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Trowbridge Leisure Centre

Drainage Strategy Report

For *Pellikaan Construction Ltd*

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Issued by	Hydrock Consultants Limited Merchants House North Wapping Road Bristol BS1 4RW United Kingdom	T +44 (0)117 9459225 E bristolcentral@hydrock.com www.hydrock.com
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Checked by		Jason Magee
Approved by		Alastair Todd

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1. Introduction

1.1 Scope of The Report

Hydrock have been appointed by Pellikaan Construction Ltd to provide a Drainage Strategy report for the approval of Wiltshire Council Lead Local Flood Authority.

The proposed drainage strategy will be in accordance with national guidelines and will incorporate a 'best practise' approach in reducing the impact of the flooding caused by the new development.

The report is based upon sewer asset information provided by Wessex Water in relation to assets within the vicinity of the development site.

The report highlights the key stakeholders in terms of ownership and maintenance to ensure the drainage system is kept well maintained and reduce the risk of failure. Should the network fail at any point, clearly defined ownership liabilities will ensure that problems can quickly be rectified, thereby reducing the impact of potential damage caused by flooding.

1.2 Limitations of The Report

This report has been prepared in connection with the scope as described above and considers the instructions and requirements of the client's needs. It is not intended for and should not be relied upon by any third party.

The information received is summarised within this report. In the event the information is relied upon and is subsequently found to be incorrect, Hydrock Consultants accepts no responsibility for any direct and/or consequential loss that may occur as a result.

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1.3 References / Design Codes

- BS EN 752 - Drain and Sewer Systems Outside Buildings.
- Building Regulations Approved Document Part H - Drainage and waste disposals.
- Sewers for Adoption (where applicable).
- Local Authority Guidance.
- CIRIA C753 - SuDS Manual.
- National Planning Policy Framework (NPPF).
- DEFRA Non-Statutory Technical Standards for Sustainable Drainage.

2. Site Information

2.1 Site Location

The site is located in the centre of Trowbridge, Wiltshire, between Bythesea Road and the River Biss. Currently the site is made up primarily of asphalt car park with occasional areas of vegetation.

Table 2.1: Site Referencing Information

Site Address	
Address	Land at Bythesea Road, Trowbridge, Wiltshire
Postcode	BA14 8XR
National Grid Reference	ST 85469 57688

Figure 1: Site Location with Approximate Boundary



2.2 Site Topography

The site slopes from Bythesea Road east towards the River Biss. The high point of the site is 38.50mAOD at the back of footpath to the road and slopes at a fairly consistent slope to the river where the top of bank sits at around 35.50mAOD

See **Appendix A** for Topographical Survey

2.3 Geology

See below extract from 31436-HYD-XX-XX-RP-GE-1001:

Made Ground over;

Superficial: Alluvium

Solid: Kellaways Formation, Cornbrash Formation and Forest Marble Formation

A Faultline runs through the centre of the site trending east-west

2.4 Hydrology & Hydrogeology

See below extract from 31436-HYD-XX-XX-RP-GE-1001:

The superficial Alluvium is classified as a Secondary A aquifer. The bedrock Kellaways formation is classified as unproductive strata. The bedrock Cornbrash Formation and Forest Marble Formation are both classified as Secondary A Aquifers. The aquifers on site are generally considered to be of medium to high vulnerability. No groundwater abstractions are within km of the site.

It is considered likely that the groundwater is in continuity with the River Biss

See Ground Investigation Report 31436-HYD-XX-XX-RP-GE-1001 for additional information.

2.5 Fluvial Flood Risk

Fluvial flood risk is the risk of flooding from the overbank flow of rivers and watercourses.

Within England, the risk of fluvial flooding is defined by Flood Zones (FZs) which indicate the potential extent of flooding for a given Annual Exceedance Probability (i.e., the potential for of an occurrence within any one year (AEP)) without considering the benefits from flood defences, other manmade structures, or channel improvement works.

The EA Flood Map for Planning indicates that the site is primarily located within Flood Zone 2 and is therefore considered to be at medium risk (1-0.1% AEP) of fluvial flooding (see figure 2). In addition, the site does not benefit from flood defences.

See Flood Risk Assessment Report 31436-HYD-XX-XX-RP-WENV-0001 for additional information

Figure 2: EA Flood Map for Fluvial Flooding



Table 2.2: Flood Zones Probability of Flooding

NPPF - Flood Zones		
Flood Zone 1	Low Probability	Less than 1 in 1000 (< 0.1%) chance of flooding occurring each year
Flood Zone 2	Medium Probability	Between 1 in 100 and 1 in 1000 (1% - 0.1%) chance of flooding occurring each year
Flood Zone 3a	High Probability	Greater than 1 in 100 (> 1%) chance of flooding occurring each year
Flood Zone 3b	Functional Floodplain	Land where water *has* to be stored in times of flood

2.6 Proposed Development

The brief is for a new leisure centre in Trowbridge. The centre is to be commissioned by Alliance Leisure and operated by client Wiltshire Council. The leisure centre is to replace an existing facility elsewhere in the town and will serve as the main local facility in the area.

The building tightly occupies the western corner of the site available, nestling close to site boundaries on three sides, including a neighbouring building to the north. The remainder of the site will remain/become a car park to serve the leisure centre. This will be extensively landscaped with the addition of meadows, swales, raingardens and trees to greatly improve the public realm.

See **Appendix B** for Architect's Proposed Site Layout.

3. Pre-Development Surface Water Management Strategy

3.1 Existing Surface Water Drainage Network

3.1.1 Existing Public Drainage

Review of Wessex Water's sewer asset maps confirm that a public 975mm foul water sewer crosses the site, oriented northwest/southeast passing to the east of the existing substation. The exact position of the sewer across the northern section of site has been confirmed from topographical surveying of manhole positions. There is a standard 6m easement from the outer face of this culvert, as confirmed by Wessex Water

A 875mm surface water culvert crosses the site, oriented northwest/southeast running parallel and proximal to the foul sewer. This discharges north of the site boundary forming a tributary to the River Biss, A 6m easement exists to this culvert but applies primarily to the addition structures within its bounds, most other civils works are acceptable to the LLFA who retain responsibility for the structure.

From Wessex Water mapping public 450mm foul and unidentified surface water sewer crosses the site oriented northwest/southeast close to the eastern site boundary. It is understood that this comprises a 450mm surface water sewer with a foul sewer concreted at its base. Further investigation is required to determine the extents and location of these sewers beyond where it is accessible from one manhole. There is a standard 6m easement from the outer face of this culvert, as confirmed by Wessex Water

A site wide CCTV survey was carried out to determine condition and position of existing drainage that is proposed to be re-used in this scheme.

See **Appendix C** for the Sewer Asset Map.

3.1.2 Existing Private Drainage

Utilities and surveys of the site were undertaken in November 2007 and CCTV surveys of specific pipes was carried out in 2024.

These surveys identified that a number of 150mm diameter pipes discharge to the culverted watercourse along its length. Additionally, a 225mm diameter pipe discharges direct to the river to the east of the site.

There is a 100mm diameter connection to the foul sewer manhole that will sit closest to the eastern corner of the proposed building.

These pipes served the buildings on site before their demolition and continue to serve the car park area.

See **Appendix D** for Existing Drainage Layout.

3.2 Pre-Development Surface Water Catchment Areas

Due to the planning boundary expanding to include a large area for the benefit of transport and highways elements of the development it has been concluded that a revised boundary line be used for the purposes of the drainage design. This boundary line encompasses all areas of the site where development will take place and therefore an increase or decrease in hard or soft landscaping. The below table is a summary of areas within this smaller proposed site boundary, the extents of which can be seen on drawings in Appendix E

Table 3.1: Pre-Development Catchment Areas

Catchment	Area (m^2)
Impermeable	
Roads / Hardstanding	12295
Permeable	
Soft Landscaping	1444
Total Area	13739

See **Appendix E** for Pre-Development Catchment Plans.

3.3 Pre-Development Surface Water Run-Off Rates

In order to determine the post-development surface water flows, an assessment has been carried out on the pre-development to ensure that the run-off from the new development will not adversely affect flood risk either within the site boundary, offsite adjacent properties, or the downstream network. This run-off will be limited by the existing greenfield or brownfield run-off rates, as explained below:

3.3.1 Greenfield Run-Off Rates

In line with the Non-Statutory Technical Standard for Sustainable Drainage S2 (Peak Flow Control) it is a requirement that, on new developments, consideration is to be given to limit discharge as close as reasonably practical to the equivalent 'Greenfield' rate for the corresponding storm event. Below considers what the maximum surface water discharge from the site would be if the site was 'Greenfield' i.e., not developed:

Table 3.2: Pre-Development Greenfield Run-Off Rates

Storm Event	Maximum Run-Off Rate (l/s) Greenfield
Q1 Year (1 in 1 Year)	5.37
Q30 Year (1 in 30 Year)	13.43
Q100 Year (1 in 100 Year)	16.74
Qbar	6.89

See **Appendix F** for Calculations.

3.3.2 Brownfield Run-Off Rates

In line with the Non-Statutory Technical Standard for Sustainable Drainage S3 (Peak Flow Control), should the site not be suitable to discharge as close as reasonably practical to the equivalent 'Greenfield' rate, Brownfield should be considered with a % betterment on the flow. The following considers what the maximum surface water discharge from the site would be if the site was 'Brownfield' i.e., developed:

The following parameters were used to calculate the Brownfield Run-Off from the site:

Qp (l/s) = 2.78CiA.

Where:

Qp = discharge rate

C = Coefficient where C = Cv x Cr (Cv = volumetric coefficient & Cr = routing coefficient) C = 0.9 x 1.3

i = mean rainfall intensity (mm/hr)

A = Area (ha) drained hard surfaces (see Table 3.1)

Below summaries the calculated Brownfield Run-Off Rates for the site for the 1 in 1year, 1 in 30year, 1 in 100year and 1 in 100year + 25% Climate Change events for the 15min storm:

Table 3.3: Pre-Development Brownfield Run-Off Rates

Storm Event	Mean Rainfall Intensity (mm/hr) 15min Storm	Brownfield Run-Off Rate (l/s)
Q1 Year (1 in 1 Year)	32	143
Q30 Year (1 in 30 Year)	78	349
Q100 Year (1 in 100 Year)	101	451
Q100 + 25% Climate Change	142	635

3.3.3 *Capacity of Existing Drainage System/ Connection Point*

Further assessment has been carried out to determine the capacity of the connection point and its potential for re-use as part of the surface water drainage strategy for the new development:

Table 3.4: Connection Point Capacity

Reference	Pipe Diameter (mm)	Length (m)	Gradient	Capacity (l/s)
Discharge Location A	150	6.12	1:20	39.13
Discharge Location C	225	9.37	1:100 (assumed)	51.91

The capacity values have been taken from 'Tables for hydraulic design of pipes, sewers and channels' HR Wallingford and D.I.H Barr. The Ks roughness value has been assumed as 1.50 for existing pipes.

3.4 Pre-Development Flood Exceedance

Topographical survey information indicates that, should the existing drainage network fail or otherwise have its capacity exceeded, overland flows would follow the site topography and be directed towards east towards the River Biss.

See **Appendix G** for drawing

4. Surface Water Management and SuDS Assessment

4.1 Run-off Destinations

An appraisal should be undertaken to confirm the most suitable and sustainable method for managing surface water runoff from the development in accordance with the following hierarchy as highlighted in Part H of Building Regulations and the National Planning Policy Framework (NPPF):

1. Infiltration to the ground using a sustainable drainage system.
2. If this is not feasible, discharge to a watercourse or river; generally, at a controlled rate unless it does not affect flood risk e.g., if to the sea or an estuary.
3. Discharge at a controlled rate to a surface water sewer or drain.
4. Discharge at a controlled rate to a combined sewer system, with the approval from the Water Authority.
5. Only if the above have all been investigated and it has been proved that none of these options are suitable will discharge at a controlled rate to a foul sewer system, with the approval from the Water Authority.

The discharge of surface water run-off has been considered in accordance with the hierarchical approach:

Table 4.1: Review of the Drainage Hierarchy

Method	Reasoning	Suitability
Interception / Reuse	Not considered suitable in a public leisure centre	X
Infiltration	High ground water, extensive made ground and poor infiltration rates make this unfeasible	X
Surface Water Body	Discharge to culverted watercourse and River Biss	✓
Surface Water Sewer	No suitable surface water sewers on site	X
Combined Sewer	No combined sewers on site	X
Foul Water Sewer	More preferable method of discharge to be achieved	X

4.2 SuDS Assessment

4.2.1 Overview of SuDS

The design of the surface water drainage system should seek to implement and maximise the use of Sustainable Drainage Systems (SuDS) where possible.

The primary purpose of a SuDS system is to manage surface water run-off within a development via mimicking natural methods, attenuating additional water volume generated by the introduction of impermeable areas whilst providing a degree of water treatment to run-off alongside amenity and biodiversity benefits to the local community.

The suitability and benefits of the various potential SuDS systems for the proposed development should be considered, which will aim to maximise the 4 pillars of SuDS:

- Water Quantity (Controlling runoff);
- Water Quality (Managing quality of runoff);
- Amenity (Create and sustain better places for people);
- Biodiversity (Create and sustain better places for nature).

The implementation of SuDS can be divided into the management of sources and of the wider site and even region, with preference given to source control.

4.2.2 *Suitability of SuDS Elements*

The drainage design should adopt the principles of SuDS where appropriate taking into consideration the site context and location. The principals of SuDS are that they should be designed to maximise the opportunities and benefits that can be secured surface water run-off management in terms of quality, quantity, flood risk, and amenity. The implementation and selection of SuDS techniques is largely dependent on the site layout and context. Some SuDS techniques may be more appropriate than others.

The suitability of SuDS components has been assessed as follows:

Table 4.2: Suitability of SuDS Components

Hierarchy	System	Description	Suitability
Source Control	Green Roofs 	A planted soil layer on the roof of a building: stores water in the soil layer to be absorbed by vegetation. Reduces runoff and treats pollutants.	Conflicts with plant and PV requirements
	Rainwater Harvesting 	Rainwater is collected from the roof of a building or from other paved surfaces and stored in an over ground or underground tank for treatment and reuse locally.	Not considered as appropriate in a public leisure centre
	Permeable Surfaces 	Surfaces that allow water to penetrate into underlying layers to be stored, collected or made to infiltrate to groundwater.	No. Due to easements and solar car ports over spaces permeable paving has been deemed unsuitable.
	Bioretention Area 	A vegetated area with gravel and sand layers below designated to channel, filter and cleanse water vertically, to then be stored, collected or made to infiltrate to groundwater.	Yes. Some areas of road will drain to filter pipes in vegetated areas around trees.
Hierarchy	**System**	**Description**	**Suitability**
Site and Regional Control	Filter Strip	Grassed or planted areas that runoff is allowed to run across to promote infiltration and cleansing.	Yes Larger pedestrian areas

		will drain to filter strips
Soakaway 	A soakaway is designed to allow water to quickly soak into permeable layers of soil. Constructed like a dry well, an underground pit is dug filled with gravel or rubble. Water can be piped to a soakaway where it will be stored and allowed to gradually seep into the ground.	Not suitable on this site.
Swale 	Shallow depressions to convey and filter water. May be 'wet' with above ground attenuation or 'dry' with a gravel layer. Can be made to infiltrate to groundwater.	To be used as conveyance for flows from car park areas.
Hardscape Storage 	Hardscape water features can be used to store run-off above ground within a constructed container. Storage features can be integrated into public realm areas with a more urban character.	Not to be used on site.
Pond / Basin 	Store and treat water. Ponds have a level of standing water whereas basins are generally dry. Can be made to infiltrate to groundwater.	Yes. An area designated as a raingarden will be used to attenuate flows.
Wetland 	Wetlands are shallow vegetated water bodies with a varying water level. Specially selected plant species are used to filter water. Water flows horizontally and is gradually treated before being discharged. Wetlands can be integrated with a natural or hardscape environment.	No. Public realm and parking space requirement does not allow space for wetlands.
Underground Storage 	Water can be stored in tanks, gravel or plastic crates beneath the ground to provide attenuation.	Yes. Western catchment will be attenuated before discharge to culverted watercourse.

