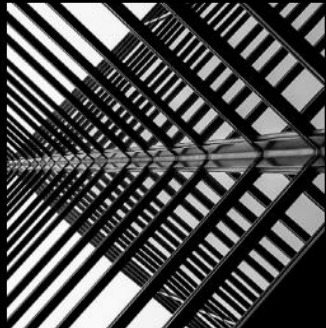


UTILITIES REPORT  
ROYAL BRUNSWICK PARK

2548-MKP-SW-ZZ-RP-M-1003



# UTILITIES REPORT



for the development at Royal Brunswick Park  
on behalf of Comer Homes Group



ISSUE REFERENCE	ISSUE DATE	STATUS
P1	August 2021	Preliminary Issue

## Contents

1.	Introduction.....	1
2.	Scope Of Assessment.....	2
3.	Existing Site.....	2
4.	Existing Utility Arrangements .....	2
5.	Proposed Supply Strategy.....	4
6.	Electrical Demand Analysis.....	5
7.	District Heating .....	5
8.	Potable Water.....	6
9.	Gas .....	6
10.	Telecommunications .....	6
11.	Diversions and Disconnections of Existing Supplies .....	6
12.	CCTV and External Lighting.....	7
13.	M&E plant.....	7
14.	Energy Centre Flues .....	8
15.	Conclusions .....	8
16.	Appendix .....	9
16.1	Appendix A – Existing Site Wide External Services Layouts .....	9
16.2	Appendix B – Site Visit Images (09.12.2021).....	22
16.3	Appendix B – Proposed Utilities Layouts .....	25

# 1. Introduction

This Utilities Report has been prepared by MKP Consultants to assess the potential utility demand and supply issues which may affect the planning application for the redevelopment of North London Business Park. Proposals are for the phased comprehensive redevelopment of the North London Business Park to deliver a residential-led mixed use development. The detailed element comprises up to 466 residential units in five blocks reaching 9 storeys, the provision of a 5 form entry secondary school, a gymnasium, a multi-use sports pitch and associated changing facilities and improvements to open space and transport infrastructure, including improvements to the access from Brunswick Park Road and; the outline element comprises up to 1,967 additional residential units in buildings ranging from three to twelve storeys, up to 7,148 sqm of non-residential floor space (use Class E) and 20,250sqm of open space. Associated site preparation/enabling work, transport infrastructure and junction work, landscaping and car parking.

The mixed use development will be delivered across a number of phases. The detailed application covers Phase 1 of the site, which includes the school site and 466 new residential dwellings, whilst the remaining phases of development will be covered by an outline application.

This Report provides an overview of any existing utility arrangements and sets out a proposed supply strategy to service the new development.

We have based this report on information received from the relevant authorities. This information has been extracted from the record information for their services, in the proximity of the site and / will be used in order to establish:

- Sizes of supplies available in the area to serve the development
- Details of any services to be relocated or abandoned to suit the scheme
- Any diversions or upgrade necessary to suit the final scheme
- Applications for new utility supplies

The majority of the statutory bodies provide record information in diagrammatic form, relating only to the OS map of the site and its environs. In general terms as would be expected the mains generally are routed under the carriageway with secondary routes of communications and electrical supplies under the pavement. Details vary from authority to authority on the depth, and capacity of the services, all of which is required for the detailed design of the development.

It is important to note that although up-dated regularly, these records may not represent all of the present plant installations. The position of plant shown on drawings must be taken as being indicative only. We have contacted the agencies, which we have reason to believe may have plant or equipment in the vicinity of the site. Although we have no reason to suspect that there are additional underground services on site (e.g. street lighting cables belonging to the local authority, cables belonging to the National Grid etc) care should be taken when carrying out any excavation works on site. Reference should be made to HSE publication HS(G)47 'Avoiding Danger From Underground Services'. In addition, we would recommend, prior to any excavation works being undertaken, that a CAT scan survey is carried out to identify the position of the known services and to confirm the existence of services other than those shown on the drawings.

The Site is not located within a Conservation Area, Nature Conservation Area or area of any landscape importance. The buildings on-site are not statutorily or locally listed.

We would note that in compiling this information we have relied upon information given to us in good faith by various third parties that have indicated that they accept no responsibility for errors or omissions contained therein.

## 2. Scope Of Assessment

This utilities statement considers the future development of the Brunswick Park Planning Application. The utility proposals described in this Utilities Statement have been developed through an integrated process of design and consultation with the Local Utilities companies and relevant stakeholders. The developments utilities demands have been estimated based on the area schedules and accommodation schedules provided by Plus Architecture.

## 3. Existing Site

The site occupies circa 17 hectares of brownfield land in a predominantly residential area, located to the west of Southgate and to the south of East Barnet. The site is a pre-developed site, with circa 13 hectares of the site being occupied by grasslands, an attenuation lake and unplanned vegetative cover.

The site is located in the London Borough of Barnet, approximately 8 miles to the north-west of Central London. The site lies slightly outside of the circular route prescribed by the A406 North Circular Road.

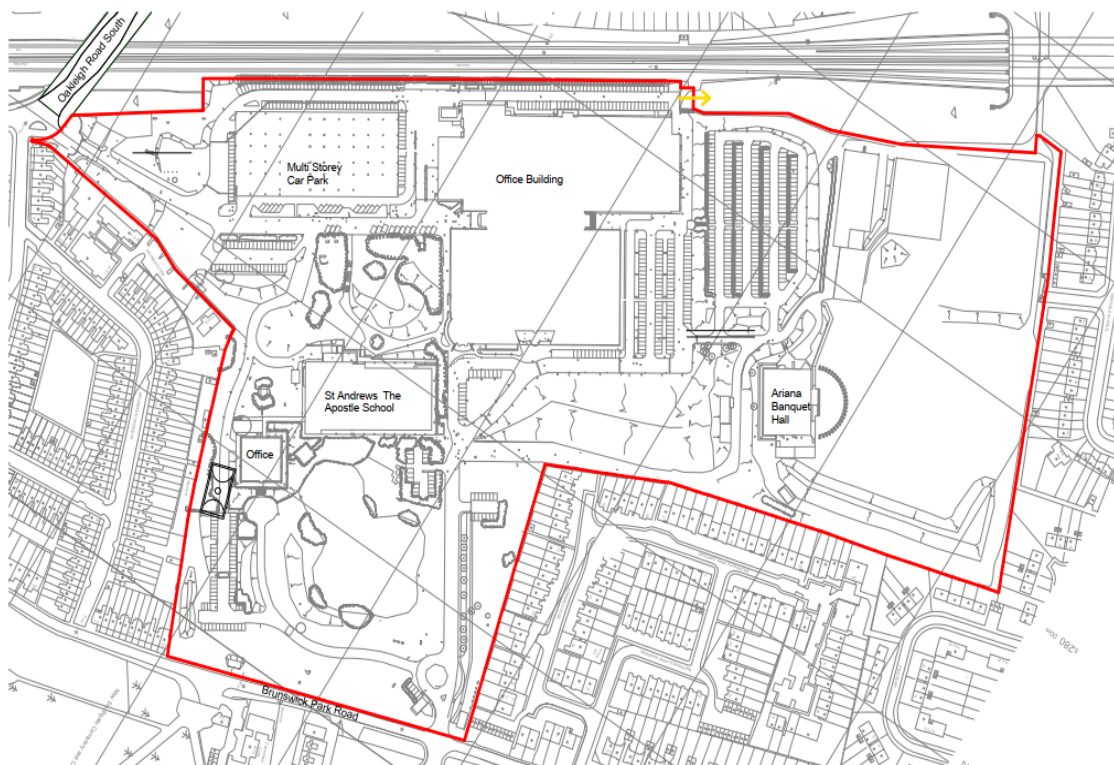


Figure 1. Brunswick Park, Barnet.

## 4. Existing Utility Arrangements

An existing utility search has been undertaken to establish which utility providers hold assets within the locality of the existing site. The output of this search has been summarised within Table 1 below and makes reference to the existing site plan included as Figure 2.

Table 1 – Existing Utilities

Utility Type	Utility Provider	Plant Location & Type
Telecoms	British Telecoms	<p><b>On-site:</b> The existing site is serviced by a combination of overhead and underground BT cables. BT's asset records identify connections to Buildings 2-6.</p> <p><b>Off-site:</b> Extensive network coverage serving residential developments surrounding the site.</p>
	Vodafone	<p><b>On-site:</b> The existing site receives a service connection from Oakleigh Road North to Building 4.</p>
Water Supply	Affinity Water	<p><b>On-site:</b> Affinity Water's asset record plans do not show any on-site services, it is therefore considered that the site must utilise private connections to the supply network.</p> <p><b>Off-Site:</b> Extensive network of water distribution mains serving the existing residential developments surrounding the site.</p>
Gas	National Grid UK Gas Distribution	<p><b>On-site:</b> National Grid UK's asset record plans indicate a short length of medium pressure main entering the southern extent of the site from Oakleigh Road North. It is likely that the site utilises private connections to this section of main network, with potential for additional connections from the low pressure main beneath Brunswick Park Road.</p> <p><b>Off-Site:</b> Extensive network of low pressure mains serving the existing residential developments surrounding the site.</p>
	ESP/GTC	<p><b>Off-Site:</b> Several small scale developments outside the application boundary are served by ESP/ GTC low pressure networks.</p>
Electricity	UK Power Networks	<p><b>On-site:</b> The UK Power Network mapping identifies the 'Standard Telephones Electricity Sub-Station' inside the southern extent of the site, with no other assets continuing into the site. It is therefore considered that the site must utilise private connections from this network to service the existing buildings.</p> <p><b>Off-Site:</b> Extensive network serving the existing residential developments surrounding the site.</p>

