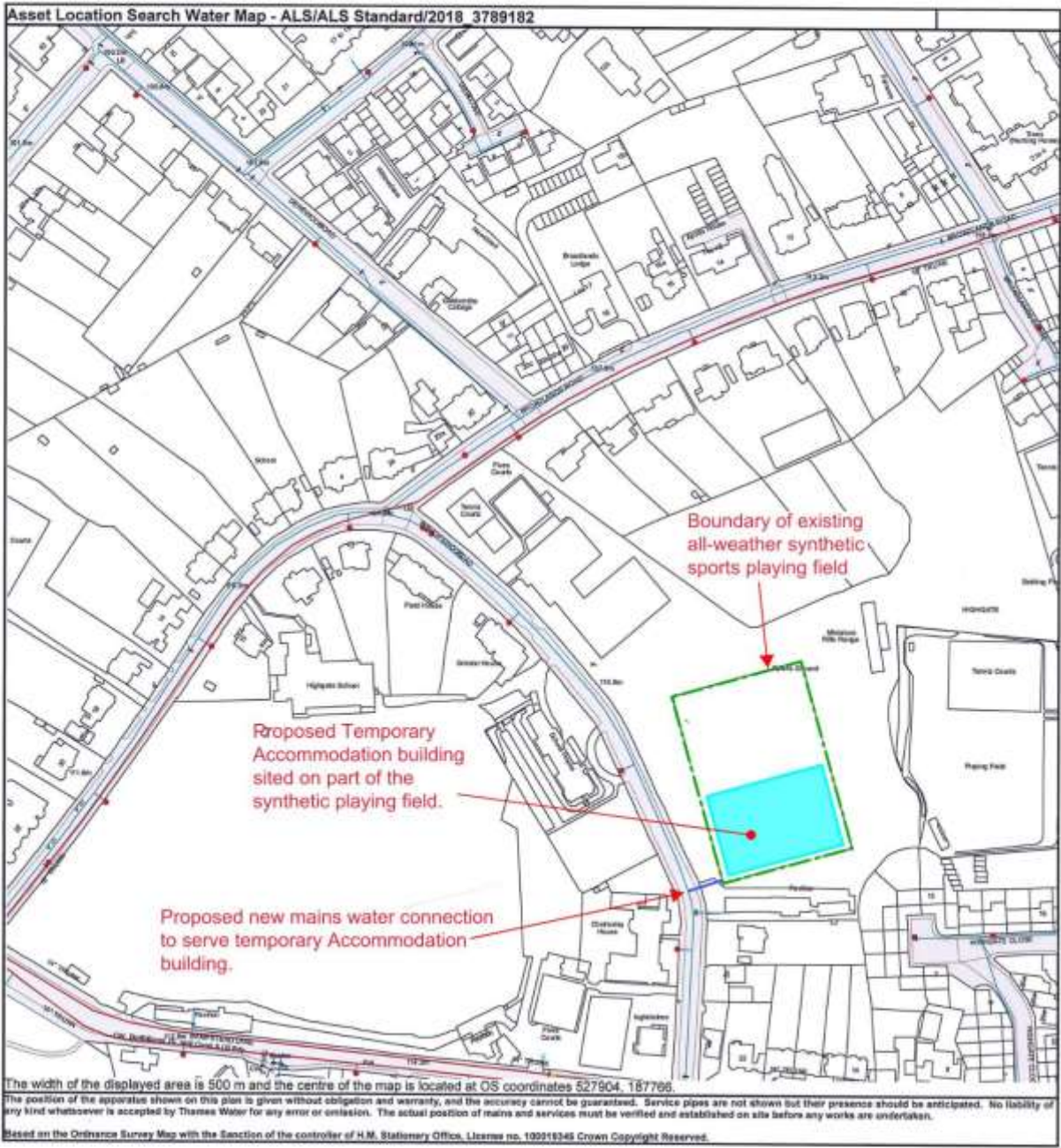
Figure 10 Temporary building power supply from new switch room.