4.2.3 Interception Storage

Interception can be defined as the capture and retention on site of the first 5mm of the majority of all rainfall events. Interception mechanisms have been assessed to show the site is compliant for zero run-off from the first 5mm for 80% of events during the summer and 50% in winter. (Ciria)

Table 4.3: Interception Storage Systems

System	Reasoning	
Green Roofs	All surfaces that have green / blue roofs	X
Rainwater Harvesting	All surfaces drained to RWH systems designed whether for surface water management or just water supply, provided the RWH system design is based on regular daily demand for non-potable water	X
Soakaways / Infiltration	Areas of the site drained to systems that are designed to infiltrate run-off for events greater than a 1 month return period.	X
Permeable Pavements	All permeable pavements, whether lined or not, can be assumed to comply, provided there is no extra area drained to the permeable pavement.	X
Filter Strips / Swales	Roads drained by filters strips / swales, where the longitudinal gradient of the vegetated area is less than 1:100, are suitable for interception delivery for impermeable areas up to 5 times the base of the vegetated surface area receiving the runoff.	✓
Infiltration Trenches	Roads drained by infiltration trenches can be considered to provide interception	X
Detention Basins	Areas of the site drainage to detention basin with a flat base can be assumed to comply. The area of the basin that is assumed to contribute to interception of run-off should be below the outlet of the basin.	✓
Bioretention / Rain Gardens	Areas of the site drainage to unlined bioretention components can be assume to comply where the impermeable area is less than 5 times the vegetated surface area receiving run-off/ They can be designed to deliver interception for larger areas, where suitable infiltration capacity is available.	✓
Ponds	Areas drained by ponds (with a permanent water pool that is effectively maintained by the outlet structure) are not assumed to deliver interception	X

5. Post-Development Surface Water Management Strategy

5.1 Proposed Surface Water Drainage Strategy

The site is to discharge to two locations. This strategy is proposed due to constraints with the large sewer/culvert that cross through the middle of the site and their associated easements restricting drainage installation. Additionally, due to the site slope, areas closer to the River Biss will not be able to discharge to main discharge location.

To the west of the public sewer/culvert, below ground surface drainage system will connect all new rainwater pipes, car ports and swales to be discharged through a flow control manhole to the main **Discharge Location 1**. An attenuation tank located outside sewer easements and beneath the car park will be used to attenuate flows held back by the flow control.

In this western catchment no treatment is considered necessary from roof run-off, but surface run-off within the car park will utilise gully catch pits and sumps to provide treatment to flows. Car parking areas are primarily covered by car ports and so risk of pollutant mobilisation is considered minimal.

To the east of the sewer/culvert, flows will directed to a second location. Due to restrictions in place with public sewer easements and connection inverts there is limited space to attenuate flows and therefore beyond what can be achieved by raingardens, swales and tree pits it is proposed that flows are not attenuated. Parking aisles and bays that sit above and to the east of the eastern public sewer, must all be collected using channel drains and gullies due to restrictions using SuDS within easement zones. Final treatment of this runoff will be achieved using a vortex separator to prevent pollutants from entering the

Where applicable, the surface water management strategy has incorporated the recommendations of the 'Non-Technical Standards for Sustainable Drainage' and general 'good practice' in terms of providing a Sustainable Drainage System (SuDS) that does not adversely impact flood risk either within the site or beyond the development boundary.

5.2 Post-Development Surface Water Catchment Areas

Below is an indication of the post-development catchment type area.

Table 5.1: Post-Development Catchment Areas

Catchment	**Area** (m^2)		
Impermeable	Area A (Discharge Location 1)	Area B (Discharge Location 2)	Area C Self-draining (Hoggin and Landscaping
Building / Roof	3331	255	0
Roads / Hardstanding	1230	2872	0
Permeable			
Soft Landscaping	1755	1056	416
Total Area	6316	4183	416

5.3 Post-Development Surface Water Run-Off Rates

In order to determine the post-development surface water flows an assessment has been carried out to ensure that the flows from the new development will not adversely affect flood risk either within the site boundary, offsite adjacent properties, or the downstream network:

5.3.1 Greenfield Run-Off Rates

In line with the Non-Statutory Technical Standard for Sustainable Drainage S2 Cont. Peak Flow Control), due to restrictions on site imposed by sewer easements and high groundwater, it is considered unfeasible for this site to reduce to Greenfield Run-off Rates for the entire site; therefore, it is proposed to restrict flows west of the sewers to the equivalent greenfield runoff rate and leave those to the east unrestricted, but treated, either through SuDS or filtration. This will mean that there is a considerable betterment over existing flows.

5.3.2 Brownfield Run-Off Rates

In line with the Non-Statutory Technical Standard for Sustainable Drainage S3 Cont. (Peak Flow Control) previously developed Brownfield sites should therefore:

1. Aim to reduce the discharge to as close to the greenfield rate as possible.
2. Seek improvement on pre-development rate.
3. Peak rate of runoff reduced by 50% of value of pre-development rate.
4. Discharged volume minimised.

Therefore, using the pre-development Brownfield Run-off Rate, a betterment has been calculated reducing the western catchment to Qbar (3l/s) while not restricting rates in the eastern catchments.

Table 5.2: Capacity Check

Storm Event	Brownfield Run-off Rate (l/s)	Run-off Rate betterment restricted to Qbar (3 l/s)	Brownfield Run-off Rate (l/s)	Run-off Rate betterment achieved from drainage calculation results	Site wide betterment
	Area A		Area B		
1 in 1 Year	66	95.5%	43	42%	69%
1 in 30 Year	160	98.1%	106	41%	70%
1 in 100 Year	207	98.6%	137	31%	65%

5.3.3 *Allowance for Climate Change and Urban Creep*

In accordance with EA guidance, an allowance for climate change has been incorporated into the design to ensure that the proposed surface water network has a suitable degree of resilience. These allowances vary with the expected lifetime of the development.

Urban Creep Factor (UCF) is defined as any increase in the impervious area that is drained to an existing drainage system without planning permission being required, such as the construction of patios, small extensions, etc.

Due to the nature of this project and pressure put on local authorities around the subject of green space in the public realm, it is considered very unlikely that additional hardstand will be added on site in the future.

5.4 Post-Development Surface Water Volumes

In line with the Non-Statutory Technical Standard for Sustainable Drainage S4 & S5 (Volume Control), where reasonably practicable, for Brownfield developments the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6-hour rainfall event should never exceed the Brownfield Run-Off Volume for the same event.

It is noted that the proposed development has more areas of green open space compared to the pre-development situation, therefore the volume of runoff from the post-development will be less than the current Brownfield site. The proposed SuDS treatment train for the site includes swales, raingardens and filter trenches which further assists in reducing the peak volume of runoff discharging from the site. Decrease in impermeable area as indicated below:

Pre-Development Catchment Area (ha)	Post-Development Catchment Area (ha)	-/+ (m²)	Betterment (%)
1.230	0.7623	-4677	39%

5.4.1 *Post-Development Surface Water Storage*

In line with the Non-Statutory Technical Standard for Sustainable Drainage S7 & S8 (Flood Risk), all storm events up to and including the 1 in 30 AEP storm event will be retained within the proposed surface water drainage network and exceedance volumes from all other storm events up to and including the 1 in 100 AEP plus 25% allowance for climate change will be retained within the site and managed to minimise the risk to people and property.

Attenuation flood storage will be distributed across the development with swales, crates and permeable sub-base attenuating the western catchment at source. Swales, raingardens and permeable sub-base will attenuate the eastern catchment at source. In the event that one part of the system fails through blockage the remainder of the system will still be able to function effectively.

5.5 Post-Development Flood Exceedance

In line with the Non-Statutory Technical Standard for Sustainable Drainage S9 (Flood Risk), in the event that there is a failure of the surface water drainage network beyond the design storm or through other circumstances, exceedance flows will be directed away from buildings and other critical infrastructure such as the substation. All exceedance flows will follow paths that ultimately lead to the River Biss.

See **Appendix G** for Overland Flow Routes

5.6 Summary of Post-Development Flows

It has been determined that the post-development surface water flow rates have been restricted in the western catchment to Qbar rate of runoff. Eastern catchments discharge unrestricted beyond what SuDS and pipe diameters can achieve, this achieves a reduction of an average of 63% in runoff rate. Site wide a betterment of 79% is achieved in runoff rates. This is in accordance with national guidelines and non-statutory technical standards so as to not adversely impact downstream flooding of the site as a result of the new development.

See **Appendix H** for the Drainage Strategy Layout.

5.7 Water Quality

Consideration must be given both during construction and post-development to ensure that water quality is not negatively impacted.

Table 26.2 of The SuDS Manual identifies the overall pollution hazard indices from the site to be Medium, as shown below.

Table 5.3: Pollution Hazards

Land Use	Hazard Level	TSS	Metal	Hydro-carbons	
Residential roofs	Very Low	0.2	0.2	0.05	X
Other roofs (typically commercial / industrial roofs)	Low	0.3	0.2-0.8	0.05	✓
Individual property driveways, residential car parks, low traffic roads (e.g., cul de sacs, home zones and general access roads) and non-residential car parking with infrequent change (e.g., schools, offices) i.e., <300 traffic movements/day	Low	0.5	0.4	0.4	X
Commercial yard and delivery areas, non-residential car parking with frequent change (e.g., hospitals, retail), all roads except low traffic roads and trunk roads / motorways	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 sites; trunk roads and motorways	High	0.8	0.8	0.9	X

Table 26.3 of The SuDS Manual provides various mitigation indices for discharge to surface waters. The mitigation indices for SuDS elements that are included within the proposed development are shown below.

Table 5.4: Pollution Mitigation

Indicative SuDS mitigation indices for discharge of surface water			
	Mitigation indices		
Type of SuDS component	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8
Proprietary treatment systems	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately 1 in 1 year return period event, for inflow concentration relevant to the contributing drainage area		

Refer to below tables for a summary comparing the mitigation and pollution indices for each identified land usage classification.

Commercial Roofs	TSS	Metals	Hydrocarbons
Pollution Index	0.3	0.2-0.8	0.05
Mitigation Index	0	0	0
Net Pollution	0.3	0.2-0.8	0.05
Comments	Due to low risk of pollution from commercial roofs without plant, no mitigation solution proposed.		

Non-Residential Carpark	TSS	Metals	Hydrocarbons
Pollution Index	0.7	0.6	0.7
Mitigation Index (Aquaswirl)	0.8	0.5	0.7
Net Pollution	0	0.1	0.0
Comments	Because parking is for the most part covered by car ports mobilisation of pollutants will be greatly reduced		

Based on the above tables the water quality criteria of document Ciria C753 - The SuDS Manual is satisfied.

Although potential SuDS options have been stated, alternative options may be considered provided that the management train meets or exceeds the water quality requirements.

Provided that the mitigation indices of the various treatment trains meet or exceed the requirements of each pollutant, it is expected that there will be no reduction in the quality of water being discharged into the watercourse.

5.7.1 Quality of Surface Water Run-off: During Construction

It is anticipated that the during construction adequate provisions will be put in place to ensure the existing drainage is protected to prevent material which could have a negative impact on water quality entering the system.

Some pollution mitigation techniques that are to be considered include:

- Monitoring and managing disposal of site waste. Make sure all waste is correctly dealt with to stop it from spreading.
- Keeping materials such as sand and cement secure. Materials should be located where there isn't risk of them being washed into the drainage system.
- Covering up all drains to prevent waste from ending up in the system.
- Keep the road and paths to the site clean at all times. This will prevent silt and other pollutants from running off into any bodies of water.
- Properly collect and treat any wastewater that is produced.
- Temporary installation of screens within manholes to capture any debris.

5.8 Design Standards for Surface Water Drainage

The surface water drainage strategy for the new development should aim to deliver a safe, functional, cost effective and, as far as possible, sustainable drainage system (SuDS) which considers the following design principles to ensure:

- That natural drainage features are protected;
- That public health and safety risks are taken into account and managed;
- The constructability of the surface water system;
- The maintainability of the surface water system;
- The long-term economic viability of the system;
- That sustainability issues are taken into account;
- That the information requirements of stakeholders are adequately addressed;
- That the potential value of the surface water system, in enhancing the rural and urban environment is recognized and optimized.

The surface water below ground gravity drainage system is to provide connections from all new rainwater pipes, channels, gullies and road gullies at ground floor level. The locations of the drainage components are to be fully coordinated with all relevant architectural, landscaping and services drawings. All materials and products relating to the below ground drainage system shall be specified in accordance with their intended use and meet all relevant British Standards and BBA accreditations.

In accordance with best practice storm drainage will be designed to the following performance criteria:

1 in 2-year storm return period:	Pipes running under full conditions with no surcharge.
1 in 30-year storm return period:	No flooding.
1 in 100-year storm:	Extreme flooding to be retained on site.

6. Foul Water Management Strategy

6.1 Pre-Development Foul Water Drainage

6.1.1 Existing Public Drainage:

Review of Wessex Water's sewer asset maps confirm that two foul sewers cross the site. One 975mm strategic sewer crosses through the centre of site and will be utilised as the main discharge location

A second public sewer crosses the site NW/SE close to the eastern boundary. There is a smaller foul water sewer encased within the larger surface water sewer. Both these public sewers have a 6m easement in place. The exact route of this sewer is uncertain but has been determined by asset records and manhole locations.

6.1.2 Existing Private Drainage:

CCTV surveys of the site were undertaken in 2024.

These surveys identified that existing foul drainage from previously demolished buildings exists and a number of 100mm connections discharge to the 975mm diameter public sewer

6.2 Post-Development Foul Water Drainage

To meet the requirement set out within Building Regulations: Approved Document Part H - Drainage and Waste Disposal, any drainage management strategy proposed should adhere to the following foul discharge hierarchy in the following preferential order:

1. Discharge to local foul water sewer network.
2. Discharge to local combined water sewer network
3. Onsite treatment and discharge of foul effluence through drainage field or watercourse
4. Storage of produced effluence and removal offsite

The below-ground foul drainage system will connect all new soil, waste and ventilating pipes, sanitary appliances and gullies at ground level. This discharges via a below ground network to an existing connection to the public sewer approximately 6m from the eastern most corner of the proposed building. The existing connection will need to be increased from 100mm to 225mm diameter to allow for discharge from pool backwash flows. This requires confirmation from Wessex Water as acceptable.

It is intended that only waste flows considered to be 'Domestic' shall be discharged into the foul drainage system. If the site wishes to discharge 'Trade Effluent' into the foul drainage system then it will be required to make a formal application to the Sewerage Undertaker accordingly. Pool backwash discharge is currently considered to be domestic by Wessex Water and so does not require any additional permits.

It will be a gravity system without the need for pumping.

The design of all foul sewers and lateral drains must conform to BS EN 752, BS EN 16933, Building Regulations 2010 Part H, planning policy and best practice guidelines (such as SSG Appendix C – Design and Construction Guidance) wherever applicable. Sanitary systems within building should be designed in accordance with BS EN 12056-2.

See **Appendix H** for the Drainage Strategy Layout.

6.3 Post-Development Foul Water Flow Rates

6.3.1 Peak onsite flow rate

The peak onsite design flow rates have been calculated using one of the below methods

It is widely used practice to estimate the peak flows by concentrating the average daily usage over an 12-hour period (i.e., assuming total daily flows only happen during the day), and applying an additional multiplier.

Therefore: Units x Occupancy x LHD / 28800 x DWF.

Leisure centre

Occupancy (per unit)	Flow (l/h/d)	Hours	Peak Factor	Total
1042	50	12	6	7.23

7. Ownership and Maintenance

The key elements of the foul and surface water drainage system will require periodic maintenance to prevent failure of the system and/or a reduction in capacity of the networks as a whole and the following matrix therefore sets out the various drainage items to be maintained, identifies who is responsible and the frequency of maintenance.

The proposed SuDS features will require maintenance including litter and debris removal, sediment removal, vegetation maintenance and remediation to any damaged structures.

The maintenance requirements will be the responsibility of a private maintenance company. All inspection and maintenance works should take into consideration the implications of 'lone working'. An assessment should be carried out and the risks mitigated accordingly.