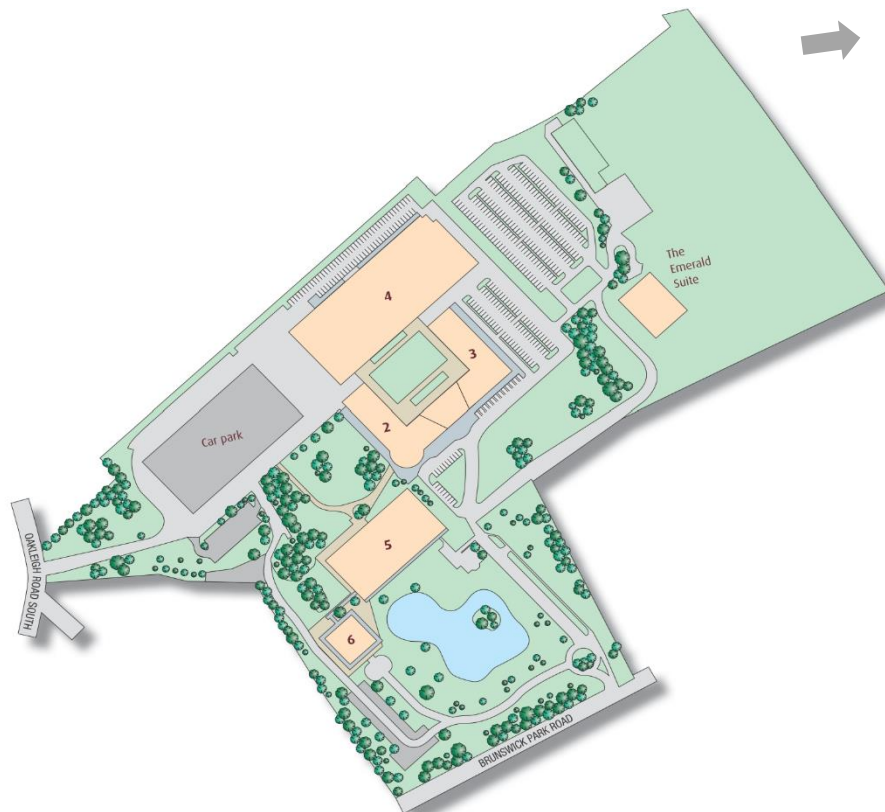


Figure 2. Existing Site Plan.

A series of Existing Site Wide External Services Layouts have been prepared to collate all relevant utility information. These layouts are referenced as follows and copies can be within Appendix A:

- 2548-MKP-SW-GF-DR-ME-8001
- 2548-MKP-SW-GF-DR-ME-8002
- 2548-MKP-SW-GF-DR-ME-8003
- 2548-MKP-SW-GF-DR-ME-8004
- 2548-MKP-SW-GF-DR-ME-8005
- 2548-MKP-SW-GF-DR-ME-8006
- 2548-MKP-SW-GF-DR-ME-8007
- 2548-MKP-SW-GF-DR-ME-8008
- 2548-MKP-SW-GF-DR-ME-8009
- 2548-MKP-SW-GF-DR-ME-8010
- 2548-MKP-SW-GF-DR-ME-8011
- 2548-MKP-SW-GF-DR-ME-8012

## 5. Proposed Supply Strategy

The proposed supply strategy for the redevelopment scheme will be prepared in accordance with MKP's Energy and Sustainability Report, which promotes the use of passive solar design and high standards of energy efficiency to reduce CO<sub>2</sub> emissions beyond those mandated by Building Regulations Part L.

The efficiency measures proposed within the Energy and Sustainability Strategy will help to reduce the schemes future energy and water demands. The level of reduction will be calculated once the principles of the strategy have been applied to the development proposals, which will be assessed as part of a future Energy and Sustainability Assessment.

The output of the Energy Assessment will be used in conjunction with 'BSRIA Rules of Thumb (5th Edition)' and 'CIBSE TM 46:2008 Energy Benchmarks' to provide estimates for the respective energy

and water consumptions for the development, enabling preliminary connection enquiries to be submitted to reach respective utility provider.

The connection enquiries will seek to identify budget costs to supply the site, including any provisions for new infrastructure and any associated reinforcement costs.

In advance of the above, an initial appraisal has been undertaken to assess any existing utility constraints which might affect the proposed development. The output of this appraisal has been summarised below for each service;

- **Telecoms** – On-site BT and Vodafone utilities are known to serve existing buildings within the site. It is considered that any diversionary or reinforcement works to accommodate future phases of development can be undertaken without off-site disturbance or abnormal works.
- **Water Supply** – There are no service, distribution or trunk water mains identified on Affinity Waters asset record plans. It is therefore considered that the existing site must be served by a private water distribution network, with connections to the Affinity Water supply. It is considered that any diversionary or reinforcement works to accommodate future phases of development can be undertaken without off-site disturbance or abnormal works, subject to future demand and network capacity (to be resolved through our forthcoming pre-development enquiries).
- **Gas** – A medium pressure gas main has been identified within the southern extents of the site. It is likely that the site utilises private connections from this network to service the existing buildings and it is therefore considered that any diversionary or reinforcement works to accommodate future phases of development can be undertaken without off-site disturbance or any abnormal works, subject to future demand and network capacity (to be resolved through our forthcoming pre-development enquiries).
- **Electricity** – An existing electricity sub-station has been identified within the southern extents of the site. The position of this sub-station does not conflict with any future phase of development and is likely to be retained. It is likely that the site utilises private connections from this network to service existing buildings and it is therefore considered that any diversionary or reinforcement works to accommodate future phases of development can be undertaken without off-site disturbance or any abnormal works, subject to future demand and network capacity (to be resolved through our forthcoming pre-development enquiries).

## 6. Electrical Demand Analysis

An after diversified maximum demand (ADMD) in kilo-volt-ampere (kVA) has been allowed for each residential unit. This fixed load has been derived from UKPN LV network design published literature and the stipulated typical ADMDs therein. A baseline electrical demand allowance ( $W/m^2$ ) has been made for the commercial areas, retail areas, and Landlords & Common Areas. This base derives from information compiled and validated by bodies such as the Building Services Research and Information (BSRIA), Electrical Retailers Association (ERA) and the Building Research Establishment (BRE). Base demands were used in specific load profiles for each type of planned development, which when combined provide an accurate assessment of the applied diversity.

## 7. District Heating

The London Heat Map has been consulted to establish whether the Development lies within proximity of an existing or proposed area-wide DHN. London Plan policy states that development should seek to connect to existing or planned district energy networks. This indicates that the site is not located near to any existing or proposed heat networks. However, it is located close to areas identified as an 'opportunity area' for the implementation of a heat network. As Royal Brunswick Park, falls outside a Heat Priority Area and as there are no plans for an area-wide heat network within close proximity to the Development, the strategy is for a site-wide, communal heating strategy.

A site-wide heat network, served by a low-carbon generation heat source, will form the central component of the Energy Strategy at Royal Brunswick Park. A hybrid heat network, led by Air Source Heat Pump (ASHPs) and supplemented by gas-fired boilers, will serve all new dwellings. The site-wide heat network will incorporate ASHP units as the leading heat source. The heat network currently includes 40 Mitsubishi Ecodan CAHV units, roof-mounted at a central location on the roof of Block D in Phase 1.



The energy centre will be sited in Block D and pre-insulated below ground communal heating pipework will be routed around the site to serve each and every building.

A baseline heating demand allowance ( $W/m^2$ ) has been made for each accommodation type described in the development area schedule. This base data derives from information compiled and validated by various approved bodies. The base demands were fed into specific load profiles for each type of planned accommodation, which when combined provide an accurate assessment of the applied diversity.

## 8. Potable Water

Two new water supplies will extend into the site to serve a ring main around the site. Each building will be provided with bulk cold water storage tanks. From these tanks water will be lifted to a higher pressure via booster sets and provided to the following:

- Potable boosted cold water supplies to the apartments.
- Sprinklers to the apartments (served from the potable tank/booster sets).
- Landlord tanks serving plant, irrigation and refuse store/roof area wash down.
- Basement car park sprinkler system.

Water for the commercial units will be served directly from the mains with water meters located in the footpath in close proximity to each unit.

Applications have been made to the incumbent utility provider (Affinity Water) and budget quotations received for the works associated with these new supplies.

## 9. Gas

A new gas main will be extended into the Site to serve the Energy Centre comprising gas fired boiler plant estimated to have a peak load of 10MW.

Gas will not be provided to the new energy centre only and is not expected to be required in any of the commercial units.

Applications have been made to the incumbent utility provider for the works associated with these new supplies.

## 10. Telecommunications

An incoming BT telephone service (fibre optic cable) will enter the from the existing infrastructure and extend across the site to a central room in each building. This shall comprise fibre to the premises with a fibre optic cable terminating into BT equipment within each apartment utility cupboard for connection to the homeowner's landline telephone.

As an alternative to BT broadband, alternative telecoms intake rooms will be provided across the site in each building. Hyperoptic, Virgin media or other telecom provider will be consulted, and services installed to the intake room. From the intake room the services will be extended to landlord areas and to the apartments as alternative to BT.

## 11. Diversions and Disconnections of Existing Supplies

Based upon the below ground mapping surveys and through conversations with the major utility providers in the area the following diversions and disconnections of the existing utilities infrastructure in the proximity of the Site have been determined. Existing incoming services have been identified in and include the following:

- Water (denoting potable water)
- Comms (denoting BT)

- Gas
- HV Power (denoting high voltage electricity supplies)
- LV Power (denoting low voltage electricity supplies)

Before stripping any services out, the appointed Contractor will identify them, to ensure any possible impact on parts of the Site outside the work area are noted and the required action agreed. Any alterations to the services associated with the adjacent areas prior to decommissioning/removal will be completed in such a manner as to constitute a safe and permanent arrangement.

During the removal of the services, great care will be taken not to damage the surroundings, providing measures to safeguard the surroundings and the public.

## 12. CCTV and External Lighting

The Principal/Services Contractor shall provide CCTV and external lighting systems serving the new development.

The CCTV system shall incorporate pan tilt zoom (PTZ) and fixed standard dome type cameras, covering site and building egress and entrance points, bin stores, cycle sheds.

The CCTV system shall either comprise a combination of fibre optic and CAT6 cabling (IP based) which shall serve the system and shall be run in the new ductwork system.

The external lighting system, shall incorporate building mounted lighting and columns, illuminating main entrances of the new buildings, walkways, paths, car parking areas and roadways.

The external lighting has been designed to limit any upward light spill, currently the design is below 0.5 lux at 6m and above.

The lighting shall be controlled via photocell and time switch, permitting the lighting to be automatically turned off at a predetermined time.

Power cables serving the CCTV and external lighting systems will either be provided from the associated buildings or run within the ground from the new sub-station.

## 13. M&E plant

An overview of the proposed strategy for the Mechanical and Electrical systems is summarised as follows:

- Space heating to the apartments will be generally provided by a wet radiator heating system served by Site wide district heating mains.
- A central gas fired Energy Centre comprising of high efficiency gas boiler will be used to supplement the heat generated by Air Source Heat Pumps (ASHP) located on the roof of Block D (Phase 1). The proposed hydraulic arrangement of the district heating system is based on the use of ASHP units to pre-heat the return temperature of the district heating before entering the gas fired boilers.

