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B&Q Cricklewood

Surface Water Drainage Strategy

Montreaux Cricklewood Developments Limited

Project number: 60608627

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Acronyms

Acronym	Description
AOD	Above Ordnance Datum
EA	Environment Agency
FRA	Flood Risk Assessment
FSUA	Foul Sewerage and Utilities Assessment
ha	Hectare
LBB	London Borough of Barnet
m	metres
mAOD	meter Above Ordnance Datum
m ²	square metres
RMA	Reserved Matters Application
SWDS	Surface Water Drainage Strategy
SuDS	Sustainable urban Drainage System
TWUL	Thames Water Utilities Limited

Executive Summary

AECOM has been commissioned by Montreaux Cricklewood Developments Limited to undertake a Surface Water Drainage Strategy (SWDS) as part of the outline planning application to London Borough of Barnet (LBB).

The Proposed Development consists of:

“Outline planning application for the demolition of existing buildings and comprehensive redevelopment of the Site for a mix of uses including residential and flexible commercial and community floorspace in uses classes A3/B1/D1 and D2; associated access; car and cycle parking; landscaping; and associated works.”

The Site is located within the administrative jurisdiction of the London Borough of Barnet (LBB), adjacent to Cricklewood railway station (postcode NW2 1ES, National Grid Reference TQ 23857 85892). The Site is bounded by Kara Way and Campion Terrace to the north, national railway lines and Cricklewood railway station to the east, Cricklewood Lane to the south and Deport Approach / Cricklewood Broadway (A5) to the west. The Site area is approximately 2.78 ha. Figure 1 below shows the Site boundary.

The SWDS has been prepared in accordance with good practice, the LBB SuDS Proforma and other relevant policy and design standards and is based upon the scheme shown on illustrative drawings. This strategy provides an overview of the measures that are expected to be incorporated into the Proposed Development, to control and manage surface water runoff in accordance with current good practice and policy.

The information contained within the SWDS should be read in conjunction with the AECOM Flood Risk Assessment and Foul Sewage & Utilities Assessment report submitted as part of this outline planning application.

The SWDS can be summarised as follows:

- Sustainable Drainage System (SuDS) will be implemented where practicable to provide source control, improve water quality and quantity, reduce flood risk and provide amenity and biodiversity benefits;
- The surface water runoff will discharge at equivalent greenfield runoff rate in compliance with the London Plan and LBB Local Plan;
- The surface water runoff will discharge to the nearest Thames Water surface water sewer in line with the discharge hierarchy set out in Building Regulations Part H;
- The use of the SuDS Manual Simple Index Approach (SIA) demonstrates that the design approach is appropriate and water quality will be sufficiently improved;
- An outline maintenance plan have been prepared which should be developed further at future Reserved Matters Applications (RMA) stage;
- The detailed drainage design should be informed by a ground investigation, drainage and CCTV survey and detail design of the Proposed Development; and
- All surface water runoff will be managed on Site to ensure no increase to flood risk to third party land.

1. Introduction

1.1. Background

- 1.1.1. AECOM has been commissioned by Montreaux Cricklewood Developments Limited to undertake a Surface Water Drainage Strategy (SWDS) as part of the outline planning application to London Borough of Barnet (LBB).
- 1.1.2. The Proposed Development consists of :
- “Outline planning application for the demolition of existing buildings and comprehensive redevelopment of the Site for a mix of uses including residential and flexible commercial and community floorspace in uses classes A3/B1/D1 and D2; associated access; car and cycle parking; landscaping; and associated works.”*
- 1.1.3. The information contained within the SWDS should be read in conjunction with the AECOM Flood Risk Assessment and Foul Sewage & Utilities Assessment report submitted as part of this outline planning application.

1.2. Site Location

- 1.2.1. The Site is located within the administrative jurisdiction of the London Borough of Barnet (LBB), adjacent to Cricklewood railway station (postcode NW2 1ES, National Grid Reference TQ 23857 85892). The Site is bounded by Kara Way and Campion Terrace to the north, national railway lines and Cricklewood railway station to the east, Cricklewood Lane to the south and Cricklewood Broadway (A5) to the west. The Site area is approximately 2.78 ha. Figure 1 below shows the Site boundary (see Figure 1 below).

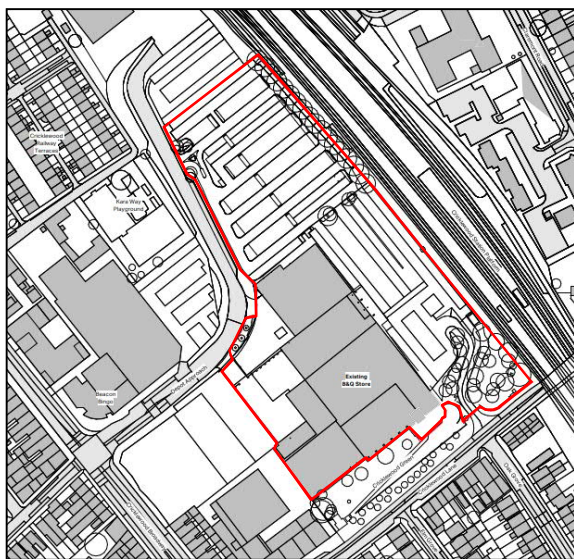


Figure 1 Site Location

- 1.2.2. The Site is currently occupied by a range of retail outlets, including a large B&Q DIY Store, Pound Stretcher and Tile Depot. These large warehouse buildings are situated in the south-west of the Site. The northern and eastern parts of the Site mainly consist of car parking associated with the previously identified retail outlets, as well as soft landscaping adjacent to the railway lines, and the southern entrance to the Site.

2. Planning Policy

- 2.1.1. Refer to AECOM FRA report which lists out all planning policy considered.

3. Site Description

3.1. Topography

- 3.1.1. The Proposed Development Site covers approximately 2.78ha and exists currently as developed brownfield land occupied by warehouse buildings and car parks. The topography of the Site varies between 52.10mAOD to the south of the Site and 56.08mAOD to the north of the Site.

3.2. Geology and Hydrogeology

- 3.2.1. There are no record of superficial deposits within the Site. The Site is underlain by London Clay Formation. The Geo-environmental Investigation and Assessment by Capita (2018) reports the results from an intrusive Site investigation carried out. The Site mainly comprised of hardstanding, typically tarmac with a layer of Made Ground and London Clay Formation.
- 3.2.2. The Site is not located within a groundwater source protection zone. The bedrock and superficial hydrogeology are classified as unproductive. The borehole records from the Site investigation do not record any groundwater encountered. The nearby borehole records from the British Geological Survey (BGS) map do not record any groundwater encountered.

3.3. Flood Risks

- 3.3.1. The Site is located in Flood Zone 1, defined by the EA as land assessed as less than 0.1% (or 1 in 1000 year) probability of flooding each year. Refer to AECOM Flood Risk Assessment (FRA) report for further information.

4. Existing Drainage

- 4.1.1. The Site is approximately 2.78 ha and is mainly hardstanding with soft landscaping areas adjacent the railway lines and southern entrance to the Site. The Thames Water Utilities Limited (TWUL) asset records (Appendix A) indicates a 300mm surface and foul water sewer in Cricklewood Lane. There are no historical records of onSite drainage, therefore, connections to TWUL sewers cannot be confirmed.
- 4.1.2. Based on TWUL asset records, it is assumed that surface and foul water from the Site discharges to the 300mm surface and foul water sewer in Cricklewood Lane. The number of outfalls from the Site are unknown at this stage. There does not appear to be any attenuation facility or flow control devices on Site to restrict discharge of surface water from the Site. A drainage and CCTV survey of on Site drainage is required to confirm these assumptions in future Reserved Matters applications.
- 4.1.3. Where the actual flows are unknown and in absence of information on existing drainage network, the existing surface water discharge rates have been calculated based on Modified Rationale Method:

$$Q = 2.78 \times C_v \times C_r \times i \times A$$

Where C_v (volumetric runoff coefficient) is 0.84 and C_r (routing coefficient) is 1.3 as recommended by the Wallingford Procedure, A is the catchment area in hectares (2.78ha) assumed 100% impermeable as the Site is largely brownfield and i is the average rainfall intensity in mm/hr.

- 4.1.4. The existing unrestricted run-off rate at 1 in 2, 1 in 30 and 1 in 100-year storm event is calculated as shown in the following table.

Table 1. Existing surface water runoff rate

Return Period	i , Average Rainfall Intensity, 15 min storm duration (mm/hr)	Q , Runoff rate (l/s)
1 in 2	37.179	314.90
1 in 30	96.481	817.17
1 in 100	128.917	1091.90

- 4.1.5. In absence of historical drainage records and existing building layouts, the existing foul water flow rates are unknown. The Site is currently occupied by commercial and industrial warehouses. The Proposed Development will comprise of residential units and commercial areas. Therefore, proposed foul water discharge rates are expected to be higher. Refer to AECOM Foul Sewage and Utilities assessment Report (FSUA) for further information on foul drainage.

5. Proposed Surface Water Drainage

5.1. Managing Surface Water and SuDS

- 5.1.1. Surface water drainage can be managed by minimising surface run-off from development Sites through the use of Sustainable Drainage Systems (SuDS). AECOM, the Environmental Agency (EA) and the London Borough of Barnet (LBB) encourage the use of SuDS to prevent the water environment being adversely affected by increased surface water runoff, to manage the risk of pollution and reduce both on and off Site flooding.
- 5.1.2. The Building Regulations Part H 2015 stipulates that rainwater from roofs and paved areas is carried away from the surface to discharge to one of the following, listed in order of priority:
- An adequate soakaway or some other adequate infiltration system, or where that is reasonably practicable;
 - A watercourse, or where that is not practicable; and
 - A sewer.
- 5.1.3. The Geo-environmental investigation and assessment carried out by Capita (2018) indicates the Site consists of Made Ground underlain by London Clay. There may be potential contamination on Site as the historical land use consisted of rail sidings and warehouse. Therefore, the Site is deemed to be unsuitable for infiltration into the ground. However, infiltration with shallow geo-cellular attenuation have been considered in parts of the Site where feasible. There are no watercourses near the Site to facilitate surface water discharge. Therefore, it is proposed that the surface water runoff from the Site will discharge to the 300mm diameter TWUL surface water sewer in Cricklewood Lane.
- 5.1.4. SuDS will be used where practicable throughout the Site to provide source control, improve water quality, reduce flood risk and provide amenity and biodiversity. Table 2 below shows the SuDS hierarchy and the proposed use on the development. Where it is not possible, reasons have been given.

Table 2 SuDS hierarchy and proposed use in the development

SuDS Method	Water Quantity Benefit	Water Quality Benefit	Amenity Benefit	Biodiversity Benefit	Practicable	Potential Use in Development and Reasons
Store Rainwater for later use (rainwater harvesting, blue roofs)	✓	✓	N/A	N/A	✓	The use of Rainwater Harvesting should be considered at the next design stage
Use Infiltration techniques	✓	✓	N/A	N/A	✓	Based on the currently available information this option appears unfeasible. However, this option should be considered at the next design stage and only discounted upon review of the results from the forthcoming ground investigation works.
Green/Brown Roofs	✓	✓	✓	✓	✓	Biodiverse roofs are proposed.
Filter strips such as 'French Drains' and 'Rain Gardens'	✓	✓	✓	✓	✓	Raingardens proposed to parts of soft landscaping areas.
Ponds or Open Water Features for Gradual Release to Watercourse	✓	Limited	✓	✓	✓	Ponds and open water features are considered not feasible due to space constraints
Attenuate rainwater by storing in tanks or sealed water features for gradual release to a watercourse	✓	N/A	N/A	Limited	✓	Permavoid geocellular storage for uses below car parking areas and above ground podium areas and above ground parking areas are proposed. Geocellular tanks system are proposed.
Discharge rainwater direct to a watercourse	✓	N/A	N/A	N/A	✓	There are no nearby watercourses located in the vicinity of the Site.
Discharge rainwater to a surface water sewer	✓	N/A	N/A	N/A	✓	The Site will discharge rainwater from the roofs and hard standing area to nearest TWUL surface water sewer.
Discharge rainwater to a combined sewer.	N/A	N/A	N/A	Limited	X	No combined sewers are located in the vicinity of the Site.

5.2. Pre and Post Development Peak Flow Rates

- 5.2.1. The proposed surface water drainage will be designed to achieve Greenfield run-off rate for the developed Site up to 1 in 100 year return period. The Greenfield run-off rate is calculated using the FEH method as set out in Table 24.1 of CIRIA C753 The SuDS Manual.
- 5.2.2. Table 3 below provides a summary of existing and proposed peak discharge rates for different return periods.

Table 3: Summary of existing and proposed peak discharge rates

Return Period	Existing discharge rate (l/s)	Proposed discharge rate (l/s/ha) (Greenfield)	Proposed discharge rate (l/s) (Greenfield)
1:2	314.90	5.4	15.01
1:30	817.17	13.2	36.70
1:100	1091.90	18.8	52.26
1:100 + 40% CC	1091.90	18.8	52.26

5.3. Pre and Post Development Run off Volume

- 5.3.1. Table 4 below provides a summary of approximate existing and proposed hard and soft landscaping areas.

Table 4 Summary of existing and proposed areas

	Existing (ha)	Proposed (ha)
Hard Landscaping Area	1.92	1.00
Soft Landscaping Area	0.19	0.50
Building Footprint	0.77	1.38

- 5.3.2. The hard and soft landscaping areas shown above are based on previous site area (2.88 ha). Nevertheless, the Proposed Development will reduce the overall impermeable area by introducing SuDs and increasing extent of soft landscaping area to control the surface water run off at source and reduce run off volume from the Site.

5.4. Proposed Surface Water Strategy

- 5.4.1. The surface water from the Site is proposed to discharge by gravity to the existing TWUL surface water sewer located in Cricklewood Lane. It is assumed there are existing outfalls and connections to the TWUL surface water sewer in Cricklewood Lane. The proposed surface water drainage network will aim to reuse existing outfall and connection to TWUL sewer. A drainage and CCTV survey is required at the RMA stage to confirm existing outfalls and connections to the TWUL surface water sewer.
- 5.4.2. The surface water runoff from the Site will be restricted to Greenfield run-off rates up to 1 in 100 year return period as this can be achieved for the Proposed Development considering the spatial constraint on Site. The surface water will be restricted using a vortex flow control device. A surface water attenuation of approximately 2100m³ is required on Site to restrict the surface water to a maximum discharge rate of 52.26 l/s in a 1 in 100 year + 40% climate change event. Microdrainage calculations are provided in Appendix B.
- 5.4.3. The surface water run off will be attenuated both above and below ground. Biodiverse roof and permeable paving with shallow geocellular attenuation are proposed at roof and podium level. Raingardens, soft landscaping, permeable car parks and geocellular attenuation tanks are proposed below ground. Appendix C shows the proposed surface and foul water drainage strategy. The LBB SuDS proforma is completed and attached in Appendix D.
- 5.4.4. Table 5 below provides a summary of attenuation via different SuDS proposed on Site. Attenuation volume proposed on site is based on previous site area of 2.88 ha as this provides a worst case scenario. Section 6 provides guidance on the maintenance of SuDs in accordance to the SuDs Manual.

Table 5. Proposed SuDs

SuDS	Attenuation Volume (m³)
Biodiverse Roof with 150mm blue roof system	355
Rain Garden	42
Permeable Paving – Podium Level	172
Permeable Paving – Ground Level	182
Geocellular Tanks	1676.7
Total	2427.7

- 5.4.5. The Proposed Development will be split across three phases. The surface water from phase one of the development is proposed to be collected by private below ground drainage network and discharge by gravity to the TWUL surface water sewer in Cricklewood Lane.
- 5.4.6. The surface water from Phase 2 of the development will connect to the Phase 1 private below ground drainage network and utilise the Phase 1 outfall/connection.
- 5.4.7. The surface water from Phase 3 of the development will connect to Phase 2 private below ground drainage network and utilise the Phase 1 outfall/connection. Below ground attenuation tanks, permeable paving and biodiverse roof will be used to attenuate the surface water for all three phases. Below ground attenuation tanks will be built as part of Phase 1 and 2 and will therefore be oversized to allow for Phase 3 surface water runoff.

6. Surface Water Quality Control

- 6.1.1. SuDS provide natural variability in their ability to remove contamination from surface water runoff which drains across a Site, therefore the management of water quality is founded on a risk-based approach. The current SuDS Manual (C753) suggests a risk-based approach based on land use type and specific contaminants.
- 6.1.2. The SuDS Manual (C753), Table 26.1 suggests a Simple Index Approach (SIA) for low risk developments, which follows a three-step process, namely:
- Allocate suitable pollution hazard indices for the proposed land use;
 - Select SuDS with a total pollution mitigation index that equals or exceeds the pollution hazard index; and
 - Where the discharge is protected surface waters or groundwater, consider the need for a more precautionary approach.
- 6.1.3. To successfully deliver adequate treatment, the chosen SuDS components should have a total pollution mitigation index that equals or exceeds the pollution hazard index.

Total SuDS mitigation index \geq Pollution hazard index

Table 6 Pollution Hazard Indices for Different Land Use Classes

Land Use	Pollution Level	Hazard	Total Suspended Solids (TSS)	Metals	Liquid Hydrocarbons (Free Floating Oils)
Residential Roofs	Very Low		0.2	0.2	0.05
Other Roofs (typically commercial/industrial roofs)	Low		0.3	0.2 (up to 0.8 where there is potential for metals to leach from roof)	0.05
Individual Property driveways, residential car parks. Low traffic roads (e.g. cul-de-sacs, homezones and general access roads) and non-residential car parks with infrequent change (e.g. schools, offices) – i.e. <300 traffic movements/day.	Low		0.5	0.4	0.4
Commercial Yard and delivery areas, non-residential parking with frequent change (e.g. hospitals/retail); all roads except low traffic roads and trunk roads/ motorways ¹	Medium		0.7	0.6	0.7
Sites with heavy pollution (e.g. haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste Sites); Sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial Site; trunk roads and motorways. ¹	High		0.8 ²	0.8 ²	0.9 ²

Notes

Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

These should only be used if considered appropriate as part of a detailed risk assessment –required for all these land use types (see also SuDS manual Table 4.3). When dealing with high hazard Sites, the environmental regulator should first be consulted for pre-permitting advice. This will help to determine the most appropriate treatment approach to the development of a design solution.

Where a Site land use falls outside the defined categories, the indices should be adapted (and agreed with the drainage approving body) or else a more detailed risk assessment method should be adopted).

Equivalent indices should be developed for other contaminants of interest for any given Site.

Source: Table 26.2 in CIRIA C753

- 6.1.5. Table 7 below (reproduced from Table 26.2 within CIRIA C753) provides the initial basis for determining the appropriate levels of treatment regarding the proposed land use categories.

- 6.1.6. Given the nature of the Proposed Development, AECOM considers that the pollution hazard indices shown in Table 7 below:

Table 7 Pollution Hazard Indices for Proposed Development

Area	Pollution Hazard Level	TSS	Metals	Liquid Hydrocarbons
Residential Roofs	Very Low	0.2	0.2	0.05
Individual Property driveways, residential car parks. Low traffic roads (e.g. cul-de-sacs, homezones and general access roads) and non-residential car parks with infrequent change (e.g. schools, offices) – i.e. <300 traffic movements/day.	Low	0.5	0.4	0.4
Commercial Yard and delivery areas, non-residential parking with frequent change (e.g. hospitals/retail); all roads except low traffic roads and trunk roads/motorways ¹	Medium	0.7	0.6	0.7

- 6.1.7. The surface water runoff from the roofs, podiums, pedestrian areas and areas subject to low vehicular traffic volumes has a low pollution hazard level. For the parking and delivery areas the pollution hazard level is considered medium. This assessment of pollution hazard levels is subject to confirmation and review of future Reserved Matters applications as the land uses are more clearly defined.
- 6.1.8. In addition, petrol interceptors will be proposed where the pollution hazard is medium/high to filter out hydrocarbon pollutants from the rainwater runoff before discharging the outfalls and to minimise the impact of the Proposed Development on the environment.
- 6.1.9. The different SuDS mitigation indices for each type of SuDS component are identified in Table 8 below (reproduced from Table 26.3 in C753).

Table 8 SuDS Mitigation Indices for Discharges to Surface Water Sewers

Type of SuDS Components	TSS	Metals	Liquid Hydrocarbons
Permeable Paving	0.7	0.6	0.7

- 6.1.10. The proposed drainage strategy outlined in Section 5 is considered to be suitably conservative and water quality from the roof areas and areas of hardstanding will be sufficiently improved before discharge to TWUL surface water sewer, as the mitigation indices are greater than or equal to the pollution indices. This will be further reviewed in future Reserved Matters applications to ensure compliance.

7. Indicative Maintenance Plan

- 7.1.1. The ongoing management and maintenance of the proposed surface water drainage systems will fall under the responsibility of the Site owner.
- 7.1.2. Best practice maintenance information is provided within the CIRIA SUDS Manual, excerpts of which have been included below.
1. Regular Maintenance
 2. Occasional Maintenance
 3. Remedial Actions

Piped Drainage and Manhole Chamber Maintenance

- 7.1.3. Drainage infrastructure covered in this section includes all privately-owned manholes, manhole fittings and surrounding pipework, gullies and drainage channels. Correct operation of this drainage infrastructure allows collection and transportation of water.
- 7.1.4. It is the responsibility of the developer to extend and maintain their drainage network. Right of access is granted by the Applicant.

Table 9: Maintenance Schedule Piped Drainage and Manhole Chambers

Maintenance Schedule	Required Action	Frequency
Before Start up	Removal of any inappropriate material from within the chamber and dispose off-Site to a suitable licenced Site.	At Start
	All pipe lines to be flushed with water to remove silt and check for blockages	At Start
Regular Maintenance	Removal of debris (which could include leaves, rubbish, branches) from areas served by drainage (where it may cause risk to performance)	Monthly
Remedial Actions	For blockages resulting in flooded manhole chambers, drain down manhole chamber and unblock	As required
	For pipe blockages, rod or jet clean between access points to unblock	As required
Monitoring	Lift covers and inspect chambers. Inspect covers, surrounding gullies and drainage channels for signs of damage and incorrect operation. If required, undertake remedial action.	As required

Attenuation Storage Tanks

- 7.1.5. The function of the attenuation tanks is to collect and store water prior to discharging to the combined sewers in the vicinity of the Site. Table 10 refers to the maintenance procedure highlighted in the SuDS Manual.