Table 7.1: Proposed Schedule of Maintenance for Below Ground Drainage

Underground Cellular Tanks - Operation and maintenance requirements in accordance with CIRIA C753 - The SuDS Manual		
Maintenance Schedule	**Required Action**	**Frequency**
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then annually.
	Remove debris from the catchment surface (where it may cause risks to performance).	Monthly.
	For systems where rainfall infiltrates into the tank from above, check surface or filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary	Annually.
	Remove sediment from pre-treatment structures and / or internal forebays.	Annually, or as required.
Remedial actions	Repair / rehabilitate inlets, outlet, overflows and vents.	As required.
Monitoring	Inspect / check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	Annually.
	Survey inside of tank for sediment build-up and remove if necessary.	Every 5 years or as required.
Reference should be made to the manufacturer recommendations where applicable		

Swale - Operation and maintenance requirements in accordance with CIRIA C753 - The SuDS Manual		
Maintenance Schedule	**Required Action**	**Frequency**
Regular maintenance	Remove litter and debris	Monthly, (or as required).
	Cut grass - to retain height within specified design range	Monthly (during growing season), or as required.
	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required).
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly.
	Inspect infiltration surfaces for ponding, compaction, silt accumulation. Record areas where water is ponding for > 48 hours.	Monthly, or when required.
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half early.
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Half yearly.
Occasional maintenance	Re-seed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over 10% or more of the swale treatment area.
Remedial actions	Repair erosion or other damage by re-turfing or reseeding.	As required.
	Relevel uneven surfaces and reinstate design levels	As required.
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	As required.
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip.	As required.
	Remove and dispose of oils or petrol residues using safe standard practices.	As required.

Filter Strip - Operation and maintenance requirements in accordance with CIRIA C753 - The SuDS Manual		
Maintenance Schedule	**Required Action**	**Frequency**
Regular maintenance	Remove litter and debris	Monthly, (or as required).
	Cut grass - to retain height within specified design range	Monthly (during growing season), or as required.
	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required).
	Inspect filter strip surface to identify evidence of erosion, poor vegetation growth, compaction, ponding, sedimentation and contamination (e.g. oils).	Monthly (at start, then half yearly).
	Check flow spreader and filter strip surface for evens gradients.	Monthly (at start, then half yearly).
	Inspect gravel flow spreader upstream of filter strip for clogging.	Monthly (at start, then half yearly).
	Inspect silt accumulation rate and establish appropriate removal frequencies.	Monthly (at start, then half yearly).
Occasional maintenance	Re-seed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over > 10% of the filter strip area.
Remedial actions	Repair erosion or other damage by re-turfing or reseeding.	As required.
	Relevel uneven surfaces and reinstate design levels	As required.
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	As required.
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip.	As required.
	Remove and dispose of oils or petrol residues using safe standard practices.	As required.

Raingarden - Operation and maintenance requirements in accordance with CIRIA C753 - The SuDS Manual		
Maintenance Schedule	**Required Action**	**Frequency**
Regular Inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and access standing water levels in underdrain (if appropriate) to determine if maintenance is necessary.	Quarterly
	Check operation of underdrains by inspection of flows after rain.	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace as necessary.	Quarterly
	Inspect inlets and outlets for blockage	Quarterly
Regular maintenance	Remove litter and surface debris and weeds.	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants, to maintain planting density.	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays.	Quarterly to biannually
Occasional maintenance	Infill any holes of scour in the filter medium, improve erosion protection if required.	As required
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch,	As required
Remedial actions	Remove and replace filter medium and vegetation above.	As required but likely to be > 20 years

The following information should be passed to the development operator to ensure that future maintenance is carried out in a safe and proper manner.

A formal review of the risks should be undertaken on an annual basis:

Table 7.2: Proposed Operational Schedule for Below Ground Drainage

Operation	Risks	Mitigating Measures
Access to manholes for Inspection and Maintenance.	1. Confined spaces	1. Entry to confined space to be minimised and, where unavoidable, to be carried out by appropriately trained personnel
Removal of silt from outfall	1. Risk to members of the public 2. Open Water	1. Access to hazardous areas by members of the public to be prohibited. 2. To be carried out by appropriately trained personnel
Removal of silt from drainage channel	1. Risk to members of the public	1. Access to hazardous areas by members of the public to be prohibited

Provided that the surface and foul water strategies as set out in this report, are implemented, it is expected that the primary residual failure would be as a result of some form of failure of the site drainage system during the life of the development. Therefore, regular, ongoing maintenance as set out in the Operations and Maintenance Manual, will be required to ensure that the capacity of the system is maintained as designed.

8. Consent / Planning

Summary of expected consents required:

- Ordinary Watercourse Consent – Wiltshire Council LLFA to confirm acceptance of discharge locations. As all are existing no additional consents should be required
- Sewerage Undertaker Consent – Wessex Water to confirm standard and backwash flows acceptable and confirm schedule for backwash occurrence
- Section 104 / 106 Drainage Adoption - No drainage adoption to be undertaken. Section 106 required for foul connection
- Build Over / Build Near - Wessex Water confirm that scheme would not warrant this.

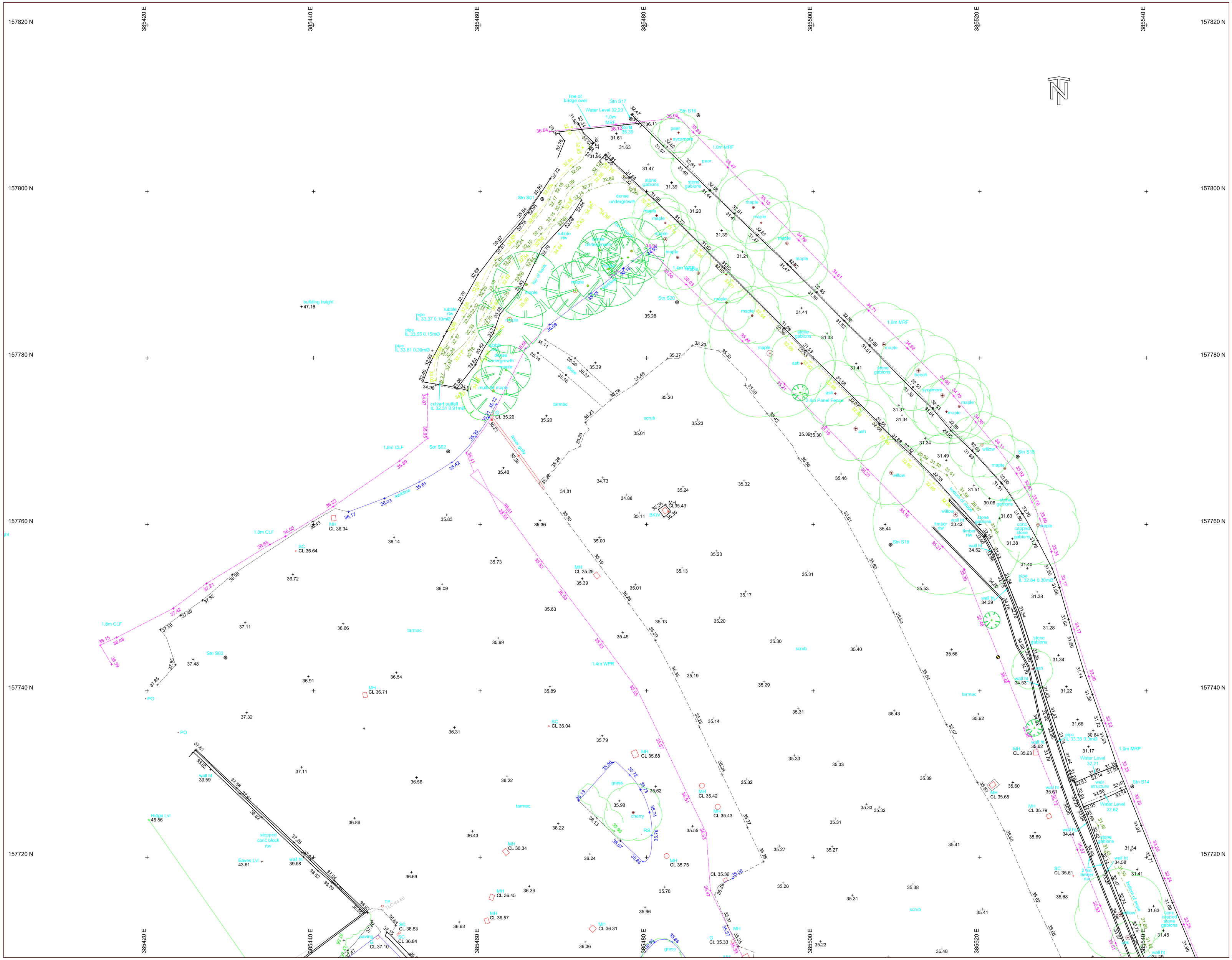
In addition to the above it is anticipated that details of the drainage scheme will need to be approved by Wiltshire Council Lead Local Flood Authority (LLFA) through a formal planning application.

9. Conclusions

This report concludes that the foul and surface water drainage strategy for the development will be designed in accordance with both national and local standards and best practice. The following key items have been summarised below:

- The foul and surface water drainage systems for the new development will be designed to accommodate the required flows for the lifetime of the development.
- It has been determined that the post-dev surface water flow rates can be restricted to QBar for the western catchment in accordance with national guidelines and non-statutory technical standards, so as to not adversely impact downstream flooding of the site as a result of the new development.
- The eastern catchment will conform to the SuDS pillars but will not actively restrict flows.
- Through this course of action the site will provide a 70% betterment over current discharge rates.
- All surface water run-off from storm events up to and including the 100-year plus 25% climate change will be retained within the overall site.
- Attenuation provided 'at source' by way of swales and raingardens and below ground tanks prior to discharging into the main drainage system in the road to meet the required flow rates for the whole site.
- In the event that flows from rainfall exceed the 1 in 100-year rainfall event or system failure through lack of maintenance, surface water run-off will be directed via exceedance routes away from buildings and/or critical infrastructure.
- The use of swales, permeable paving, raingardens and filter strips for rainwater run-off mitigation, satisfies the water quality criteria of document Ciria C753 - The SuDS Manual.
- Ownership and maintenance liabilities for the foul and surface water drainage system will be clearly defined so that in the event of failure the drainage system appropriate action can be taken to ensure that the drainage system continues to work efficiently.

Appendix A Topographical Survey

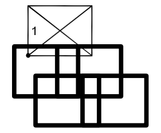


Notes:

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2. Detail along the west bank of the river is limited by density of vegetation particularly to the north end.

Sheet Layout



Rev	Date	Details
B	15/10/23	Survey verified and amended as necessary
A	15/06/17	River corridor survey appended

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S01	385467.467	157799.090	32.640
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Legend

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CBW	conc block wall
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DPC	damp proof course
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RTW	retaining wall
RWP	rainwater pipe
SMP	sheet metal piling
STW	stone wall
SVP	soil vent pipe
THL	threshold level
WC	toilet
WHB	hand basin
WH	window head level
WS	window sill level

Street Furniture

BO	bollard
BB	bellisha beacon
DWB	dog waste bin
EB	electricity box
EP	electricity pole
GB	grit bin
GP	gate post
LB	litter bin
LP	lamp post
MKR	marker
MS	milestone
PB	post box
PM	parking meter
PO	post
RP	reflector post
RS	road sign
SP	sign post
TCB	telephone call box
TC	telecom cabinet
TL	traffic light
TP	telegraph pole

Fence Types

BWF	barbed wire
CBF	close board
CIF	corrugated iron
CLF	chain link
CPF	chestnut paling
MRF	metal railing
PWF	post and wire
SM	sheet metal
SPF	steel pallisade
SWF	sheep wire
TSR	tubular steel railings
WMF	wire mesh
WPR	wooden post and rail

Drainage, Road and Services

BH	borehole
CL	cover level
CP	catchpit
CTV	cable TV
DK	drop kerb
EMH	electricity manhole
ER	earth rod
FH	fire hydrant
FW	foul water
G	gully
GV	gas valve
IL	invert level
KIG	kerb inlet gully
MH	manhole
OHC	overhead cable
RE	rodding eye
SC	stop cock
SL	soffit level
SW	surface water
TLC	telephone cable
TMH	telecom manhole
WO	wash out

Client's Agent:

Clarkebond Ltd
The Cocoa House
129 Cumberland Road
Bristol BS1 6UY

Site:

Land at Bythesea Road
Trowbridge

Drawing:

Topographic Survey

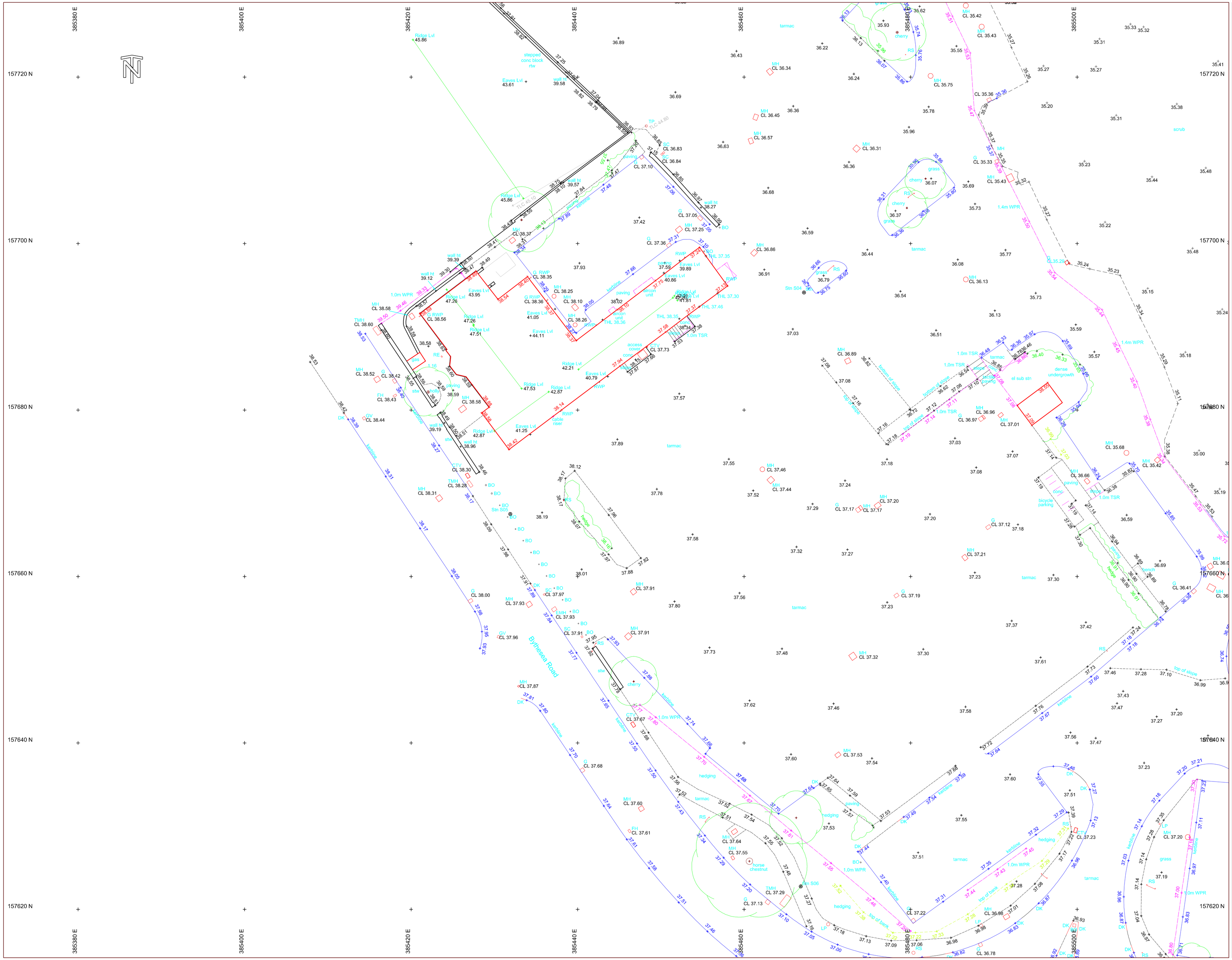
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13 Silver Street, Wells
Somerset, BA5 1UN.
Tel: 01749 675701
e-mail: info@mendiplandsurveys.co.uk

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Surveyed. CC	Drawn. CC	Checked. JAS
Date. June 15	Date. 15/6/17	Date. 15/6/17
Cad File Name. 2646B.dwg		Rev. B