To achieve the GLA planning policy targets for CO<sub>2</sub> emissions, the plant has been sized to meet the annual energy consumption via an 80/20 split of ASHP and gas boilers respectively.

- Within the apartments domestic hot water will be generated via instantaneous indirect Heat Interface Units (HIU) served by the Site wide heat network.
- Fibre optic lines will be brought into the basement to a central hub position. From the central hub position, fibre will be extended through the basement and external ducts to serve each residential building.

- Electric meters and smart water meters will be provided in each apartment.
- Heat meters will be provided in each apartment, as well as at the base of each residential block.
- Incoming water will extend to bulk storage tanks serving landlord systems, potable supplies to apartments, sprinklers in the apartments and car. Direct mains water supplies will extend to the commercial units.
- Ventilation to the apartments will be provided via local whole house heat recovery systems. Mechanical smoke shafts will be provided to the common corridors in the residential blocks to supply and extract smoke. These shafts will also be used to control the environmental temperature in the corridors with outside air supplied down the shafts or stair cores and with warm air extracted from the corridors and ceiling voids via the smoke ventilation shafts.

Smoke and CO2 ventilation will be provided to the basement and ground floor car park via impulse fans and smoke extract fan chambers.

## 14. Energy Centre Flues

Flues are situated above Block D to expel exhaust gases from the central energy centre comprising gas fired boilers. The following summarises the requirements for the flues, which have informed the Air Quality Assessment:

- A flue overrun height of 4m above roof level
- Flue internal diameter – 2 No. 650mm ID flues
- Exit gas temperature – 61degC.
- Exit gas velocity at full load – 6.8m/s.
- Pollution emission rated – Will meet <40mg/kWh

## 15. Conclusions

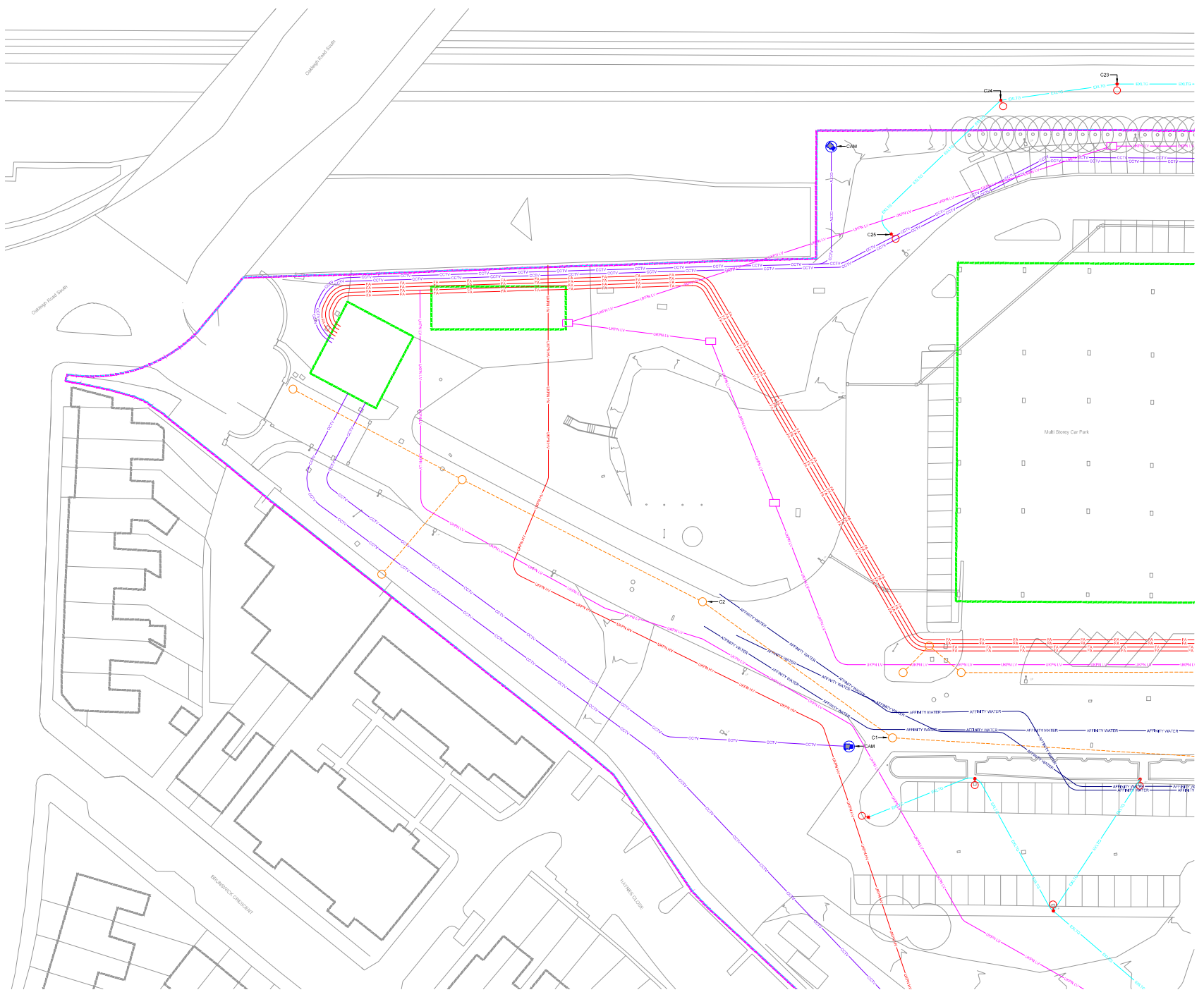
An existing utility search has established that the site has live connections to all primary services.

A review of the asset record plans for each utility provider has confirmed that existing on-site services could be diverted to accommodate any future development phase, without disruption to any off-site networks. Wherever practicable, the new utilities will not adversely impact on existing roads, waterways, soft landscape, permanent venues, buildings, bridges and structures or operations.

It is concluded that each phase of the proposed redevelopment scheme can be delivered without any abnormal utility constraints. Furthermore, given the inclusion of renewable energies and low water consumption fittings within the proposed redevelopment scheme, there are not expected to be any future capacity restrictions or abnormal reinforcement requirements.

## 16. Appendix

### 16.1 Appendix A – Existing Site Wide External Services Layouts



For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8005

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DO NOT scale from this drawing - site measure only.

Legend	
	• Mains Cold Water
	• Affinity Water
	• New below ground Mains Cold Water network responsibility of developer
	• Routed Cold Water Services
	• High Voltage Mains Cable - UR/N
	• Low Voltage Mains Cable - UR/N
	• External Lighting Cables
	• Site Boundary
	• Phase Boundary
	• Proposed New Building to be Constructed
	• Existing Building Outside Site Boundary
	• Pipe Duct
	• Construction Zone

For construction refer to drawing No. 2548-MKP-SW-GF-DR-ME-8002

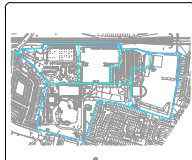
P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 1 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00

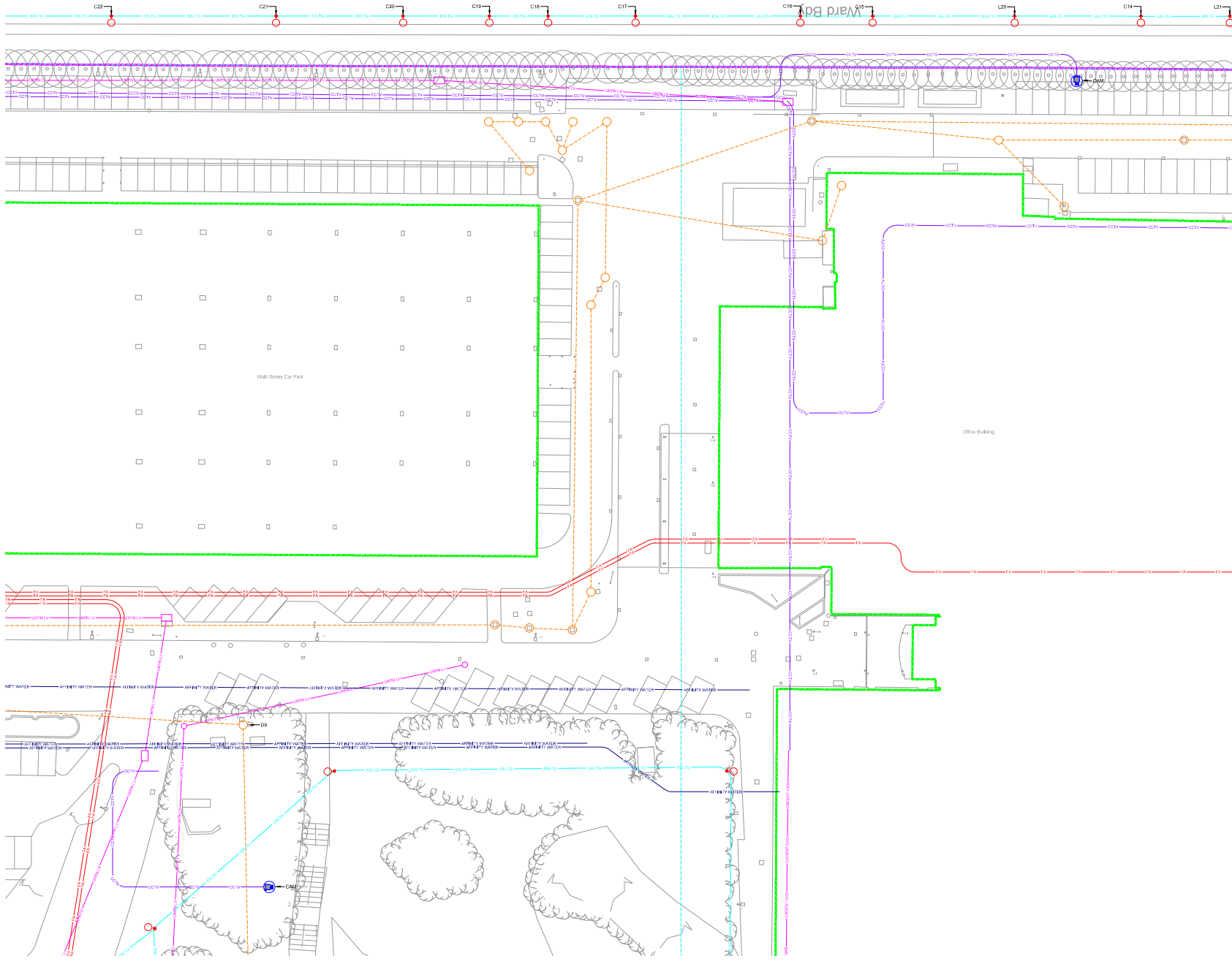


Key Plan

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Drawn:	Date:	Checked:	Approved:
SW	SEP20	CSC/CS	PK
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Draw. No.:	Rev:		
2548-MKP-SW-GF-DR-ME-8001	P1		