Table 10: Maintenance Schedule Attenuation tanks*(Source: SuDS Manual – Table 21.3)*

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for three months, then annually
	Removal of debris from the catchment surface (where it may cause risk to performance)	Monthly
	Remove sediment from pre-treatment structures	Annually or as required
Remedial Actions	Repair of inlets, outlets, overflows and vents	As required
Monitoring	Inspect and check all inlets, outlets and vents to ensure that they are in good condition and operating as designed allowing surface water to be stored.	Annually
	Survey inside of tank for sediment build-up and remove if necessary. This is dependent upon the design style of the tank	Every 5 years or as required

Flow Control Device

- 7.1.6. The flow control device is located at the end of the system to restrict flows surface water flows from the Site.

Table 11: Maintenance Schedule Hydrobrake or Vortex Flow Control Device*(Source: <http://www.hydro-international.biz>)*

Maintenance Schedule	Required Action	Frequency
Before Start	Removal of any inappropriate material from within the chambers and dispose off-Site	At Start
Regular Maintenance (as per manufacturer's requirements)	Removal of debris (which could include leaves, rubbish and branches) from areas served by the drainage (where it may cause risk to performance)	Monthly
Remedial Actions	For blockages resulting in flooded manhole chambers, drain down manhole chamber and unblock	As required
Monitoring	Inspect unit and hose down is required	Monthly at the start for three months, then six monthly

Permavoid

- 7.1.7. The Permavoid system is proposed to collect surface water runoff from external paving. The table below shows the Maintenance Plan for Permavoid system.

Table 12: Maintenance Schedule Permavoid System*(Source: Permavoid System Technical Manual, Section 7 Delivery, installation & maintenance)*

Maintenance Schedule	Required Action	Frequency
Before Start	A pre-handover inspection should be carried out and the Permavoid system cleaned prior to final handover	At Start
Regular Maintenance (as per manufacturer's requirements)	Remove litter and blockages as required; records of inspections and maintenance undertaken should be kept by the client	As required
	Inspect all chambers for silt and oil build up; sweep external surfaces	Every 12 months
Remedial Actions	<p>A spillage kit appropriate to the size of the road surfaces should be kept by the Site caretaker. This should include absorbent pads, socks and rain seals.</p> <p>As soon as a spillage is identified, the drain inlets in that area should be covered to prevent pollution entering the system. The pollution should then be cleared from the road surface. The local channel system and/or Permaceptor receiving the spillage should be emptied of all pollution that has entered.</p> <p>The Environment Agency (EA) should be informed of the spillage and the appropriate actions should be taken.</p>	As required
Monitoring	Inspections of channels, road/yard gullies for signs of blockage and oil spillage	3 monthly

8. Other Considerations

8.1. Adoption

- 8.1.1. Owing to the layout and nature of the Proposed Development, TWUL is unlikely to adopt the drainage on this Site. It is anticipated drainage on Site will be maintained by the developer.
- 8.1.2. However, the sewer connections will be adopted by TWUL under S106 Consent to Connect agreement.

8.2. Manhole and Inspection Chambers

- 8.2.1. Manholes shall be provided at each change of pipe gradient or horizontal alignment and otherwise at intervals of approx. 90-100m in accordance with Sewers for Adoption and Building Regulations Part H as appropriate.
- 8.2.2. Inspection chambers shall be provided in accordance with Sewers for Adoption and Building Regulations Part H.

8.3. Connection of Private Drains

- 8.3.1. Design of lateral connections and demarcation chambers shall be in accordance with Sewers for Adoption. In general, all drainage will be designed to adoptable standards, where possible.

8.4. Consultation

- 8.4.1. TWUL have been consulted to confirm sewer capacity. The proposed surface water discharge rate will be agreed via the planning application.
- 8.4.2. A S106 Consent to Connect application will need to be submitted to TWUL for the proposed connections in future Reserved Matters applications.
- 8.4.3. Proposed drainage design will need to be issued to Building Control in future Reserved Matters applications.

9. Conclusion

9.1.1. AECOM has been commissioned by Montreaux Cricklewood Developments Limited to undertake a Surface Water Drainage Strategy (SWDS) as part of the outline planning application to London Borough of Barnet (LBB).

9.1.2. The Proposed Development consists of:

“Outline planning application for the demolition of existing buildings and comprehensive redevelopment of the Site for a mix of uses including residential and flexible commercial and community floorspace in uses classes A3/B1/D1 and D2; associated access; car and cycle parking; landscaping; and associated works.”

9.1.3. The SWDS has been prepared in accordance with good practice, the LBB SuDS Proforma and other relevant policy and design standards and is based upon the Parameter Plans and Illustrative Masterplan. This strategy provides an overview of the measures that are expected to be incorporated into the Proposed Development, to control and manage surface water runoff in accordance with current good practice and policy.

9.1.4. The information contained within the SWDS should be read in conjunction with the AECOM Flood Risk Assessment and Foul Sewage & Utilities Assessment report submitted as part of this outline planning application.

9.1.5. The SWDS can be summarised as follows:

- Sustainable Drainage System (SuDS) will be implemented where practicable to provide source control, improve water quality and quantity, reduce flood risk and provide amenity and biodiversity benefits.
- The surface water runoff will discharge at equivalent greenfield runoff rate in compliance with the London Plan and LBB Local Plan.
- The surface water runoff will discharge to the nearest Thames Water surface water sewer in line with the discharge hierarchy set out in Building Regulations Part H.
- The use of the SuDS Manual Simple Index Approach (SIA) demonstrates that the design approach is appropriate and water quality will be sufficiently improved.
- An outline maintenance plan has been prepared which should be developed further in future Reserved Matters applications.
- The detailed drainage design should be informed by a ground investigation, drainage and CCTV survey and Proposed Development future Reserved Matters applications.
- All surface water runoff will be managed on Site to ensure no increase to flood risk to third party land.

Appendix A TWUL Asset Records

Asset location search



Property Searches

CHECKED

Atkins Telecoms
Stats Enquiries Team The Hub
500 Park Avenue
BRISTOL
BS32 4RZ

Search address supplied Site off Cricklewood Lane, Brent Cross
NW2 1ES

Your reference 77572

Our reference ALS/ALS Standard/2019_4038957

Search date 12 July 2019

Keeping you up-to-date

Notification of Price Changes

From 1 September 2018 Thames Water Property Searches will be increasing the price of its Asset Location Search in line with RPI at 3.23%.

For further details on the price increase please visit our website: www.thameswater-propertysearches.co.uk
Please note that any orders received with a higher payment prior to the 1 September 2018 will be non-refundable.



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0845 070 9148



Search address supplied: Site off Cricklewood Lane, Brent Cross, NW2 1ES

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

Waste Water Services

Please provide a copy extract from the public sewer map.

The following quartiles have been printed as they fall within Thames' sewerage area:

TQ2386SW
TQ2486SW
TQ2385NE
TQ2485NW
TQ2386SE

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.

The following quartiles have been printed as they fall within Thames' water area:

TQ2386SW



TQ2486SW
TQ2385NE
TQ2485NW
TQ2386SE

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.

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.

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

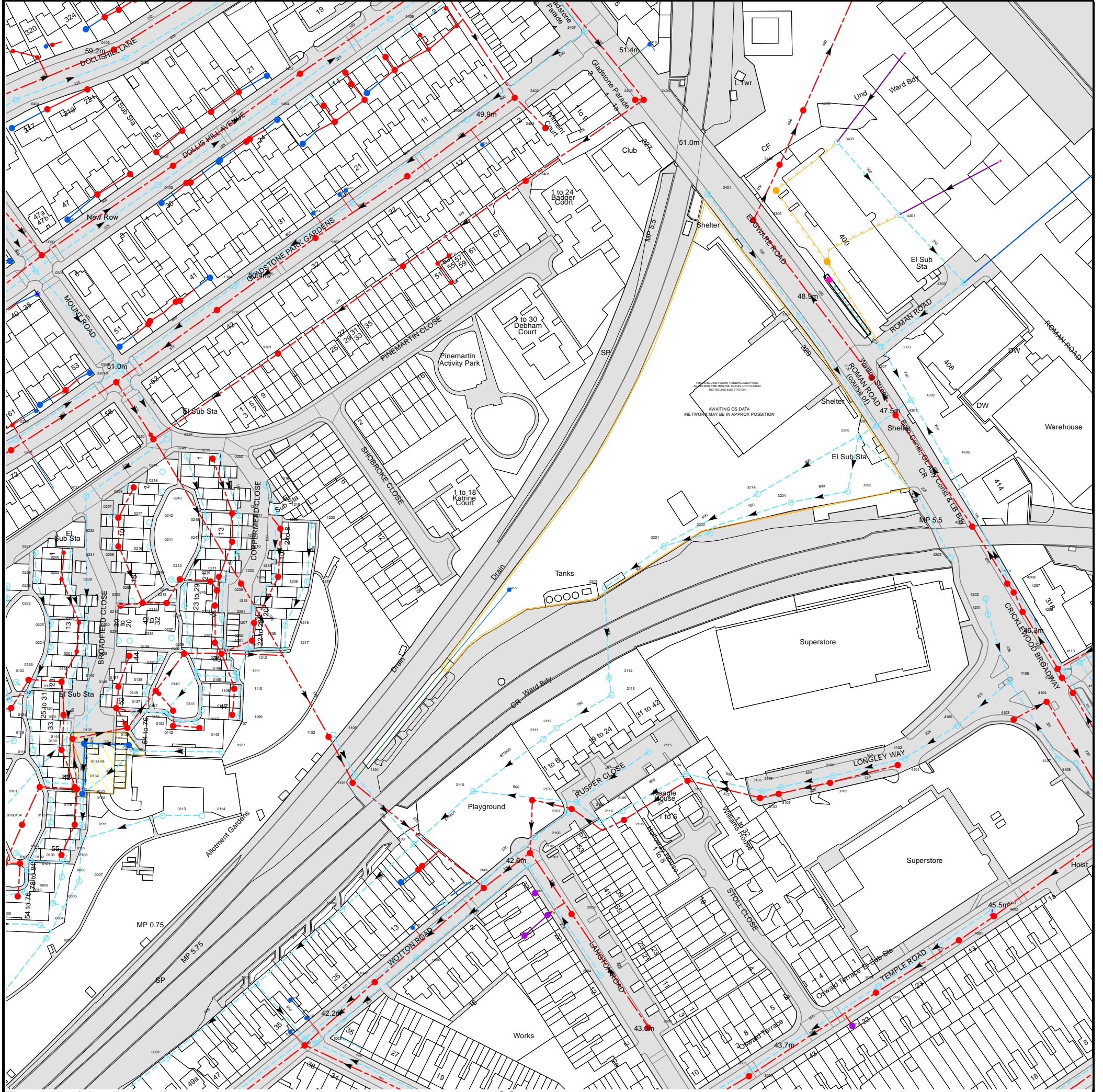
Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

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



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 523250,186250

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

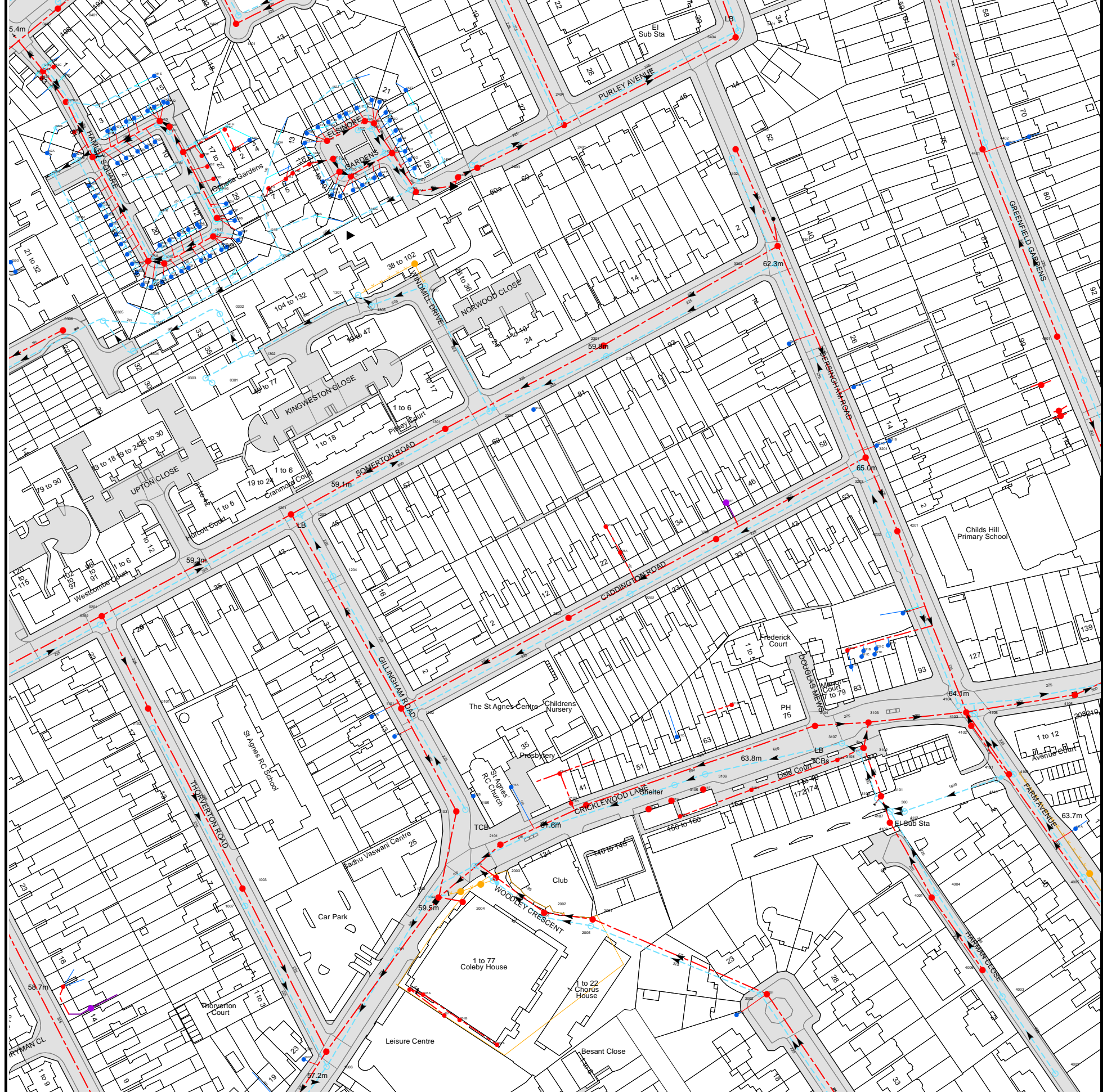
Manhole Reference	Manhole Cover Level	Manhole Invert Level
4101	45.58	42.68
4108	46.9	45.89
4107	46.63	45.12
4102	45.65	43.15
4105	45.69	43.53
4103	n/a	n/a
4104	46.48	44.7
4109	46.51	45.69
4106	46.11	43.87
4110	.01	n/a
4112	46.7	45.02
4111	46.43	45.68
4113	47.35	45.05
101D	n/a	n/a
1003	42.15	40.78
1102	44.49	40.58
1105	44.48	42.3
1008	n/a	n/a
1101	n/a	n/a
1104	n/a	n/a
1002	42.29	39.9
1007	n/a	n/a
10CE	n/a	n/a
101B	n/a	n/a
1103	n/a	n/a
1006	42.35	41
11BC	n/a	n/a
11BD	n/a	n/a
20CH	n/a	n/a
20CA	n/a	n/a
2110	43.95	41.45
2005	n/a	n/a
2003	42.6	40.19
201A	n/a	n/a
2101	42.62	41.27
2102	42.59	40.41
2103	n/a	n/a
2106	n/a	n/a
201C	n/a	n/a
2111	43.7	n/a
201B	n/a	n/a
2112	43.39	41.99
2107	n/a	n/a
2002	42.72	40.66
2104	43.14	39.99
2108	43.24	42.46
2004	42.85	41.58
2116	n/a	n/a
2114	45.02	42.27
2113	43.49	41.89
2109	44.73	41.69
2105	44.73	42.45
2001	43.05	41.12
2115	n/a	n/a
3104	n/a	n/a
3101	n/a	n/a
3001	43.6	41.77
3003	43.55	42.23
3102	45.59	42.08
3105	45.57	42.53
3108	n/a	n/a
3107	n/a	n/a
3103	45.6	42.43
3106	45.63	42.86
301A	n/a	n/a
3002	44.46	42.66
3004	44.43	43.11
4001	45.04	43.21
4002	45.32	43.47
4003	45.31	43.96
04FH	n/a	n/a
04EB	n/a	n/a
04FA	n/a	n/a
04EC	n/a	n/a
0402	n/a	n/a
04ED	n/a	n/a
0405	58.7	57
04EE	n/a	n/a
04DB	n/a	n/a
14GG	n/a	n/a
14GF	n/a	n/a
1404	52.66	50.7
14FH	n/a	n/a
1402	52.35	49.5
14DD	n/a	n/a
14DG	n/a	n/a
14DF	n/a	n/a
14DE	n/a	n/a
14EB	n/a	n/a
14EE	n/a	n/a
1405	51.56	50.04

Manhole Reference	Manhole Cover Level	Manhole Invert Level
14ED	n/a	n/a
14EH	n/a	n/a
14EG	n/a	n/a
24CC	n/a	n/a
24CB	n/a	n/a
2406	49.82	48.01
2402	50.25	47.56
2407	51.26	48.52
2405	51.18	n/a
2404	51.11	41.48
241B	n/a	n/a
3406	n/a	n/a
14DA	n/a	n/a
1219	n/a	n/a
1220	n/a	n/a
141A	n/a	n/a
1303	50.39	47.27
14DC	n/a	n/a
141B	n/a	n/a
141C	n/a	n/a
1403	50.1	47.3
1302	n/a	n/a
1401	50.03	47.39
131A	n/a	n/a
231A	n/a	n/a
231B	n/a	n/a
241A	n/a	n/a
221A	n/a	n/a
2401	n/a	n/a
2403	49.66	47.83
2201	44.66	42.83
3201	44.85	43.3
3401	50.57	49.43
3202	n/a	n/a
3305	50.01	45.21
321A	45.6	43.72
3402	n/a	n/a
3204	45.57	43.94
3302	49.04	47.85
0212	n/a	n/a
0239	n/a	n/a
0245	n/a	n/a
0249	n/a	n/a
0247	n/a	n/a
0248	n/a	n/a
0210	n/a	n/a
0219	n/a	n/a
0208	n/a	n/a
0209	n/a	n/a
0211	n/a	n/a
0252	n/a	n/a
0251	n/a	n/a
1202	n/a	n/a
1204	n/a	n/a
1203	n/a	n/a
1210	n/a	n/a
1211	n/a	n/a
1205	46.92	40.75
1213	n/a	n/a
1207	n/a	n/a
1216	n/a	n/a
1214	n/a	n/a
1215	n/a	n/a
1208	n/a	n/a
1209	n/a	n/a
1218	n/a	n/a
3310	n/a	45.54
3403	50.8	45
3205	46.2	44.14
3206	46.55	44.28
3307	48	45.34
3301	47.76	44.33
3303	48.51	44.83
4301	47.559	45.069
4401	50.98	45.22
4302	47.94	44.64
4205	47.22	n/a
4203	n/a	n/a
4303	51	45.03
4209	46.44	45.52
4202	46.18	44.66
4201	46.05	44.19
421A	n/a	n/a
4208	46.21	45.6
4207	46.23	45.62
4206	46.27	45.64
0132	n/a	n/a
0130	n/a	n/a
0131	n/a	n/a
0144	n/a	n/a
0145	n/a	n/a
0135	45.71	42.69
0129	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
0201	n/a	n/a
0128	44.64	42.71
0134	44.92	43.35
n/a	n/a	n/a
0228	n/a	n/a
n/a	n/a	n/a
0146	46.93	43.6
0157	47.18	n/a
0137	n/a	n/a
0138	n/a	n/a
0236	n/a	n/a
0136	46.11	42.6
n/a	n/a	n/a
0235	n/a	n/a
0139	n/a	n/a
0147	46.4	44.05
0126	45.68	43.9
0149	n/a	n/a
0140	46.07	41.93
0150	n/a	n/a
0113	n/a	n/a
0151	46.62	44.89
0237	n/a	n/a
0142	n/a	n/a
0141	n/a	n/a
0152	n/a	n/a
0202	47.12	42.37
0238	n/a	n/a
0153	n/a	n/a
0156	46.75	44.41
0143	n/a	n/a
0154	n/a	n/a
0114	n/a	n/a
0155	n/a	n/a
0207	n/a	n/a
0127	n/a	n/a
0250	n/a	n/a
0203	46.86	42.19
1201	n/a	n/a
1107	n/a	n/a
1108	n/a	n/a
1111	46.51	44.53
1109	n/a	n/a
1110	n/a	n/a
1212	46.44	44.71
1206	n/a	n/a
1217	n/a	n/a
0123	n/a	n/a
0124	n/a	n/a
0119	n/a	n/a
0122	n/a	n/a
0133	n/a	n/a
0121	n/a	n/a
0120	n/a	n/a
0118	n/a	n/a
0105	44.5	42.95
0117	44.42	43.66
0224	n/a	n/a
0116	n/a	n/a
0002	n/a	n/a
0004	43.56	42.85
0005	43.33	42.16
0010	n/a	n/a
0009	n/a	n/a
0007	43.51	41.58
0008	43.39	42.4
0101	n/a	n/a
0102	n/a	n/a
0103	43.89	42.44
0108	43.63	42.46
0106	43.87	42.73
0109	n/a	n/a
0107	n/a	n/a
0110	n/a	n/a
0111	n/a	n/a
0104	44.07	43.1
0115	n/a	n/a
0001	n/a	n/a
1001	42.09	39.73
1004	42.08	40.38
101A	n/a	1.4
101C	n/a	n/a
1005	n/a	n/a
03ED	n/a	n/a
0301B	51.18	46.89
03EC	n/a	n/a
0304	51.19	45.8
1301	n/a	n/a
03CA	n/a	n/a
03CB	n/a	n/a
03CC	n/a	n/a
0302	50.77	47.11
03CD	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
03EA	n/a	n/a
1304	50.56	46.57
03DI	n/a	n/a
03EH	n/a	n/a
04BB	n/a	n/a
04DG	n/a	n/a
0403	54.14	52.67
04BF	n/a	n/a
04BG	n/a	n/a
04DF	n/a	n/a
0401	53.92	50.34
04BC	n/a	n/a
04BI	n/a	n/a
04DD	n/a	n/a
14GA	n/a	n/a
14GB	n/a	n/a
04DC	n/a	n/a
0205	n/a	n/a
0206	n/a	n/a
0230	n/a	n/a
0231	n/a	n/a
0232	n/a	n/a
0204	n/a	n/a
0229	n/a	n/a
0233	49.2	44.88
0257	n/a	n/a
0256	n/a	n/a
0217	n/a	n/a
0216	n/a	n/a
0215	n/a	n/a
0255	n/a	n/a
0258	n/a	n/a
0254	n/a	n/a
0218	n/a	n/a
0214	n/a	n/a
0241	n/a	n/a
0242	n/a	n/a
0220	49.42	40.96
0243	n/a	n/a
0244	n/a	n/a
0234	49.35	45.26
0213	n/a	n/a
0246	n/a	n/a
0240	n/a	n/a
0305	55.54	53.43
03BF	n/a	n/a
0303	55.59	51.17
04EI	n/a	n/a
04EJ	n/a	n/a
0404	60.97	59.17
04FG	n/a	n/a
04FF	n/a	n/a
041A	n/a	n/a
0225	n/a	n/a
0222	n/a	n/a
0223	n/a	n/a
0226	n/a	n/a
0227	n/a	n/a
0221	51.01	47.3
0253	51.02	46.9
03DB	n/a	n/a
03CJ	n/a	n/a
03CF	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 524250,186250
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NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