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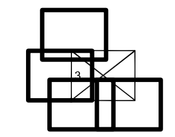
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WH	window head level
WS	window sill level

Street Furniture

BO	bollard
BB	bellisha beacon
DWB	dog waste bin
EB	electricity box
EP	electricity pole
GB	grit bin
GP	gate post
LB	litter bin
LP	lamp post
MKR	marker
MS	milestone
PB	post box
PM	parking meter
PO	post
RP	reflector post
RS	road sign
SP	sign post
TCB	telephone call box
TC	telecom cabinet
TL	traffic light
TP	telegraph pole

Fence Types

BWF	barbed wire
CBF	close board
CIF	corrugated iron
CLF	chain link
CPF	chestnut paling
MRF	metal railing
PWF	post and wire
SM	sheet metal
SPF	steel pallisade
SWF	sheep wire
TSR	tubular steel railings
WMF	wire mesh
WPR	wooden post and rail

Drainage, Road and Services

BH	borehole
CL	cover level
CP	catchpit
CTV	cable TV
DK	drop kerb
EMH	electricity manhole
ER	earth rod
FH	fire hydrant
FW	foul water
G	gully
GV	gas valve
IL	invert level
KIG	kerb inlet gully
MH	manhole
OHC	overhead cable
RE	rodding eye
SC	stop cock
SL	soffit level
SW	surface water
TLC	telephone cable
TMH	telecom manhole
WO	wash out

Client's Agent:

Clarkebond Ltd
The Cocoa House
129 Cumberland Road
Bristol BS1 6UY

Site:

Land at Bythesea Road
Trowbridge

Drawing:

Topographic Survey

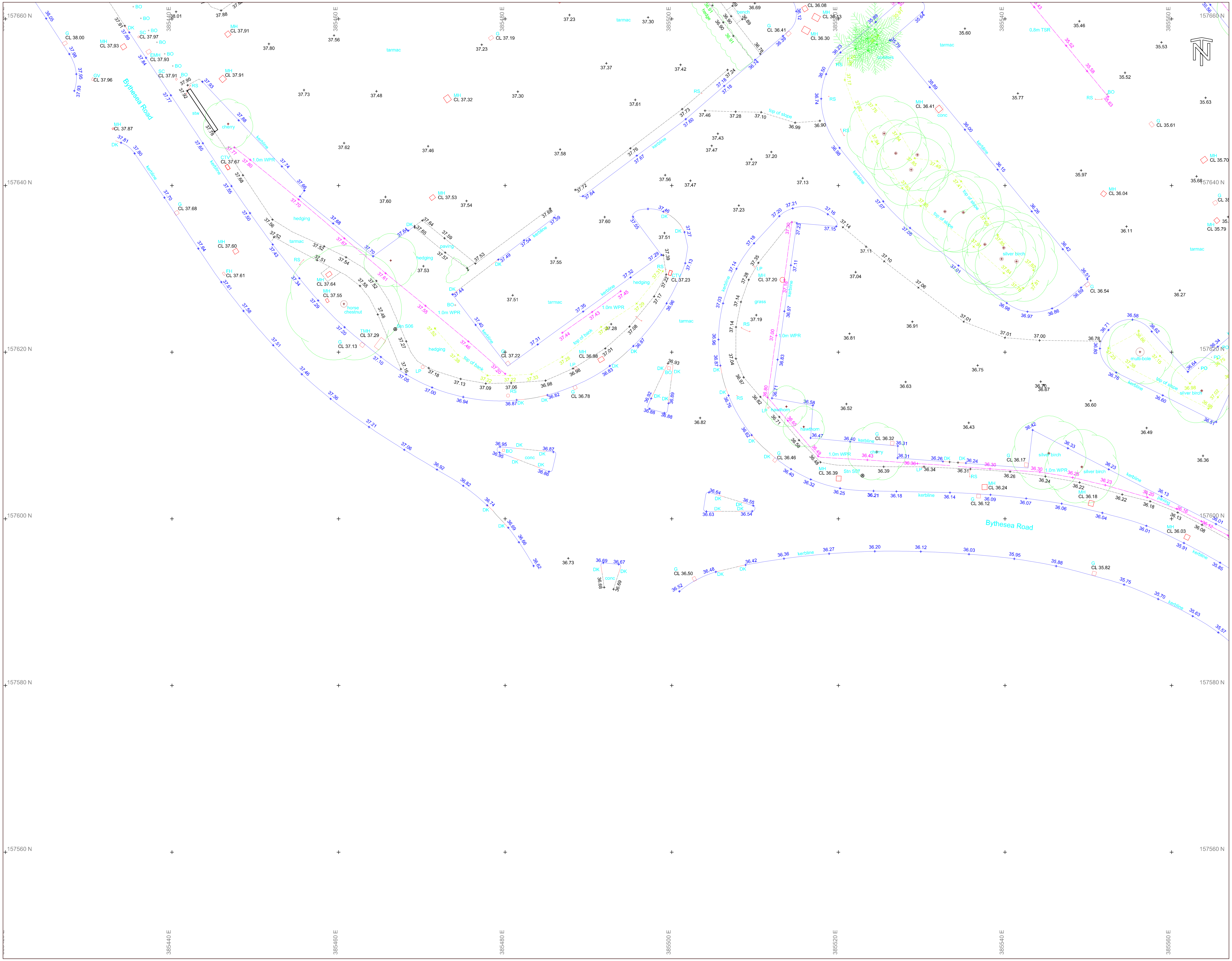
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Mendip Land Surveys Limited
13 Silver Street, Wells
Somerset, BA5 1UN.
Tel: 01749 675701
e-mail: info@mendiplandsurveys.co.uk

Job No. 2646	Drawing No. 03	
Surveyed. CC	Drawn. CC	Checked. JAS
Date. June 15	Date. 15/6/17	Date. 15/6/17
Cad File Name. 2646B.dwg		Rev. B

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Notes:

1. Survey is based upon Ordnance Survey National Grid and Ordnance Datum Newlyn using OSTN15/OSGM15 transformation parameters. GPS observations taken at control stations S03 and S08.
Tertiary network has been computed using a scale factor of 1.000 and held fixed with the corresponding misclosures to the GPS control applied in equal and opposite directions.

2. Detail along the west bank of the river is limited by density of vegetation particularly to the north end.

Sheet Layout

Rev	Date	Details
B	15/10/23	Survey verified and amended as necessary
A	15/06/17	River corridor survey appended

Control Station Co-ordinates

Station	Eastings	Northings	Height
S01	385467.467	157799.090	32.640
S02	385456.167	157768.770	35.467
S03	385429.420	157743.981	37.314
S04	385467.194	157694.124	36.819
S05	385431.916	157667.507	38.287
S06	385466.801	157622.765	37.383
S07	385522.897	157605.188	36.396
S08	385580.905	157588.039	35.623
S09	385637.537	157590.073	34.937
S10	385642.041	157635.819	36.235
S11	385626.235	157643.053	35.030
S12	385594.700	157660.623	33.439
S13	385555.704	157689.894	33.313
S14	385538.319	157728.513	33.250
S15	385524.550	157768.134	34.098
S16	385486.204	157809.174	35.840
S17	385478.076	157808.755	36.031

Legend

Buildings and Structures

BW	brick wall
CBW	conc block wall
CL	ceiling level
DH	door head level
DP	down pipe
DPC	damp proof course
FL	floor level
RTW	retaining wall
RWP	rainwater pipe
SMP	sheet metal piling
STW	stone wall
SVP	soil vent pipe
THL	threshold level
WC	toilet
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BH	borehole
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CTV	cable TV
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SW	surface water
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WO	wash out

Client's Agent:

Clarkebond Ltd
The Cocoa House
129 Cumberland Road
Bristol BS1 6UY

Site:

Land at Bythesea Road
Trowbridge

Drawing:

Topographic Survey

Scale:

1:200

Mendip Land Surveys Limited
13 Silver Street, Wells
Somerset, BA5 1UN.
Tel: 01749 675701
e-mail: info@mendiplandsurveys.co.uk

Job No. 2646	Drawing No. 04	
Surveyed. CC	Drawn. CC	Checked. JAS
Date. June 15	Date. 15/6/17	Date. 15/6/17
Cad File Name. 2646B.dwg		Rev. B

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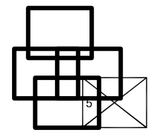
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Notes:

1. Survey is based upon Ordnance Survey National Grid and Ordnance Datum Newlyn using OSTN15/OSGM15 transformation parameters. GPS observations taken at control stations S03 and S08.
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Topographic Survey

Scale:

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Job No. 2646	Drawing No. 05	
Surveyed. CC	Drawn. CC	Checked. JAS
Date. June 15	Date. 15/6/17	Date. 15/6/17
Cad File Name. 2646B.dwg		Rev. B

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Appendix B Proposed Site Layout

KEY

Sewer easement

SOFT LANDSCAPE

- Existing trees (with root protection areas)
- Existing vegetation to be retained, and improved through thinning / pruning and removal of invasive species
- Proposed public realm trees (non native)
- Proposed native trees
- Proposed feature trees
- Proposed flowering lawn
- Proposed ornamental planting
- Proposed native hedges
- Proposed native scrub planting
- Proposed wildflower meadows
- Proposed swales
- Proposed mounds with c.1:3 sides, smooth contours and rounded top
- Proposed woodland understory mix

HARD LANDSCAPE

- Resin bonded gravel surfacing
  Colour: Buff. With galvanised steel edging or similar approved
- Paving flags - entrance plaza
  Tobermore Manhattan - 600mm x 150mm
  Colour: Silver Grey
- Block paving - entrance spaces
  Tobermore Fusion - 300mm x 200mm
  Colour: Mid grey
- Hoggin footpath (informal)
  Supplier: Allgreen or equal and approved
  Somerset Buff Selfbinda 0-14mm
- Tarmac surfacing - buff to engineer's spec
- Tarmac surfacing - standard to engineer's spec
- Existing Tarmac surfacing to be retained
- Parking bays
  Forterra - Chartres Block Paving
  Colour: Charcoal
- Crossing points
  Forterra - Chartres Block Paving
  Colour: Pennant
- Seating walls - bespoke 500mm high PCC walls with integrated timber seating - colour and finish TBC
- Cycle stands
  Vestre VROOM large cycle stand or equal and approved
  Colour: dark grey
- Bollards
  Marshalls RB101 or equal and approved
  Colour: dark grey - powder coated
- Removeable bollards
  Marshalls RB101 or equal and approved
  Colour: dark grey - powder coated
- Picnic bench
  Broxap Land Picnic Bench - BX31 2002
  or equal and approved
- Accessible picnic bench
  Broxap Land Picnic Bench - BX31 2002 - EXT
  or equal and approved
- Seating
  Broxap Hatton Rustic 4 Slat Seat - BX17 4055
  or equal and approved
- Waste bins
  Artform Urban Furniture - Box Litter Bin
  RAL colour TBC
- Electric vehicle spaces
- Family spaces
- Accessible parking
- Stepping stones
  Tobermore Mayfair Slabs - 450mm x 450mm x 40mm
  Colour: Silver
- Watering points - to have removeable tap heads
- Wayfinding locations
- Information lectern
- Natural play locations
- Geocellular system- for footpath section with RPAs. To arboriculturalists recommendations
- Post and rail fencing - nailed half round post and rail fencing by Jacksons Fencing or similar approved
- Knee rail fencing - treated timber knee rail fencing by Jacksons Fencing or similar approved
- Location of Solar Car Ports



This line should measure 70mm when printed correctly

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Responsibility is not accepted for errors made by others in scaling from this drawing. Use only figured dimensions and report any discrepancies or omissions to the Architect immediately.

Rev	Date	By	Chk	Description
P01	19.06.2025	TH	TH	Issued for Review and Comment
P02	23.06.2025	TH	TH	Issued for Review and Comment
P03	24.06.2025	TH	TH	Issued for Review and Comment
P04	08.07.2025	TH	TH	Issued for Review and Comment
P05	16.07.2025	TH	TH	Issued for Review and Comment
P06	11.08.2025	TH	TH	Issued for Review and Comment
P07	27.10.2025	TH	TH	Kerbs amended due to coach tracking
P08	30.10.2025	TH	TH	Crossing amended
P09	24.11.2025	TH	TH	Various amends to western car park
P10	25.11.2025	TH	TH	Minor amends for dwg issue
P11	11.12.2025	TH	TH	Planting amended
P12	16.01.26	TH	TH	Parking amended for solar car ports
P13	19.01.26	TH	TH	Parking amended for solar car ports
P14	20.01.26	TH	TH	Solar car port amended

Roberts Limbrick
03333 405 500
mail@robertslimbrick.com
robertslimbrick.com
Registered Office: England No. 06658029

Project Name
Trowbridge Leisure Centre

Client Name
Wiltshire County Council

Drawing Title
LANDSCAPE GENERAL ARRANGEMENT - Whole Site

Scale	Project No.
1:500 • A1	11120

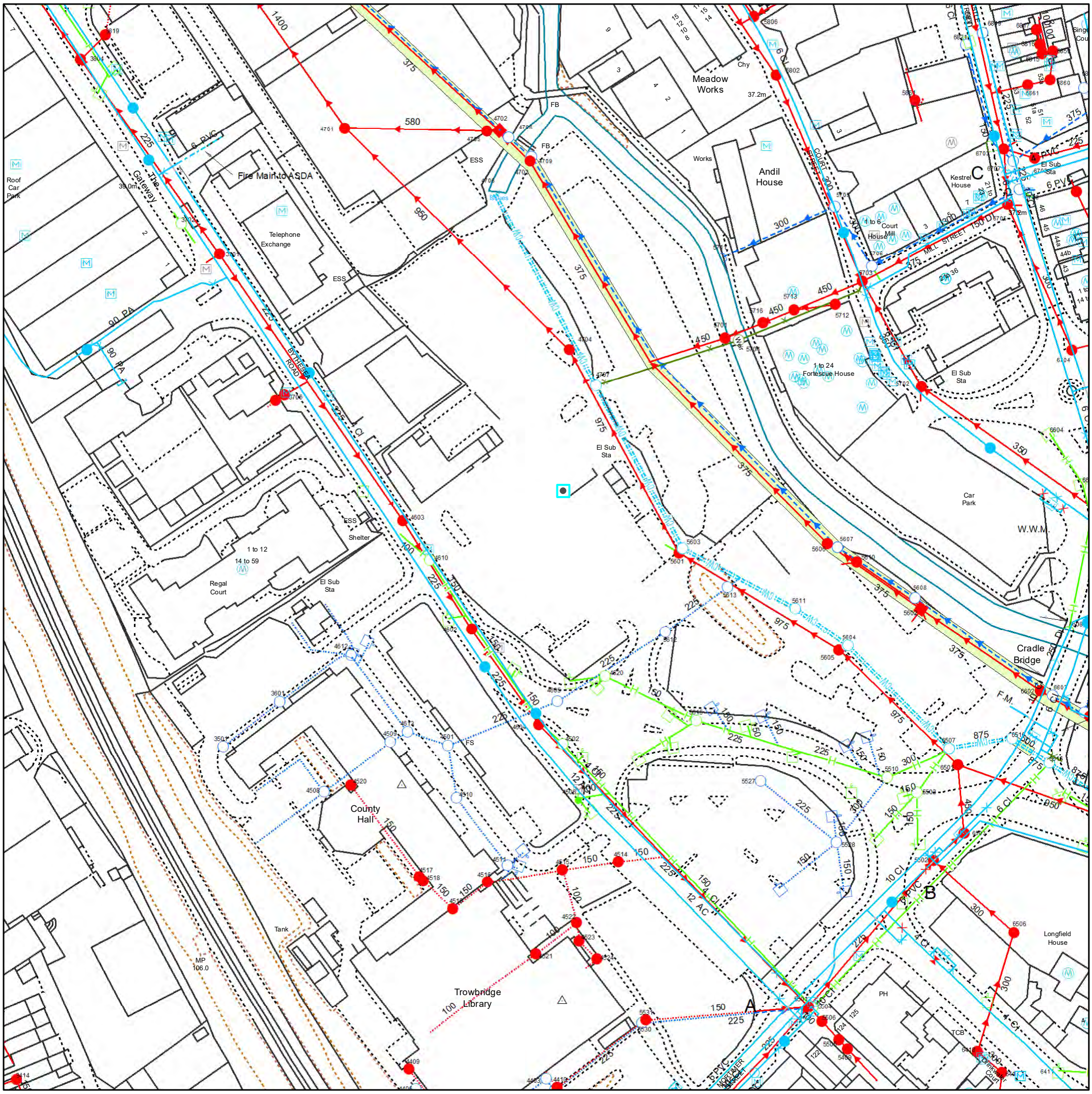
Status	Purpose Of Issue
S3	Issued for Review and Comment

Project	Org	Vol	Level	Form	Role
11120	RL	XX	ZZ	DR	L

Number	Revision
08003	P14

Appendix C Sewer Asset Map

Wessex Water Web Map



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WATER MAINS

- Distribution Main
- Washout Main
- Raw Water Main
- Abandoned Main
- Private Main

SITES

- Source
- Reservoir
- Pump
- Treatment Works

FITTINGS

- Valve - Open
- Valve - Closed
- Fire Hydrant
- Pressure Reducing Valve
- Meter

SEWERS

	PUBLIC	PRIVATE	SECTION 104
Foul			
Surface			
Combined			
Abandoned			

OTHER WESSEX PIPES

- Rising Mains
- Standby Rising Mains
- EDM — Effluent Disposal
- Overflow
- S — Syphon

NON-WESSEX / UNKNOWN

- Private Rising Mains
- CW — Culverted Watercourse
- H — Highway Drain
- ? — Use Unknown
- SU — Status Unknown

Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow) styles of line are shown on the key in sample/typical colours.