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For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8001

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8003

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8006

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Legend	
	Mains Cold Water
	Affinity Water
	High Voltage Mains Cable - HV/MV
	Sewer
	Gas
	Low Voltage Mains Cable - LV/MV
	External Lighting Cable
	Phase Boundary
	Proposed New Building to be Constructed
	Existing Building Outside Site Boundary
	Pipe Duct
	Construction Zone

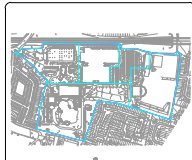
P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 2 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_WS\_02\_00



Key Plan

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Drawn			

Draw No. 2548-MKP-SW-GF-DR-ME-8002 Rev P1

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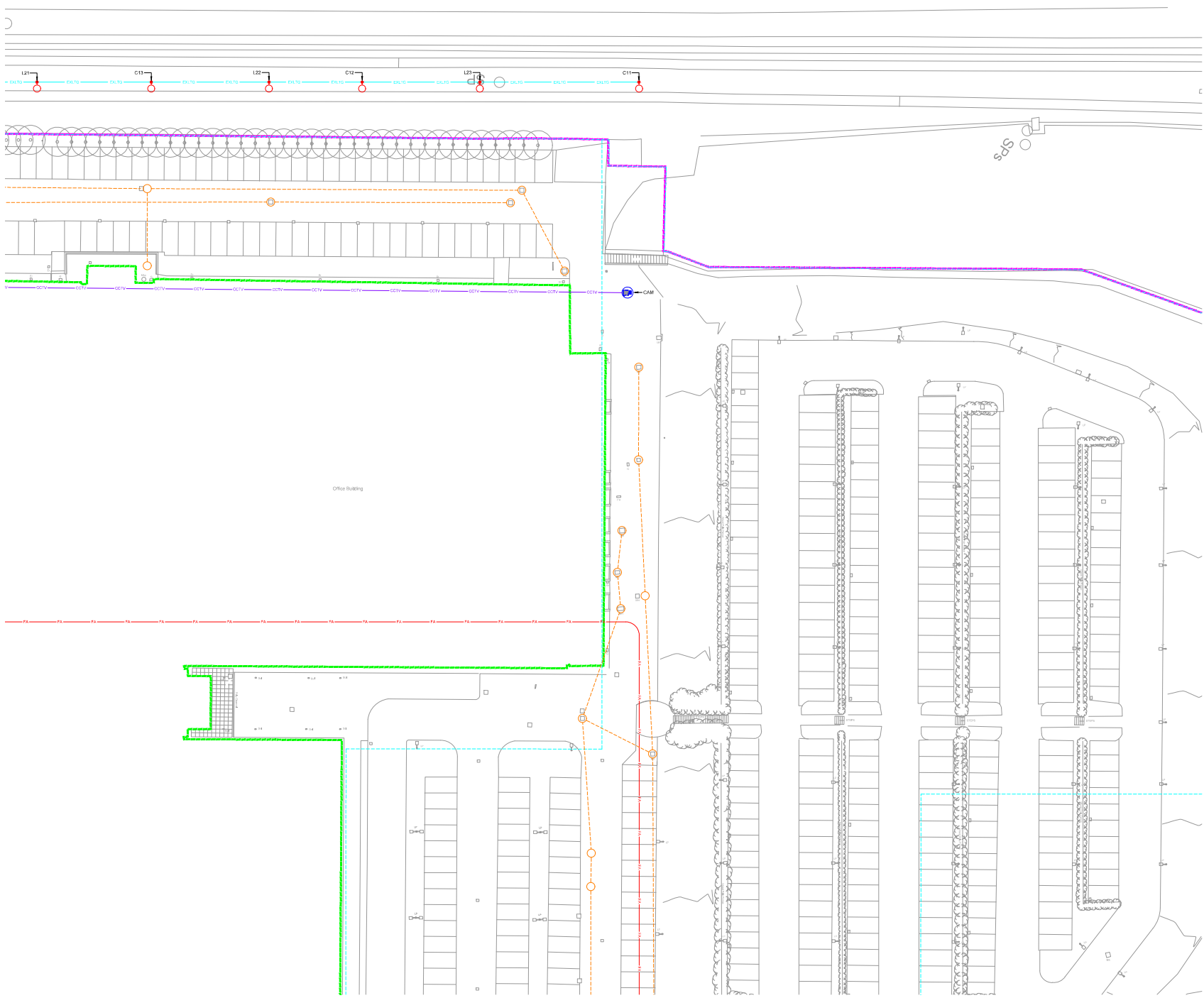
DO NOT scale from this drawing - site measure only.

**Legend**

- Mains Cold Water
- Mains Water
- New below ground Mains Cold Water pipework (responsibility of developer)
- Roadside Cold Water Services
- High Voltage Mains Cable - UHPN
- Low Voltage Mains Cable - UHPN
- External Lighting Cables
- Site Boundary
- Phase Boundary
- Proposed New Building to be Constructed
- Existing Building Outside Site Boundary
- Pipe Duct
- Construction Zone

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-002

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-004



For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-007

P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 3 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00

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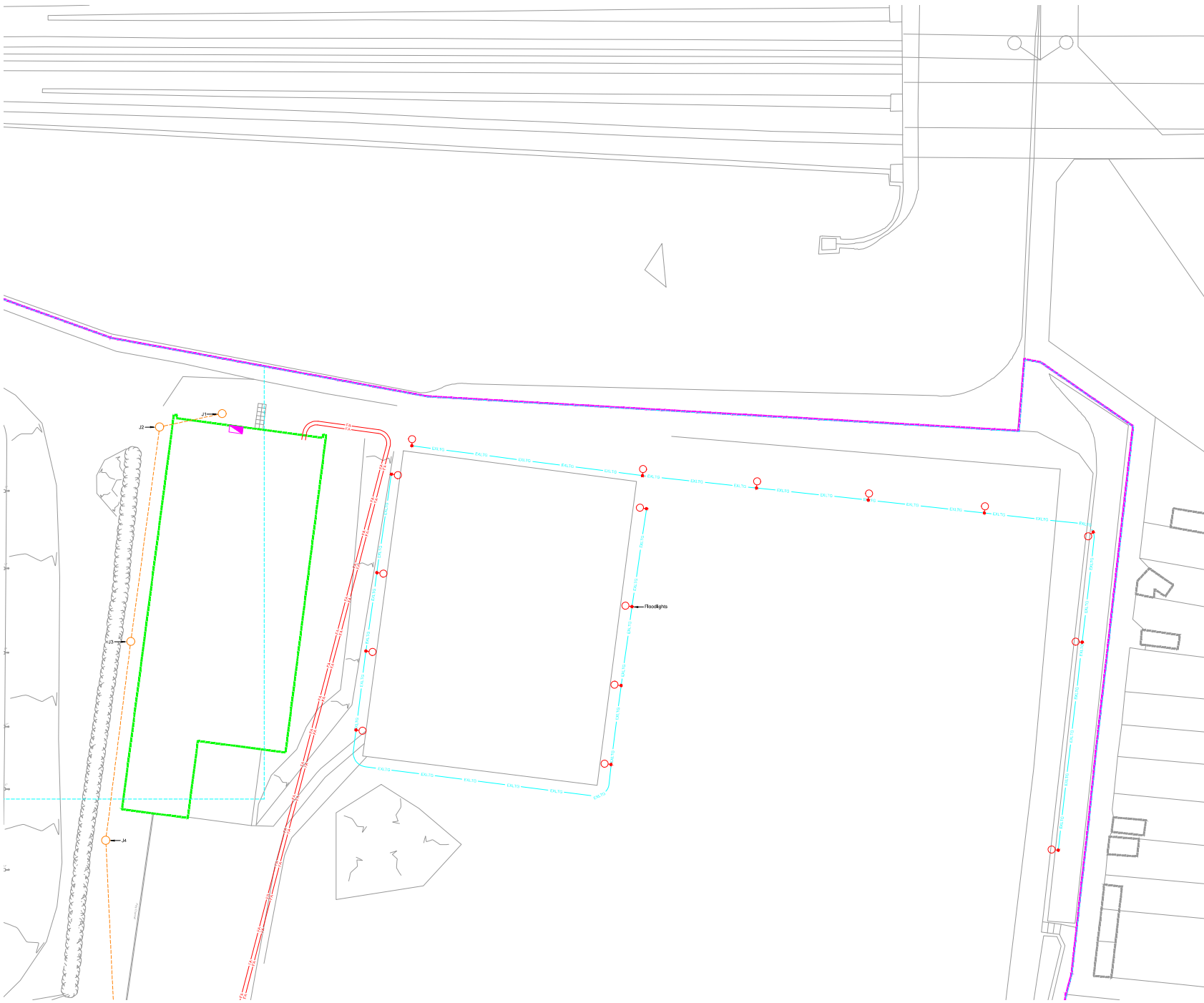


**Key Plan**

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Draw. No. 2548-MKP-SW-GF-DR-ME-8003 Rev. P1

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8003



For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8008

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**Legend**

- • Mains Cold Water - Utility Water
- • Mains Cold Water - Home before ground Mains Cold Water - developer responsibility of developer
- • Routed Cold Water Services
- • High Voltage Mains Cable - U/P/N
- • Low Voltage Mains Cable - U/P/N
- • External Lighting Cables
- • Site Boundary
- • Phase Boundary
- • Proposed New Building to be Constructed
- • Existing Building Outside Site Boundary
- • Pipe Duct
- Construction Zone

P1 Sep20 Preliminary Issue

Rev	Date	Description

Client



Project Title

**BRUNSWICK PARK**

Drawing Title

**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 4 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



**Key Plan**

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Drawn	Date	Checked	Approved
BW	SEP20	CS/CS	PK