4	Water
4.1	The temporary classroom accommodation building connects to the existing mains water supplying the school Sports grounds as indicated.
4.2	The temporary classroom building will contain washroom facilities, including low flow rate taps and reduced flush WCs. There are no major water-consuming activities. The building will therefore comply with the Haringey reduced water use requirements.
5	Gas
5.1	There is no gas supply required for the temporary classroom building.
6	Foul and Surface Water
6.1	The proposal is to connect to the existing foul sewer (Manhole ref 0602 as Thames Water sewer plan) under the synthetic sports field. See Figure 5 Proposed location for temporary accommodation building. Figure 4 Synthetic playing sports pitch aerial view
7	Surface Water
7.1	The proposal is to continue to use the permeable sports field drainage system by directing the rainwater run-off from the temporary classroom building onto the sports surface below the temporary structure.
8	Conclusion
8.1	The proposed location for the temporary classroom building will have no adverse impact on the utility infrastructure and will comply with Haringey requirements for water use, foul drainage discharge and surface water run-off.

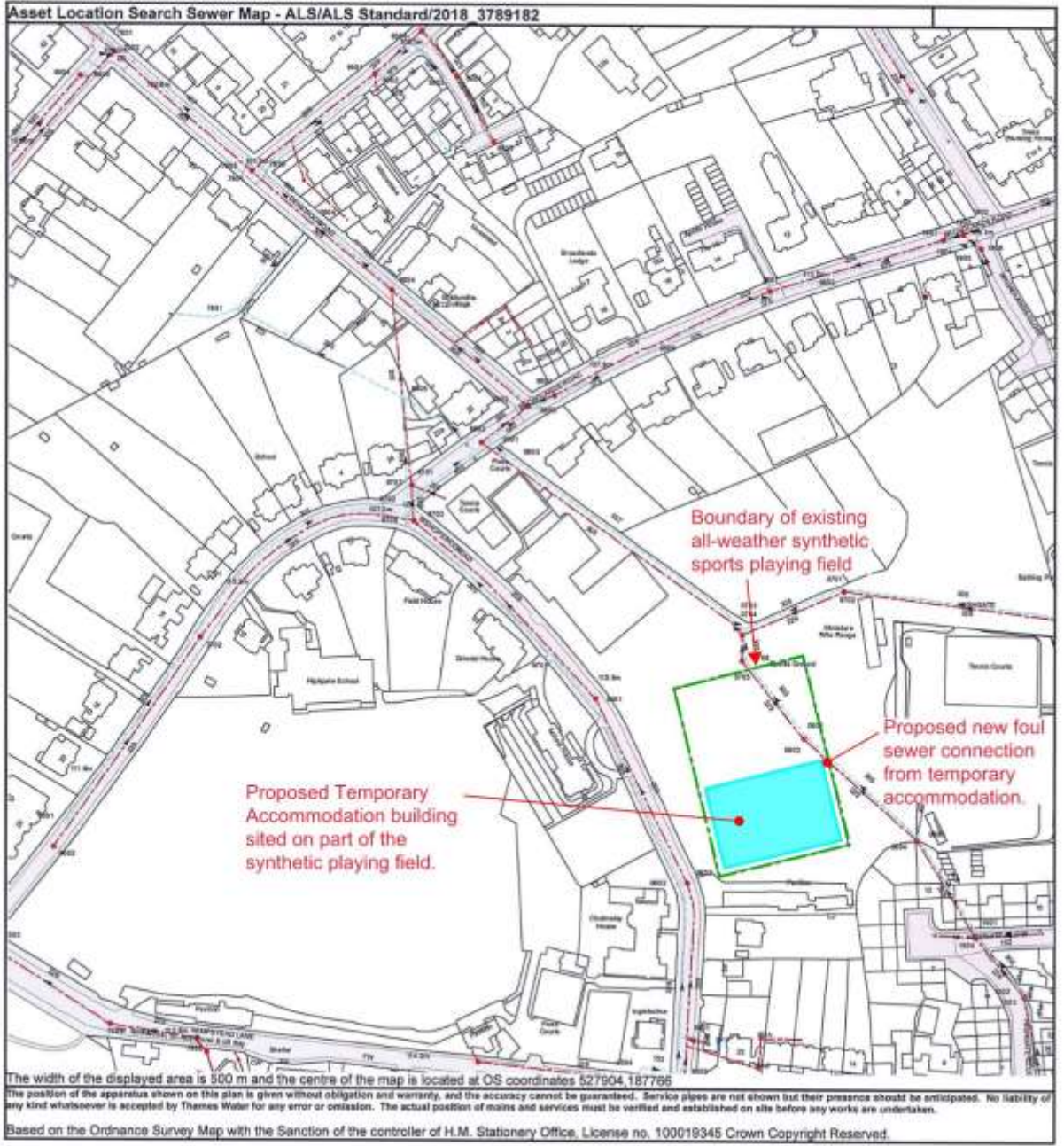
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Appendix A Location of incoming services for Temporary Accommodation.