STRUCTURES

- Manhole - Foul
- Manhole - Surface
- Manhole - Combined
- Outfall
- Inlet
- Lamphole
- Bifurcation - Foul
- Bifurcation - Surface
- Bifurcation - Combined
- Combined Sewage Overflow
- Pumping Station - Surface
- Pumping Stn - Foul/Combined
- Gully
- Vent Column
- Rodding Eye
- Catchpit
- Flushing Chamber
- Soakaway
- Non Return Valve
- Washout
- Air Valve
- HB — Hatch Box

OTHER STRUCTURES

- Attenuation Tank
- Storage Tank
- Chamber
- Tunnel
- Interceptor

Information in this plan is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. Building over or near Wessex Water's apparatus is not normally permitted.

Wessex Water
YTL GROUP

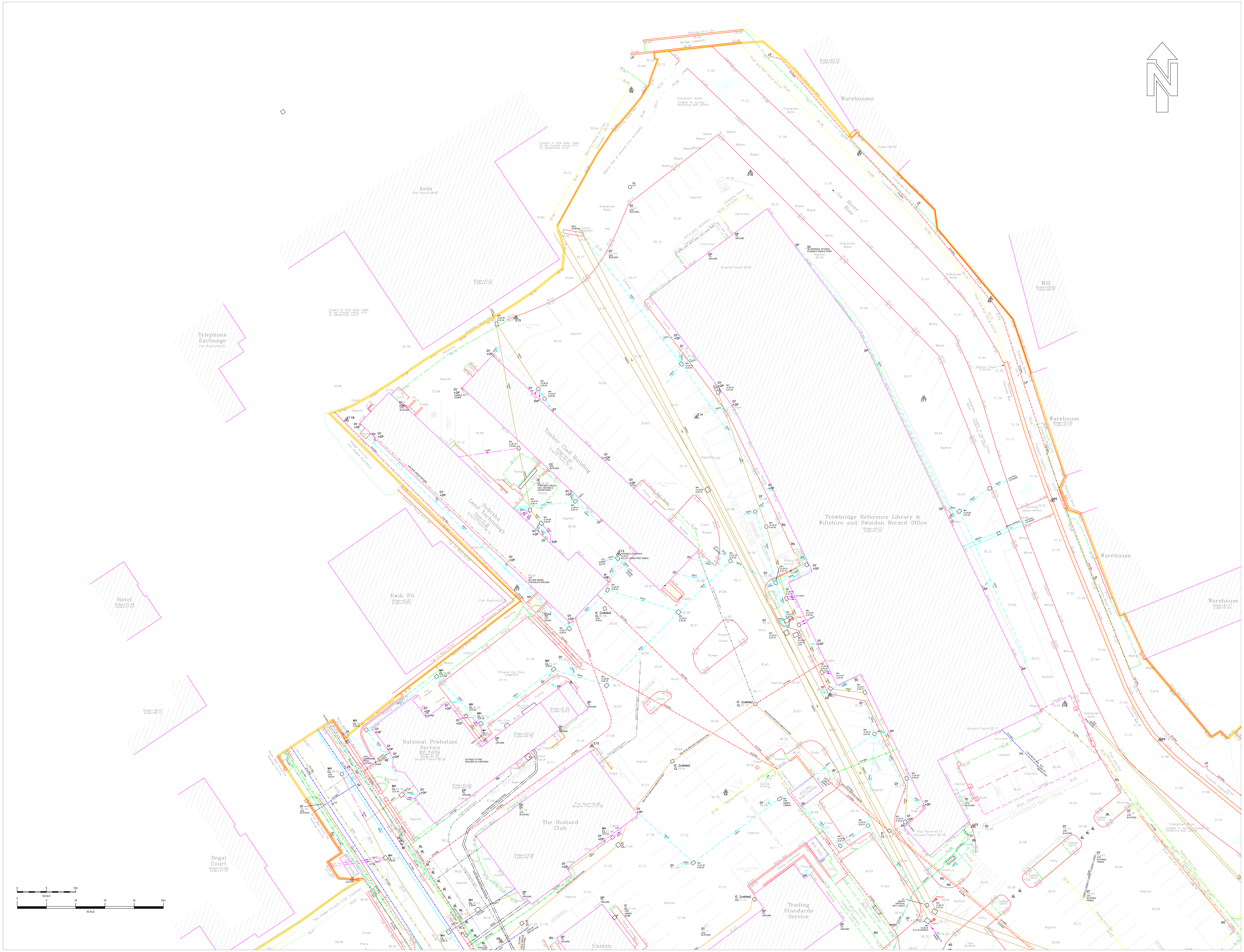
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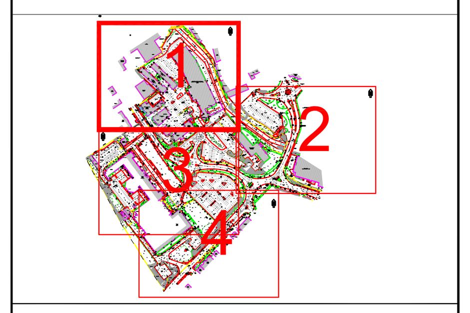
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N W E S

Appendix D Existing Drainage Layout



SHEET LAYOUT



40SEVEN LEGEND

- Foul Drainage
- Surface Drainage
- Combined Drainage
- Electricity
- Traffic Light System
- Gas
- Water
- Telecommunications
- Cable Television
- Close Circuit Television
- British Telecom
- Fibre Optics
- Unknown
- Ducting
- Unable To Survey
- Survey Extents
- Photo Position

40SEVEN ABBREVIATIONS

AD	Assumed Direction	Mtr	Meter
AV	Air Valve	MS	Mile Post/stone
ACU	Air Conditioning Unit	MB	Mooring Bollard
AR	Assumed Route	NFI	No Further Information
BW	Barbed Wire Fence	NP	Name Plate
BB	Belisha Beacon	NM	Node Marker
BD	Back Drop	OHC	Overhead Cable
BD	Bollard	OSA	Off Survey Area
BH	Borehole	PM	Parking Meter
Bk	Brick	PBM	Permanent Bench Mark
BW	Brick Wall	PGM	Permanent Ground Marker
BTB	British Telecom Box	PR	Pipe Riser
BT	British Telecom Cover	P	Post
BS	Bus Stop	P/R	Post and Rail Fence
CR	Cable Riser	P/W	Post and Wire Fence
CTV	Cable TV	PU	Pump
CP	Catch Pit	RWP	Rain Water Pipe
CL	Chain Link Fence	RP	Reflector Post
CH	Chainage	R/W	Retaining Wall
CB	Close Borded Fence	RS	Road Sign
Co	Concrete	RE	Rodding Eye
CC	Comms Cabinet	SF	Safety Fence
CI	Corrugated Iron Fence	S/A	Soakaway
CL	Cover Level	SL	Soffit Level
CUL	Culvert	SC	Speed Camera
dl	Dilapidated	Spr	Spring
dis	Disused	ST	Stop Tap
DP	Down Pipe	SV	Sluice Valve
ER	Earth Rod	SS	Structure Support
EB	Electricity Box	S	Sump
EC	Electricity Cover	Stn	Survey Station
EP	Electricity Pole	TBC	To Be Confirmed
EOT	End of Trace	TFR	Taken From Records
FC	Fuel Cover	TP	Telegraph Pole
FFL	Finished floor Level	TCB	Telephone Call Box
FH	Fire Hydrant	TBM	Temporary Bench Mark
FS	Flag Staff	TS	Traffic Signals
GS	Gas Valve	TH	Trail Hole / Pit
GP	Guide Post	UTL	Unable to Locate
GPR/PI	Ground Penetrating Radar Proved Inconclusive	UTR	Unable to Raise
G	Gully	UTS	Unable to Survey
IC	Inspection Cover	UTT	Unable to Trace
IL	Invert Level	VR	Vapour Recovery
IRF	Iron Rail Fence	VDP	Vehicle Detector Pads
KO	Kerb Outlet	VP	Vent Pipe
LP	Lamp Post	VTP	Vertical Vent Pipe
LB	Letter Box	WO	Wash Out
LC	Lighting Column	W	Water Cover
MH	Manhole Cover	WL	Water Level
Mkr	Marker	WM	Water Meter
MC	Multiple Cables	WV	Wheel Valve

40SEVEN DISCLAIMER

Unless otherwise stated, all services shown on this plan have been surveyed using approved detectors and the connections between manholes, if not traced, are assumed to be direct.
No guarantee can be given that all services have been shown.
In ideal conditions the depth accuracies for the underground utilities located is +/- 10% of depth.
Where services are shown as 'Taken From Records' on the drawing we are not liable for any loss that may arise due to a lack of accuracy in that guided information.
Due to BT's policy we are not permitted to lift their inspection chamber covers.
Reference should be made to the methodology used on site as detailed within the latest version of 40SEVEN's Site Procedures for Utility Location Surveys.
Excavations in the vicinity of services shown are to be carried out with due diligence (Ref. HSG47.)
The following text* is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger issued by the Royal Institute of Chartered Surveyors February 1996.
*Electronic tracing is a reliable method of locating buried services. On heavy, built up sites 85% completeness is probably all that can be expected.
*Plan accuracies of the order of + or - 150mm may be achieved but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be limited.
*Existing record information showing underground services is often incomplete and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed.

40SEVEN NOTES

Topographical survey was supplied by the client.
Read in conjunction with existing records.
Utility routes and text shown in grey are from existing records.
Majority of drainage gullies were unable to survey due to being blocked with silt and leaves.
Large parts of the site were covered with dense vegetation and shrubbery hampering the survey.
Parts of the river bank were overgrown and unable to fully survey.
Services plotted outside survey extents should not be considered to be exhaustive.

Topographical Legend

BL	Bollard	LB	Letter Box
BS	Bus Stop	LP	Lamp Post
BT	Telecom Ic	MH	Manhole
CL	Cover Level	MK	Marker
DP	Down Pipe	MS	Mile stone
EP	Electricity Pole	MW	Monitoring Well
EB	Electricity Box	P	Post
FH	Fire Hydrant	PB	Pillar Box
FP	Fence Post	RE	Rodding Eye
FW	Foul Water	RP	Reflector Post
GY	Gulley	RS	Road Sign
GV	Gas Valve	SC	Stop Cock
Ht	Height	SV	Stop Valve
IC	Inspection Cover	SW	Storm Water
IL	Invert Level	TL	Traffic Light
KB	Kerb	TP	Telegraph Pole
KO	Kerb Outlet	UTL	Unable to Lift
		VP	Vent Pipe
		WM	Water Main
		WO	Wash Out

Fence Details

BW	Barbed Wire	PaL	Paling
CB	Close Boarded	PW	Post & Wire
CI	Corrugated Iron	PWM	Post & Wire Mesh
CP	Chestnut Paling	PR	Post & Rail
IR	Iron Railings	CL	Chain Link
IW	Interwoven		

STATION COORDINATES

No	EASTING	NORTHING	LEVEL	ID
T1	385595.749	157698.401	36.991	Nail
T2	385641.982	157726.132	38.110	Nail
T3	385662.316	157660.998	36.512	Nail
T4	385623.740	157581.538	34.857	Nail
T5	385579.370	157536.920	35.759	Nail
T5A	385492.096	157440.012	41.151	Nail
T5B	385458.189	157471.897	39.020	Nail
T5C	385498.018	157479.745	39.091	Nail
T6	385556.943	157590.454	35.860	Nail
T7	385470.540	157604.490	37.127	Nail
T8	385426.112	157672.452	38.303	Nail
C1	385410.341	157636.816	38.618	Nail
C2	385484.239	157547.329	38.617	Nail
C3	385507.834	157509.403	38.944	Nail
C4	385541.260	157558.870	36.340	Nail
S1	385615.114	157624.204	35.881	Nail
S2	385576.665	157657.470	35.681	Nail
R1	385622.805	157642.759	34.999	Nail
R2	385638.192	157628.509	33.021	Nail
R3	385583.209	157669.232	33.375	Nail
R4	385555.925	157689.703	33.308	Nail
R5	385537.487	157730.664	33.253	Nail
R6	385526.959	157765.188	33.896	Nail
R7	385504.517	157790.225	34.772	Nail
R9	385465.450	157801.033	35.628	Nail
E2	385517.103	157637.196	37.314	Nail
E3	385570.184	157609.501	36.529	Nail
E4	385558.357	157646.862	35.663	Nail
E5	385523.934	157674.899	35.474	Nail
E6	385499.447	157697.349	35.344	Nail
E7	385466.430	157637.707	37.624	Nail
E8	385443.165	157655.215	37.960	Nail
E9	385481.616	157680.841	36.804	Nail
E10	385458.712	157688.635	37.240	Nail
E11	385445.907	157715.816	36.900	Nail
E11B	385416.722	157744.406	37.980	Nail
E12	385463.271	157721.506	36.345	Nail
E14	385476.602	157744.907	35.524	Nail
E15	385445.733	157761.942	36.129	Nail
E16	385485.840	157786.846	35.186	Nail
E17	385515.493	157748.222	35.587	Nail
E18	385539.639	157695.991	35.512	Nail
E19	385595.678	157606.970	35.899	Nail