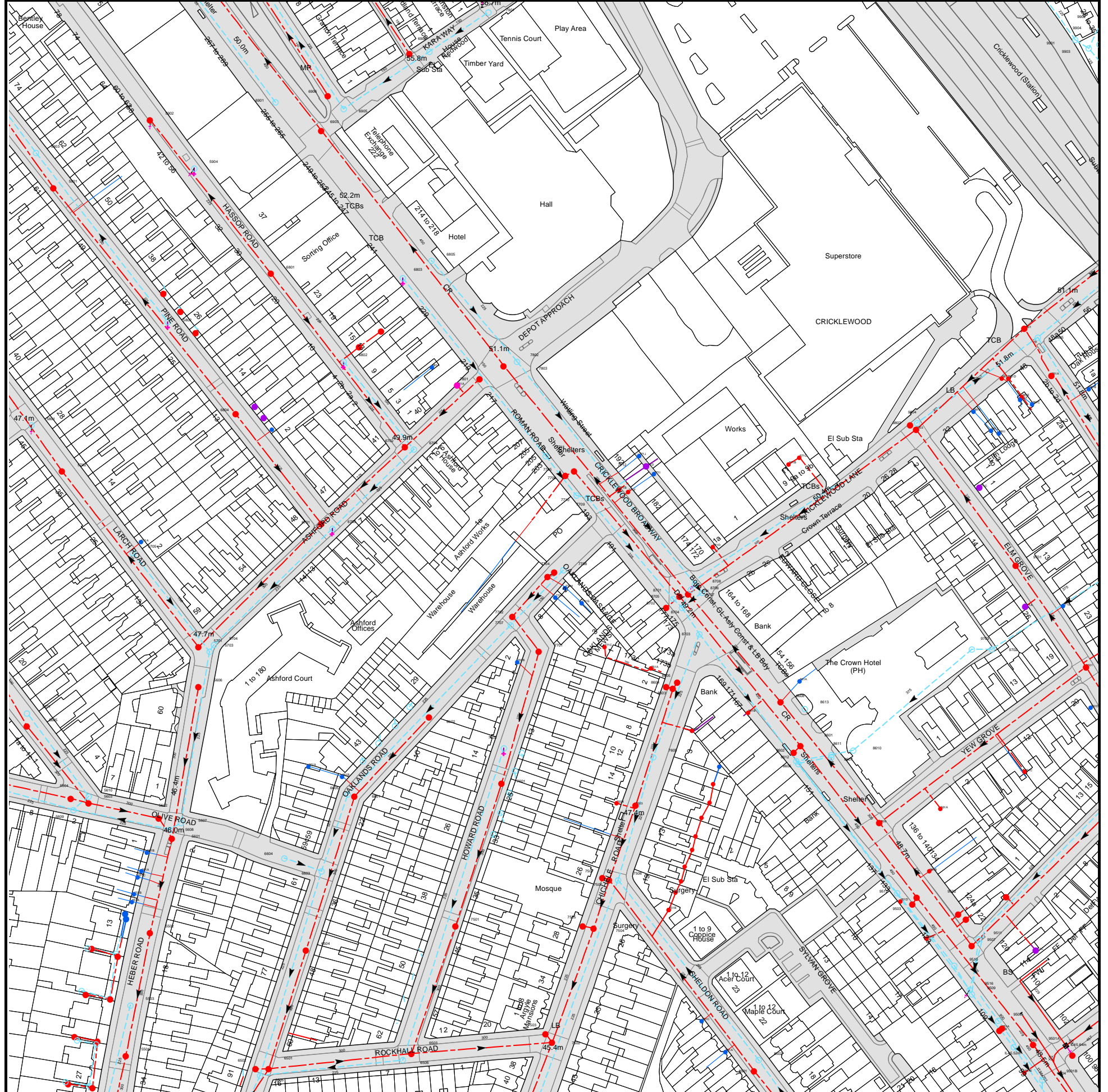
Manhole Reference	Manhole Cover Level	Manhole Invert Level
4004	62.19	60.89
4104	63.81	62.48
4103	63.766	58.296
4102	63.58	59.24
4106	63.71	61.96
4006	62.44	61.39
4110	63.5	60.35
4003	62.6	61.6
4101	.01	n/a
4109	63.48	61.63
4002	63.44	62.64
4105	n/a	n/a
411A	n/a	n/a
4005	64.02	62.3
301A	n/a	n/a
3001	61.44	58.84
3002	61.43	59.73
2005	61.52	59.52
2001	61.52	58.42
1001	57.38	54.83
1006	.01	52.93
201B	n/a	n/a
201A	n/a	n/a
142O	56.44	55.777
142N	56.44	55.601
141V	56.505	55.705
142M	56.555	56.1
2401	60	56.85
141H	56.44	55.222
2404	59.99	57.14
141W	56.505	55.705
141G	56.44	55.222
142D	56.755	55.955
142Z	56.755	56.155
141X	56.505	55.705
141Y	56.505	55.705
142C	56.755	55.955
141Z	56.505	55.705
142L	56.505	55.772
142B	56.655	55.855
142A	56.655	55.855
142T	56.705	56.25
142J	56.505	56.2
142K	56.555	56
042D	56.405	55.172
042N	56.355	55.405
143E	56.505	55.705
042O	56.355	55.405
041I	56.505	55.734
042P	56.355	55.405
143D	56.505	55.705
041C	56.13	54.805
042C	56.505	55.705
042F	56.13	54.939
041H	56.555	56
041B	56.14	54.689
042U	111.61	56.205
042G	56.14	54.839
042T	111.61	56.205
042S	111.61	56.205
042R	111.61	56.205
041Q	56.205	55.6
042Q	111.61	56.205
041S	56.255	55.6
1401	56.8	55
1402	56.87	55.33
041Z	55.9	55.3
043B	56.905	55.105
043A	56.905	55.105
041V	56.105	55.055
042A	56.255	55.6
041W	55.9	55.3
041Y	55.9	55.3
043C	56.905	55.105
042B	56.255	55.4
0401	55.5	53.1
0402	55.43	53.78
041X	55.9	55.3
042Z	56.105	54.029
041U	56.105	54.705
042X	56.205	55.405
042Y	56.205	55.405
041E	56.205	54.086
042E	55.105	54.306
041D	55.105	54.144
041T	56.225	55.1
041A	55.105	54.189
041R	56.205	55.067
042W	56.205	56.205
042V	111.61	56.205

Manhole Reference	Manhole Cover Level	Manhole Invert Level
142W	56.805	56.005
141J	56.655	55.855
141R	56.805	56.005
241A	n/a	n/a
141C	56.555	55.456
141S	56.805	56.005
141K	56.655	55.855
141D	56.555	55.539
142Q	56.555	55.785
2402	59.32	57.32
142F	56.755	55.955
2403	59.27	57.72
141L	56.655	55.855
142U	56.505	55.617
142R	56.555	55.885
142G	56.755	55.955
141E	56.555	55.456
142Y	56.665	56.25
142P	56.59	55.574
141B	56.59	54.939
142H	56.755	55.955
143A	56.555	56
141T	56.505	55.705
141F	56.555	55.605
142I	56.755	55.955
141U	56.505	55.705
142E	56.755	55.955
031C	56.655	56.1
032D	56.355	55.855
032J	56.355	55.555
032C	56.355	55.855
131E	56.655	55.855
031O	56.555	55.755
032B	56.355	55.855
131F	56.655	55.855
031F	n/a	55.605
032A	56.355	55.855
031J	56.655	56.1
031Z	56.355	55.855
031G	56.555	55.605
131G	56.255	55.855
031N	56.555	55.755
041K	56.705	56.1
143F	56.255	55.855
042H	56.255	55.855
041L	56.355	53.8
041G	56	55.684
043D	56.505	55.705
041N	56.405	55.8
043E	56.505	55.705
041M	56.405	55.634
042L	56.355	55.405
042M	56.355	55.405
043F	56.505	55.705
032O	n/a	n/a
032N	n/a	n/a
041F	56.255	53.92
0306	57.12	55.49
031M	56.405	55.417
042K	56.355	55.555
042J	56.355	55.555
031L	56.405	55.8
042I	56.355	55.555
0305	57.22	53.25
041J	56.355	55.184
032M	56.355	55.555
032L	56.355	55.555
032K	56.355	55.555
0301	57.35	55.15
0303	57.38	55.15
0304	57.31	53.43
031A	56.565	54.809
031B	56.565	55.417
0302	57.47	53.96
032E	56.615	55.705
032F	56.615	55.705
031D	n/a	n/a
031Y	56.655	55.855
031X	56.655	55.855
131D	56.705	56.1
032G	56.355	55.555
031W	56.655	55.855
031V	56.655	55.855
031K	56.355	55.7
032H	56.355	55.555
031P	56.48	55.339
031Q	56.255	55.262
031U	56.655	55.855
031E	56.48	55.189
031H	56.255	55.056
031T	56.655	55.855
032I	56.355	55.555
031S	56.655	55.855

Manhole Reference	Manhole Cover Level	Manhole Invert Level
031I	56.655	55.75
031R	56.655	55.855
421A	n/a	n/a
2202	61.77	59.12
221A	n/a	n/a
3202	63	59.8
4202	65.32	62.9
4201	65.31	58.74
221B	n/a	n/a
321F	n/a	n/a
3203	64.96	62.81
3201	64.91	58.87
421B	n/a	n/a
4305	n/a	n/a
4304	n/a	n/a
331B	n/a	n/a
4303	n/a	n/a
2302	60.01	57.91
4301	63.06	59.31
3302	62.44	59.79
3301	62.33	58.89
3403	61.34	60.19
3402	61.37	59.62
4401	.01	n/a
441B	n/a	n/a
4402	.01	n/a
441A	n/a	n/a
3401	59.91	56.06
3404	59.8	56.3
2201	61.05	58.05
1204	59.47	57.47
1203	59.08	56.68
1201	59.05	56.6
1301	58.94	56.94
2303	59.06	55.6
231A	n/a	n/a
1302	57.45	54.13
2301	60.01	57.86
1306	58.25	54.74
1307	58.33	54.66
1305	58.17	54.97
131C	56.855	55.149
131B	56.705	55.301
131A	56.705	56.1
143C	56.855	55.364
143B	56.705	55.584
141O	56.655	55.855
141N	56.655	55.855
141A	56.59	54.695
142X	n/a	n/a
141P	56.805	56.005
142S	56.59	55.46
141I	56.655	55.855
141Q	56.805	56.005
141M	56.655	55.855
142V	56.755	55.524
0202	59.55	57.4
0201	59.58	56.18
4302	.01	n/a
211D	n/a	n/a
2102	.01	n/a
211E	n/a	n/a
311G	n/a	n/a
3105	.01	n/a
311D	n/a	n/a
311F	n/a	n/a
3106	.01	n/a
311E	n/a	n/a
3104	64.46	58.86
3107	64.45	58.55
311E	n/a	n/a
321A	n/a	n/a
311B	n/a	n/a
3108	64.19	59.29
311C	n/a	n/a
321B	n/a	n/a
3102	64.22	59.49
3103	64.22	58.43
321E	n/a	n/a
321C	n/a	n/a
3109	63.51	59.88
3101	63.45	59.84
321D	n/a	n/a
4107	63.41	60.12
4108	63.45	60.5
4112	63.45	60.15
4001	62.14	60.89
001A	n/a	n/a
001B	n/a	n/a
0101	59.97	55.82
0102	59.95	57.2
101B	n/a	n/a
101A	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
101C	n/a	n/a
1004	59	n/a
2006	.01	n/a
2002	.01	n/a
1007	59.48	56.63
2004	60.11	59.21
1103	60.12	54.77
1002	59.83	58.52
2008	59.97	58.47
1003	59.72	55.47
201C	n/a	n/a
2003	.01	n/a
2007	60.69	59.34
n/a	n/a	n/a
n/a	n/a	n/a
2101	60.8	59.25
2104	61.34	56.29
2103	60.69	57.19
2105	60.64	59.09
211B	n/a	n/a
211A	n/a	n/a
211C	n/a	n/a
111A	n/a	n/a
111A	n/a	n/a
1102	60.37	58.62
1101	60.33	57.43

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 523750,185750
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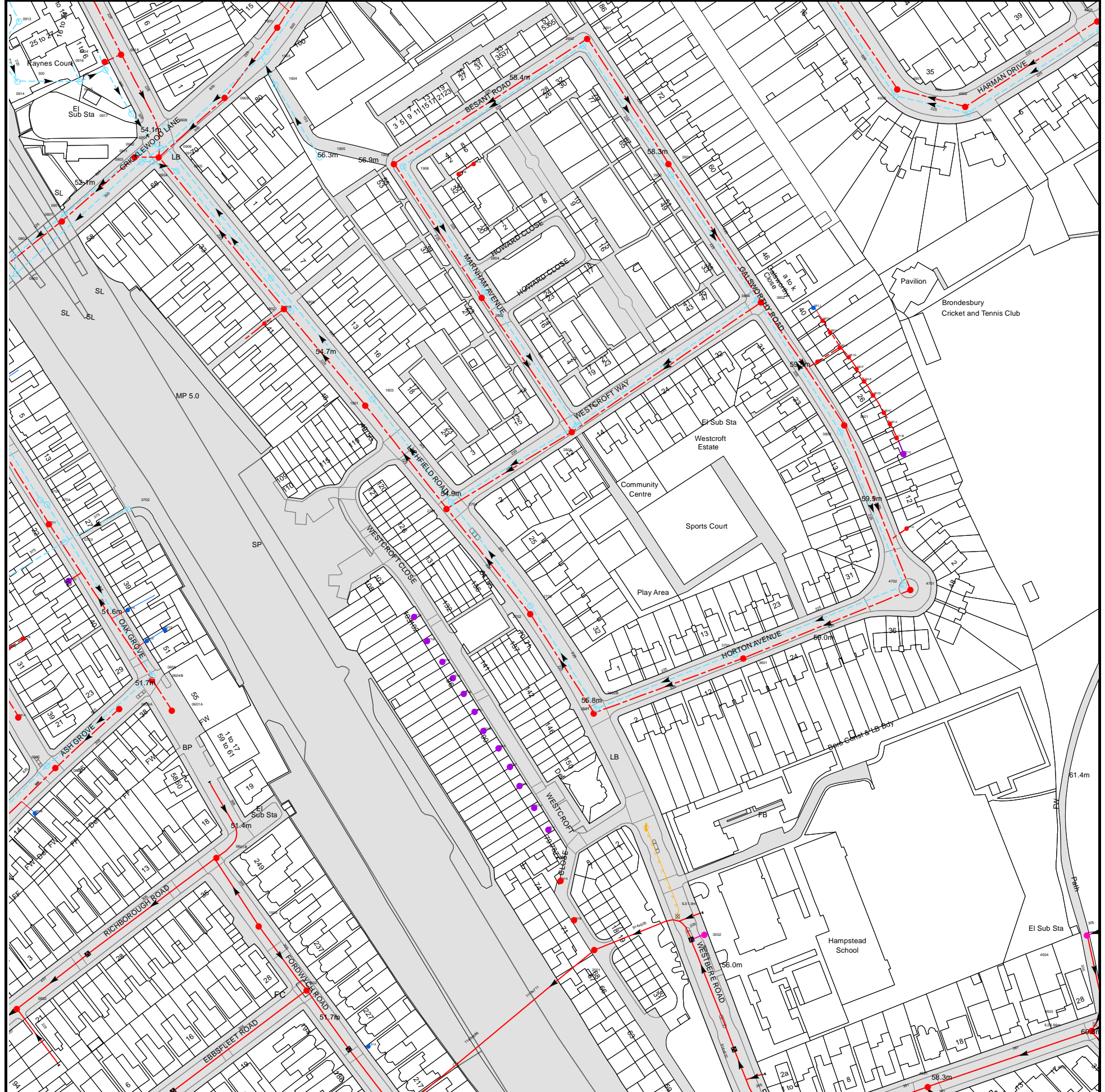
NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
981G	n/a	n/a
981D	n/a	n/a
9801	51.81	49.24
9805	51.77	48.32
981A	n/a	n/a
9901	n/a	54.47
9903	n/a	54.42
981B	n/a	n/a
9904	n/a	55.52
9902	n/a	56
9516	48.63	46.13
9510	46.53	44.85
951C	n/a	n/a
9507	48.45	47.37
9511	n/a	n/a
9520	n/a	n/a
9519	n/a	n/a
9503	48.84	n/a
9502	48.84	45.54
9521	n/a	n/a
9512	48.39	46.59
961B	n/a	n/a
8609	48.64	n/a
961A	n/a	n/a
961C	n/a	n/a
8606	48.53	46.65
8612	48.53	47.12
8607	48.33	47.27
8611	48.34	47.06
8602	48.49	n/a
8610	48.86	n/a
8601	48.49	45.77
8613	.01	n/a
8608	48.55	n/a
861A	n/a	n/a
9601	50.46	49.29
9702	.01	n/a
9703	.01	n/a
971A	n/a	n/a
971B	n/a	n/a
9701	50.33	n/a
971C	n/a	n/a
871B	n/a	n/a
871C	n/a	n/a
981I	n/a	n/a
9803	.01	n/a
9802	50.98	46.76
9804	51.05	49.98
981C	n/a	n/a
981F	n/a	n/a
981E	n/a	n/a
9504	45.76	43.95
951E	n/a	n/a
9501B	n/a	n/a
9505	45.32	42.96
9501A	n/a	n/a
951B	n/a	n/a
951A	n/a	n/a
9506	48.89	47.37
9509	45.6	43.19
6905	52.86	50.96
6901	50.91	n/a
6906	52.84	51.14
6902	55.6	53.95
6904	55.98	53.98
7901	56.69	55.15
7004	.01	n/a
5702	47.65	44.6
5801	47.21	46.07
58CH	n/a	n/a
5901	48.17	44.97
5903	47.72	46.61
5902	49.75	47.44
5802	49.67	48.63
58BF	n/a	n/a
5904	50.48	49.72
58BE	n/a	n/a
6804	49.79	47.2
6806	n/a	n/a
6807	n/a	n/a
6801	51.33	49.07
6808	n/a	n/a
6903	51.6	46.14
6802	50.95	50.06
6810	n/a	n/a
6809	n/a	n/a
6803	51.71	50.74
6702	49.94	47.25
6704	49.79	48.7
6805	51.89	50.39

Manhole Reference	Manhole Cover Level	Manhole Invert Level
681A	n/a	n/a
781A	n/a	n/a
7801	50.57	47.93
7803	.01	n/a
7802	50.73	49.53
7711	49.97	49.03
7705	49.76	47.14
7712	49.82	n/a
771J	n/a	n/a
771D	n/a	n/a
981K	n/a	n/a
981J	n/a	n/a
761B	n/a	n/a
7701	48.15	45.74
771C	n/a	n/a
8703	48.81	47.34
7707	n/a	n/a
7702	48.46	46.05
8704	48.87	47.52
8702	48.87	n/a
771G	n/a	n/a
8705	n/a	n/a
771A	n/a	n/a
8701	48.87	46.05
8707	.01	n/a
8706	n/a	n/a
771H	n/a	n/a
8708	.01	n/a
7703	n/a	n/a
7704	n/a	n/a
7708	48.86	47.67
6703	49.04	47.9
6701	n/a	n/a
7709	49.53	48.18
7710	n/a	n/a
771F	n/a	n/a
771B	n/a	n/a
7706	49.76	n/a
771I	n/a	n/a
5607	46.13	44.91
5602	46.04	43.6
5609	45.82	44.68
5603	45.92	43.89
5604	45.9	43.31
5610	45.82	44.68
5605	45.95	44.28
5611	45.96	44.84
5606	47.13	44.92
5703	47.41	46.39
5701	47.44	45.41
5704	47.45	46.43
5705	47.62	46.83
571A	n/a	n/a
7507	46.78	n/a
7506	46.78	43.71
7604	47.4	n/a
7508	46.78	45.28
7603	47.4	44.33
761A	n/a	n/a
7605	n/a	n/a
8604	48.26	n/a
851B	n/a	n/a
85BJ	n/a	n/a
8603	n/a	n/a
85BI	n/a	n/a
8605	48.3	45.84
85BH	n/a	n/a
86DH	n/a	n/a
55FC	n/a	n/a
55EG	n/a	n/a
55FD	n/a	n/a
55EI	n/a	n/a
5503	44.66	43.16
55DF	n/a	n/a
55DI	n/a	n/a
55DG	n/a	n/a
55DJ	n/a	n/a
55DD	n/a	n/a
55EA	n/a	n/a
55DE	n/a	n/a
55EB	n/a	n/a
5502	45.38	42.94
55DC	n/a	n/a
55EC	n/a	n/a
551A	n/a	n/a
551B	n/a	n/a
551C	n/a	n/a
561A	n/a	n/a
561B	n/a	n/a
5601	46.05	43.51
5608	46.07	44.88
861C	n/a	n/a
86DG	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
86DF	n/a	n/a
86DE	n/a	n/a
851C	n/a	n/a
86DD	n/a	n/a
86DC	n/a	n/a
86DB	n/a	n/a
851A	n/a	n/a
861B	n/a	n/a
8501	47.35	44.23
8502	47.33	45.94
951D	n/a	n/a
961D	n/a	n/a
6604	46.45	45.33
6504	n/a	n/a
661A	n/a	n/a
6603	46.34	45.07
661B	n/a	n/a
6605	46.91	45.69
6601	46.86	45.04
66CD	n/a	n/a
66CJ	n/a	n/a
66DC	n/a	n/a
6506	45.19	44.1
66DF	n/a	n/a
6503	45.23	42.51
6602	n/a	n/a
7501	46.17	44.06
76FC	n/a	n/a
76EG	n/a	n/a
7601	47.16	44.77
7602	47.48	45.96
76EF	n/a	n/a
76EE	n/a	n/a
76ED	n/a	n/a
7503	45.35	n/a
7502	45.35	42.28
7505	46.3	n/a
7504	46.3	43.23
55FA	n/a	n/a
55EH	n/a	n/a
55FB	n/a	n/a
55EJ	n/a	n/a
6505	45.08	43.71
6502	44.98	43.02
6501	45.15	42.96
5501	44.24	41.75