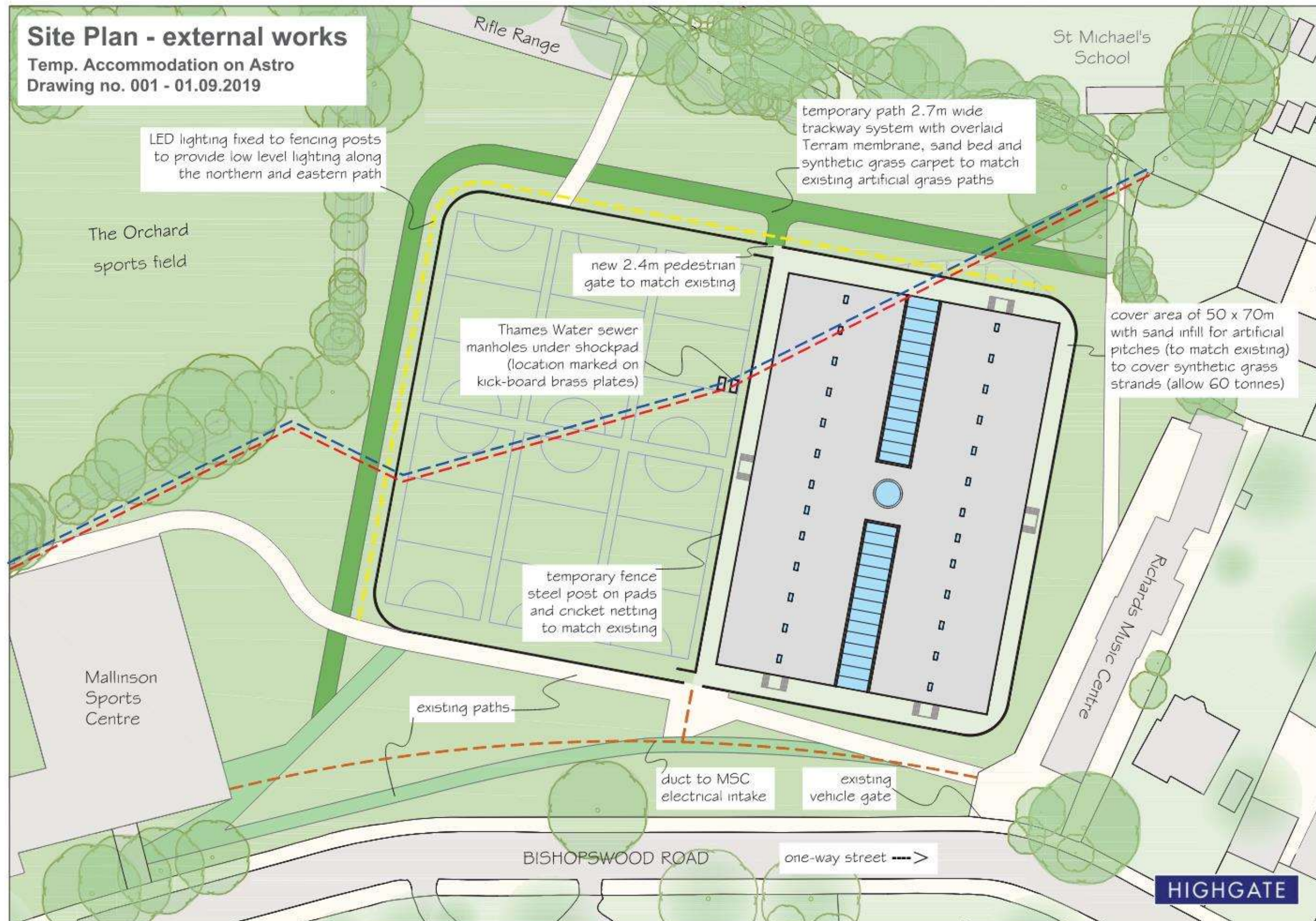


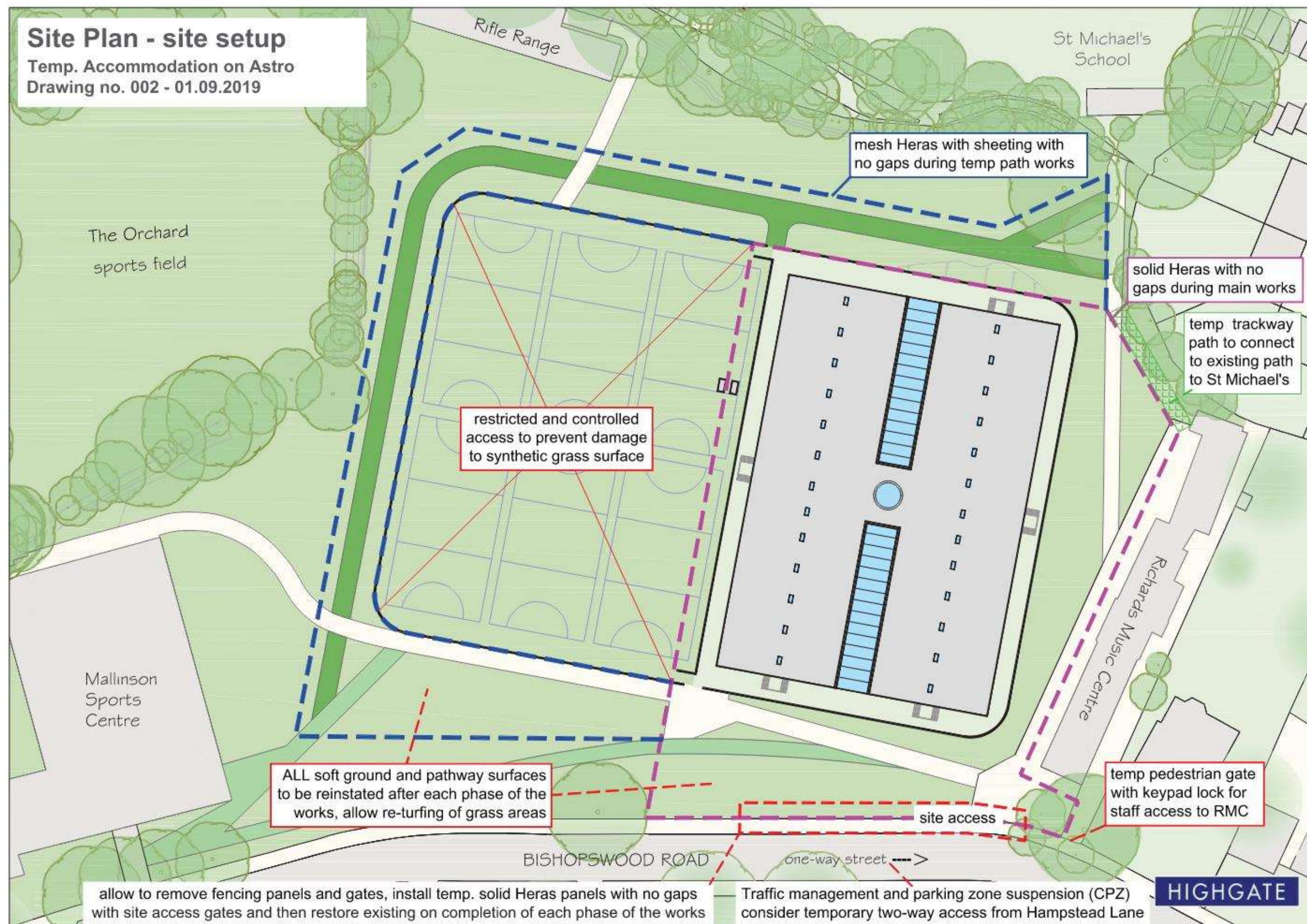
Peter Deer and Associates
Proposed Mains water connection
4380-SK190926dc 2