REV.	DETAILS	BY	DATE

GRID	DATUM
Existing	Unknown

40SEVEN

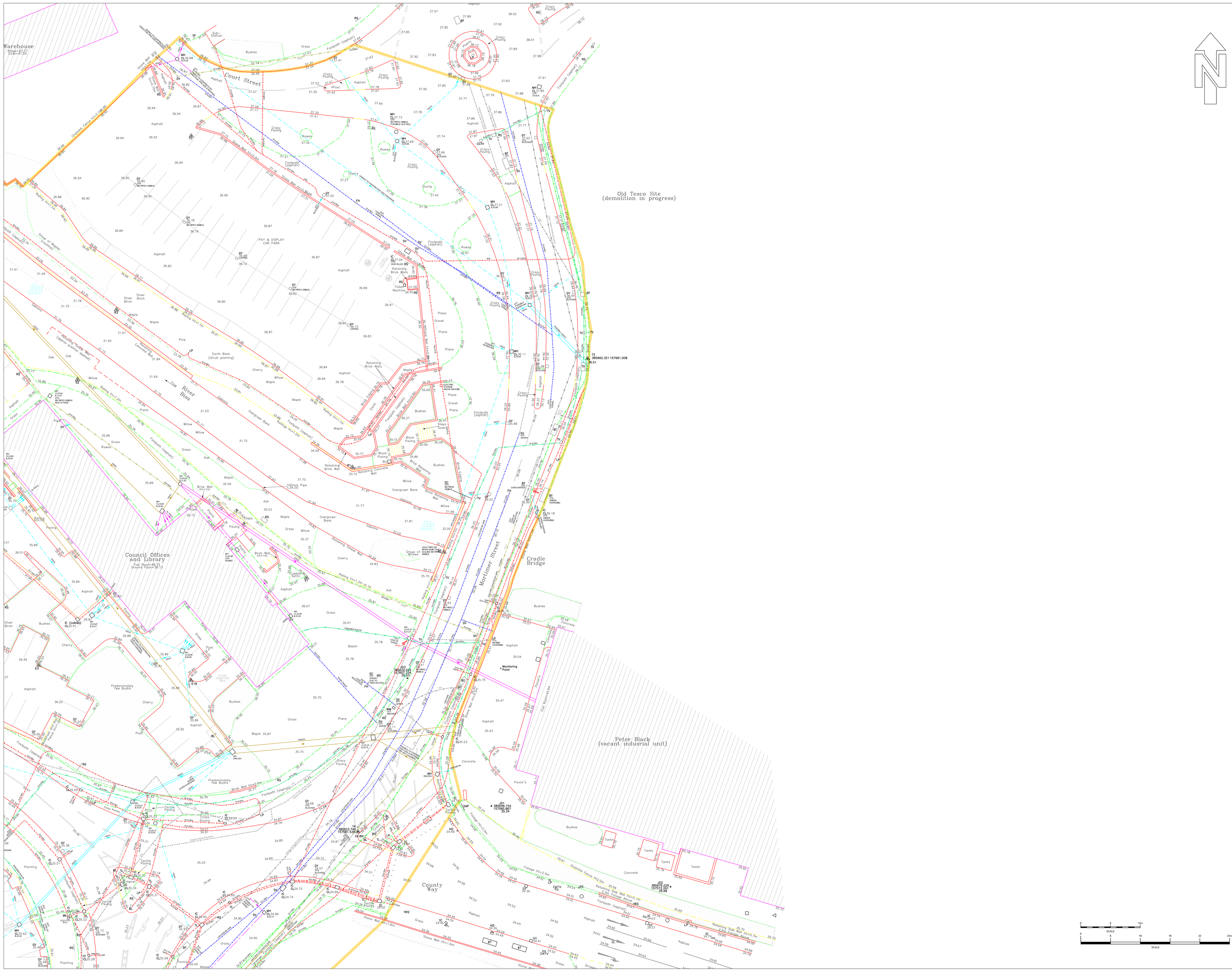
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E-Mail: info@40seven.com Web site: www.40seven.com

CLIENT:
EC Harris LLP
Baskerville House
Centenary Square, Broad Street
Birmingham

PROJECT TITLE:
Waterside
Mixed Use Development
Trowbridge

DRAWING TITLE:
Utility Mapping Survey

SURVEYED BY: GB	DRAWN BY: TR	APPROVED BY: DL
SCALE: 1:200 @ (A0)	SURVEY DATE: November 2007	
DRAWING NUMBER: 51210	SHEET NUMBER: 1 Of 4	REV: 1.0



SHEET LAYOUT



40SEVEN LEGEND

- Foul Drainage
- Surface Drainage
- Combined Drainage
- Electricity
- Traffic Light System
- Gas
- Water
- Telecommunications
- Cable Television
- Close Circuit Television
- British Telecom
- Fibre Optics
- Unknown
- Ducting
- Unable To Survey
- Survey Extents
- Photo Position

40SEVEN ABBREVIATIONS

AD	Assumed Direction	Mtr	Meter
AV	Air Valve	MS	Mile Post/stone
ATU	Air Traffic Monitoring Unit	MU	Multi Utility Cover
AR	Assumed Route	NFI	No Further Information
B/W	Barbed Wire Fence	NP	Name Plate
BH	Bore Hole/Location	OH	Overhead Cable
BD	Brick Drop	OHC	Overhead Cable
BO	Bollard	OSA	Off Survey Area
BP	Bus Pointe	PB	Push Button
Bs	Brick	PBM	Permanent Bench Mark
BW	Brick Wall	PGM	Permanent Ground Marker
BTB	British Telecom Box	PR	Pipe Riser
BT	British Telecom Cover	Post	Post
CR	Cable Riser	P/R	Post and Rail Fence
CTV	Cable TV	P/W	Post and Wire Fence
CL	Chain Link	PU	Pump
CL	Chain Link Fence	PW	Pump Water Pipe
CH	Chainage	RP	Reflector Post
CW	Chain Link Mesh Fence	R/W	Retaining Wall
Co	Concrete	RE	Rodding Eye
CC	Comms Cabinet	RE	Rodding Eye
C/F	Concrete Bollard Fence	S/F	Safety Fence
CL	Cover Level	SA	Satellite Dish
CUL	Culvert	SL	Soffit Level
D	Diameter	SC	Speed Camera
db	Disused	SP	Spot Level
DP	Down Pipe	ST	Stay Top
DS	Down Stay	SV	Sluice Valve
EB	Electricity Box	SS	Structure Support
EC	Electricity Cover	T	Tree
EP	Electricity Pole	Strt.	Survey Station
EOT	End of Trace	TBC	To Be Confirmed
FH	Fire Hydrant	TFR	Token From Records
FFL	Finished floor Level	TP	Telegraph Pole
FH	Fire Hydrant	TCB	Telephone Call Box
FP	Flood Point	TBM	Temporary Bench Mark
GS	Gas Valve	TL	Traffic Light
GP	Guide Post	TH	Trial Hole / Pit
GPR/TR	Ground Penetrating Radar	UTL	Unable to Locate
	Proved Incomplete	UTS	Unable to Survey
G	Gully	UTT	Unable to Trace
GC	Gully/Kerb Cover	VC	Vehicle Activated
IL	Invert Level	VDP	Vehicle Detector Pads
WR	Iron Rail/Fence	VP	Vent Pipe
LP	Lamp Post	VPP	Vent Pipe and Pipe
LF	Lamp Post	WO	Wash Out
LB	Letter Box	W	Water Cover
LC	Lighting Column	WL	Water Level
MH	Manhole Cover	WM	Water Meter
MW	Marker	WV	Wheel Valve
MC	Multiple Cables		

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Unless otherwise stated, all services shown on this plan have been surveyed using approved detectors and the connections between manholes, if not traced, are assumed to be direct.
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In ideal conditions the depth accuracies for the underground utilities located is +/- 10% of depth.
Where services are shown as 'Taken From Records' on the drawing we are not liable for any loss that may arise due to a lack of accuracy in that guided information.
Due to BT's policy we are not permitted to lift their inspection chamber covers. Reference should be made to the methodology used on site as detailed within the latest National Joint Utilities Group publication 'Guidelines for Planned Works'.
Excavations in the vicinity of services shown are to be carried out with due diligence (Ref: HSG47.)
The following 'level' is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger issued by the Royal Institute of Chartered Surveyors (RICS) 2007:
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"Existing record information showing underground services is often incomplete and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed.

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Topographical survey was supplied by the client.
Read in conjunction with existing records.
Utility routes and text shown in grey are from existing records.
Majority of drainage gullies were unable to survey due to baby blocked with silt and leaves.
Large parts of the site were covered with dense vegetation and shrubbery hampering the survey.
Some of the site was inaccessible because of parked cars.
Services plotted outside survey extents should not be considered to be exhaustive.

Topographical Legend

BL	Bollard	LB	Letter Box
BS	Bus Stop	LP	Lamp Post
BT	Telecom b	MH	Manhole
CL	Cover Level	MK	Marker
DP	Down Pipe	MS	Mile stone
EP	Electricity Pole	MW	Monitoring Well
EB	Electricity Box	P	Post
Fire	Fire Hydrant	PB	Push Box
FP	Flood Point	RE	Rodding Eye
FR	Fuel Injector	RP	Reflector Post
GY	Gulley	RS	Road Sign
GV	Gas Valve	SC	Stop Cock
HI	Height	SV	Stop Valve
IC	Inspection Cover	SW	Storm Water
IL	Invert Level	TL	Traffic Light
KB	Kerb	TP	Telegraph Pole
KO	Kerb Outlet	UTL	Unable to Lift
		VP	Vent Pipe
		WM	Water Main
		WO	Wash Out

Fence Details

BW	Barbed Wire	PaL	Paling
CB	Close Boarded	PW	Post & Wire
CI	Corrugated Iron	PWM	Post & Wire Mesh
CP	Chestnut Paling	PR	Post & Rail
IR	Iron Railings	CL	Chain Link
IW	Interwoven		

STATION COORDINATES

No	EASTING	NORTHING	LEVEL	/D
T1	385595.749	157688.401	36.991	Nail
T2	385641.982	157726.132	36.110	Nail
T3	385662.316	157660.998	36.512	Nail
T4	385623.740	157581.538	34.857	Nail
T5	385579.370	157536.920	35.759	Nail
T5A	385492.096	157440.012	41.151	Nail
T5B	385458.189	157471.897	39.020	Nail
T5C	385466.018	157479.745	39.091	Nail
T6	385554.943	157560.454	35.860	Nail
T7	385470.540	157604.490	37.127	Nail
T8	385426.112	157572.452	38.363	Nail
C1	385484.339	157621.519	36.617	Nail
C2	385484.339	157621.519	36.617	Nail
C3	385507.834	157509.403	38.944	Nail
C4	385541.260	157458.870	36.340	Nail
S1	385615.114	157624.204	35.881	Nail
S2	385574.665	157657.470	35.681	Nail
R1	385622.805	157642.759	34.999	Nail
R2	385638.192	157628.509	33.031	Nail
R3	385583.209	157669.232	33.375	Nail
R4	385555.925	157689.103	33.308	Nail
R5	385537.487	157730.664	33.253	Nail
R6	385526.959	157765.198	33.894	Nail
R7	385504.517	157790.225	34.772	Nail
R9	385485.450	157801.033	35.639	Nail
E2	385517.103	157637.196	37.314	Nail
E3	385570.184	157609.501	36.529	Nail
E4	385558.357	157646.662	35.663	Nail
E5	385533.934	157674.899	35.474	Nail
E6	385499.447	157697.349	35.344	Nail
E7	385466.430	157637.707	37.634	Nail
E8	385443.165	157655.215	37.960	Nail
E9	385481.618	157680.641	36.804	Nail
E10	385448.302	157708.814	36.500	Nail
E11	385445.517	157731.618	36.800	Nail
E11B	385415.722	157744.456	37.060	Nail
E12	385463.271	157721.506	36.345	Nail
E14	385476.602	157744.907	35.524	Nail
E15	385445.733	157761.942	36.129	Nail
E16	385485.840	157786.848	35.186	Nail
E17	385515.493	157748.222	35.587	Nail
E18	385539.639	157695.991	35.512	Nail
E19	385595.678	157606.970	35.899	Nail

REV.	DETAILS	BY	DATE

GRID: Existing
DATUM: Unknown

40SEVEN
LEEDS 0709 8 470747 | BIRMINGHAM 02920 577721 | LONDON 02702 743919
E-Mail: info@40seven.com Web site: www.40seven.com

CLIENT:
EC Harris LLP
Baskerville House
Centenary Square, Broad Street
Birmingham

PROJECT TITLE:
Waterside
Mixed Use Development
Trowbridge

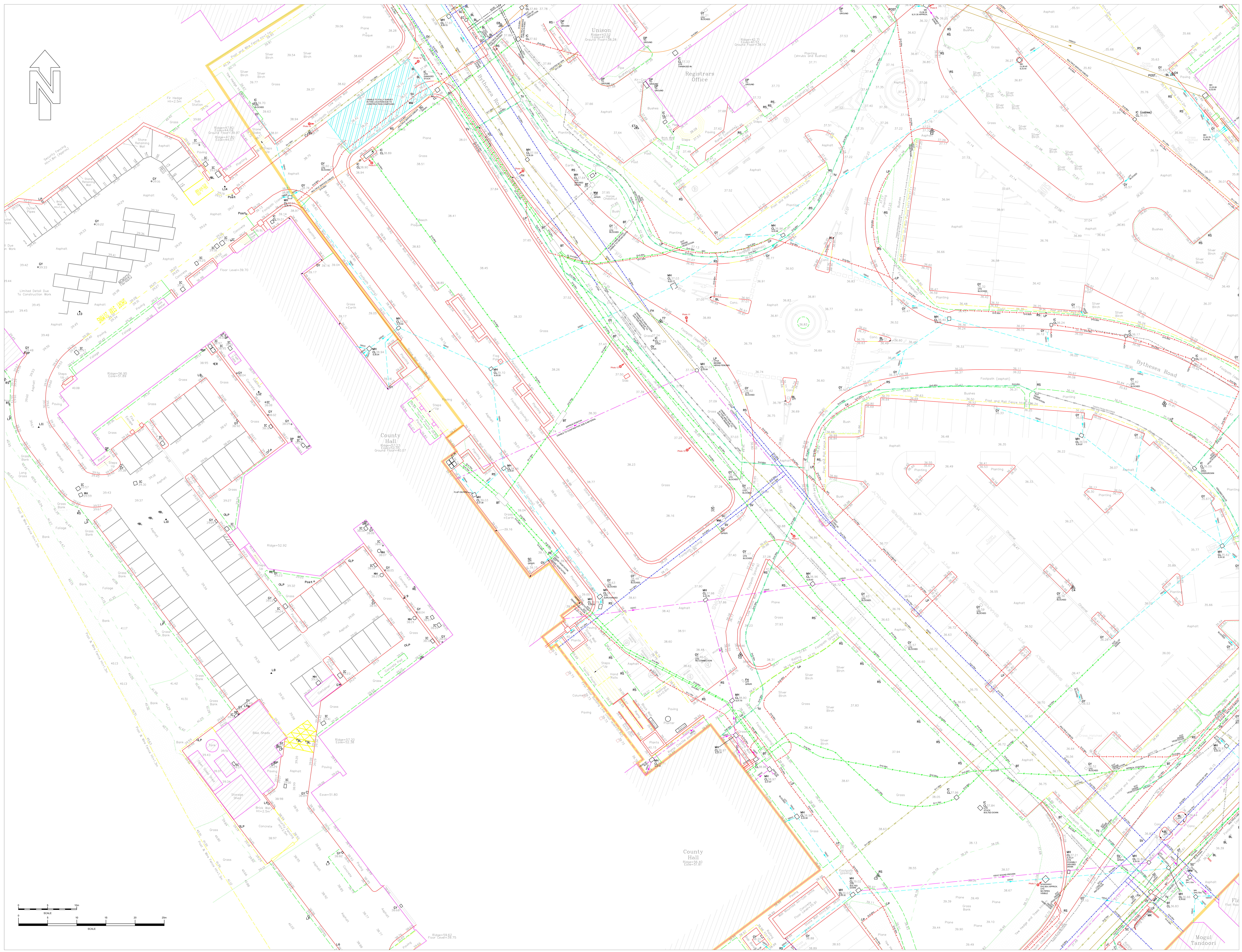
DRAWING TITLE:
Utility Mapping Survey

SURVEYED BY:	DRAWN BY:	APPROVED BY:
GB	TR	DL

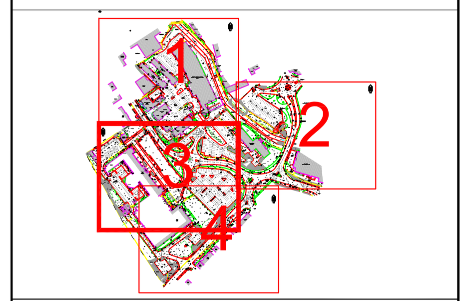
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1:200 @ (A0)	November 2007

DRAWING NUMBER:	SHEET NUMBER:	REV:
51210	2 Of 4	1.0

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SCALE
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SCALE



SHEET LAYOUT



40SEVEN LEGEND

- Foul Drainage
- Surface Drainage
- Combined Drainage
- Electricity
- Traffic Light System
- Gas
- Water
- Telecommunications
- Cable Television
- Close Circuit Television
- British Telecom
- Fibre Optics
- Unknown
- Ducting
- Unable To Survey
- Survey Extents
- Photo Position