Scale	Size	Issue
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Draw. No. 2548-MKP-SW-GF-DR-ME-8004 Rev. P1





For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-800

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- Legend**
- Mains Cold Water
  - Affinity Water
  - High Voltage Mains Cable - UR/N
  - High Voltage Mains Cable - UR/N
  - Low Voltage Mains Cable - UR/N
  - External Lighting Cable
  - DUCT
  - Site Boundary
  - Phase Boundary
  - Proposed New Building to be Constructed
  - Existing Building Outside Site Boundary
  - Pipe Duct
  - Construction Zone

P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

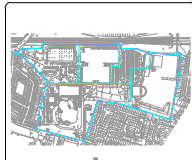
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**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 5 OF 12**

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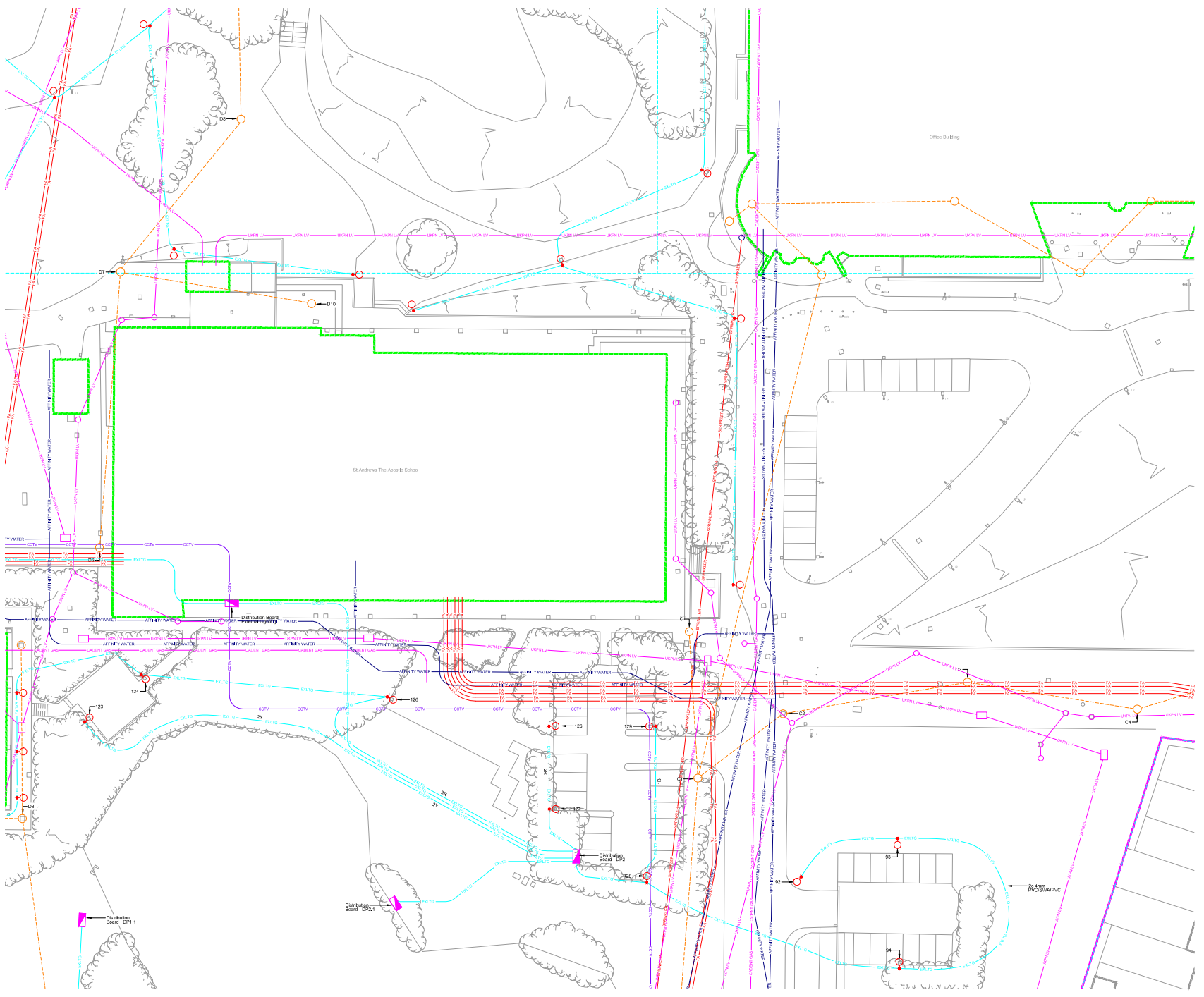
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SW	SEP20	CS/CS	PK
Scale	Size	Issue	
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Dwg. No. 2548-MKP-SW-GF-DR-ME-8005 Rev. P1

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



**Key Plan**



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DO NOT scale from this drawing - site measure only.

Legend	
	Mains Cold Water
	Drinking Water
	Hot Water
	Gas
	Electricity
	External Lighting Cables
	Phase Boundary
	Proposed New Building to be Constructed
	Existing Building Outside Site Boundary
	Pipe Duct
	Construction Zone

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8005

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8007

P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 6 OF 12**

**MKP CONSULTANTS**  
ENGINEERING EXCELLENCE  
Warren Farm Barn, Anlover Road,  
Micklestone Station, Winchester, SO21 2FL  
Tel. 01952 774665, www.mkp.com

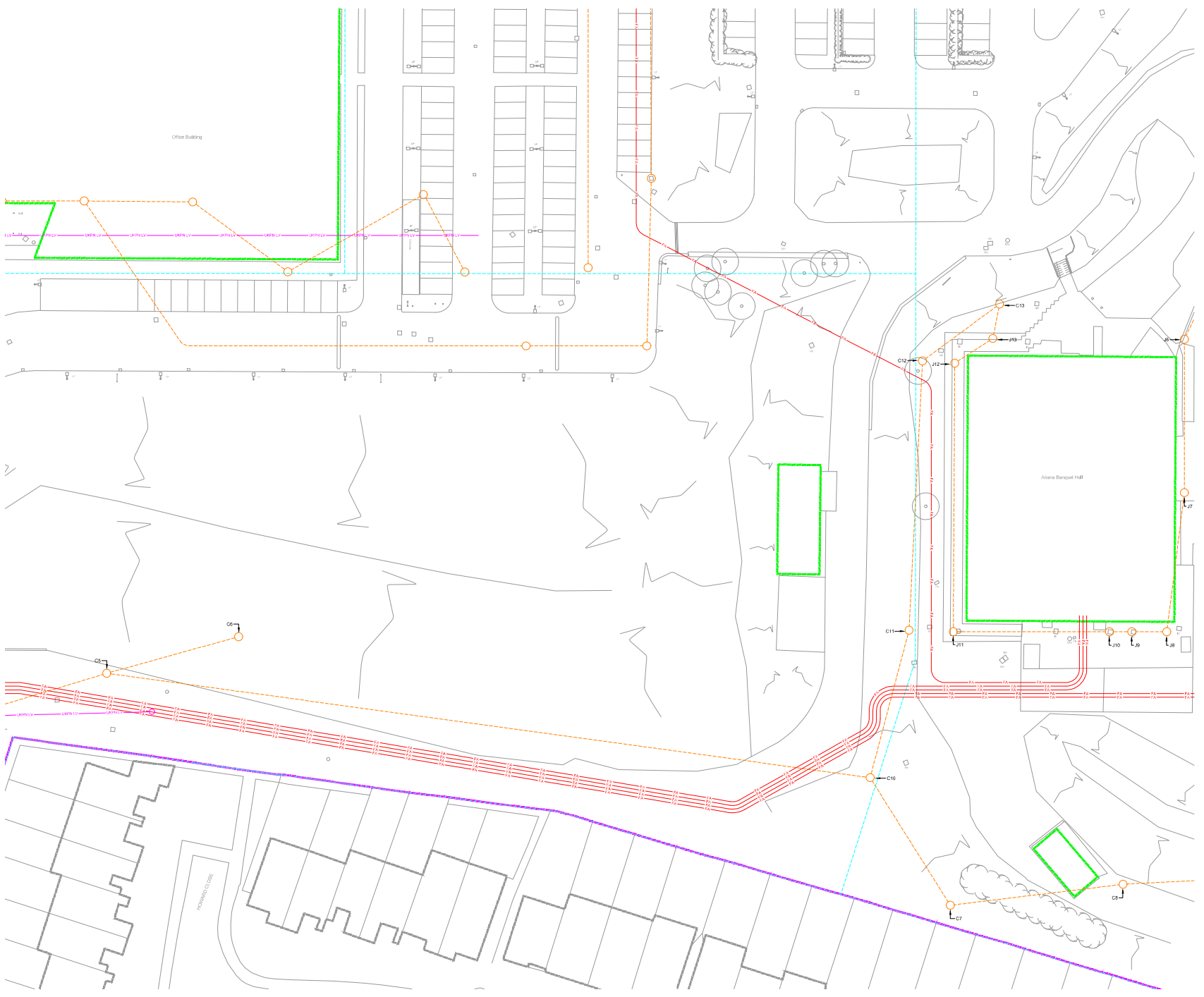
Drawn	Date	Checked	Approved
BW	SEP20	CS/CS	PK

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Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



Key Plan



For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-806

For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-808

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- Legend**
- Main Water
  - Artery Water
  - H2O
  - New below ground Main
  - Cucki Water network
  - Responsibility of developer
  - Roadbed Cucki Water Services
  - High Voltage Main Cable - U/P/N
  - Low Voltage Main Cable - U/P/N
  - External Lighting Cable
  - C.A.T.V
  - Site Boundary
  - - - Phase Boundary
  - - - Proposed New Building to be Constructed
  - - - Existing Building Outside Site Boundary
  - Pipe Duct
  - Construction Zone

P1	Sep20	Preliminary Issue
Rev	Date	Description



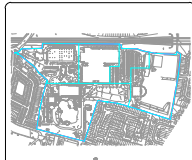
Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 7 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00