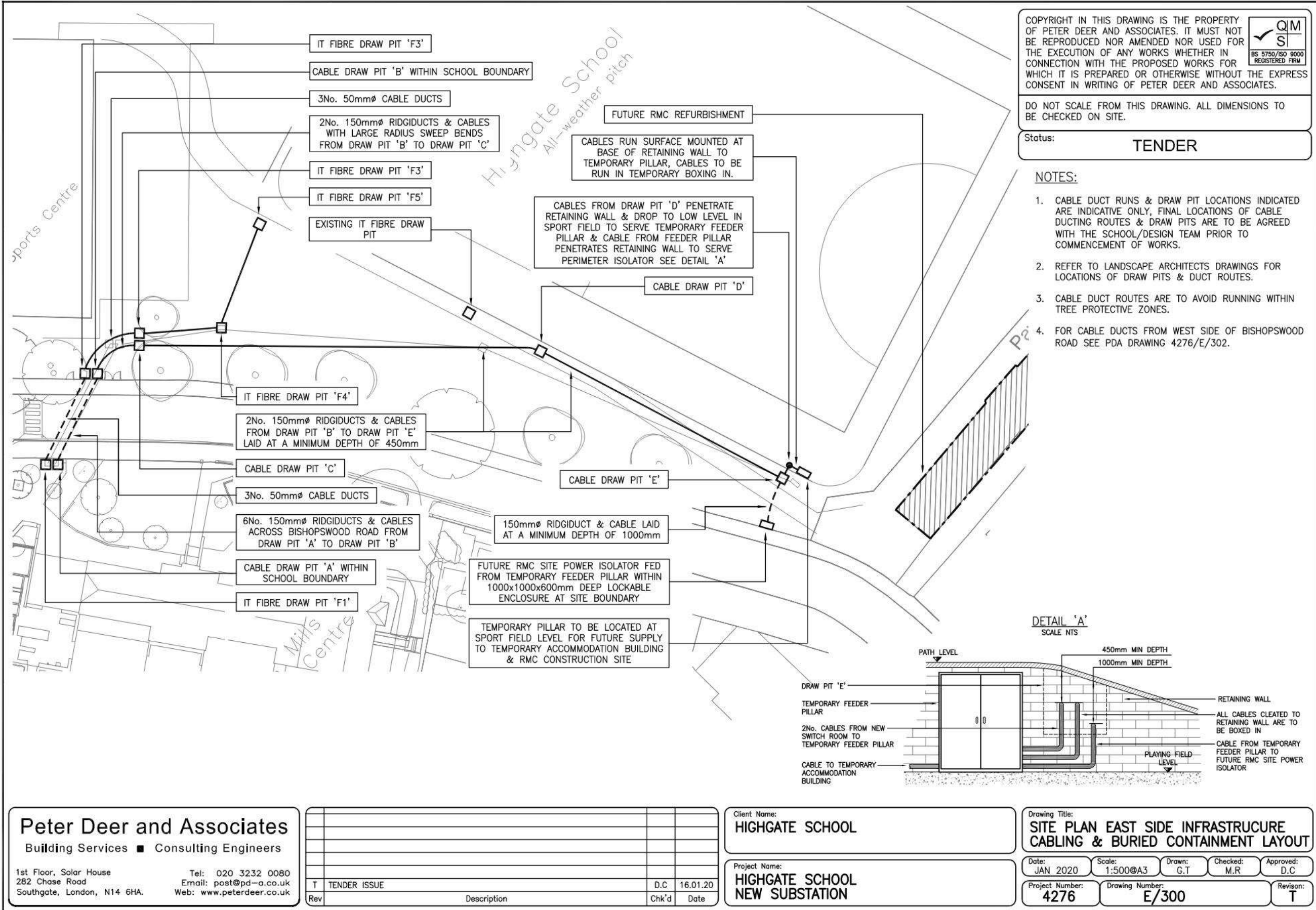


Note
Temporary sewer connection will be via a new man hole located in line with 229 dia sewer and adjacent to the accommodation building. Man hole will be covered over by synthetic playing field once accommodation building is removed.

Peter Deer and Associates
Proposed foul connection
4380-SK190926dc 3







Appendix B Existing Site Services Layout.







Appendix C Letter: Conformation of Sufficient Capacity.



Registered Office
Newington House
237 Southwark Bridge Road
London SE1 6NP

Company:
UK Power Networks
(Operations) Limited

Registered in England and Wales No: 3870728

Mr. Arshpreet Chugh
Peter Deer & Associates
Solar House
282, Chase Road
London
N14 6HA

Date: 7 April 2020

Our Ref: 8500143437 / QID 3500086073

Customer Ref: Highgate School

Dear Mr. Chugh

Site Address: Highgate School, Bishopswood Road, N6 4PD

Thank you for your recent enquiry regarding the above site. I am pleased to be able to provide you with a Quote to carry out the work requested. I am writing to you on behalf of Eastern Power Networks plc the licensed distributor of electricity for the above address trading as and referred to in this Quote as "UK Power Networks".