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 524250,185750
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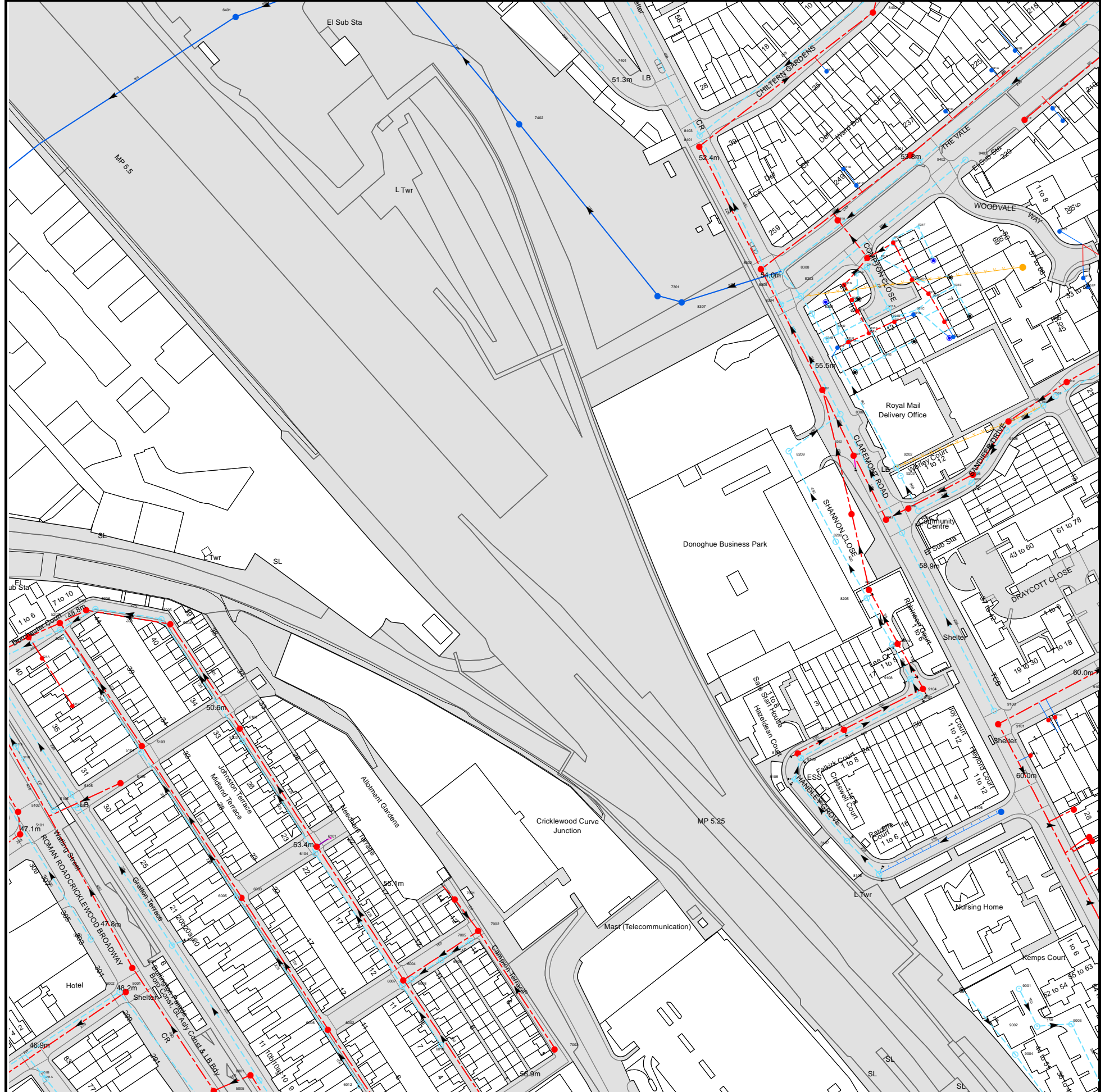
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NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
4902	62.14	59.64
4905	62.07	60.22
4903	64.25	62.1
4904	64.24	62.64
3803	.01	n/a
3801	59.64	57.49
2803	56.37	54.18
481A	n/a	n/a
381C	n/a	n/a
381D	n/a	n/a
381E	n/a	n/a
381F	n/a	n/a
381B	n/a	n/a
381G	n/a	n/a
381A	n/a	n/a
381I	n/a	n/a
381H	n/a	n/a
381J	n/a	n/a
3802	59.14	55.83
3804	59.12	56.57
3902	58.3	n/a
3901	58.24	n/a
4906	61.41	60.11
4901	61.44	59.44
2902	59.18	57.23
2901	n/a	n/a
2801	56.27	52.77
251B	n/a	n/a
2601	55.73	n/a
2501	55.91	50.62
2602B	55.72	54.47
3502	n/a	n/a
3701	57.7	n/a
3601	57.82	54.07
471B	n/a	n/a
471C	n/a	n/a
4702	60.6	57.45
471A	n/a	n/a
4701	60.74	56.91
4501	58.19	54.7
4504	60.1	59.06
4502	60.59	56.71
4503	60.83	58.44
0904	53.68	n/a
0907	54.02	52.9
0910	53.89	50.59
0906	54.04	51.95
0908	.01	n/a
0905	54.02	52.72
0909	55.12	n/a
181A	n/a	n/a
1903	55.98	52.23
1804	54.3	52.15
191A	n/a	n/a
1904	56.05	54
1901	56.27	54.32
181B	n/a	n/a
1802	54.22	51.07
1805	54.29	n/a
1905	56.33	54.48
1902	56.71	54.71
1906	56.81	54.81
291B	n/a	n/a
291A	n/a	n/a
2802	.01	n/a
2804	56.37	n/a
0702	.01	n/a
071F	n/a	n/a
0604B	51.85	50.6
0606	51.79	47.29
071E	n/a	n/a
0601A	51.78	n/a
0601B	51.15	48.32
1503	51.25	48.59
1801	54.44	51.64
1803	54.63	52.73
171A	n/a	n/a
171B	n/a	n/a
161A	n/a	n/a
2701	54.67	52.04
2704	54.77	52.92
261A	n/a	n/a
261B	n/a	n/a
261C	n/a	n/a
261D	n/a	n/a
261E	n/a	n/a
261F	n/a	n/a
261G	n/a	n/a
2703	54.99	53.24
2702	54.99	52.78

Manhole Reference	Manhole Cover Level	Manhole Invert Level
261H	n/a	n/a
261I	n/a	n/a
251A	n/a	n/a
1502	51.43	n/a
0802	50.7	50
0803	50.71	48.72
0914	n/a	54.2
0913	n/a	55.63
0801	51.11	49.56
0901	51.16	50.16
0915	n/a	54.1
0924	n/a	n/a
0916	n/a	54
0918	n/a	51.66
0917	n/a	n/a
0911	53.57	50.37
0902	54.02	52.9
0903	53.57	51.54
0602	50.84	49.36
0605	.01	n/a
061A	n/a	n/a
0603A	51.46	n/a
071C	n/a	n/a
071B	n/a	n/a
071A	n/a	n/a
071D	n/a	n/a
0703	51.49	50.74
0701	51.42	50
0704	51.41	47.73
0705	51.43	50.31
0502	49.29	46.17
061B	n/a	n/a
151A	n/a	n/a

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Manhole Reference	Manhole Cover Level	Manhole Invert Level
9004	n/a	54.76
9002	n/a	56.12
9003	n/a	55.95
941C	n/a	n/a
7401	51	49.85
8403	52.29	50.94
8401	52.32	50.42
841D	n/a	n/a
8402	53.35	50.05
9401	53.86	51.91
9402	53.87	52.3
941D	n/a	n/a
9403	54.44	53.24
941A	n/a	n/a
941B	n/a	n/a
931L	n/a	54.22
931N	n/a	n/a
931C	n/a	55.55
931F	n/a	54.36
931H	n/a	54.65
931K	n/a	54.39
931D	n/a	54.64
931J	n/a	54.89
931I	n/a	55.1
931E	n/a	55.4
931T	n/a	n/a
931Q	n/a	n/a
931P	n/a	n/a
7301	54.8	49.63
8307	54.8	49.71
8302	53.71	51.41
8305	53.87	51.97
8304	54.3	52.1
8308	53.8	50.02
8303	54.2	51.78
8309	.01	n/a
831B	n/a	n/a
831D	n/a	54.17
841A	n/a	n/a
841B	n/a	n/a
831N	n/a	n/a
831M	n/a	54.26
831C	n/a	53.7
841C	n/a	n/a
831L	n/a	54.4
831A	54.42	53.394
831O	54.26	52.5
831K	n/a	54.65
831E	n/a	54.72
831F	n/a	53.84
931A	55.325	53.19
931B	n/a	n/a
931G	n/a	54.14
931M	n/a	53.8
931O	n/a	n/a
8205	55.63	53.22
8204	55.7	54
8208	55.62	n/a
9201	58.06	56.44
8203	57.83	n/a
8202	55.71	54.07
9204	57.74	52.49
9209	57.63	54.54
9205	57.45	52.6
9203	57.18	52.45
9208	57.35	54.68
9202	57.06	52.45
8201	56.84	54.34
8209	55.53	n/a
9308	57.19	52.65
9311	57.2	54.89
8306	56.13	54.23
9302	57.39	52.74
9303	57.38	52.81
8301	55.5	52.49
9310	57.26	55.02
831G	n/a	54.95
831I	n/a	55.1
831J	n/a	54.89
831H	n/a	54.5
8108	55.59	54.12
8101	55.83	55.02
8109	55.95	53.96
8102	56.25	54.86
8107	55.7	54.34
8106	56.15	54.73
9217	56	53.59
9214	56	54.3
9108	56.63	53.64
9107	56.8	53.71



















Manhole Reference	Manhole Cover Level	Manhole Invert Level
9104	56.85	54.53
9103	60.27	n/a
9101	60.24	56.69
9106	59.7	58.35
9001	n/a	56.25
911A	n/a	n/a
911B	n/a	n/a
911C	n/a	n/a
9112	n/a	n/a
9109	n/a	n/a
9110	n/a	n/a
9102	59.89	57.89
9111	n/a	n/a
5101	46.74	44.25
5102	47.21	44.54
5106	47.1	46.38
5107	48.56	46.46
5105	48.38	46.83
5109	49.31	48.11
511B	n/a	n/a
5104	49.31	48.11
511A	n/a	n/a
5103	49.24	46.59
6103	51.32	50.07
6102	51.24	50.08
511C	n/a	n/a
521A	n/a	n/a
5005	.01	n/a
6012	54.73	n/a
6011	51.47	49.23
6001	51.29	50.04
7003	57.01	56.01
6010	56.25	54.3
6002	.01	n/a
6006	53.84	51.34
6007	55.79	53.51
6004	55.8	53.98
6008	56	n/a
6009	56.37	55.12
5006	49.89	48.14
7005	56.5	55.73
7002	56.48	55.16
7001	56.29	55.44
6003	.01	n/a
6005	51.65	49.8
6104	53.56	51.36
6101	53.59	n/a
501A	n/a	n/a
501B	n/a	n/a
5002	47.87	46.75
5001	48.02	46.12
5004	.01	n/a
5003	47.79	46.8
941D	n/a	n/a
941E	n/a	n/a
6401	n/a	n/a
7402	54.4	48.69
5201	48.26	46.01
5202	48.63	46.11
5207	48.62	46.56
5203	48.93	n/a
5206	48.96	47.51
5205	49.33	48.03
5204	49.48	47.18

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.








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**





Sewer Fittings

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

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




Operational Controls

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

-  Control Valve
-  Drop Pipe
-  Ancillary
-  Weir






End Items

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

-  Outfall
-  Undefined End
-  Inlet






Other Symbols

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








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

Areas

Lines denoting areas of underground surveys, etc.

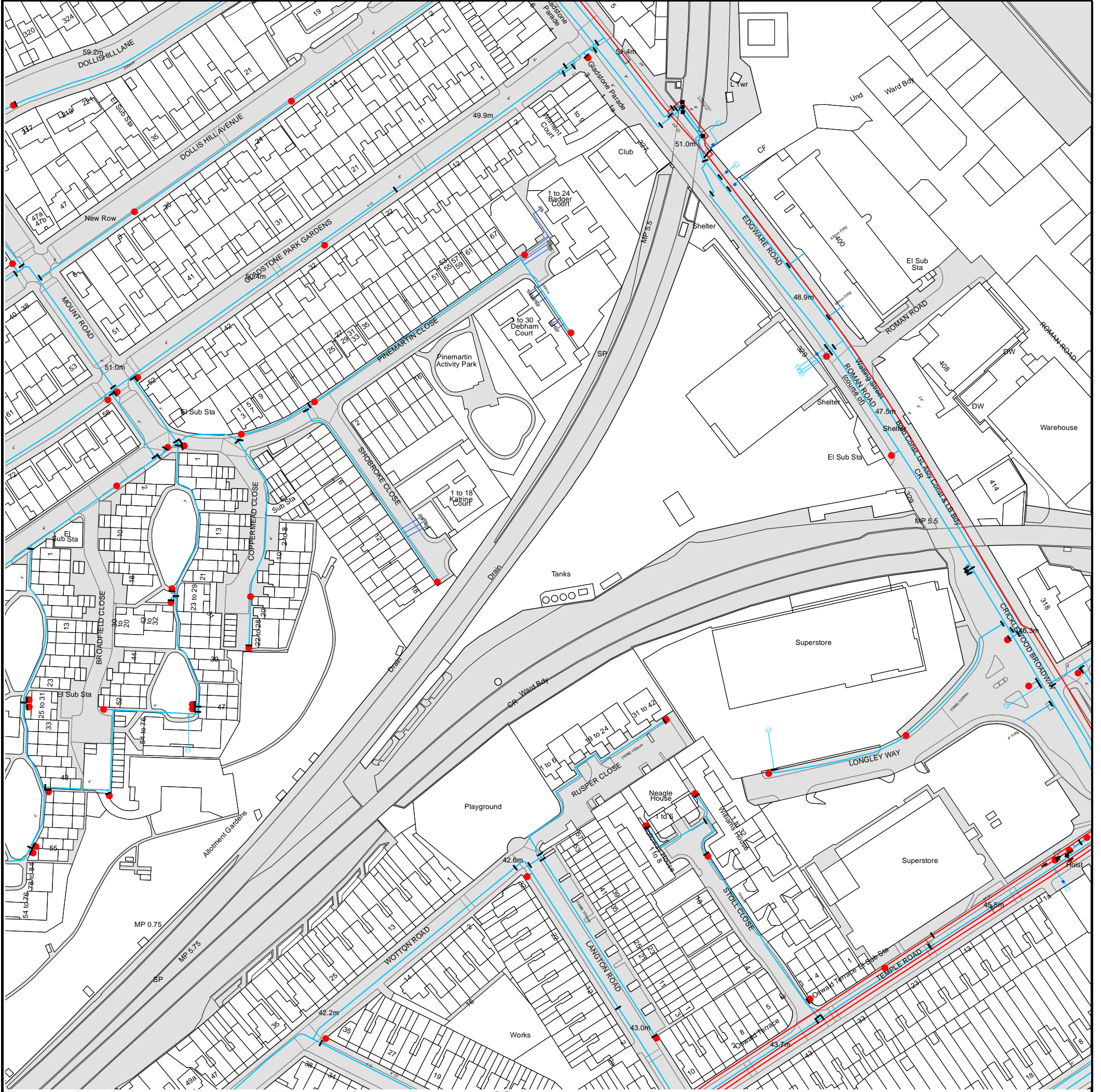
-  Agreement
-  Operational Site
-  Chamber
-  Tunnel
-  Conduit Bridge

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

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

Notes:

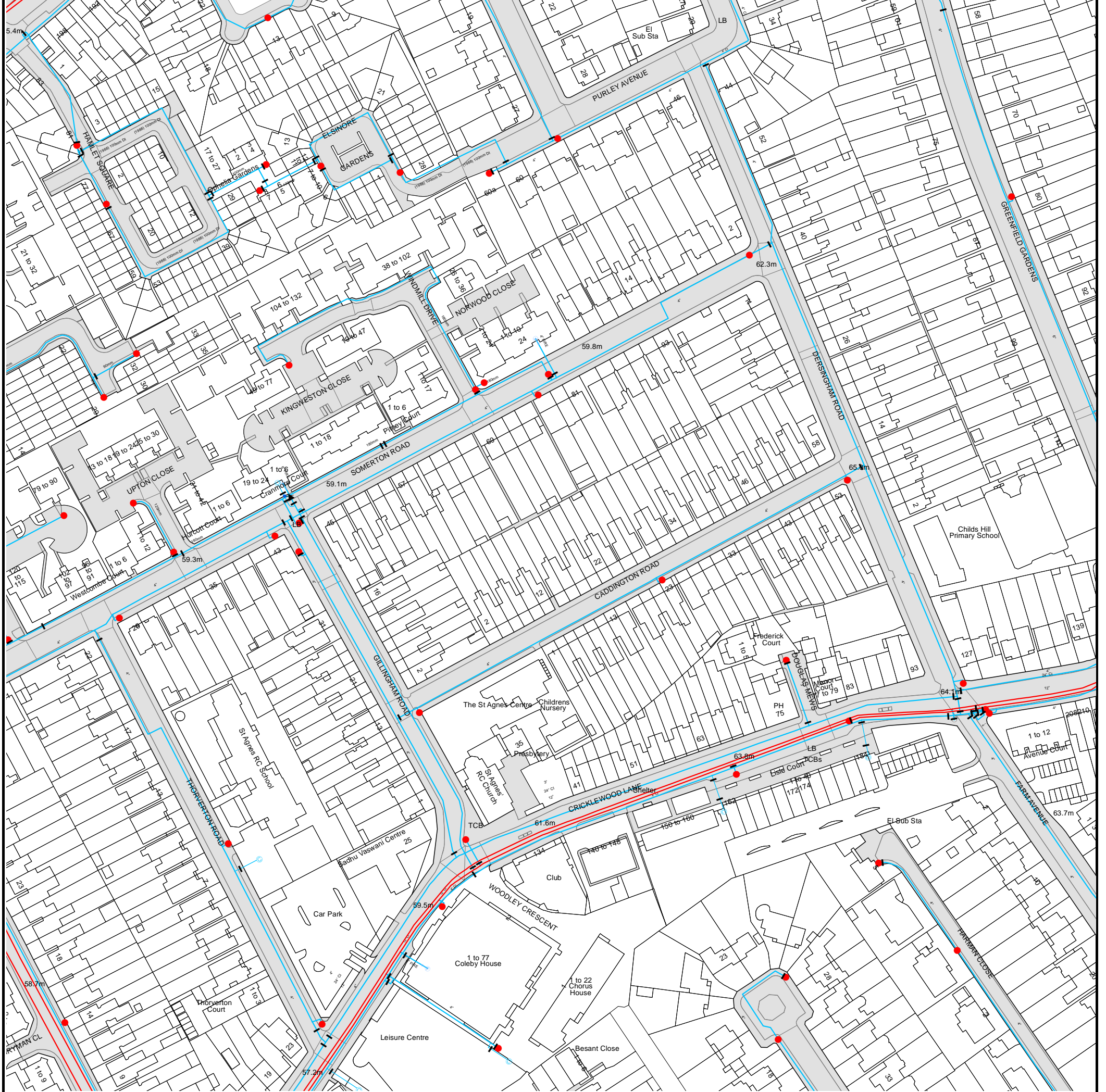
- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.
- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 523250,186250