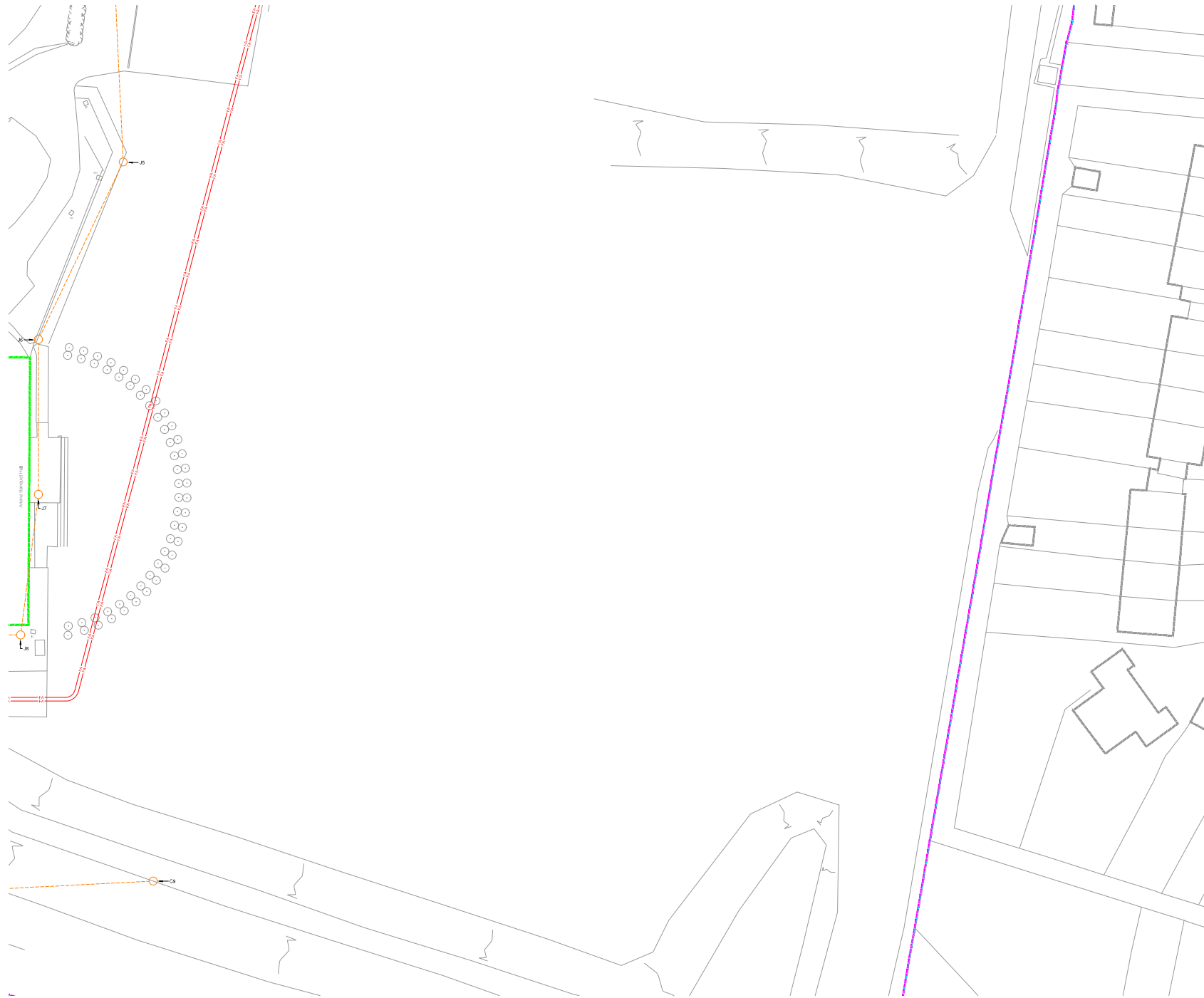
**MKP CONSULTANTS**  
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Waters Farm Barn, Anlover Road,  
Micklestone Station, Worcester, SGL7 1FL  
Tel. 01952 774665, www.mkpg.com

Drawn	Date	Checked	Approved
BW	SEP20	CS/CS	PK
Scale	Size	Issue	
1:200	A1	<input checked="" type="radio"/> Preliminary <input type="radio"/> Tender <input type="radio"/> Construction <input type="radio"/> Contract	



Key Plan

Dwg. No. 2548-MKP-SW-GF-DR-ME-8007 Rev. P1



For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-807

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Legend	
	Mains Cold Water - Affinity Water
	Mains Hot Water - New below ground Mains Cold Water pipework responsibility of developer
	Sewer - Sewer Cold Water Services
	Gas - High Voltage Mains Cable - UR/N
	Electricity - Low Voltage Mains Cable - UR/N
	Site Boundary
	Phase Boundary
	Proposed New Building to be Constructed
	Existing Building Outside Site Boundary
	Pipe Duct
	Construction Zone

P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE  
EXTERNAL SERVICES  
LAYOUT SHEET 8 OF 12**

**MKPCONSULTANTS**  
ENGINEERING EXCELLENCE  
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Mickleton Station, Winchester, SO23 7FL  
Tel: 01952 774665, www.mkpg.com

Drawn	Date	Checked	Approved
BW	SEP20	CS/CS	PK
Scale	1:200	Issue	

Dwg. No. 2548-MKP-SW-GF-DR-ME-808 Rev. P1

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



Key Plan



For continuation refer to drawing No. 2548-MKP-SW-GF-DR-ME-8005

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- Legend**
- Mains Cold Water
  - Mains Water
  - Sewer
  - Sewer to be laid on ground Mains Cold Water sewerwork responsibility of developer
  - Sewer
  - Sewer Cold Water Services
  - High Voltage Mains Cable - U/L/N
  - Low Voltage Mains Cable - U/L/N
  - External Lighting Cable
  - Site Boundary
  - Phase Boundary
  - Proposed New Building to be Constructed
  - Existing Building Outside Site Boundary
  - Pipe Duct
  - Construction Zone

P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

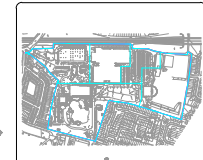
Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 9 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00

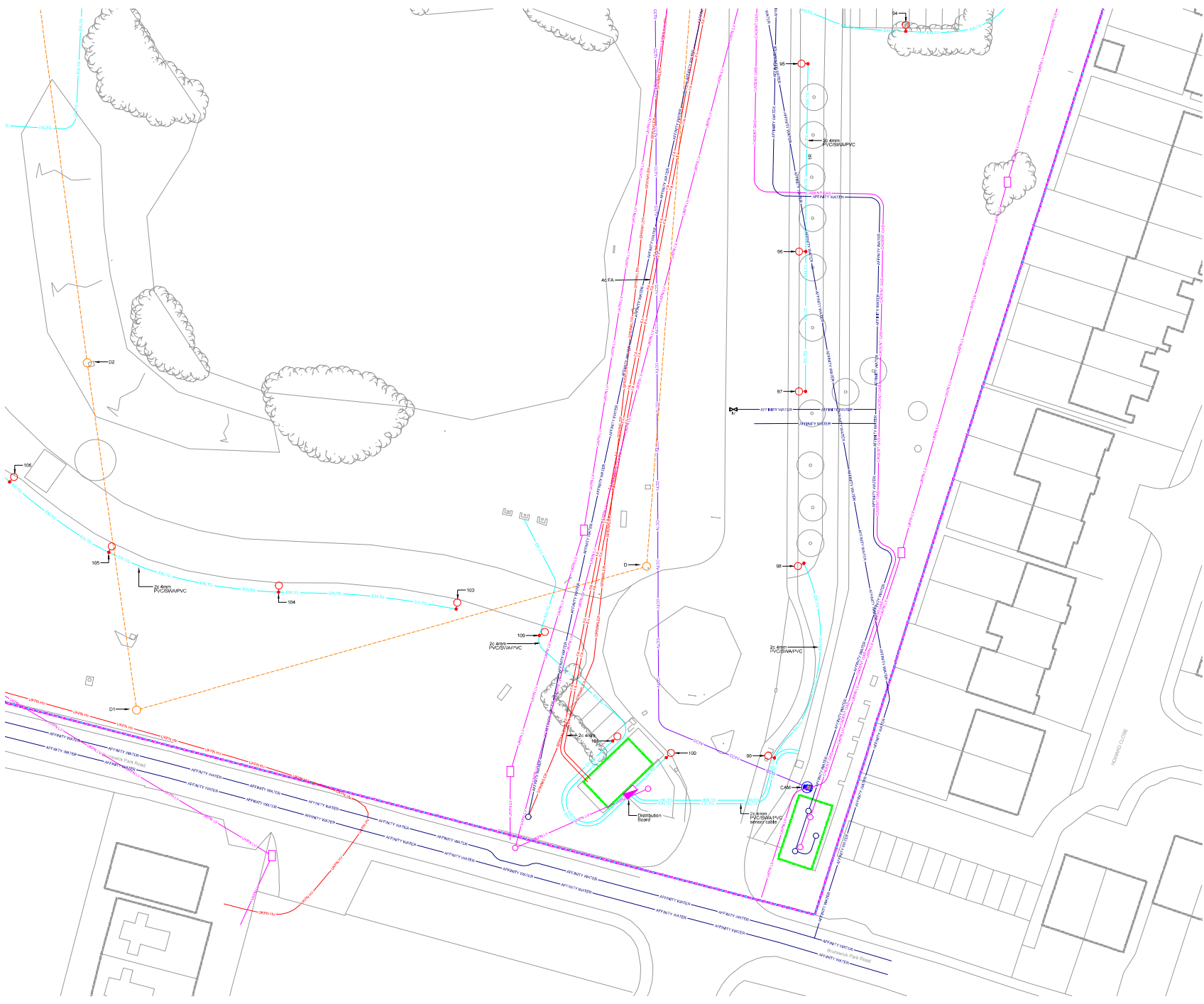
**MKP CONSULTANTS**  
ENGINEERING EXCELLENCE  
Warren Farm Barn, Anlover Road,  
Mickleover Station, Worcester, SCS2 1FL  
Tel. 01952 774665, www.mkpg.com

Drawn	Date	Checked	Approved
BW	SEP20	CS/CS	PK
Scale	Size	Issue	
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Draw. No.	Rev
2548-MKP-SW-GF-DR-ME-8009	P1



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**Legend**

- Mains Cold Water
- Affinity Water
- Have below ground Mains Cold Water pipework responsibility of developer
- Roofed Cold Water Services
- High Voltage Mains Cable - LV/11kV
- Low Voltage Mains Cable - LV/1N
- External Lighting Cable
- Site Boundary
- Phase Boundary
- Proposed New Building to be Constructed
- Existing Building Outside Site Boundary
- Pipe Duct
- Construction Zone