The Works will enable the provision of an import capacity of 1,500 kVA and a maximum export capacity of 0 kVA. Replace existing substation with a 1.5MVA unit substation.

UK Power Networks would like to carry out all of the requested work for you. However, there are other companies who can do some or all of the work for you; these are Independent Connection Providers (ICPs). You can approach NERS accredited ICPs directly, or you can approach an Independent Distribution Network Operator (IDNO) to request this work and they will arrange for an ICP to carry out the Contestable Works. To find out more about which ICPs work in our area and what work they can undertake please [click here](#).

To give you as much choice as possible we are able to offer you **the following options** for getting your work done:

A	£131,007.71	£157,209.28
B	£12,182.94	£14,619.55
C	£10,161.50	£12,193.82

A short guide is available to help you understand the three different Prices (options A, B and C). To see this guide please [click here](#).

Provisional Price

I would like to draw to your attention to the provisional nature of the Quote. At the date of issue, either the detailed design and/or the procurement have not been completed, we have been unable to conduct a site survey due to the current social restrictions put in place in response to the Coronavirus pandemic or the proposed design is dependent on securing consents with third parties that have not yet been obtained. We will notify you in writing if the location of the Electric Lines, the electrical plant, the design, the completion date or the Price needs to be adjusted once the detailed design and the procurement process is complete.

Variation of Works

If there is a variation required on the project then an additional payment will be due to cover costs incurred. Your site representative will be asked to sign a variation form or send an email agreeing to this variation. If this is not received, then this could result in a delay to the works and further costs due to remobilising of resources to complete the works.

Terms and Conditions

The Quote is subject to version 7 (September 2016) of our **Terms and Conditions For Connection and Diversionary Works** (the "Terms and Conditions") which you can view [here](#). Alternatively, please let me know if you would like me to send you a copy in the post. These create legally binding obligations so it is important that you take the time to read and understand them. They also contain definitions of terms used in this document and in the linked pages on our website that you may find helpful.

When can you expect your electricity connection?

Once you have accepted this Quote we will call you to discuss a programme of Works. Subject to the Terms and Conditions the Works referred to in this Quote will be completed on or before 06 April 2021.

We will try to meet your requested dates wherever possible but the completion date will be dependent on:

- The date that the Quote is accepted;
- How much of the work you wish UK Power Networks to complete;
- Any further discussions we may have with you regarding the programming of the works; and
- The completion of work by other people or companies that must be done before we can complete our work.

Please note that due to the impact of the ongoing Coronavirus situation, scheduling of all non-essential works is postponed until further notice. If we receive the required payment and your acceptance whilst the quote is valid, standard delivery lead-times will not commence until restrictions have been lifted. The restrictions do not apply to the connection or upgrade of supplies to critical buildings such as hospitals or projects that are directly supporting the effort to combat Covid-19 such as works to create temporary testing or other medical facilities. If your connection is of a critical nature, please contact me on the phone number below to discuss this.

Interactivity

We have not received a request from any other customer for connections to the same part of our Distribution System, but to find out what happens if they do, please [click here](#).

Post quote call

I will contact you within the next few days to discuss your quote, to ensure you understand the work we will do for the quoted price, your responsibilities, any dependencies and the likely timescales for the work. UK Power Networks are always looking to improve our service offering and as such, the post quote call may be recorded for training purposes. We will not share the recorded call with anyone outside of our connections business and it will be deleted as soon as we have completed the training review. However, if you do not want us to record the call please let me know at the beginning of the call.

www.ukpowernetworks.co.uk

Page 1
HQLV3.8

www.ukpowernetworks.co.uk

Page 2
HQLV3.8

What you need to do next

Before you decide to proceed it is really important that you take note of our **Terms and Conditions**, any **special conditions** detailed above and the details in **Your Information Pack** which includes information contained within the hyperlinked text, all of which constitute your **Quote**.

If you would like to accept this Quote you will need to ensure that the requested payment is in our bank account in full and cleared funds and that we have received your signed Acceptance Form from section 5 below by 5pm on 6 July 2020.

If you would like UK Power Networks to carry out all of the Works please accept option A. If you would prefer to use an ICP to carry out the Contestable Work (or an IDNO to arrange for an ICP to carry out the Contestable Works), you can pass this Quote to them and they can accept either option B or option C. Alternatively, you can accept option B or option C yourself, but you will need to ensure that your appointed ICP or IDNO understands what they must do, and what UK Power Networks will do for these options. **You can only accept one option.**

If you have any questions about this Quote or need more information, please do not hesitate to contact me.