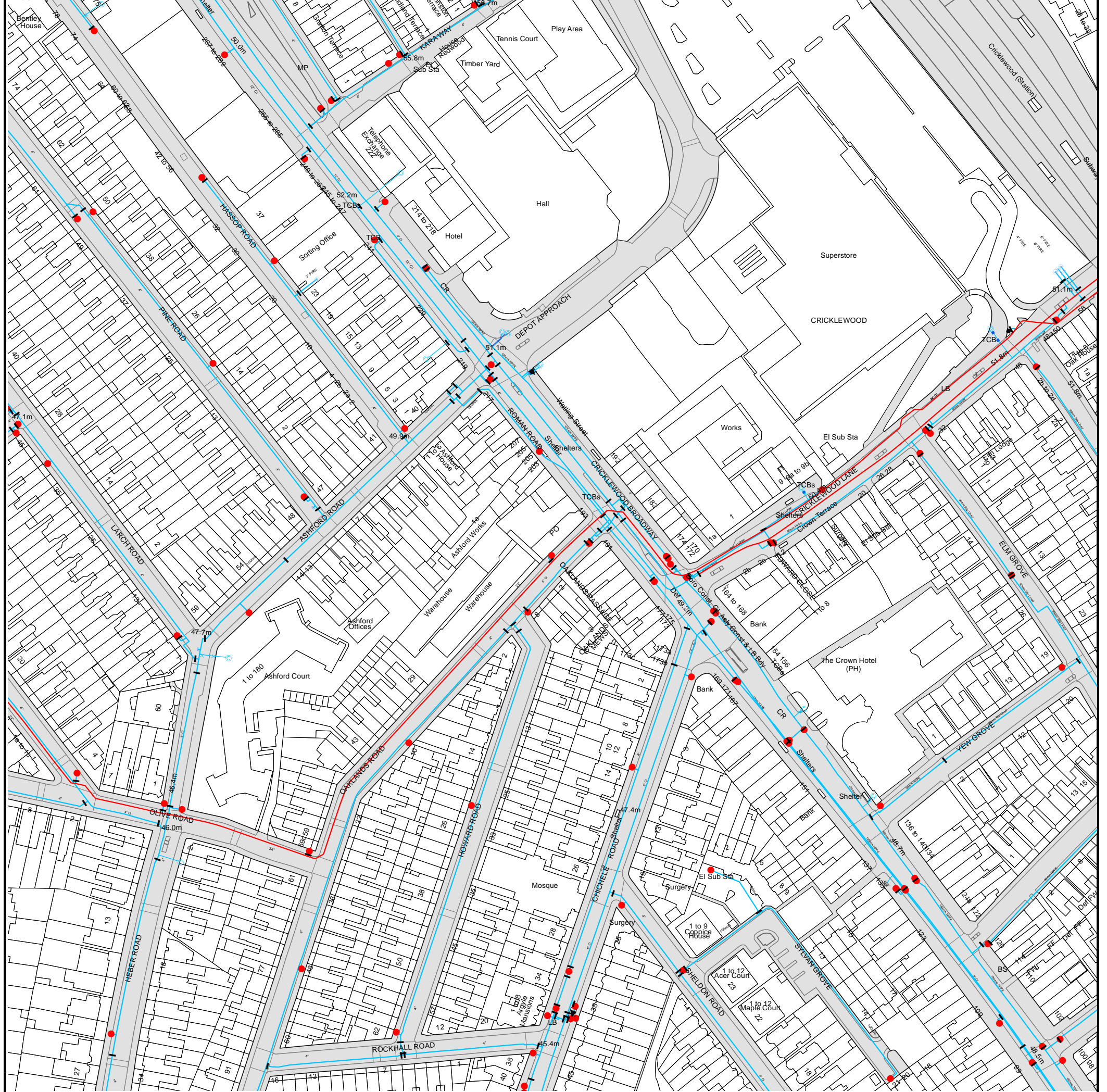
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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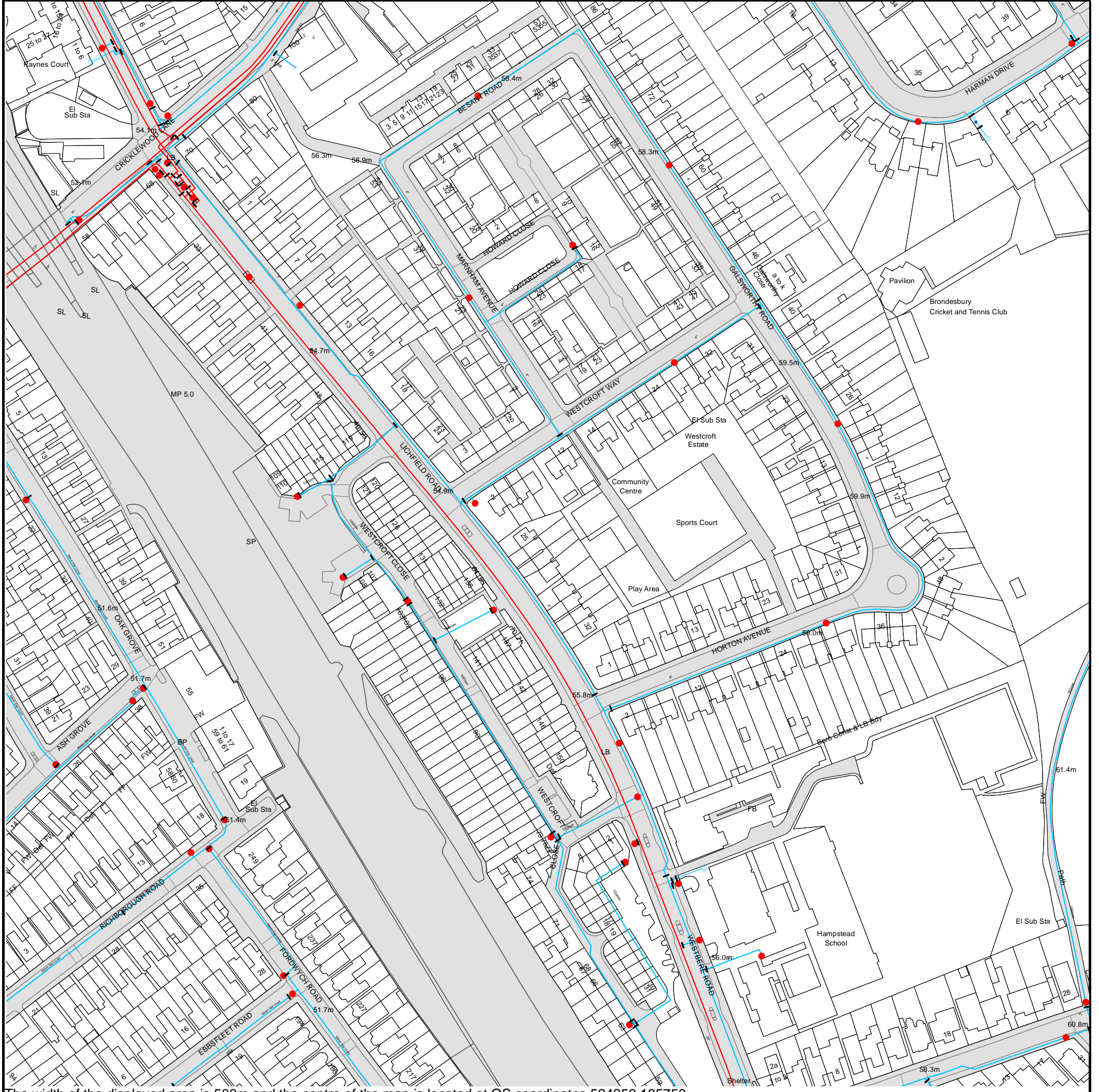
The width of the displayed area is 500m and the centre of the map is located at OS coordinates 524250,186250
 The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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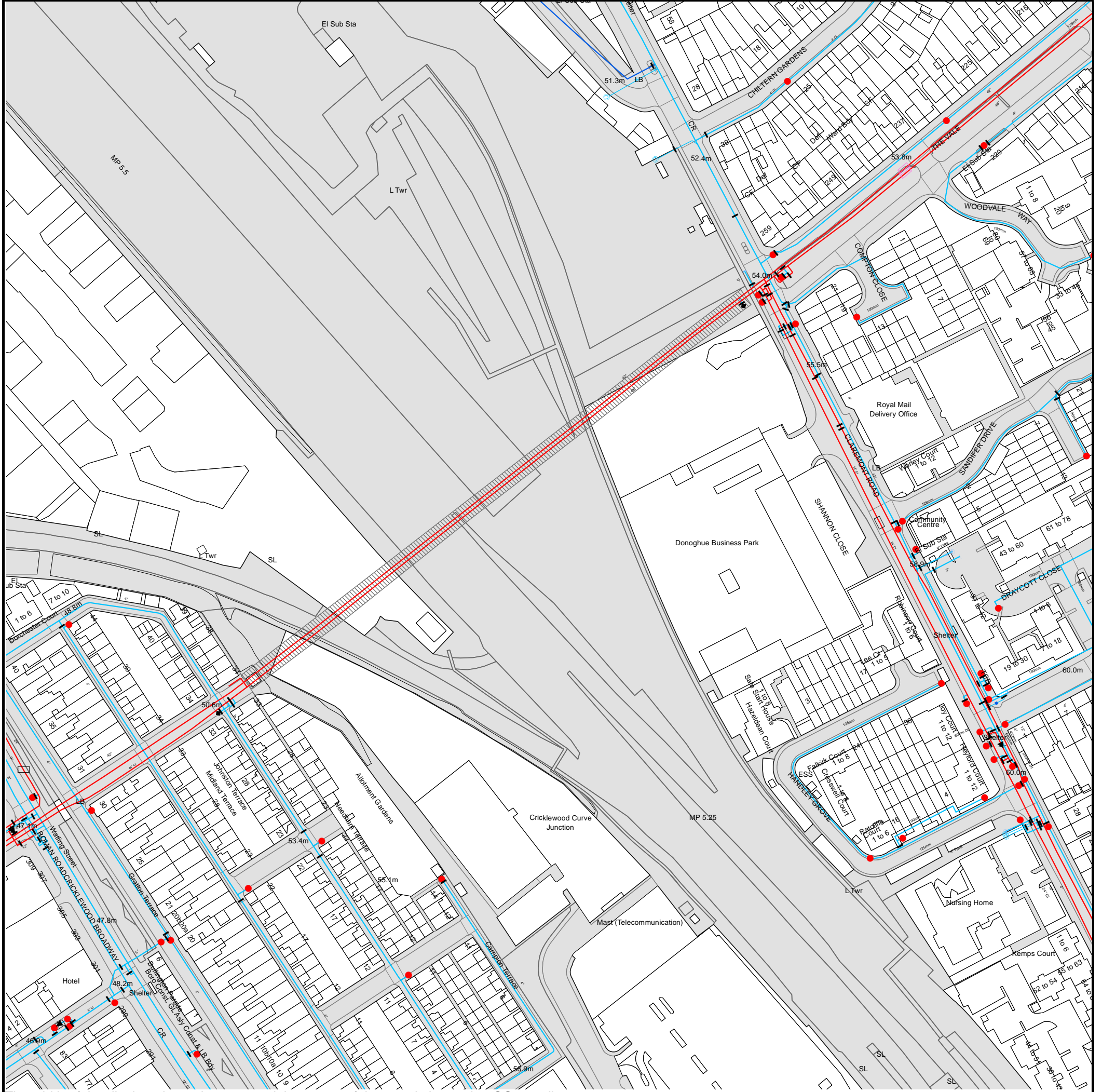
The width of the displayed area is 500m and the centre of the map is located at OS coordinates 523750,185750
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 524250,185750
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 523750,186250








The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)


- 
Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 
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.
- 
Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 
Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 
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.

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Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking	Cheque
<p>Call 0845 070 9148 quoting your invoice number starting CBA or ADS / OSS</p>	<p>Account number 90478703 Sort code 60-00-01 A remittance advice must be sent to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW. or email ps.billing@thameswater.co.uk</p>	<p>By calling your bank and quoting: Account number 90478703 Sort code 60-00-01 and your invoice number</p>	<p>Made payable to 'Thames Water Utilities Ltd' Write your Thames Water account number on the back. Send to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW or by DX to 151280 Slough 13</p>

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The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

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- act with integrity and carry out work with due skill, care and diligence
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Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if the Ombudsman finds that you have suffered actual loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the code.

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The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Web site: www.tpos.co.uk
Email: admin@tpos.co.uk

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PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Appendix B Microdrainage Calculation

AECOM		Page 1
Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
Date 30/07/2020 17:52 File 200730 Roof podium	Designed by Bimarsha LIMbu Checked by Nicholas Price	

Innovyze Source Control 2019.1


Cascade Summary of Results for 200304 Source Control Biodiverse Roof.SRCX

Upstream Structures (None) **Outflow To** (None) **Overflow To** 200304 Source Control Podium.SRCX

Half Drain Time : 878 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	64.713	0.063	0.0	1.3	1.3	89.3	Flood Risk
30 min Summer	64.724	0.074	0.0	1.7	1.7	117.5	Flood Risk
60 min Summer	64.736	0.086	0.0	2.1	2.1	145.0	Flood Risk
120 min Summer	64.754	0.104	0.0	2.7	2.7	186.6	Flood Risk
180 min Summer	64.763	0.113	0.0	2.9	2.9	210.2	Flood Risk
240 min Summer	64.770	0.120	0.0	3.0	3.0	224.5	Flood Risk
360 min Summer	64.775	0.125	0.0	3.1	3.1	238.1	Flood Risk
480 min Summer	64.777	0.127	0.0	3.1	3.1	241.1	Flood Risk
600 min Summer	64.776	0.126	0.0	3.1	3.1	239.5	Flood Risk
720 min Summer	64.775	0.125	0.0	3.1	3.1	237.0	Flood Risk
960 min Summer	64.772	0.122	0.0	3.0	3.0	230.7	Flood Risk
1440 min Summer	64.767	0.117	0.0	2.9	2.9	218.5	Flood Risk
2160 min Summer	64.760	0.110	0.0	2.8	2.8	201.7	Flood Risk
2880 min Summer	64.754	0.104	0.0	2.7	2.7	187.2	Flood Risk
4320 min Summer	64.744	0.094	0.0	2.4	2.4	165.0	Flood Risk
5760 min Summer	64.738	0.088	0.0	2.2	2.2	148.5	Flood Risk
7200 min Summer	64.732	0.082	0.0	2.0	2.0	135.8	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	180.484	0.0	66.7	27
30 min Summer	115.952	0.0	86.9	41
60 min Summer	71.087	0.0	138.9	70
120 min Summer	46.045	0.0	182.2	128
180 min Summer	35.116	0.0	208.9	188
240 min Summer	28.652	0.0	227.0	246
360 min Summer	21.086	0.0	249.4	364
480 min Summer	16.714	0.0	261.7	480
600 min Summer	13.856	0.0	269.0	556
720 min Summer	11.842	0.0	273.4	608
960 min Summer	9.178	0.0	276.9	724
1440 min Summer	6.371	0.0	275.0	986
2160 min Summer	4.415	0.0	334.0	1388
2880 min Summer	3.408	0.0	338.3	1792
4320 min Summer	2.374	0.0	336.8	2596
5760 min Summer	1.846	0.0	361.5	3352
7200 min Summer	1.528	0.0	367.7	4112


AECOM		Page 2
Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
Date 30/07/2020 17:52 File 200730 Roof podium	Designed by Bimarsha LIMbu Checked by Nicholas Price	

Innovyze Source Control 2019.1

Cascade Summary of Results for 200304 Source Control Biodiverse Roof.SRCX

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	64.728	0.078	0.0	1.8	1.8	125.8	Flood Risk
10080 min Summer	64.725	0.075	0.0	1.7	1.7	117.7	Flood Risk
15 min Winter	64.718	0.068	0.0	1.5	1.5	101.5	Flood Risk
30 min Winter	64.731	0.081	0.0	1.9	1.9	133.1	Flood Risk
60 min Winter	64.744	0.094	0.0	2.4	2.4	163.9	Flood Risk
120 min Winter	64.764	0.114	0.0	2.9	2.9	211.0	Flood Risk
180 min Winter	64.775	0.125	0.0	3.1	3.1	238.0	Flood Risk
240 min Winter	64.782	0.132	0.0	3.2	3.2	254.5	Flood Risk
360 min Winter	64.789	0.139	0.0	3.3	3.3	270.7	Flood Risk
480 min Winter	64.791	0.141	0.0	3.3	3.3	275.1	Flood Risk
600 min Winter	64.790	0.140	0.0	3.3	3.3	273.9	Flood Risk
720 min Winter	64.789	0.139	0.0	3.3	3.3	270.1	Flood Risk
960 min Winter	64.785	0.135	0.0	3.2	3.2	261.0	Flood Risk
1440 min Winter	64.778	0.128	0.0	3.1	3.1	244.1	Flood Risk
2160 min Winter	64.768	0.118	0.0	2.9	2.9	220.0	Flood Risk
2880 min Winter	64.759	0.109	0.0	2.8	2.8	199.4	Flood Risk
4320 min Winter	64.746	0.096	0.0	2.5	2.5	168.8	Flood Risk
5760 min Winter	64.737	0.087	0.0	2.2	2.2	147.6	Flood Risk
7200 min Winter	64.731	0.081	0.0	1.9	1.9	131.8	Flood Risk
8640 min Winter	64.725	0.075	0.0	1.7	1.7	119.5	Flood Risk
10080 min Winter	64.721	0.071	0.0	1.6	1.6	109.7	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
8640 min Summer	1.315	0.0	373.1	4920
10080 min Summer	1.162	0.0	376.7	5648
15 min Winter	180.484	0.0	75.4	26
30 min Winter	115.952	0.0	97.7	41
60 min Winter	71.087	0.0	156.8	70
120 min Winter	46.045	0.0	205.1	126
180 min Winter	35.116	0.0	234.8	184
240 min Winter	28.652	0.0	255.0	242
360 min Winter	21.086	0.0	279.8	356
480 min Winter	16.714	0.0	293.3	468
600 min Winter	13.856	0.0	301.2	576
720 min Winter	11.842	0.0	305.9	676
960 min Winter	9.178	0.0	309.6	760
1440 min Winter	6.371	0.0	307.8	1060
2160 min Winter	4.415	0.0	376.7	1500
2880 min Winter	3.408	0.0	381.9	1932
4320 min Winter	2.374	0.0	381.0	2728
5760 min Winter	1.846	0.0	410.2	3520
7200 min Winter	1.528	0.0	418.3	4320
8640 min Winter	1.315	0.0	425.3	5104
10080 min Winter	1.162	0.0	430.4	5856

Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
Date 30/07/2020 17:52 File 200730 Roof podium	Designed by Bimarsha LIMbu Checked by Nicholas Price	

Innovyze Source Control 2019.1

Cascade Rainfall Details for 200304 Source Control Biodiverse Roof.SRCX

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 523899 185918	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.304

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To:	From:	To:	From:	To:
0	4	4	8	8	12
	0.101		0.101		0.101

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Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
Date 30/07/2020 17:52 File 200730 Roof podium	Designed by Bimarsha LIMbu Checked by Nicholas Price	



Innovyze Source Control 2019.1

Cascade Model Details for 200304 Source Control Biodiverse Roof.SRCX


Storage is Online Cover Level (m) 65.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	50.0
Membrane Percolation (mm/hr)	1000	Length (m)	50.0
Max Percolation (l/s)	694.4	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.95	Evaporation (mm/day)	3
Invert Level (m)	64.650	Cap Volume Depth (m)	0.150

Orifice Outflow Control

Diameter (m) 0.070 Discharge Coefficient 0.600 Invert Level (m) 64.650

AECOM		Page 1
Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
Date 30/07/2020 17:49 File 200730 Roof podium	Designed by Bimarsha Limbu Checked by Nicholas Price	

Innovyze Source Control 2019.1


Cascade Summary of Results for 200304 Source Control Podium.SRCX

Upstream Structures **Outflow To** **Overflow To**
 200304 Source Control Biodiverse Roof.SRCX (None) 200730 Source Control Below Ground Attenuation.SRCX

Half Drain Time : 65 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	59.645	0.095	0.0	14.5	14.5	89.7	O K
30 min Summer	59.662	0.112	0.0	18.8	18.8	110.3	O K
60 min Summer	59.673	0.123	0.0	21.4	21.4	122.4	O K
120 min Summer	59.686	0.136	0.0	26.2	26.2	137.6	O K
180 min Summer	59.689	0.139	0.0	27.6	27.6	141.4	O K
240 min Summer	59.688	0.138	0.0	27.2	27.2	140.7	O K
360 min Summer	59.683	0.133	0.0	24.9	24.9	134.2	O K
480 min Summer	59.676	0.126	0.0	22.1	22.1	125.8	O K
600 min Summer	59.668	0.118	0.0	20.3	20.3	117.2	O K
720 min Summer	59.662	0.112	0.0	18.7	18.7	109.6	O K
960 min Summer	59.651	0.101	0.0	16.0	16.0	97.1	O K
1440 min Summer	59.637	0.087	0.0	12.5	12.5	80.3	O K
2160 min Summer	59.624	0.074	0.0	9.4	9.4	65.8	O K
2880 min Summer	59.617	0.067	0.0	7.6	7.6	57.3	O K
4320 min Summer	59.608	0.058	0.0	5.5	5.5	47.5	O K
5760 min Summer	59.603	0.053	0.0	4.3	4.3	41.8	O K
7200 min Summer	59.600	0.050	0.0	3.5	3.5	37.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	180.484	0.0	98.7	23
30 min Summer	115.952	0.0	128.6	34
60 min Summer	71.087	0.0	159.0	54
120 min Summer	46.045	0.0	207.7	86
180 min Summer	35.116	0.0	238.3	120
240 min Summer	28.652	0.0	259.7	152
360 min Summer	21.086	0.0	287.1	218
480 min Summer	16.714	0.0	303.5	282
600 min Summer	13.856	0.0	314.5	346
720 min Summer	11.842	0.0	322.4	408
960 min Summer	9.178	0.0	332.8	530
1440 min Summer	6.371	0.0	345.7	772
2160 min Summer	4.415	0.0	357.9	1132
2880 min Summer	3.408	0.0	366.8	1504
4320 min Summer	2.374	0.0	380.2	2216
5760 min Summer	1.846	0.0	391.2	2952
7200 min Summer	1.528	0.0	401.7	3744

AECOM		Page 2
Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
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Innovyze Source Control 2019.1

Cascade Summary of Results for 200304 Source Control Podium.SRCX

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	59.595	0.045	0.0	3.0	3.0	32.5	O K
10080 min Summer	59.592	0.042	0.0	2.7	2.7	29.1	O K
15 min Winter	59.654	0.104	0.0	16.8	16.8	100.8	O K
30 min Winter	59.674	0.124	0.0	21.6	21.6	123.9	O K
60 min Winter	59.685	0.135	0.0	25.8	25.8	136.6	O K
120 min Winter	59.696	0.146	0.0	30.3	30.3	149.5	O K
180 min Winter	59.696	0.146	0.0	30.5	30.5	149.9	O K
240 min Winter	59.693	0.143	0.0	29.2	29.2	146.1	O K
360 min Winter	59.684	0.134	0.0	25.3	25.3	135.2	O K
480 min Winter	59.674	0.124	0.0	21.6	21.6	123.8	O K
600 min Winter	59.664	0.114	0.0	19.3	19.3	112.8	O K
720 min Winter	59.657	0.107	0.0	17.4	17.4	103.6	O K
960 min Winter	59.644	0.094	0.0	14.4	14.4	89.4	O K
1440 min Winter	59.629	0.079	0.0	10.7	10.7	71.7	O K
2160 min Winter	59.617	0.067	0.0	7.7	7.7	57.6	O K
2880 min Winter	59.610	0.060	0.0	6.0	6.0	49.8	O K
4320 min Winter	59.603	0.053	0.0	4.3	4.3	41.3	O K
5760 min Winter	59.597	0.047	0.0	3.2	3.2	34.7	O K
7200 min Winter	59.592	0.042	0.0	2.7	2.7	28.6	O K
8640 min Winter	59.589	0.039	0.0	2.3	2.3	24.5	O K
10080 min Winter	59.586	0.036	0.0	2.1	2.1	21.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
8640 min Summer	1.315	0.0	411.9	4424
10080 min Summer	1.162	0.0	422.0	5152
15 min Winter	180.484	0.0	111.3	23
30 min Winter	115.952	0.0	144.7	34
60 min Winter	71.087	0.0	178.8	56
120 min Winter	46.045	0.0	233.3	90
180 min Winter	35.116	0.0	267.7	126
240 min Winter	28.652	0.0	291.7	160
360 min Winter	21.086	0.0	322.4	228
480 min Winter	16.714	0.0	340.8	296
600 min Winter	13.856	0.0	353.1	360
720 min Winter	11.842	0.0	362.0	422
960 min Winter	9.178	0.0	373.8	548
1440 min Winter	6.371	0.0	388.3	788
2160 min Winter	4.415	0.0	402.3	1148
2880 min Winter	3.408	0.0	412.5	1524
4320 min Winter	2.374	0.0	427.9	2216
5760 min Winter	1.846	0.0	440.6	3056
7200 min Winter	1.528	0.0	452.9	3752
8640 min Winter	1.315	0.0	464.9	4424
10080 min Winter	1.162	0.0	476.7	5232