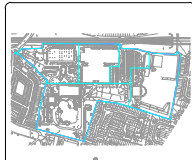
P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 10 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



Key Plan

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Drawn	Date	Checked	Approved
BW	SEP20	SEP20	SEP20
Scale	Size	Issue	Approval
1:200	A4	01 Preliminary	02 Tender
		03 Construction	04 Contact
Draw. No.	Rev		
2548-MKP-SW-GF-DR-ME-8010	P1		



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- Legend**
- - Mains Cold Water
  - - Wfing Water
  - - H2O
  - - New below ground Mains Cold Water pipework responsibility of developer
  - - BCS
  - - Roadside Cold Water Services
  - - High Voltage Mains Cable - U/P/N
  - - Low Voltage Mains Cable - U/P/N
  - - O.L.T.O
  - - External Lighting Cables
  - - Site Boundary
  - - Phase Boundary
  - - Proposed New Building to be Constructed
  - - Existing Building Outside Site Boundary
  - - Pipe Duct
  - - Construction Zone

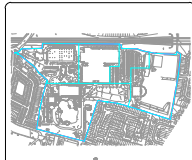
P1	Sep20	Preliminary Issue
Rev	Date	Description



Project Title:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE EXTERNAL SERVICES LAYOUT SHEET 11 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



Key Plan

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Tel: 01952 774665, www.mkpg.com

Drawn	Date	Checked	Approved
BW	SEP20	CS/CS	PK

Scale	Size	Issue
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Draw. No.	Rev
2548-MKP-SW-GF-DR-ME-8011	P1



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Legend	
	• Mains Cold Water • Affinity Water
	• Sewer • Sewer below ground Mains Cold Water sewerwork responsibility of developer
	• Roadbed Cold Water Services
	• High Voltage Mains Cable - U/P/N
	• Low Voltage Mains Cable - U/P/N
	• External Lighting Cable
	• Site Boundary
	• Phase Boundary
	• Proposed New Building to be Constructed
	• Existing Building Outside Site Boundary
	• Pipe Duct
	• Construction Zone

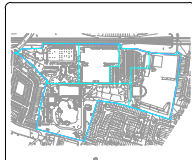
Rev	Date	Description
P1	Sep20	Preliminary Issue



Client:  
**BRUNSWICK PARK**

Drawing Title:  
**EXISTING SITE WIDE  
EXTERNAL SERVICES  
LAYOUT SHEET 12 OF 12**

Drawings based on Plus Architecture's drawing No. 211\_VS\_02\_00



Key Plan

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Tel. 01952 774685, www.mkpg.com

Drawn	Date	Checked	Approved
BW	SEP20	C/S/C/S	PK

Scale	Size	Issue
1:200	A1	Final

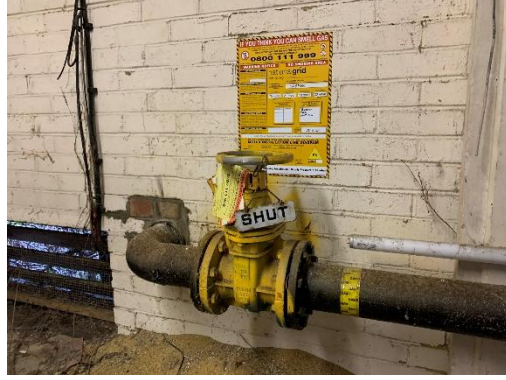
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Draw No. 2548-MKP-SW-GF-DR-ME-8012 Rev P1



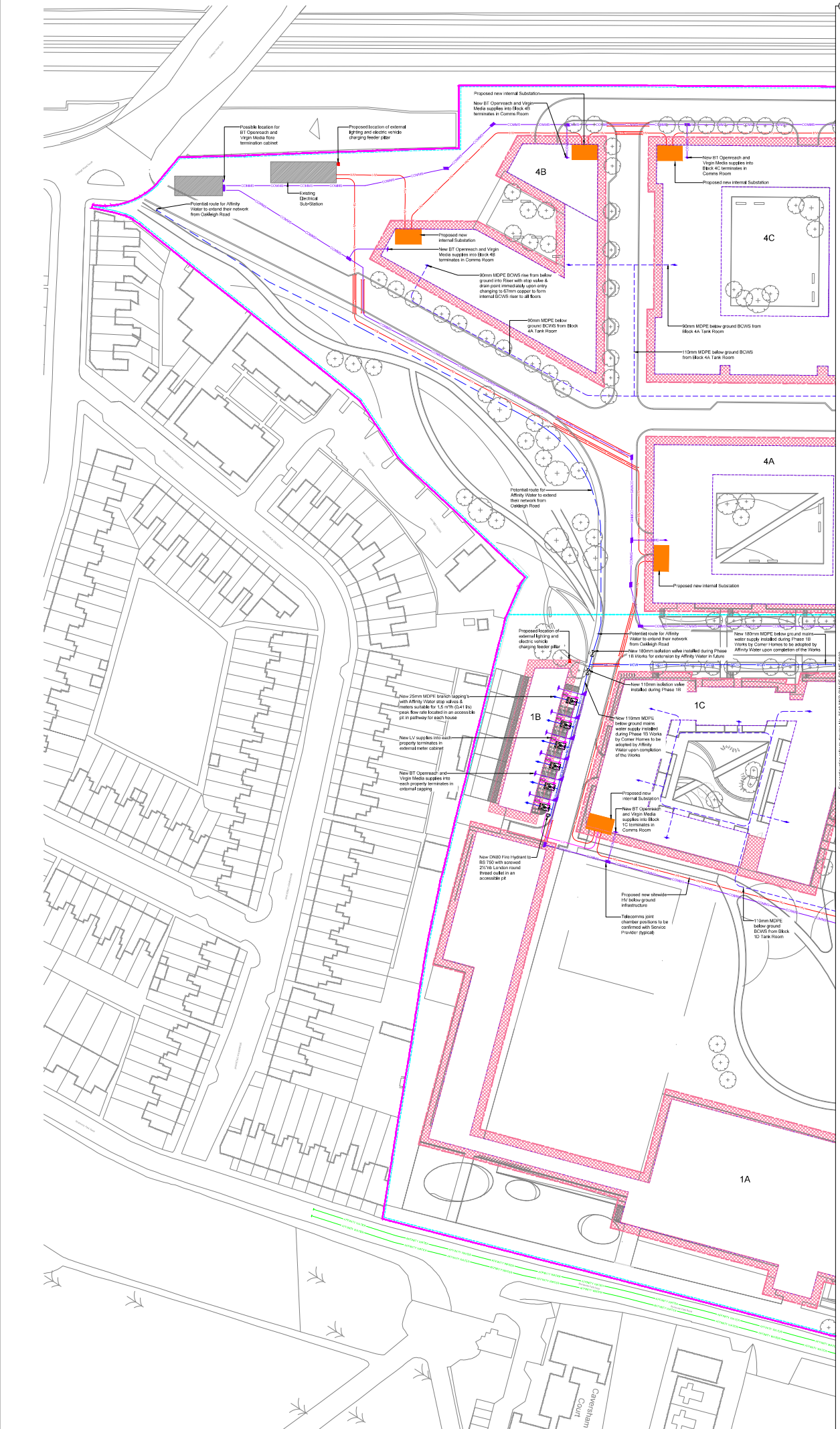
16.2 Appendix B – Site Visit Images (09.12.2021)







16.3 Appendix B – Proposed Utilities Layouts



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Legend	
	- Mains Cold Water
	- Affinity Water
	- New Mains Cold Water
	- New below ground Mains Cold Water downwork responsibility of developer
	- Boosted Cold Water Services
	- Communication Cable
	- High Voltage Mains Cable - LVNPS
	- Low Voltage Mains Cable - LVNPS
	- External Lighting Cable
	- Site Boundary
	- Phase Boundary
	- Proposed New Building to be Constructed
	- Existing Building Outside Site Boundary
	- Duct
	- Construction Zone
	- Internal substation
	- External substation
	- External lighting & electric vehicle charging feeder pillar
	- Existing Substation
	- Tank Room
	- Fibre Termination Cabinet
	- Fire Hydrant
	- Inclusion Valve
	- Low Voltage external metering assembly
	- Metered Tenant Value Assembly (Meter and Safety Valve)
	- Telecomms joint chamber