Yours sincerely



Steve Mills

Mobile: 07875 113 968
Email: steve.mills@ukpowernetworks.co.uk

Please support our safety campaign and join the growing number of companies signing up to our [Pledge](#)



To download your free safety leaflets and resources visit
[UK Power Networks - Safety Page](#)

Appendix D Asset Search. Thames Water

Asset location search



Property Searches

Search address supplied: 9, Bishopswood Road, London, N6 4PB

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Asset location search



Property Searches

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.

Asset location search



Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset location search

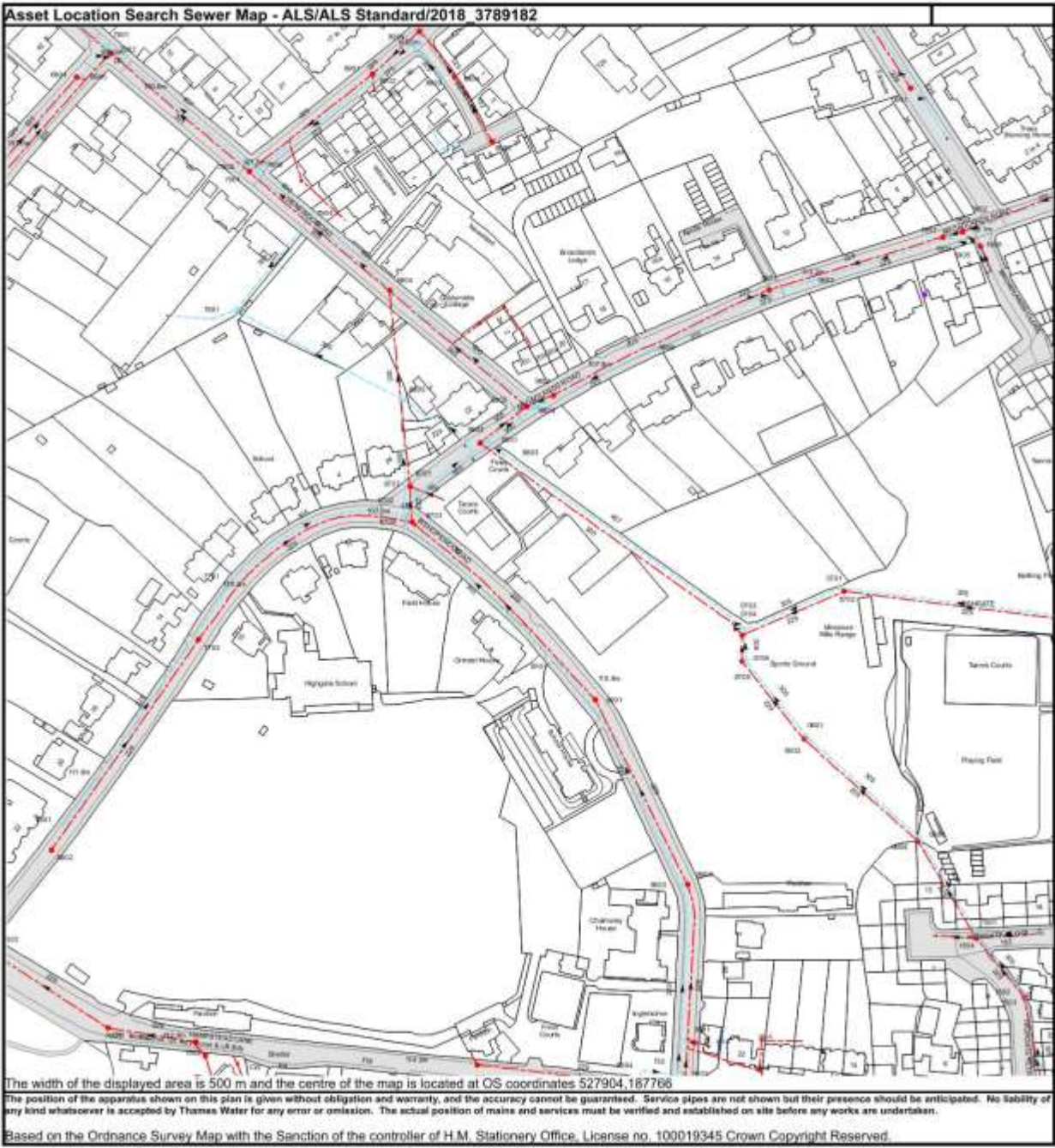
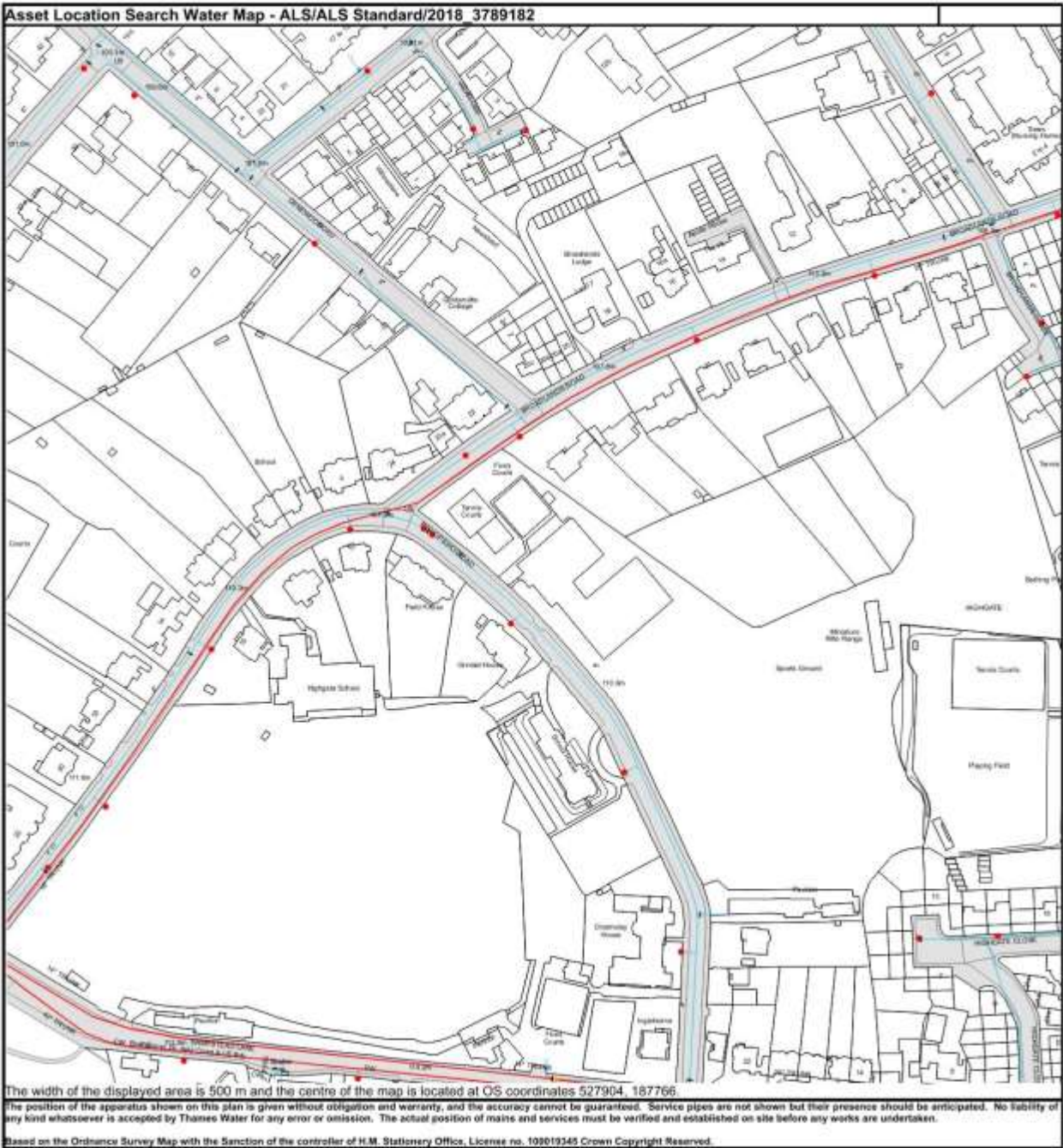


For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.





ALS Sewer Map Key

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

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.

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



ALS Water Map Key

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.
- 18"** **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.

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')

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.

Appendix E Site survey location of power cables