Midpoint
Alencon Link
Basingstoke, RG21 7PP

B&Q Cricklewood



Date 30/07/2020 17:49
File 200730 Roof podium

Designed by Bimarsha Limbu
Checked by Nicholas Price

Innovyze Source Control 2019.1

Cascade Rainfall Details for 200304 Source Control Podium.SRCX

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 523899 185918	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.310

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To:	From:	To:	From:	To:
0	4	0.103	4	8	0.103
8	12	0.103			

Midpoint
Alencon Link
Basingstoke, RG21 7PP

B&Q Cricklewood



Date 30/07/2020 17:49
File 200730 Roof podium

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Innovyze Source Control 2019.1

Cascade Model Details for 200304 Source Control Podium.SRCX


Storage is Online Cover Level (m) 60.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr) 0.00000	Width (m) 35.0	
Membrane Percolation (mm/hr) 1000	Length (m) 35.0	
Max Percolation (l/s) 340.3	Slope (1:X) 1000.0	
Safety Factor 2.0	Depression Storage (mm) 5	
Porosity 0.95	Evaporation (mm/day) 3	
Invert Level (m) 59.550	Cap Volume Depth (m) 0.150	

Orifice Outflow Control

Diameter (m) 0.836 Discharge Coefficient 0.600 Invert Level (m) 59.550

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Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
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Innovyze Source Control 2019.1

Cascade Summary of Results for 200730 Source Control Below Ground Attenuation.SRCX

Upstream Structures	Outflow To	Overflow To
200304 Source Control Podium.SRCX	(None)	(None)
200304 Source Control Biodiverse Roof.SRCX		

Half Drain Time : 255 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	52.545	0.745	0.0	52.0	52.0	683.1	O K
30 min Summer	52.742	0.942	0.0	52.0	52.0	863.6	O K
60 min Summer	52.910	1.110	0.0	52.0	52.0	1017.4	O K
120 min Summer	53.153	1.353	0.0	52.0	52.0	1240.1	O K
180 min Summer	53.251	1.451	0.0	52.0	52.0	1330.3	O K
240 min Summer	53.276	1.476	0.0	52.0	52.0	1353.2	O K
360 min Summer	53.251	1.451	0.0	52.0	52.0	1330.2	O K
480 min Summer	53.185	1.385	0.0	52.0	52.0	1270.1	O K
600 min Summer	53.098	1.298	0.0	52.0	52.0	1190.3	O K
720 min Summer	53.007	1.207	0.0	52.0	52.0	1106.3	O K
960 min Summer	52.836	1.036	0.0	52.0	52.0	949.5	O K
1440 min Summer	52.558	0.758	0.0	52.0	52.0	694.6	O K
2160 min Summer	52.286	0.486	0.0	51.6	51.6	445.8	O K
2880 min Summer	52.142	0.342	0.0	49.2	49.2	313.9	O K
4320 min Summer	52.047	0.247	0.0	39.7	39.7	226.6	O K
5760 min Summer	52.010	0.210	0.0	31.7	31.7	192.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	180.484	0.0	722.0	25
30 min Summer	115.952	0.0	930.2	39
60 min Summer	71.087	0.0	1149.4	66
120 min Summer	46.045	0.0	1490.3	124
180 min Summer	35.116	0.0	1705.4	182
240 min Summer	28.652	0.0	1855.6	232
360 min Summer	21.086	0.0	2048.8	290
480 min Summer	16.714	0.0	2165.4	354
600 min Summer	13.856	0.0	2244.1	418
720 min Summer	11.842	0.0	2301.4	480
960 min Summer	9.178	0.0	2378.1	608
1440 min Summer	6.371	0.0	2474.9	856
2160 min Summer	4.415	0.0	2578.5	1196
2880 min Summer	3.408	0.0	2652.7	1528
4320 min Summer	2.374	0.0	2768.2	2212
5760 min Summer	1.846	0.0	2876.6	2944

AECOM		Page 2
Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
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Innovyze Source Control 2019.1

Cascade Summary of Results for 200730 Source Control Below Ground Attenuation.SRCX

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
7200 min Summer	51.987	0.187	0.0	26.5	26.5	171.3	O K
8640 min Summer	51.971	0.171	0.0	23.0	23.0	156.7	O K
10080 min Summer	51.959	0.159	0.0	20.4	20.4	145.8	O K
15 min Winter	52.640	0.840	0.0	52.0	52.0	770.1	O K
30 min Winter	52.864	1.064	0.0	52.0	52.0	975.6	O K
60 min Winter	53.060	1.260	0.0	52.0	52.0	1155.4	O K
120 min Winter	53.342	1.542	0.0	52.0	52.0	1413.5	O K
180 min Winter	53.459	1.659	0.0	52.0	52.0	1520.6	O K
240 min Winter	53.497	1.697	0.0	52.0	52.0	1555.3	O K
360 min Winter	53.457	1.657	0.0	52.0	52.0	1519.5	O K
480 min Winter	53.378	1.578	0.0	52.0	52.0	1446.7	O K
600 min Winter	53.275	1.475	0.0	52.0	52.0	1352.5	O K
720 min Winter	53.157	1.357	0.0	52.0	52.0	1244.0	O K
960 min Winter	52.893	1.093	0.0	52.0	52.0	1001.6	O K
1440 min Winter	52.489	0.689	0.0	52.0	52.0	632.0	O K
2160 min Winter	52.158	0.358	0.0	49.6	49.6	328.4	O K
2880 min Winter	52.061	0.261	0.0	42.3	42.3	239.5	O K
4320 min Winter	52.002	0.202	0.0	30.0	30.0	185.2	O K
5760 min Winter	51.973	0.173	0.0	23.4	23.4	158.6	O K
7200 min Winter	51.955	0.155	0.0	19.5	19.5	141.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
7200 min Summer	1.528	0.0	2975.1	3672
8640 min Summer	1.315	0.0	3070.7	4408
10080 min Summer	1.162	0.0	3163.6	5136
15 min Winter	180.484	0.0	809.7	25
30 min Winter	115.952	0.0	1042.9	39
60 min Winter	71.087	0.0	1287.8	66
120 min Winter	46.045	0.0	1669.6	122
180 min Winter	35.116	0.0	1910.6	180
240 min Winter	28.652	0.0	2078.8	234
360 min Winter	21.086	0.0	2295.2	310
480 min Winter	16.714	0.0	2425.9	376
600 min Winter	13.856	0.0	2513.9	454
720 min Winter	11.842	0.0	2578.1	532
960 min Winter	9.178	0.0	2664.1	662
1440 min Winter	6.371	0.0	2773.0	900
2160 min Winter	4.415	0.0	2888.4	1212
2880 min Winter	3.408	0.0	2971.7	1508
4320 min Winter	2.374	0.0	3101.6	2212
5760 min Winter	1.846	0.0	3222.0	2944
7200 min Winter	1.528	0.0	3332.6	3672

Midpoint
Alencon Link
Basingstoke, RG21 7PP

B&Q Cricklewood



Date 30/07/2020 17:51
File 200730 Roof podium

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Innovyze Source Control 2019.1

Cascade Summary of Results for 200730 Source Control Below Ground Attenuation.SRCX

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
8640 min Winter	51.942	0.142	0.0	16.7	16.7	130.1	O K
10080 min Winter	51.932	0.132	0.0	14.8	14.8	121.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
8640 min Winter	1.315	0.0	3439.8	4408
10080 min Winter	1.162	0.0	3544.7	5144

Midpoint
Alencon Link
Basingstoke, RG21 7PP

B&Q Cricklewood



Date 30/07/2020 17:51
File 200730 Roof podium

Designed by Bimarsha Limbu
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Innovyze Source Control 2019.1

Cascade Rainfall Details for 200730 Source Control Below Ground Attenuation.SRCX

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 523899 185918	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 2.166

Time (mins)		Area	Time (mins)		Area	Time (mins)		Area
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.722	4	8	0.722	8	12	0.722

AECOM		Page 5
Midpoint Alencon Link Basingstoke, RG21 7PP	B&Q Cricklewood	
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Innovyze Source Control 2019.1

Cascade Model Details for 200730 Source Control Below Ground
Attenuation.SRCX

Storage is Online Cover Level (m) 55.000

Cellular Storage Structure

Invert Level (m) 51.800 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	965.0	0.0	2.001	0.0	0.0
2.000	965.0	0.0			

Hydro-Brake® Optimum Outflow Control

Unit Reference MD-SHE-0287-5220-2000-5220
Design Head (m) 2.000
Design Flow (l/s) 52.2
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 287
Invert Level (m) 51.800
Minimum Outlet Pipe Diameter (mm) 300
Suggested Manhole Diameter (mm) 2100

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.000	52.1	Kick-Flo®	1.338	42.9
Flush-Flo™	0.615	52.0	Mean Flow over Head Range	-	44.8

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.9	1.200	47.2	3.000	63.3	7.000	95.6
0.200	29.5	1.400	43.9	3.500	68.2	7.500	98.8
0.300	47.9	1.600	46.8	4.000	72.8	8.000	102.0
0.400	50.4	1.800	49.5	4.500	77.1	8.500	105.1
0.500	51.7	2.000	52.1	5.000	81.1	9.000	108.0
0.600	52.0	2.200	54.5	5.500	85.0	9.500	110.9
0.800	51.5	2.400	56.9	6.000	88.7		
1.000	50.1	2.600	59.1	6.500	92.2		

Appendix C Proposed Drainage Layout

Last saved by: BINARSHA.LINBLU/2020.07.31 | Last Picked: 2020.07.31
 Filename: I:\EU\AECOM\NET.COM\UK\UKLON\JG\SS\PR-419250_B&Q_CRICKLEWOOD\400_TECHNICAL\431_CIVIL\WORKING\CADD\DRAWINGS\60608627-ACM-XX-DR-CE-050101.DWG
 ISO A1 594mm x 841mm
 Project Management Initials: Designer: BL Drawn: GB Checked: NP Approved: RF



PROJECT
B&Q CRICKLEWOOD

CLIENT
MONTREAUX LTD

Montreux House, The Hythe
Staines Upon Thames TW18 3JQ
03333 700 100
www.montreux.co.uk

CONSULTANT
AECOM Infrastructure & Environment UK Ltd
Aldgate Tower, 2 Leman Street
London E1 8FA, T +44-(0)20-7798-5000
www.aecom.com

GENERAL NOTES

THIS DRAWING IS TO BE USED FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR ONLY AND IS SUBJECT TO AMENDMENT DURING DESIGN DEVELOPMENT.

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION. ANY DISCREPANCIES IN DIMENSIONS OR DETAILS ON OR BETWEEN THESE DRAWINGS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
2. DO NOT SCALE FROM DRAWING FOR CONSTRUCTION PURPOSES, USE ONLY PRINTED DIMENSIONS. ANY DISCREPANCIES IN DIMENSIONS OR DETAILS ON OR BETWEEN THESE DRAWINGS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. ALL DIMENSIONS, CHAINAGES, LEVELS AND COORDINATES ARE IN METRES UNLESS NOTED OTHERWISE.
4. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT HEALTH AND SAFETY INFORMATION, INCLUDING THE PROJECT HAZARD LOG FOR ANY IDENTIFIED POTENTIAL RISKS.

KEY

- PROPOSED SURFACE WATER SEWER
- PROPOSED FOUL WATER SEWER
- PROPOSED GEOCELLULAR ATTENUATION TANK
- PROPOSED RAINGARDEN
- PROPOSED PERMEABLE PAVING
- ABOVE GROUND BIODIVERSE ROOF STORAGE AREA (BY ARCHITECT)
- ABOVE GROUND PODIUM STORAGE AREA (BY LANDSCAPE ARCHITECT)
- PETROL INTERCEPTOR
- SITE BOUNDARY

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P03	31/07/2020	FOR PLANNING
P02	29/06/2020	DRAFT ISSUE
P01	18/02/2020	FIRST ISSUE

PURPOSE OF ISSUE

FOR INFORMATION

SCALE SUITABILITY

1:500 FOR INFORMATION

PROJECT NUMBER

60608627

SHEET TITLE

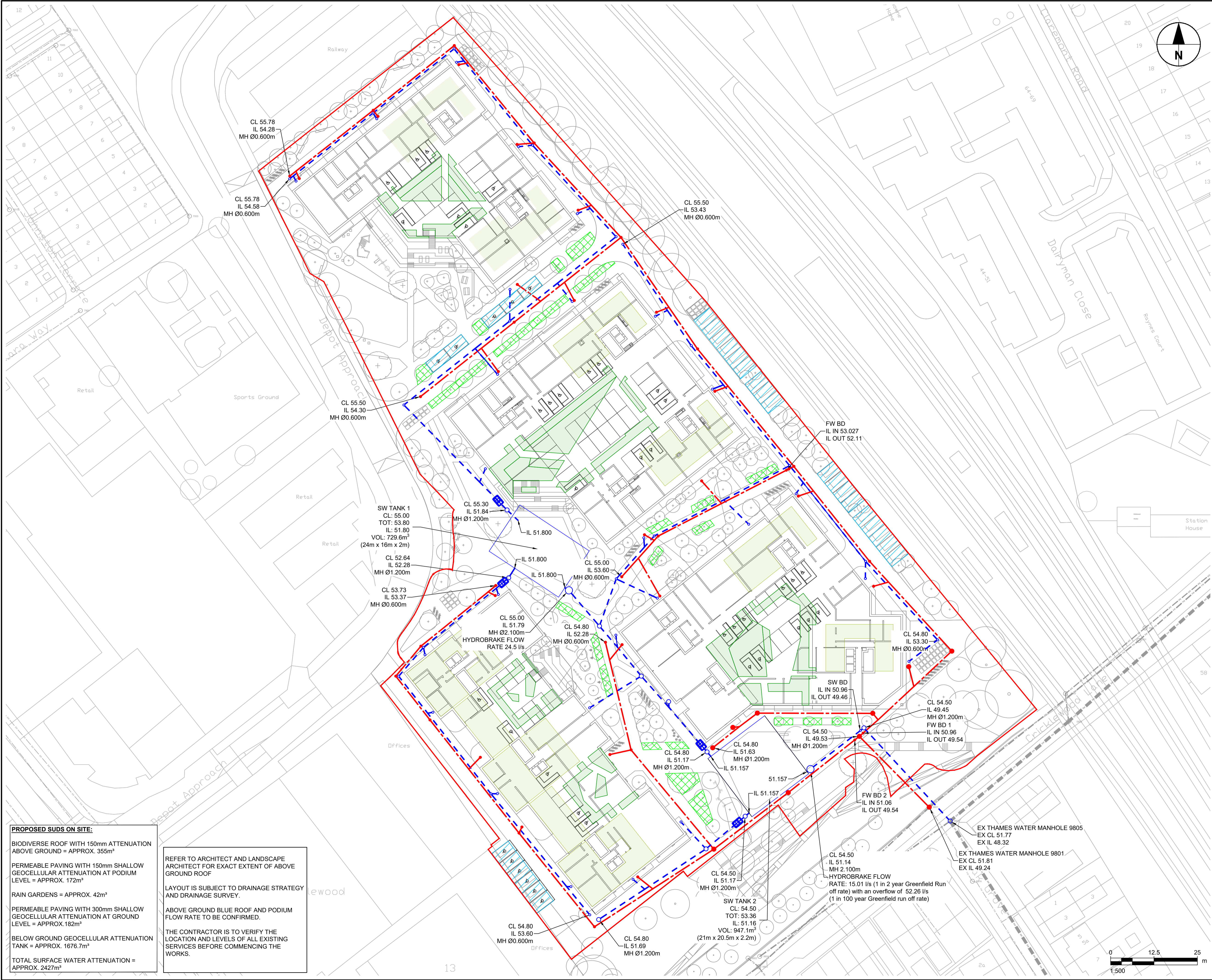
PROPOSED DRAINAGE LAYOUT

SHEET NUMBER

60608627-ACM-XX-DR-CE-050101

REV

P03



PROPOSED SUDS ON SITE:

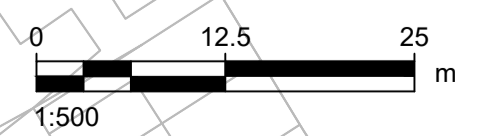
- BIODIVERSE ROOF WITH 150mm ATTENUATION ABOVE GROUND = APPROX. 355m²
- PERMEABLE PAVING WITH 150mm SHALLOW GEOCELLULAR ATTENUATION AT PODIUM LEVEL = APPROX. 172m²
- RAIN GARDENS = APPROX. 42m²
- PERMEABLE PAVING WITH 300mm SHALLOW GEOCELLULAR ATTENUATION AT GROUND LEVEL = APPROX. 182m²
- BELOW GROUND GEOCELLULAR ATTENUATION TANK = APPROX. 1676.7m²
- TOTAL SURFACE WATER ATTENUATION = APPROX. 2427m²

REFER TO ARCHITECT AND LANDSCAPE ARCHITECT FOR EXACT EXTENT OF ABOVE GROUND ROOF

LAYOUT IS SUBJECT TO DRAINAGE STRATEGY AND DRAINAGE SURVEY.

ABOVE GROUND BLUE ROOF AND PODIUM FLOW RATE TO BE CONFIRMED.

THE CONTRACTOR IS TO VERIFY THE LOCATION AND LEVELS OF ALL EXISTING SERVICES BEFORE COMMENCING THE WORKS.



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Appendix D LBB SuDS Proforma



1. Project & Site Details	Project / Site Name (including sub-catchment / stage / phase where appropriate)	B&Q Cricklewood
	Address & post code	Broadland Retail Park, Cricklewood Lane, London, NW2 1ES
	OS Grid ref. (Easting, Northing)	E 523857 N 185892
	LPA reference (if applicable)	N/A
	Brief description of proposed work	Demolition of existing buildings and comprehensive redevelopment of the site for mix of uses including residential and flexible commercial and community floorspace
	Total site Area	27800 m ²
	Total existing impervious area	approx. 26900 m ²
	Total proposed impervious area	approx. 23800 m ²
	Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	No
	Existing drainage connection type and location	Connection assumed to nearby Thames Water surface and foul water sewer
	Designer Name	Bimarsha Limbu
	Designer Position	Engineer
	Designer Company	AECOM

2. Proposed Discharge Arrangements	2a. Infiltration Feasibility		
	Superficial geology classification	Awaiting Ground Investigation	
	Bedrock geology classification	London Clay based on BGS Information	
	Site infiltration rate	N/A	m/s
	Depth to groundwater level	0.6 - 4.9 (Perched) m below ground level	
	Is infiltration feasible?	No	
	2b. Drainage Hierarchy		
		Feasible (Y/N)	Proposed (Y/N)
	1 store rainwater for later use	Y	Y
	2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
	3 attenuate rainwater in ponds or open water features for gradual release	N	N
	4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
	5 discharge rainwater direct to a watercourse	N	N
	6 discharge rainwater to a surface water sewer/drain	Y	Y
	7 discharge rainwater to the combined sewer.	N	N
2c. Proposed Discharge Details			
Proposed discharge location	Refer to Proposed Drainage Layout		
Has the owner/regulator of the discharge location been consulted?	Refer to the Drainage Strategy		



3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	Existing discharge rate (l/s)	Required storage for GF rate (m ³)	Proposed discharge rate (l/s)
Qbar	approx. 15.01			
1 in 1				
1 in 30	36.7	1091.9		
1 in 100	52.26	1091.9		
1 in 100 + CC			approx. 2100	52.26
Climate change allowance used		40%		
3b. Principal Method of Flow Control		Hydrobrake flow control		
3c. Proposed SuDS Measures				
	Catchment area (m ²)	Plan area (m ²)	Storage vol. (m ³)	
Rainwater harvesting	0		0	
Infiltration systems	0		0	
Green roofs	0	2554	397	
Blue roofs	0	0	0	
Filter strips	0	0	0	
Filter drains	0	0	0	
Bioretention / tree pits	0	0	0	
Pervious pavements	0	670	354	
Swales	0	0	0	
Basins/ponds	0	0	0	
Attenuation tanks	0		1676.7	
Total	0	3224	2427.7	

4a. Discharge & Drainage Strategy	Page/section of drainage report
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Section 5.1 of Drainage Strategy
Drainage hierarchy (2b)	Section 5.1 of Drainage Strategy
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Section 5.4 of Drainage Strategy and Proposed Drainage Layout
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Section 5.2-5.4 of Drainage Strategy
Proposed SuDS measures & specifications (3b)	Section 5.1 of Drainage Strategy
4b. Other Supporting Details	Page/section of drainage report
Detailed Development Layout	Appendix F of Drainage Strategy
Detailed drainage design drawings, including exceedance flow routes	Appendix C of Drainage Strategy
Detailed landscaping plans	Appendix F of Drainage Strategy
Maintenance strategy	Section 7 of Drainage Strategy
Demonstration of how the proposed SuDS measures improve:	
a) water quality of the runoff?	Section 5.1 of Drainage Strategy
b) biodiversity?	Section 5.1 of Drainage Strategy
c) amenity?	Section 5.1 of Drainage Strategy

Appendix E TWUL Correspondences



Miss Limbu
AECOM
Aldgate Tower
2 Lemn Street
London
E1 8FA



2 March 2020

Pre-planning enquiry: Capacity concerns

Dear Bimarsha,

Thank you for providing information on your development at B&Q Cricklewood Lane. We have assessed the impact that the following proposals will have on our network:

- a) 1100 flats.
- b) 9036m² Commercial Premises.
- c) 20623m² of Car Parking.

To replace 7650m² shopping centre.

Foul Water

We've assessed your **foul water** proposals and concluded that we're unable to meet the needs of your **full** development at this time.

In order to ensure we make the appropriate upgrades – or 'off-site reinforcement' – to serve the remainder of your development, we'll need to carry out modelling work, design a solution and build the necessary improvements. This work is done at our cost.

Once we've begun modelling, we may need to contact you to discuss changing the connection point for capacity reasons. Please note that we'll pay the cost of covering any extra distance if the connection needs to be made at a point further away than the nearest practicable point of at least the same diameter.