For confirmation refer to survey No. 2546-MKP-SW-GF-DR-ME-0001



Issued For Planning

Sheet 1	Sheet 2	Sheet 3
<b>Site Location Plan</b>		

P1	Apr21	Preliminary Issue Issued for Planning
REV	DATE	DESCRIPTION

Client  
**COMER HOMES GROUP**

Project Title  
**BRUNSWICK PARK**

Drawing Title  
**SITE WIDE COMBINED UTILITY LAYOUT SHEET 1 OF 3**

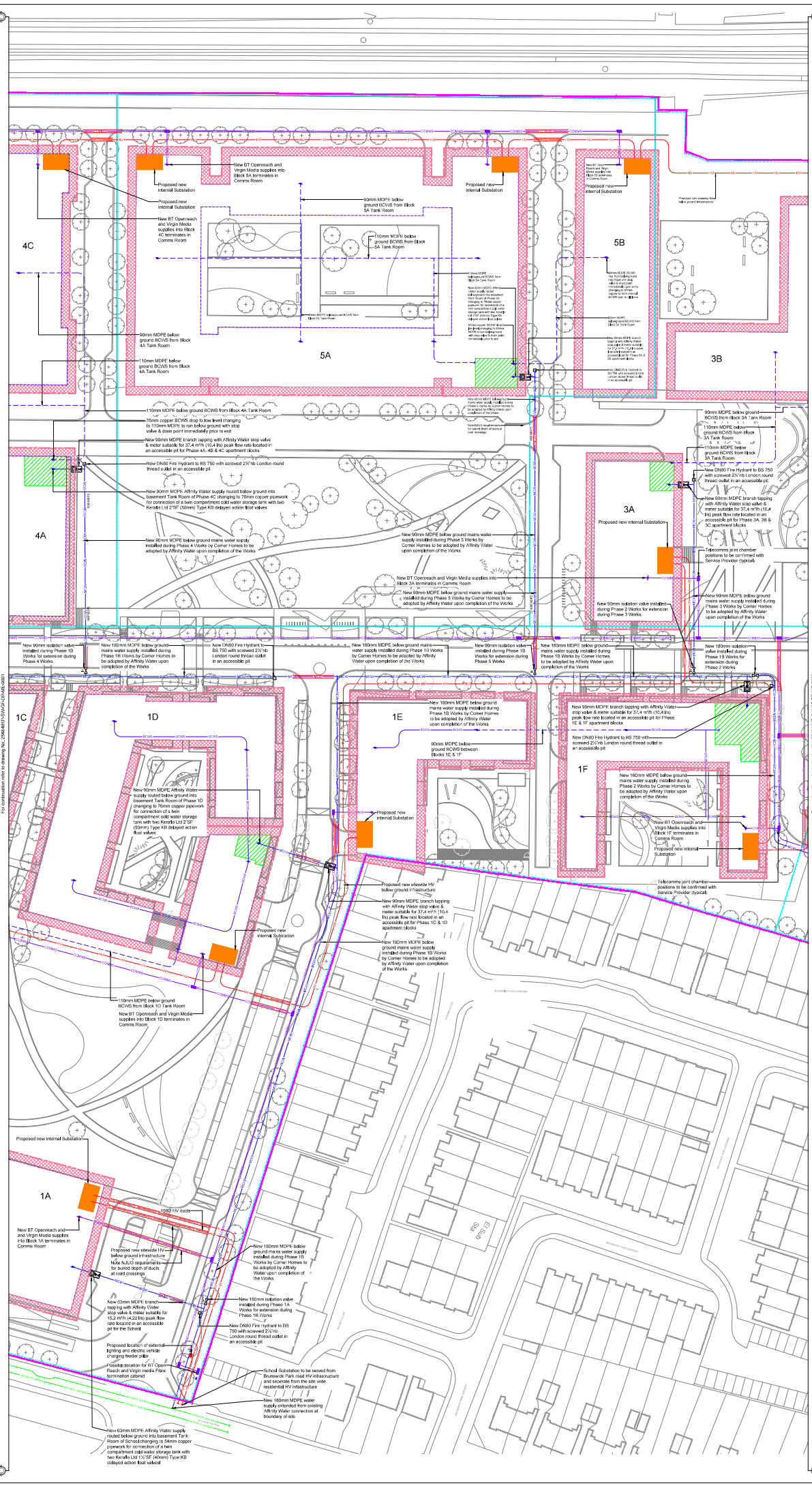
**MKP CONSULTANTS**  
 ENGINEERING EXCELLENCE  
 Warren Farm Barn, Andover Road,  
 Micheldever Station, Winchester, SO21 3FL  
 Tel. 01962 774665, www.mkp.co.uk

Drawn	Date	Checked	Approved
RM	APR21	PK	PK
Scale	Site	Task	Primary
N.T.S.	0m 10m 20m	0 1/2 1 1/2	0 1/2 1 1/2
Dwg. No.	Rev		
2546-MKP-SW-GF-DR-ME-0001	P1		

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- ### Legend
- Mains Cold Water - Affinity Water
  - New Mains Cold Water
  - New below ground Mains Cold Water - owner's responsibility of developer
  - Boosted Cold Water Services
  - Communication Cable
  - High Voltage Mains Cable - LUPN
  - Low Voltage Mains Cable - LUPN
  - External Lighting Cable
  - Site Boundary
  - Phase Boundary
  - Proposed New Building to be Constructed
  - Existing Building Outside Site Boundary
  - Duct
  - Construction Zone
  - Internal substation
  - External substation
  - External lighting & electric vehicle charging feeder cable
  - Existing Substation
  - Tank Room
  - Fibre Formation Cabinet
  - Fire Hydrant
  - Inflation Valve
  - Low Voltage electrical metering assembly
  - Metered Tenant Valve Assembly (Water and Safety Valve)
  - Telecomms port chamber



**Issued For Planning**

Sheet 1 | Sheet 2 | Sheet 3

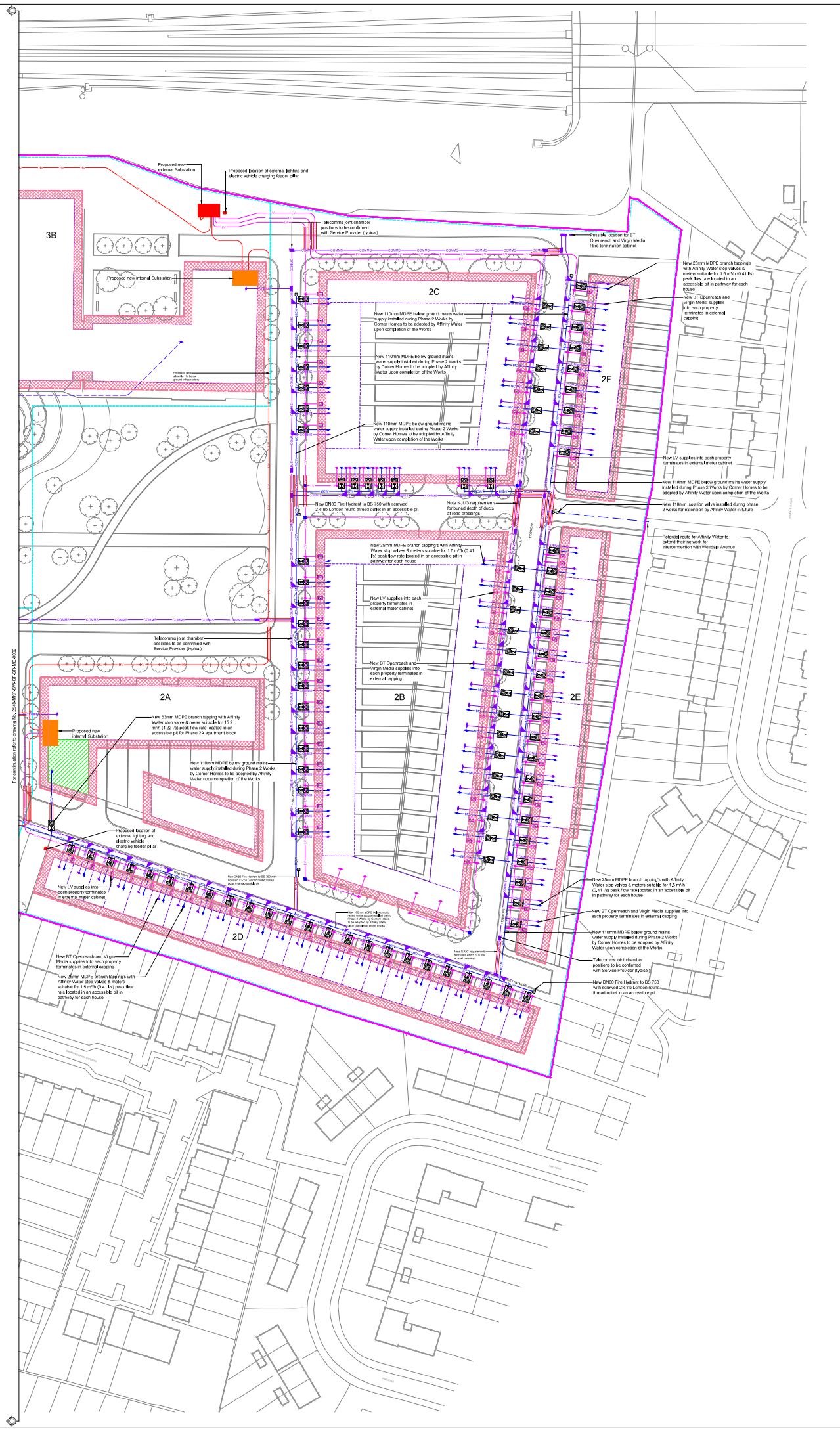
**Site Location Plan**

PI	Apr'21	Preliminary Issue, Issued For Planning
Rev	Issue	Complete
Client		
Project Title	<b>BRUNSWICK PARK</b>	
Drawing Title	<b>SITE WIDE COMBINED UTILITY LAYOUT SHEET 2 OF 3</b>	
Warren Farm Barn, Andover Road, Micheldever Station, Winchester, SO21 3FL, Tel: 01962 774665, www.mkp.co.uk		
Drawn	Date	Checked
RM	APR'21	PK
Scale	<input checked="" type="checkbox"/> N.T.S. <input type="checkbox"/> 1:100 <input type="checkbox"/> 1:200 <input type="checkbox"/> 1:500 <input type="checkbox"/> 1:1000	<input checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Tender <input type="checkbox"/> Construction <input type="checkbox"/> Contract
Proj. No.	2548-MKW-SFG-DRME-0002	Rev
		P1

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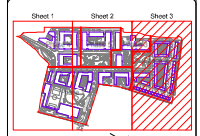
DO NOT scale from this drawing - site measure only.

- Legend**
- Mains Cold Water
  - Affinity Water
  - New Mains Cold Water
  - New below ground Mains Cold Water
  - Boosted Cold Water Services
  - Communication Cable
  - High Voltage Mains Cable
  - Low Voltage Mains Cable
  - External Lighting Cable
  - Site Boundary
  - Phase Boundary
  - Proposed New Building to be Constructed
  - Existing Building Outside Site Boundary
  - Duct
  - Construction Zone
  - Internal Substation
  - External Substation
  - External Lighting & electric vehicle charging feeder pipe
  - Existing Substation
  - Tank Room
  - Fibre Termination Cabinet
  - Fire Hydrant
  - Isolation Valve
  - Low Voltage electrical metering assembly
  - Metered Tenant Value Assembly (Meter and Safety Valve)
  - Telecomms joint chamber



For consultation refer to drawing No. 2548-MKP-SW-GF-DR-ME-9002

Issued For Planning



Site Location Plan

P1	Apr21	Preliminary Issue Issued For Planning
Rev	Date	Description

Client  
**COMER HOMES GROUP**

Project Title  
**BRUNSWICK PARK**

Drawing Title  
**SITE WIDE COMBINED UTILITY LAYOUT SHEET 3 OF 3**

**MKP CONSULTANTS**  
ENGINEERING EXCELLENCE  
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Drawn	Date	Checked	Approved
RM	APR21	PK	PK

Scale: N.T.S. Size: A4, A3, A2, A1, A0. Issue: Preliminary, Construction, Contract.

Dwg. No. 2548-MKP-SW-GF-DR-ME-9003 Rev P1



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WINCHESTER  
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[www.mkpg.com](http://www.mkpg.com)