How long could modelling and reinforcement take?

Typical timescales for a development of your size are:

Modelling: 8 months
Design: 6 months
Construction: 6 months
Total: 20 months

If the time you're likely to take from planning and construction through to first occupancy is longer than this, we'll be able to carry out the necessary upgrades in time for your development. If it's shorter, please contact me on the number below to discuss the timing of our activities.

What do you need to tell us before we start modelling?

We're responsible for funding any modelling and reinforcement work. We need, though, to spend our customers' money wisely, so we'll only carry out modelling once we're confident that your development will proceed.

In order to have this confidence, we'll need to know that you **own the land and have either outline or full planning permission**. Please email this information to us as soon as you have it.

If you'd like us to start modelling work ahead of this point, we can do this if you agree to underwrite the cost of modelling and design. That means we'll fund the work – but you agree to pay the cost if you don't achieve first occupancy within five years.

I've attached an example of our underwriting agreement. Please call me on the number below if you'd like to discuss this or want to request a copy of the agreement to complete.

If the modelling shows we need to carry out reinforcement work, then before we start construction we'll need you to supply us with notification that you've confirmed your F10 – Notification of construction project - submission to the Health and Safety Executive.

Surface Water

Please note that discharging surface water to the public sewer network should only be considered after all other methods of disposal have been investigated and proven to not be viable. In accordance with the Building Act 2000 Clause H3.3, positive connection to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. The disposal hierarchy being: 1st Soakaways; 2nd Watercourses; 3rd Sewers.

Only when it can be proven that soakage into the ground or a connection into an adjacent watercourse is not possible would we consider a restricted discharge into the public surface water sewer network.

Thames Water Planning team would ask to see why it is not practicable on the site to restrict to Greenfield run-off rates if they are consulted as part of any planning application.

In considering your surface water needs, we support the use of sustainable drainage on development sites. You'll need to show the local authority and/or lead local flood authority how you've taken into account the surface water hierarchy that we've included.

Please see the attached 'Planning your wastewater' leaflet for additional information.

What do I need to do next?

Please note that you must keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient supply capacity.

If you have any further questions, please contact me on 02035779212.

Yours sincerely

Dan Rees
Thames Water

Appendix F Proposed Development



Jewson

Claremont Road

Railway Terraces

Kara Way Playground

Cricklewood Station Platform

Beacon Bingo

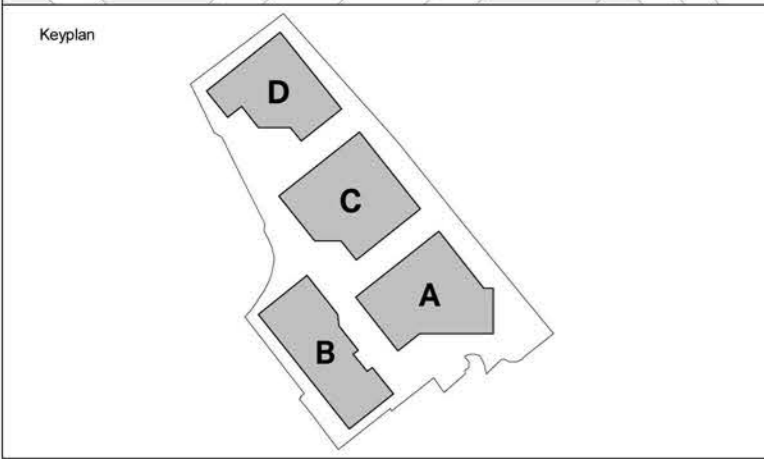
Depot Approach

Cricklewood Green
Cricklewood Lane

Oak Grove

Cricklewood Broadway

Ein Grove



North

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Residential - C3 - 1B1P Studio	Flexible commercial - A3, B1, D1, D2
Residential - C3 - 1B2P	Ancillary (Cycle store, BOH)
Residential - C3 - 2B4P	Ancillary (Plant, MEP)
Residential - C3 - 3B5P	Core (Lift, Stairs)

NOTE:
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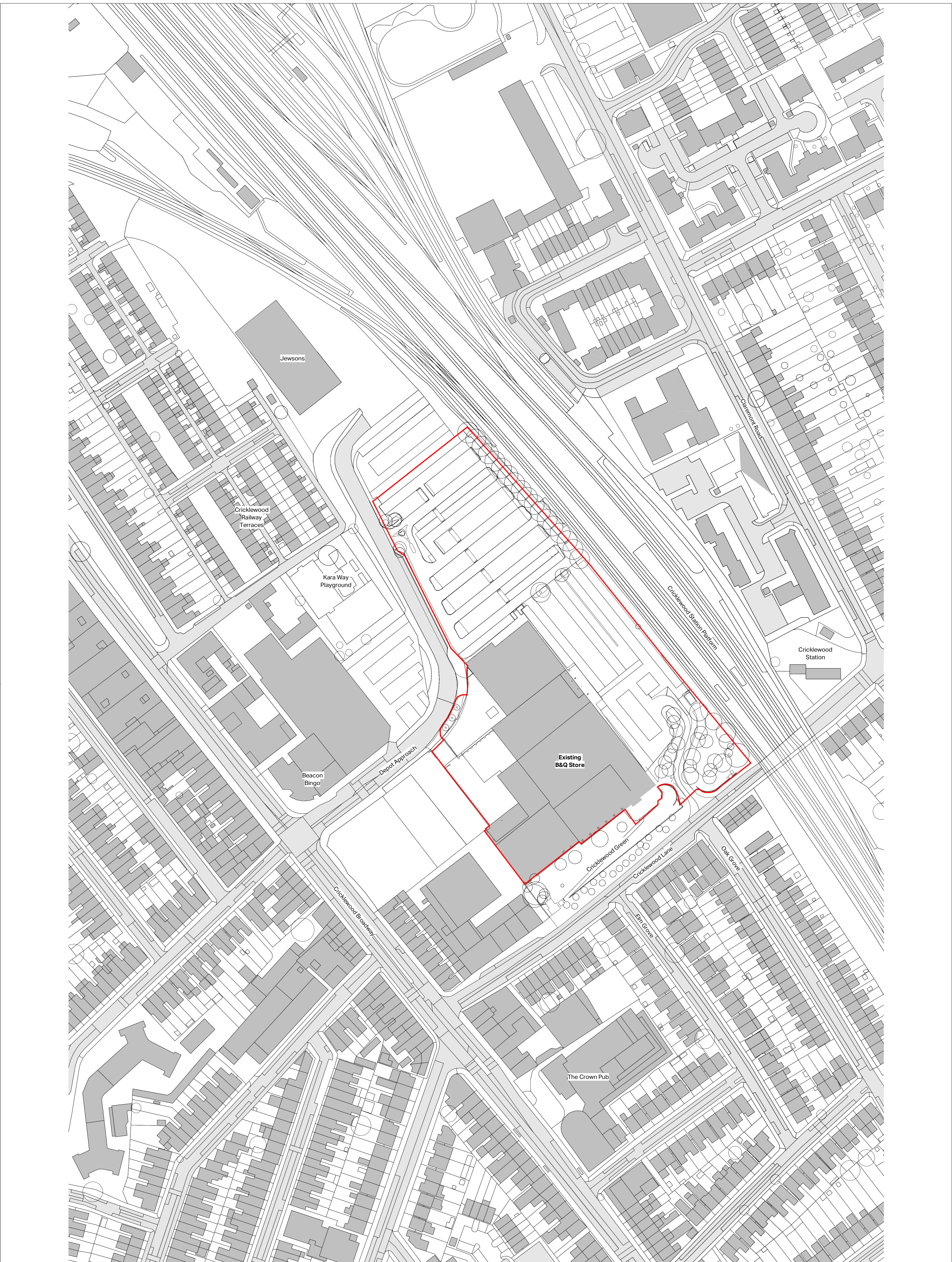
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B&Q Cricklewood Lane
 NW2 1ES

Illustrative Masterplan
 Ground Floor

Scale @A1	Status	Suitability	Revision
1:500	For Information	S2	P1

Project Code: 10965 - EPR - XX - GF - DR - A - TP-0200



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— Outline Application boundary

■ Existing building

■ Existing road

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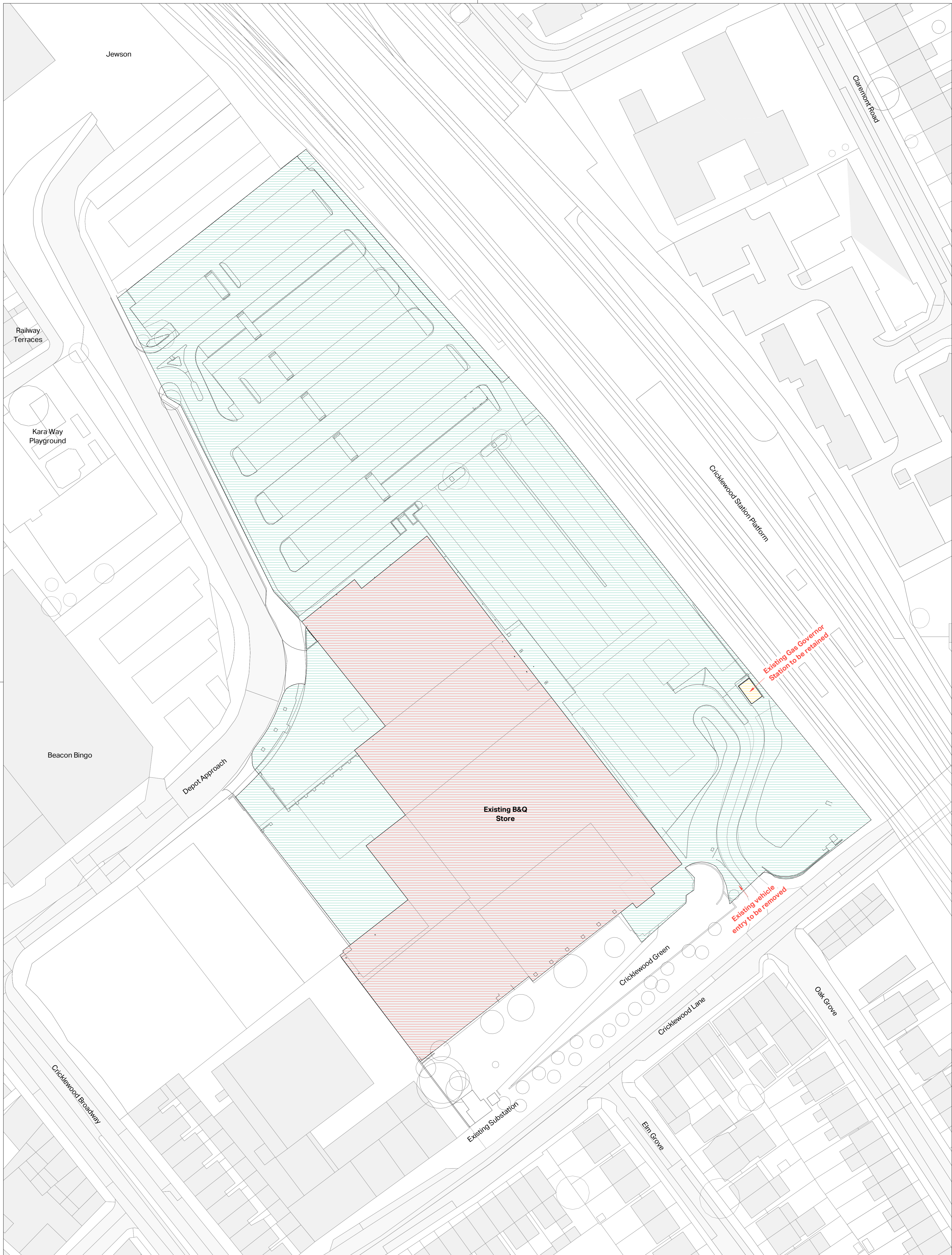
B&Q Cricklewood Lane NW2 1ES

Location Plan
 Outline Application Boundary

Scale @A1	Status	Suitability	Revision
1:1000	For Approval	S4	P1

Project Code: 10965 - EPR - XX - XX - DR - A - TP-0100

Project Code	Originator	Zone	Level	Type	Role	Class	Number
10965	EPR	XX	XX	DR	A	TP	0100



Jewson

Clarendon Road

Railway Terraces

Kara Way Playground

Cricklewood Station Platform

Existing Gas Governor Station to be retained

Beacon Bingo

Depot Approach

Existing B&Q Store

Existing vehicle entry to be removed

Cricklewood Green

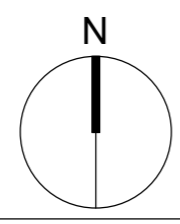
Oak Grove

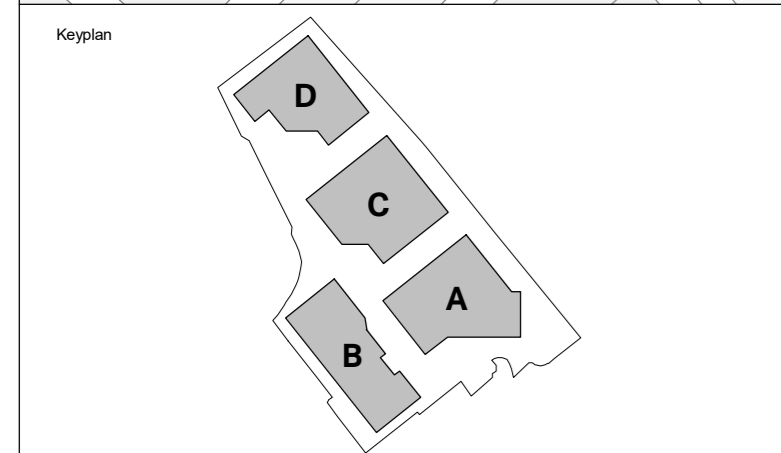
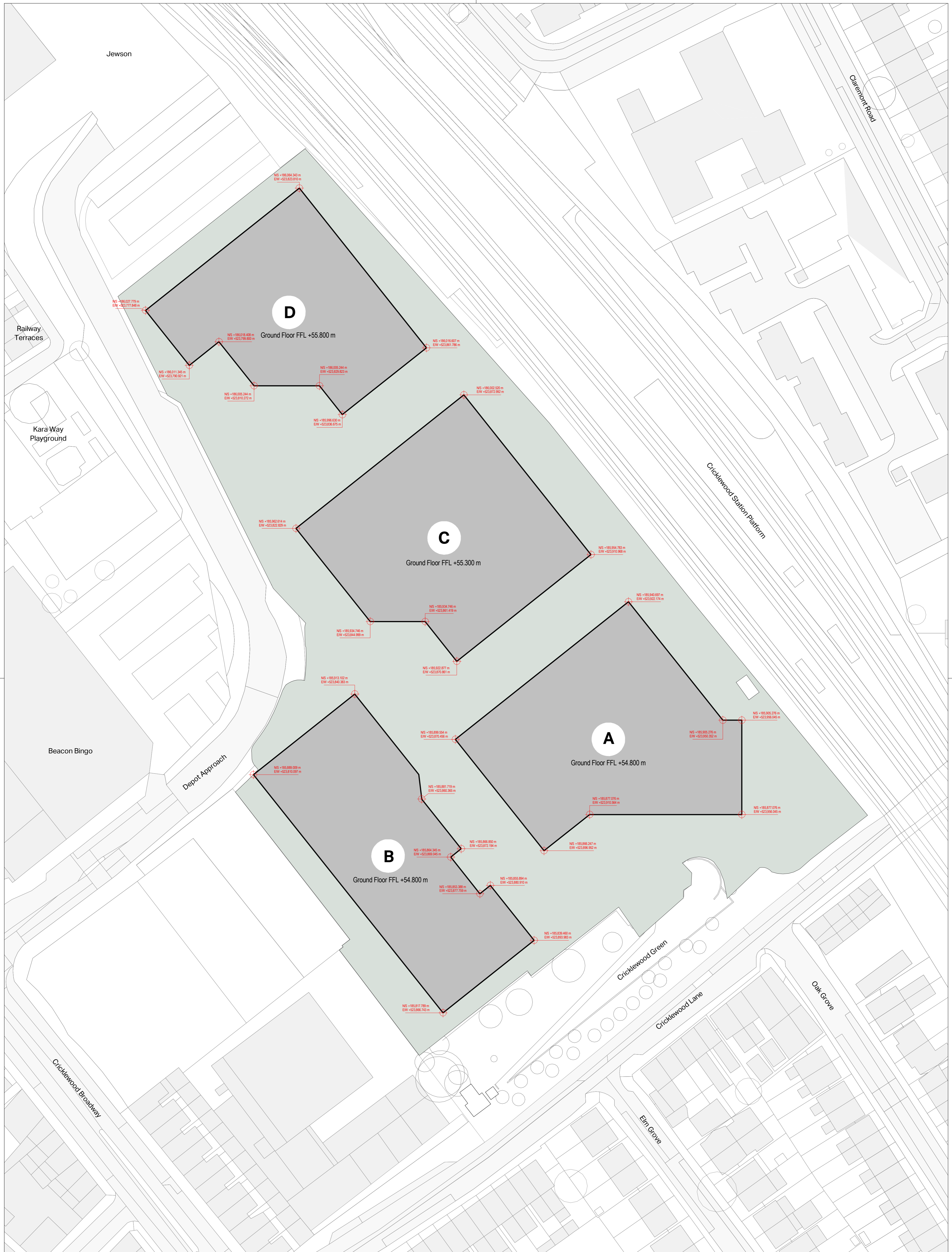
Cricklewood Lane

Elm Grove

Existing Substation

Cricklewood Broadway

<p>Keyplan</p>	<p>North</p> 	<p>Notes:</p> <ol style="list-style-type: none"> 1. Do not scale 2. Contractor to check all dimensions and report omissions and errors to the Architect 3. EPR Architects accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared 4. This drawing is issued in digital format as an uncontrolled version to enable the recipient to prepare their own documents/drawings/models for which they are solely responsible. This drawing is based on project information current at the time of issue. EPR Architects Limited accepts no liability for any alterations or additions to or discrepancies arising out of any change to such project information that occurs to the information after it is issued by EPR Architects Limited 5. This drawing does not contain shared coordinates and is not issued for coordination purposes. 	<table border="1"> <tr> <td>1</td> <td>For Approval</td> <td>2023</td> <td>SN</td> <td>JE</td> </tr> <tr> <td>No.</td> <td>Revision</td> <td>Date</td> <td>Initial</td> <td>Chk'd</td> </tr> </table>	1	For Approval	2023	SN	JE	No.	Revision	Date	Initial	Chk'd	<p>Legend:</p> <ul style="list-style-type: none"> Existing building to be retained Existing building to be removed Existing surface to be levelled and re-landscaped <p>NOTE:</p> <ul style="list-style-type: none"> All site boundaries and legal demises are indicative and shown for information only, based on desktop studies of land registry and record information, and are subject to survey and verification on site. 	<p>EPR Architects</p> <p>30 Millbank, London SW1P 4DU +44(0)20 7332 7000 www.epr.co.uk</p> <p>B&Q Cricklewood Lane NW2 1ES</p> <p>Parameter Plan Demolition</p> <table border="1"> <tr> <td>Scale @A1</td> <td>Status</td> <td>Suitability</td> <td>Revision</td> </tr> <tr> <td>1:500</td> <td>For Approval</td> <td>S4</td> <td>P1</td> </tr> <tr> <td>Project Code</td> <td>Originator</td> <td>Zone</td> <td>Level</td> </tr> <tr> <td>10965 - EPR - XX - XX - DR - A - TP-0101</td> <td></td> <td></td> <td></td> </tr> </table>	Scale @A1	Status	Suitability	Revision	1:500	For Approval	S4	P1	Project Code	Originator	Zone	Level	10965 - EPR - XX - XX - DR - A - TP-0101			
				1	For Approval	2023	SN	JE																							
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1:500	For Approval	S4	P1																												
Project Code	Originator	Zone	Level																												
10965 - EPR - XX - XX - DR - A - TP-0101																															



North

N

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Ground floor public realm, roads and infrastructure

Development Parcels including enhancement zone for balconies and defensible planting at ground floor

OS Northing and Easting coordinates

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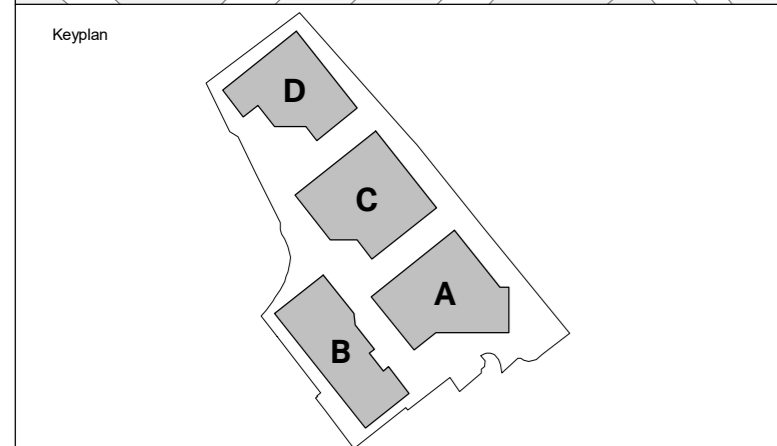
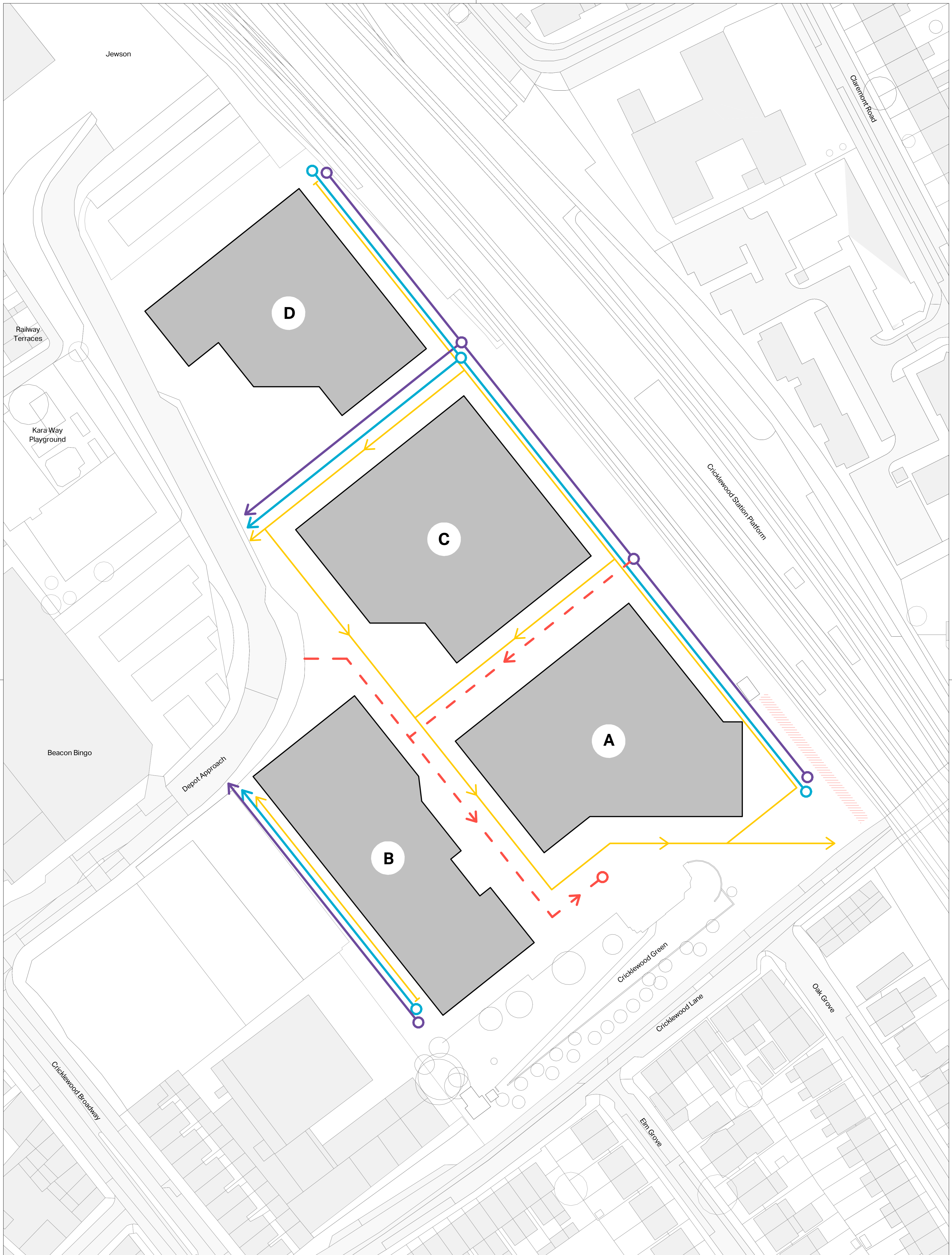
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Parameter Plan Development Parcels

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North

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Two way vehicular route	Development Parcels
Two way service route	Safeguarded zone for future pedestrian link to station
Two way emergency route	Turning head for non-service vehicles
Pedestrian / cycle route	Turning head for service and emergency vehicles

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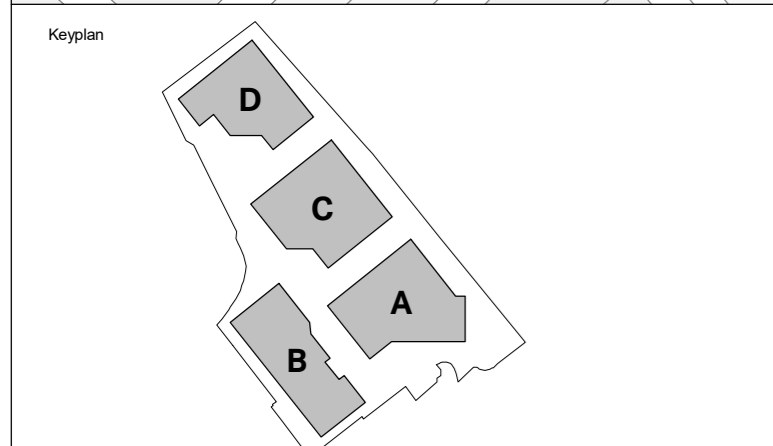
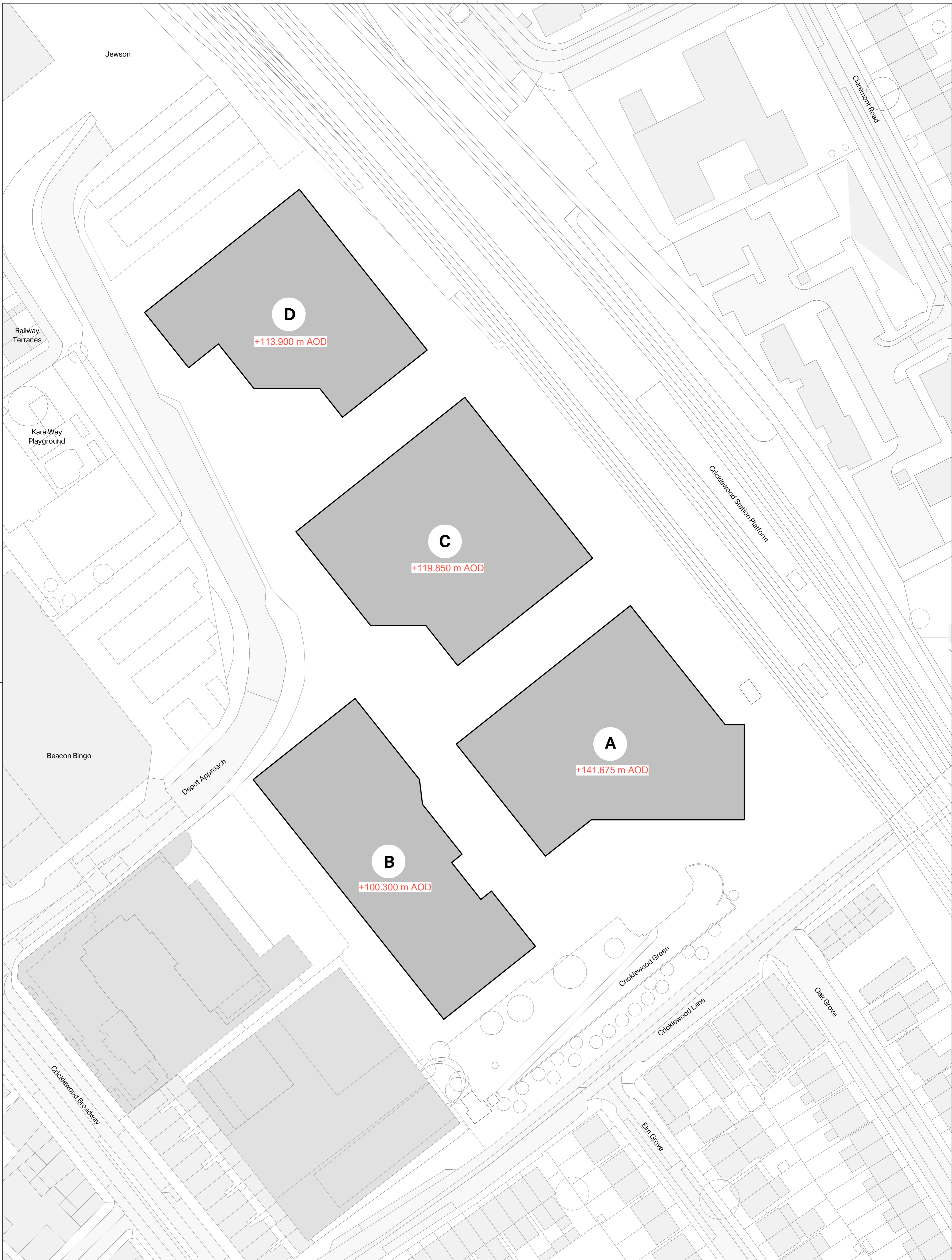
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Parameter Plan
Key Points of Access and Circulation

Scale	Status	Suitability	Revision
1:500	For Approval	S4	P1

Project Code: 10965 - EPR-XX-XX-DR-A-TP-0103



North

N

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Development Parcels including enhancement zone for balconies and defensible planting at ground floor

NOTE:

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- Ordnance Datum levels are used to define the maximum Development Heights expressed as a height above mean sea level (AOD).
- Maximum Development Heights have been measured from indicative ground floor levels of the specific Development Parcels as set out in Parameter Plan 10965-EPR-XX-XX-DR-A-TP-0102
- Maximum Development Heights are inclusive of parapets, other architectural features, lift/star overruns and/or plant.

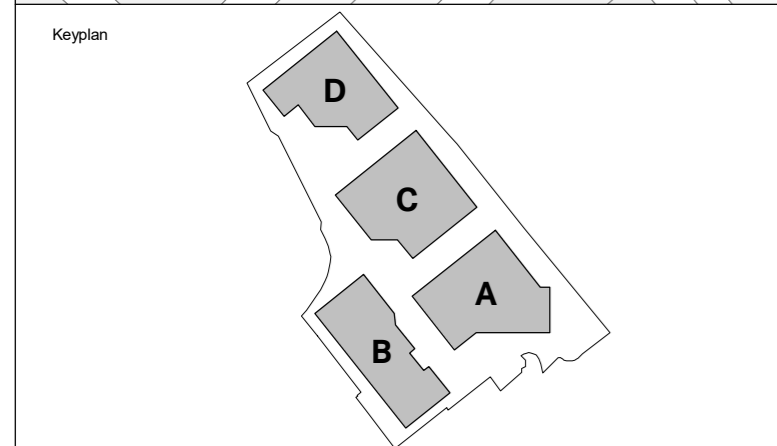
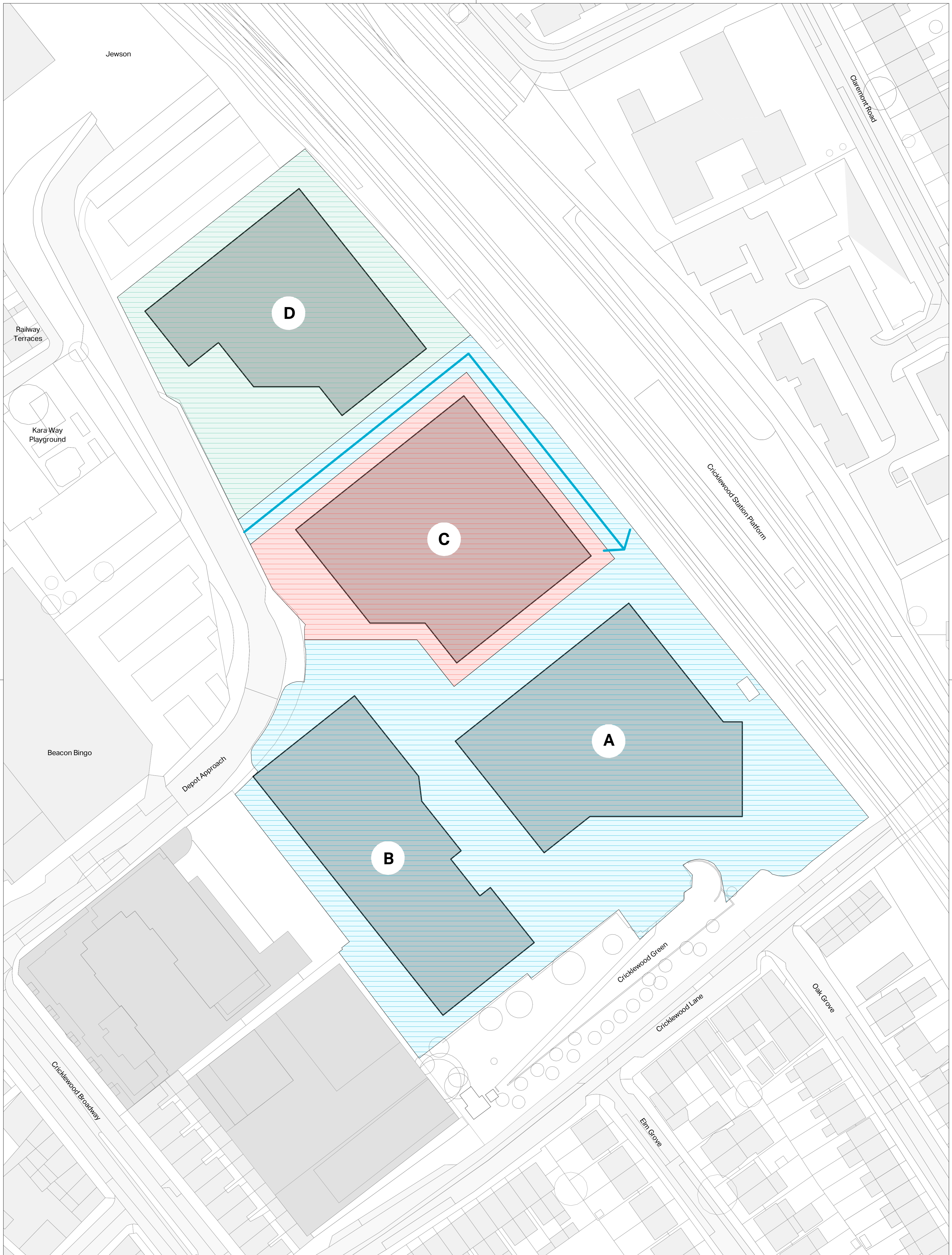
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Parameter Plan Development Heights

Scale @A1	Status	Suitability	Revision
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North

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Site and operational access required for Phase 1
 Phase 1 – Development Parcels A and B
 Phase 2 – Development Parcel C
 Phase 3 – Development Parcel D

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Parameter Plan Phasing

Scale	Status	Suitability	Revision
1:500	For Approval	S4	P1

Project Code: 10965 - EPR - XX - XX - DR - A - TP-0105



LEGEND

--- APPLICATION BOUNDARY

HARD SURFACES

- SURFACE TYPE 01 TYPICAL PAVING - SITE-WIDE
- SURFACE TYPE 02 TYPICAL PAVING - ACCENTED
- SURFACE TYPE 03 PERMEABLE PAVING
- SURFACE TYPE 04 SELF-BINDING GRAVEL
- SURFACE TYPE 05 WET POUR PLAY SURFACE
- SURFACE TYPE 06 CARRIAGEWAY PAVING
- SURFACE TYPE 07 RESIDENTIAL TERRACES

SOFT LANDSCAPE

- SPECIES RICH LAWN
- BIO-DIVERSE INGROUND PLANTING
- BIO-DIVERSE RAINGARDEN PLANTING
- PROPOSED SPECIMEN TREE
- EXISTING TREE TO BE RETAINED

INDICATIVE FURNITURE

- TIMBER SEAT
- RECLINER SEAT
- PICNIC TABLE
- CYCLE STAND
- 'SHEFFIELD' CYCLE STAND
- SUPPLIER: CYCLEHOCKP

PLAY MATERIALS AND STRUCTURES ARE SHOWN AS INDICATIVE ONLY.

AREA FOR BIN PRESENTATION



EXTERIOR ARCHITECTURE

LONDON
Unit 17.1, The Leather Market, 11-13 Weston Street, London, SE1 3ER

MANCHESTER
Studio 537, The Royal Exchange, St Anns Square, Manchester, M2 7DH

E-MAIL office@exteriorarchitecture.com
WEB www.exteriorarchitecture.com

Client
MONTREAUX

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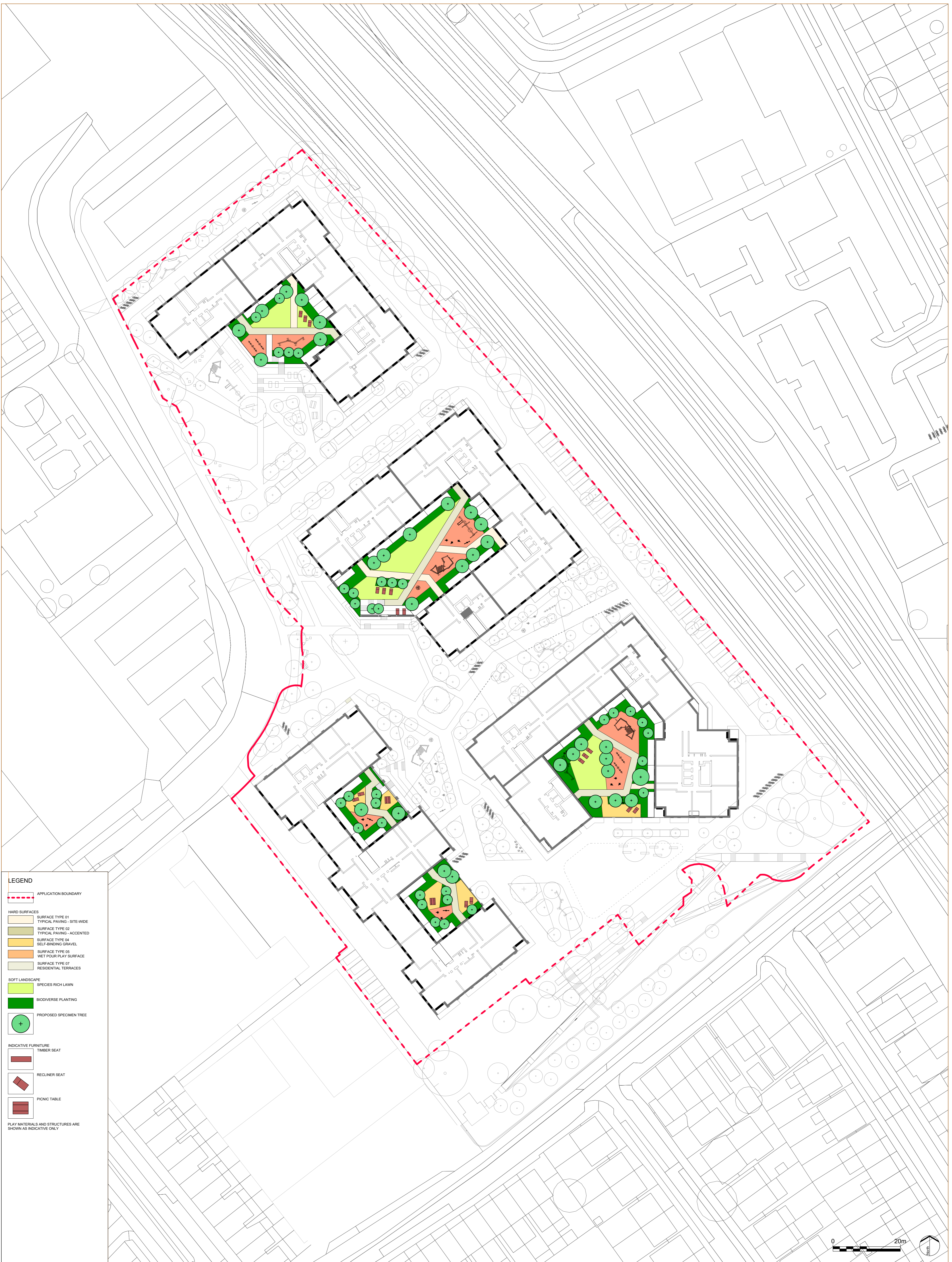
Rev	Description	Date
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D	FOR INFORMATION	30.07.2020
C	FOR INFORMATION	15.07.2020
B	FOR INFORMATION	08.07.2020
A	FOR INFORMATION	11.06.2020
-	DRAFT - FOR INFORMATION	13.12.2019

Project title
Cricklewood Lane

Drawing title
GENERAL ARRANGEMENT PLAN - GROUND FLOOR

Issued By London	Scale 1:500 @ A1	T: 020 7978 2101
Status FOR INFORMATION	Date 13.12.2019	Drawn ExA
		Checked HS
		Approved SM
Drawing number ExA_1939_100	Revision D	

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LEGEND

--- APPLICATION BOUNDARY

HARD SURFACES

- SURFACE TYPE 01 TYPICAL PAVING - SITE-WIDE
- SURFACE TYPE 02 TYPICAL PAVING - ACCENTED
- SURFACE TYPE 04 SELF-BINDING GRAVEL
- SURFACE TYPE 05 WET FOUR-PLAY SURFACE
- SURFACE TYPE 07 RESIDENTIAL TERRACES

SOFT LANDSCAPE

- SPECIES RICH LAWN
- BIO-DIVERSE PLANTING
- PROPOSED SPECIMEN TREE

INDICATIVE FURNITURE

- TIMBER SEAT
- RECLINER SEAT
- PICNIC TABLE

PLAY MATERIALS AND STRUCTURES ARE SHOWN AS INDICATIVE ONLY



EXTERIOR ARCHITECTURE

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Unit 17.1, The Leather Market, 11-13 Weston Street, London, SE1 3ER

MANCHESTER
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WEB www.exteriorarchitecture.com

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Rev	Description	Date
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B	FOR INFORMATION	17.07.2020
A	FOR INFORMATION	11.06.2020
-	DRAFT - FOR INFORMATION	13.12.2019

Project title
Cricklewood Lane

Drawing title
**GENERAL ARRANGEMENT PLAN -
PODIUM LEVEL**

Issued By London	Scale 1:500 @ A1	T: 020 7978 2101
Status FOR INFORMATION	Date 13.12.2019	Drawn ExA
		Checked HS
		Approved SM
Drawing number ExA_1939_101		Revision C

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LEGEND

- APPLICATION BOUNDARY
- HARD SURFACES**
 - SURFACE TYPE 01 TYPICAL PAVING - SITE-WIDE
 - SURFACE TYPE 04 SELF-BINDING GRAVEL
 - SURFACE TYPE 05 WET POUR PLAY SURFACE
- SOFT LANDSCAPE**
 - SPECIES RICH LAWN
 - BIO-DIVERSE PLANTING
 - BIO-DIVERSE GREEN ROOF
 - PROPOSED SPECIMEN TREE
 - SELF GROW BED
- INDICATIVE FURNITURE**
 - TIMBER SEAT
 - RECLINER SEAT
 - PICNIC TABLE
 - PERGOLA
- PLAY MATERIALS AND STRUCTURES ARE SHOWN AS INDICATIVE ONLY



EXTERIOR ARCHITECTURE

LONDON
Unit 17.1, The Leather Market, 11-13 Weston Street, London, SE1 3ER

MANCHESTER
Studio 537, The Royal Exchange, St Anns Square, Manchester, M2 7DH

E-MAIL office@exteriorarchitecture.com
WEB www.exteriorarchitecture.com

Client
MONTREAUX

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All dimensions are to be checked on site.
Area measurements for indicative purposes only.

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Rev	Description	Date
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C	FOR INFORMATION	30.07.2020
B	FOR INFORMATION	15.07.2020
A	FOR INFORMATION	11.06.2020
-	DRAFT - FOR INFORMATION	13.12.2019

Project title
Cricklewood Lane

Drawing title
GENERAL ARRANGEMENT PLAN - ROOF LEVEL

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