40SEVEN ABBREVIATIONS

AD	Assumed Direction	Mtr	Meter
AV	Air Valve	MS	Mile Post/stone
ACU	Air Conditioning Unit	MB	Mooring Bollard
AR	Assumed Route	NFI	No Further Information
B/W	Barbed Wire Fence	NP	Name Plate
BB	Belisha Beacon	NM	Node Marker
BD	Back Drop	OHC	Overhead Cable
BO	Bollard	OSA	Off Survey Area
BH	Borehole	PM	Parking Meter
Bk	Brick	PBM	Permanent Bench Mark
BW	Brick Wall	PGM	Permanent Ground Marker
BTB	British Telecom Box	PR	Pipe Riser
BT	British Telecom Cover	P	Post
BS	Bus Stop	P/R	Post and Rail Fence
CR	Cable Riser	P/W	Post and Wire Fence
CTV	Cable TV	PU	Pump
CP	Catch Pit	RWP	Rain Water Pipe
C/L	Chain Link Fence	RP	Reflector Post
CH	Chainage	R/W	Retaining Wall
C/B	Close Borded Fence	RS	Road Sign
Co	Concrete	RE	Rodding Eye
CC	Comms Cabinet	S/F	Safety Fence
C/I	Corrugated Iron Fence	S/A	Soakaway
CL	Cover Level	SL	Soffit Level
CUL	Culvert	SC	Speed Camera
dil	Dilapidated	Spr	Spring
dis	Disused	ST	Stop Tap
DP	Down Pipe	SV	Sluice Valve
ER	Earth Rod	SS	Structure Support
EB	Electricity Box	S	Stump
EC	Electricity Cover	Stn	Survey Station
EP	Electricity Pole	TBC	To Be Confirmed
EOT	End of Trace	TFR	Taken From Records
FC	Fuel Cover	TP	Telegraph Pole
FFL	Finished floor Level	TCB	Telephone Call Box
FH	Fire Hydrant	TBM	Temporary Bench Mark
FS	Flag Staff	TS	Traffic Signals
GS	Gas Valve	TH	Trail Hole / Pit
GP	Guide Post	UTL	Unable to Locate
GPR/PI	Ground Penetrating Radar Proved Inconclusive	UTR	Unable to Raise
G	Gully	UTS	Unable to Survey
IC	Inspection Cover	UTT	Unable to Trace
IL	Invert Level	VR	Vapour Recovery
I/R	Iron Rail Fence	VDP	Vehicle Detector Pads
KO	Kerb Outlet	VP	Vent Pipe
LP	Lamp Post	VTP	Vertical Vent Pipe
LB	Letter Box	WO	Wash Out
LC	Lighting Column	W	Water Cover
MH	Manhole Cover	WI	Water Level
MKr	Marker	WM	Water Meter
M/C	Multiple Cables	WV	Wheel Valve

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Majority of drainage gullies were unable to survey due to being blocked with silt and leaves.
Large parts of the site were covered with dense vegetation and shrubbery hampering the survey.
Parts of the river bank were overgrown and unable to fully survey.
Services plotted outside survey extents should not be considered to be exhaustive.

Topographical Legend

BL	Bollard	LB	Letter Box
BS	Bus Stop	LP	Lamp Post
BT	Telecom Ic	MH	Manhole
CL	Cover Level	MK	Marker
DP	Down Pipe	MS	Mile stone
EP	Electricity Pole	MW	Monitoring Well
EB	Electricity Box	P	Post
FH	Fire Hydrant	PB	Pillar Box
FP	Fence Post	RE	Rodding Eye
FW	Foul Water	RP	Reflector Post
GY	Gulley	RS	Road Sign
GV	Gas Valve	SC	Stop Cock
Ht	Height	SV	Stop Valve
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IL	Invert Level	TL	Traffic Light
KB	Kerb	TP	Telegraph Pole
KO	Kerb Outlet	UTL	Unable to Lift
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Fence Details

BW	Barbed Wire	Pal	Paling
CB	Close Boarded	PW	Post & Wire
CI	Corrugated Iron	PWM	Post & Wire Mesh
CP	Chestnut Paling	PR	Post & Rail
IR	Iron Railings	CL	Chain Link
IW	Interwoven		

STATION COORDINATES

No	EASTING	NORTHING	LEVEL	ID
T1	385595.749	157698.401	36.991	Nail
T2	385641.982	157726.132	38.110	Nail
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C1	385410.341	157636.816	38.818	Nail
C2	385489.239	157547.329	38.617	Nail
C3	385507.834	157508.403	38.844	Nail
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S1	385615.114	157624.204	35.881	Nail
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REV.	DETAILS	BY	DATE

GRID: Existing
DATUM: Unknown

40SEVEN

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E-Mail: info@40seven.com Web site: www.40seven.com
Certificate Number FS 503975

CLIENT:
EC Harris LLP
Baskerville House
Centenary Square, Broad Street
Birmingham

PROJECT TITLE:
Waterside
Mixed Use Development
Trowbridge

DRAWING TITLE:
Utility Mapping Survey

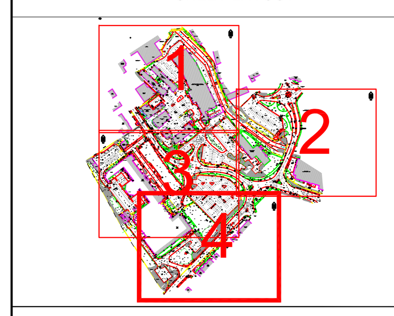
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GB	TR	DL

SCALE:	SURVEY DATE:
1:200 @ (A0)	November 2007

DRAWING NUMBER:	SHEET NUMBER:	REV:
51210	3 Of 4	1.0



SHEET LAYOUT



40SEVEN LEGEND

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- Surface Drainage
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*Electronic tracing is a reliable method of locating buried services. On heavy, built up sites 85% completeness is probably all that can be expected.
*Plan accuracies of the order of + or - 150mm may be achieved but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be limited.
*Existing record information showing underground services is often incomplete and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed.

40SEVEN NOTES

Topographical survey was supplied by the client.
Read in conjunction with existing records.
Utility routes and text shown in grey are from existing records.
Majority of drainage gullies were unable to survey due to being blocked with silt and leaves.
Large parts of the site were covered with dense vegetation and shrubbery hampering the survey.
Parts of the river bank were overgrown and unable to fully survey.
Services plotted outside survey extents should not be considered to be exhaustive.

Topographical Legend

BL	Bollard	LB	Letter Box
BS	Bus Stop	LP	Lamp Post
BT	Telecom Ic	MH	Manhole
CL	Cover Level	MK	Marker
DP	Down Pipe	MS	Mile stone
EP	Electricity Pole	MW	Monitoring Well
EB	Electricity Box	P	Post
FH	Fire Hydrant	PB	Pillar Box
FP	Fence Post	RE	Rodding Eye
FW	Foul Water	RP	Reflector Post
GY	Gulley	RS	Road Sign
GV	Gas Valve	SC	Stop Cock
Ht	Height	SV	Stop Valve
IC	Inspection Cover	SW	Storm Water
IL	Invert Level	TL	Traffic Light
KB	Kerb	TP	Telegraph Pole
KO	Kerb Outlet	UTL	Unable to Lift
		VP	Vent Pipe
		WM	Water Main
		WO	Wash Out

Fence Details

BW	Barbed Wire	PaL	Paling
CB	Close Boarded	PW	Post & Wire
CI	Corrugated Iron	PWM	Post & Wire Mesh
CP	Chestnut Paling	PR	Post & Rail
IR	Iron Railings	CL	Chain Link
IW	Interwoven		

STATION COORDINATES

No	EASTING	NORTHING	LEVEL	ID
T1	385595.749	157698.401	36.991	Nail
T2	385641.982	157726.132	38.110	Nail
T3	385662.316	157660.998	36.512	Nail
T4	385623.740	157581.538	34.857	Nail
T5	385579.370	157536.920	35.759	Nail
T5A	385492.096	157440.012	41.151	Nail
T5B	385458.189	157471.897	39.020	Nail
T5C	385498.018	157479.745	39.091	Nail
T6	385556.943	157590.454	35.860	Nail
T7	385470.540	157604.490	37.127	Nail
T8	385426.112	157672.452	38.303	Nail
C1	385410.341	157636.816	38.618	Nail
C2	385484.239	157547.329	38.617	Nail
C3	385507.834	157509.403	38.944	Nail
C4	385541.260	157558.870	36.340	Nail
S1	385615.114	157624.204	35.881	Nail
S2	385576.665	157657.470	35.681	Nail
R1	385622.805	157642.759	34.999	Nail
R2	385638.192	157628.509	33.021	Nail
R3	385583.209	157669.232	33.375	Nail
R4	385555.925	157689.703	33.308	Nail
R5	385537.487	157730.664	33.253	Nail
R6	385526.959	157765.188	33.896	Nail
R7	385504.517	157790.225	34.772	Nail
R9	385465.450	157801.033	35.628	Nail
E2	385517.103	157637.196	37.314	Nail
E3	385570.184	157609.501	36.529	Nail
E4	385558.357	157646.862	35.663	Nail
E5	385523.934	157674.899	35.474	Nail
E6	385499.447	157697.349	35.344	Nail
E7	385466.430	157637.707	37.624	Nail
E8	385443.165	157655.215	37.960	Nail
E9	385481.616	157680.841	36.804	Nail
E10	385458.712	157688.635	37.240	Nail
E11	385445.907	157715.816	36.900	Nail
E11B	385416.722	157744.406	37.980	Nail
E12	385463.271	157721.506	36.345	Nail
E14	385476.602	157744.907	35.524	Nail
E15	385445.733	157761.942	36.129	Nail
E16	385485.840	157786.846	35.186	Nail
E17	385515.493	157748.222	35.587	Nail
E18	385539.639	157695.991	35.512	Nail
E19	385595.678	157606.970	35.899	Nail

REV.	DETAILS	BY	DATE
2.0	Drainage pipe size changed from 100VC to 150VC next to County Hall, following associated survey carried out 19/02/2008	IB	27/02/08

GRID	DATUM
Existing	Unknown

40SEVEN

LEEDS 0700 4 474747 BIRMINGHAM 01543 577371 LONDON 01732 743815
E-Mail: info@40seven.com Web site: www.40seven.com

CLIENT:
EC Harris LLP
Baskerville House
Centenary Square, Broad Street
Birmingham

PROJECT TITLE:
Waterside
Mixed Use Development
Trowbridge

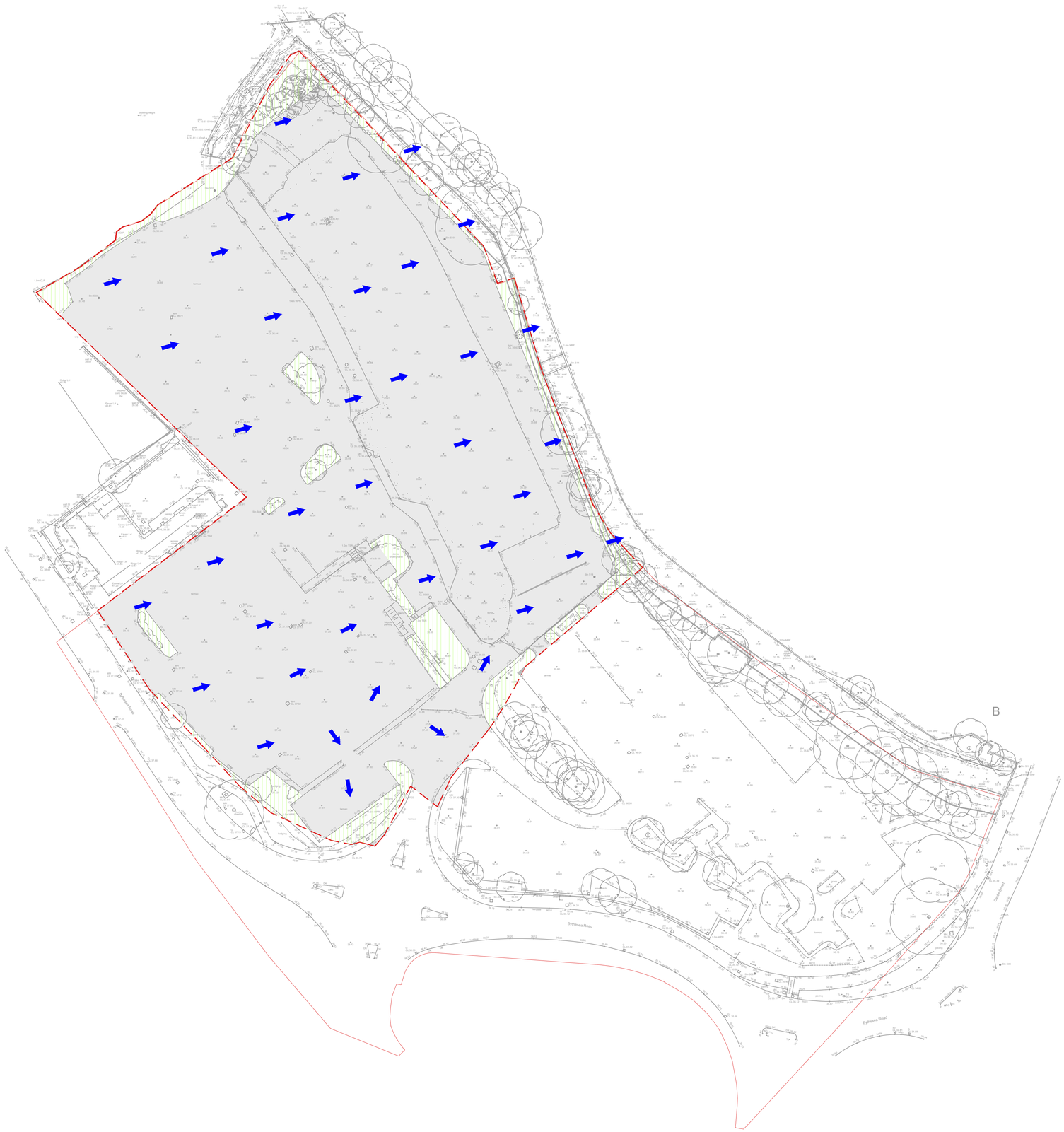
DRAWING TITLE:
Utility Mapping Survey

SURVEYED BY:	DRAWN BY:	APPROVED BY:
GB	TR	DL

SCALE:	SURVEY DATE:
1:200 @ (A0)	November 2007

DRAWING NUMBER:	SHEET NUMBER:	REV:
51210	4 Of 4	2.0

Appendix E Pre / Post Development Catchments



KEY

FULL PLANNING BOUNDARY

DRAINAGE STRATEGY BOUNDARY

SURFACE AREAS

HARDSTANDING	= 12254m^2
SOFT LANDSCAPING	= 1376m^2
TOTAL	= 13630m^2

KEY PLAN

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. The DWG file is issued for the purposes of coordination only and do not represent formal drawing issue and are not to be reprinted in any form. Formal issue of drawings is via DWF, Adobe PDF files and/or hard copies and their associated information issue sheets.
3. Note that all care has been taken with the export of DWG files and their content, but we recommend that you make due dimensional checks before using any DWG file information. Any errors found are to be reported to Hydrock immediately.
4. All levels are shown in metres above Ordnance Datum (m AOD).

REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	PRELIMINARY ISSUE					
	A.TODD	30/08/24	A.TODD	30/08/24	A.TODD	30/08/24
P02	PRELIMINARY ISSUE					
	A.TODD	12/02/26	A.TODD	12/02/26	A.TODD	12/02/26

Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

CLIENT

PELLIKAAN

PROJECT

TROWBRIDGE LEISURE CENTRE

TITLE

PRE-DEVELOPMENT CATCHMENT PLAN

HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	500

STATUS DESCRIPTION	STATUS
PLANNING	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
TLC-HYD-00-ZZ-SK-C-7710	P02



KEY

FULL PLANNING BOUNDARY

DRAINAGE STRATEGY BOUNDARY

AREA: A

BUILDING / ROOF	= 3331m^2
HARDSTANDING	= 1230m^2
SOFT LANDSCAPING	= 1755m^2

AREA: B

BUILDING / ROOF	= 255m^2
HARDSTANDING	= 2872m^2
SOFT LANDSCAPING	= 1056m^2

HOGGIN PATH

HOGGIN PATH	= 416m^2

ADDITIONAL LANDSCAPING

SOFT LANDSCAPING	= 2715m^2

TOTAL AREA:

BUILDING / ROOF	= 3586m^2
HARDSTANDING	= 4102m^2
HOGGIN PATH	= 416m^2
SOFT LANDSCAPING	= 5526m^2
TOTAL	= 13630m^2

KEY PLAN

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. The DWG file is issued for the purposes of coordination only and do not represent formal drawing issue and are not to be reprinted in any form. Formal issue of drawings is via DWF, Adobe PDF files and/or hard copies and their associated information issue sheets.
3. Note that all care has been taken with the export of DWG files and their content, but we recommend that you make due dimensional checks before using any DWG file information. Any errors found are to be reported to Hydrock immediately.
4. All levels are shown in metres above Ordnance Datum (m AOD).

REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P02	PRELIMINARY ISSUE					
	O. SPARKS	12/02/26	A.TODD	12/02/26		
P01	PRELIMINARY ISSUE					
	J. NEAL-LONG	30/08/24	A.TODD	30/08/24	A.TODD	30/08/24

Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

CLIENT

PELLIKAAN

PROJECT

TROWBRIDGE LEISURE CENTRE

TITLE

POST-DEVELOPMENT CATCHMENT PLAN

HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	1:500

STATUS DESCRIPTION	STATUS
PLANNING	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
31436-HYD-00-ZZ-SK-C-7711	P02

Appendix F Calculations

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Storm	Stantec:		

Catchment - (2) Type : Catchment Area

Area (m²)	87.547

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (3) Type : Catchment Area

Area (m²)	293.371

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (5) Type : Catchment Area

Area (m²)	147.043

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (9) Type : Catchment Area

Area (m²)	251.082

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment Canopy B Type : Catchment Area

Area (m²)	407.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (12) Type : Catchment Area

Area (m²)	73.966

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (17) Type : Catchment Area

Area (m²)	171.431

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (18) Type : Catchment Area

Area (m²)	65.507

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (19) Type : Catchment Area

Area (m²)	139.23

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (20) Type : Catchment Area

Area (m²)	177.923

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (21) Type : Catchment Area

Area (m²)	132.498

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (23) Type : Catchment Area

Area (m²)	214.834

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (24) Type : Catchment Area

Area (m²)	135.423

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (25) Type : Catchment Area

Area (m²)	84.484

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (8) Type : Catchment Area

Area (m²)	208.621

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Catchment - (7) Type : Catchment Area

Area (m²)	106.672

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Catchment - (13) Type : Catchment Area

Area (m²)	112.106

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Catchment - (1) Type : Catchment Area

Area (m²)	252.075

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (16) Type : Catchment Area

Area (m²)	41.458

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (BIN STORE) Type : Catchment Area

Area (m²)	123.733

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment Area_DP03 Type : Catchment Area

Area (m²)	571.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Catchment Area_DP02 Type : Catchment Area

Area (m²)	1661.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Catchment Area_DP01 Type : Catchment Area

Area (m²)	286.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (hrs)	0.083
Percentage Impervious (%)	100

Catchment non siphonic roof Type : Catchment Area

Area (m²)	130.735

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (4) Type : Catchment Area

Area (m²)	324.052

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment - (6) Type : Catchment Area

Area (m²)	344.46

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment Canopy C Type : Catchment Area

Area (m²)	81.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Catchment Canopy D Type : Catchment Area

Area (m²)	115.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



Catchment Canopy A

Type : Catchment Area

Area (m²)	195.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



Catchment Canopy E

Type : Catchment Area

Area (m²)	139.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



Catchment - (10)

Type : Catchment Area

Area (m²)	159.554

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



Catchment - (11)

Type : Catchment Area

Area (m²)	65.167

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100



Catchment - (26)

Type : Catchment Area

Area (m²)	325.00

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.950
Winter Volumetric Runoff	0.950
Time of Concentration (hrs)	0.00
Percentage Impervious (%)	100

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Storm	Stantec:		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Sump Depth (m)	Chamber Shape
SW-09	Manhole	385447.477	157681.844	37.720	1.420	36.300	0.000	Circular
SW-10 taking DP03	Manhole	385440.509	157671.281	37.475	1.005	36.470	0.000	Circular
MAIN ENTRANCE ACO NODE	Manhole	385496.969	157638.066	37.431	1.231	36.200	0.000	Circular
SW-17	Manhole	385480.522	157626.466	37.441	0.976	36.465	0.000	Circular
SW-16	Manhole	385508.562	157648.988	37.095	1.055	36.040	0.000	Circular
SW-15	Manhole	385508.672	157658.711	37.055	1.055	36.000	0.000	Circular
SW-07	Manhole	385470.477	157699.334	37.025	1.385	35.640	0.000	Circular
SW-02	Manhole	385434.758	157744.985	37.079	2.659	34.420	0.000	Circular
SW-13 taking DP02	Manhole	385487.762	157689.005	36.866	1.256	35.610	0.000	Circular
SW-23	Manhole	385530.806	157668.706	35.689	0.529	35.160	0.000	Circular
SW-01	Manhole	385470.526	157711.114	36.445	2.045	34.400	0.000	Circular
FC-01	Manhole	385483.838	157703.769	36.120	1.975	34.145	0.000	Circular
SW-14 taking DP01	Manhole	385492.993	157681.440	36.874	1.164	35.710	0.000	Circular
WW-4707	Manhole	385492.159	157708.065	35.826	3.506	32.320	0.068	Circular
SW-22	Manhole	385530.233	157678.318	35.558	0.488	35.070	0.000	Circular
SW-21	Manhole	385519.162	157700.879	35.185	0.495	34.690	0.000	Circular
RE-25	Manhole	385486.972	157761.497	35.071	0.686	34.385	0.000	Circular
SW-24	Manhole	385513.410	157736.130	35.165	1.430	33.735	0.000	Circular
AS-01	Manhole	385519.901	157734.375	35.501	1.836	33.665	0.000	Circular
SW-20	Manhole	385500.529	157726.196	35.215	1.315	33.900	0.000	Circular
River Outfall	Manhole	385526.698	157732.538	35.615	2.275	33.340	0.000	Circular
SW-08	Manhole	385464.411	157694.722	36.957	1.257	35.700	0.000	Circular

Name	Diameter (m)	Part Family	Lock
SW-09	0.900	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-10 taking DP03	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
MAIN ENTRANCE ACO NODE	0.450	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-17	0.450	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-16	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-15	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-07	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-02	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-13 taking DP02	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None

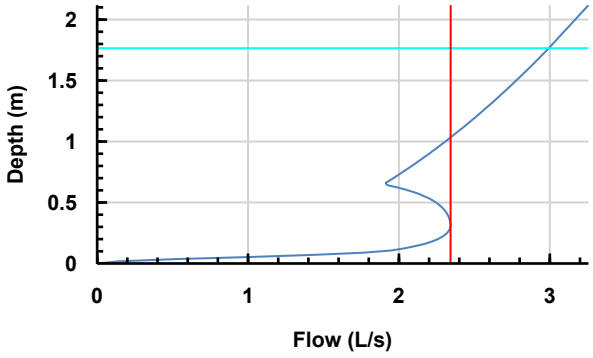
SW-23	0.450	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-01	1.200	SFA7 - Type2 - Manhole (B.12)	None
FC-01	1.800	SFA7 - Type2 - Manhole (B.12)	None
SW-14 taking DP01	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
WW-4707	1.200	SFA7 - Type2 - Manhole (B.12)	None
SW-22	0.450	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-21	0.600	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
RE-25	0.450	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
SW-24	1.200	SFA7 - Type4 - Circ Flex (Drive) (B.21a)	None
AS-01	1.200	SFA7 - Type2 - Manhole (B.12)	None
SW-20	1.200	SFA7 - Type2 - Manhole (B.12)	None
River Outfall	1.200		None
SW-08	1.200		None

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Storm	Stantec:		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW-09	Outlet	Pipe44	Free Discharge
SW-10 taking DP03	Outlet	Pipe43	Free Discharge
MAIN ENTRANCE ACO NODE	Outlet	Pipe58	Free Discharge
SW-17	Outlet	Pipe57	Free Discharge
SW-16	Outlet	Pipe59	Free Discharge
SW-15	Outlet	Pipe60	Free Discharge
SW-07	Outlet	Pipe (4)	Free Discharge
SW-02	Outlet	Pipe	Free Discharge
SW-13 taking DP02	Outlet	Pipe (5)	Free Discharge
SW-23	Outlet	Pipe64	Free Discharge
SW-01	Outlet	Pipe (11)	Free Discharge
FC-01	Outlet	Pipe (12)	Hydro-Brake®

Invert Level (m)	34.145
Design Depth (m)	1.765
Design Flow (L/s)	3.0
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☑
Unit Reference	SHE-0072-3000-1765-3000



SW-14 taking DP01	Outlet	Pipe61	Free Discharge
SW-22	Outlet	Pipe65	Free Discharge
SW-21	Outlet	Pipe (3)	Free Discharge
RE-25	Outlet	Pipe70	Free Discharge
SW-24	Outlet	Pipe71	Free Discharge
AS-01	Outlet	Pipe (8)	Free Discharge
SW-20	Outlet	Pipe (16)	Free Discharge
SW-08	Outlet	Pipe44 (1)	Free Discharge



Rain Garden

Type : Pond

Dimensions

Exceedance Level (m)	35.000
Depth (m)	0.500
Base Level (m)	34.500
Freeboard (mm)	300
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	2.64
Total Volume (m³)	6.309

Depth (m)	Area (m²)	Volume (m³)
0.000	25.00	0.000
0.500	64.44	21.597
0.545	57.00	24.328

Advanced

Perimeter	Circular
Length (m)	15.043
Friction Scheme	Manning's n
n	0.05

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Storm	Stantec:		



Infiltration Trench 02

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	36.927
Depth (m)	0.800
Base Level (m)	36.127
Freeboard (mm)	100
Porosity (%)	30
Length (m)	7.000
Long. Slope (1:X)	10000.00
Width (m)	0.500
Total Volume (m³)	0.822

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	216.0

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Storm	Stantec:		



Infiltration Trench 01

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	37.347
Depth (m)	0.850
Base Level (m)	36.497
Freeboard (mm)	100
Porosity (%)	30
Length (m)	26.500
Long. Slope (1:X)	10000.00
Width (m)	0.508
Total Volume (m³)	3.358

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	216.0



Infiltration Trench 03

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	37.450
Depth (m)	0.800
Base Level (m)	36.650
Freeboard (mm)	100
Porosity (%)	30
Length (m)	26.500
Long. Slope (1:X)	500.00
Width (m)	0.500
Total Volume (m³)	3.110

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	216.0



Swale-01

Type : Swale

Swale

Exceedance Level (m)	35.320
Depth (m)	0.400
Base Level (m)	34.920
Top Width (m)	3.000
Side Slope (1:X)	3.00
Base Width (m)	0.600
Freeboard (mm)	300
Length (m)	46.000
Long. Slope (1:X)	100.00
Filtration Rate (m/hr)	216.0
Friction Scheme	Manning's n
n	0.05
Total Volume (m³)	12.872

Trench

Trench Depth (m)	0.900
Trench Porosity (%)	30

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Swale

Porosity (%)	100

Trench

Trench Conductivity (m/hr)	216.0



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	36.410
Depth (m)	1.500
Base Level (m)	34.410
Number of Crates Long	23
Number of Crates Wide	11
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	2
Crate Width (m)	0.5
Crate Height (m)	0.75
Total Volume (m³)	361.025

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Storm	Stantec:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (m²)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (m²)
Catchment - (1)	Swale-01		Time of Concentration	252.075	100	0	100	252.075
Catchment - (2)	SW-02		Time of Concentration	87.547	100	0	100	87.547
Catchment - (3)	SW-01		Time of Concentration	293.371	100	0	100	293.371
Catchment - (4)	Swale-01		Time of Concentration	324.052	100	0	100	324.052
Catchment - (5)	Swale-01		Time of Concentration	147.043	100	0	100	147.043
Catchment - (6)	SW-24		Time of Concentration	344.460	100	0	100	344.460
Catchment - (7)	MAIN ENTRANCE ACO NODE		Time of Concentration	106.672	100	0	100	106.672
Catchment - (8)	Infiltration Trench 01		Time of Concentration	208.621	100	0	100	208.621
Catchment - (9)	RE-25		Time of Concentration	251.082	100	0	100	251.082
Catchment - (10)	SW-21		Time of Concentration	159.554	100	0	100	159.554
Catchment - (11)	Infiltration Trench 03		Time of Concentration	65.167	100	0	100	65.167
Catchment - (12)	SW-20		Time of Concentration	73.966	100	0	100	73.966
Catchment - (13)	Infiltration Trench 02		Time of Concentration	112.106	100	0	100	112.106
Catchment - (16)	SW-22		Time of Concentration	41.458	100	0	100	41.458
Catchment - (17)	FC-01		Time of Concentration	171.431	100	0	100	171.431
Catchment - (18)	SW-08		Time of Concentration	65.507	100	0	100	65.507
Catchment - (19)	SW-20		Time of Concentration	139.230	100	0	100	139.230
Catchment - (20)	Rain Garden		Time of Concentration	177.923	100	0	100	177.923
Catchment - (21)	Rain Garden		Time of Concentration	132.498	100	0	100	132.498
Catchment - (23)	SW-21		Time of Concentration	214.834	100	0	100	214.834
Catchment - (24)	SW-23		Time of Concentration	135.423	100	0	100	135.423
Catchment - (25)	SW-16		Time of Concentration	84.484	100	0	100	84.484
Catchment - (26)	Infiltration Trench 03		Time of Concentration	325.000	100	0	100	325.000
Catchment - (BIN STORE)	SW-07		Time of Concentration	123.733	100	0	100	123.733
Catchment non siphonic roof	SW-07		Time of Concentration	130.735	100	0	100	130.735
Catchment Area_DP01	SW-14 taking DP01		Time of Concentration	286.000	100	0	100	286.000
Catchment Area_DP02	SW-13 taking DP02		Time of Concentration	1661.000	100	0	100	1661.000
Catchment Area_DP03	SW-10 taking DP03		Time of Concentration	571.000	100	0	100	571.000
Catchment Canopy A	Cellular Storage		Time of Concentration	195.000	100	0	100	195.000
Catchment Canopy B	Cellular Storage		Time of Concentration	407.000	100	0	100	407.000
Catchment Canopy C	SW-02		Time of Concentration	81.000	100	0	100	81.000
Catchment Canopy D	SW-20		Time of Concentration	115.000	100	0	100	115.000

Catchment Canopy E	Rain Garden		Time of Concentration	139.000	100	0	100	139.000
TOTAL		**0.0**		**7622.973**				**7622.973**

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Stantec:		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	10
Prefill Manhole Sumps	☐
Perform No Discharge Analysis	☐

Rainfall

FSR (attenuation peak)

Type: FSR

Region	England And Wales
M5-60 (mm)	20.7
Ratio R	0.355
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
1.0	0.000
30.0	0.000
100.0	25.000

Storm Durations

Duration (hrs)	Run Time (hrs)
0.25	0.50
0.50	1.00
1.00	2.00
2.00	4.00
3.00	6.00
4.00	8.00
6.00	12.00
8.00	16.00
10.00	20.00
12.00	24.00
16.00	32.00
24.00	48.00
36.00	72.00
48.00	96.00
72.00	144.00
96.00	192.00
120.00	240.00
144.00	288.00
168.00	336.00

FSR (attenuation peak): 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (m^2)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Catchment - (2)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	87.55	1.5	0.642
Catchment - (3)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	293.37	5.0	2.150
Catchment - (5)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	147.04	2.5	1.077
Catchment - (9)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	251.08	4.2	1.838
Catchment Canopy B	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	407.00	6.9	2.984
Catchment - (12)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	73.97	1.2	0.543
Catchment - (17)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	171.43	2.9	1.253
Catchment - (18)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	65.51	1.1	0.483
Catchment - (19)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	139.23	2.4	1.020
Catchment - (20)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	177.92	3.0	1.304

Catchment - (21)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	132.50	2.2	0.972
Catchment - (23)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	214.83	3.6	1.577
Catchment - (24)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	135.42	2.3	0.993
Catchment - (25)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	84.48	1.4	0.621
Catchment - (8)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	208.62	3.5	1.526
Catchment - (7)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	106.67	1.8	0.783
Catchment - (13)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	112.11	1.9	0.822
Catchment - (1)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	252.08	4.3	1.850
Catchment - (16)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	41.46	0.7	0.306
Catchment - (BIN STORE)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	123.73	2.1	0.903
Catchment Area_DP03	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	571.00	10.1	4.405

Catchment Area_DP02	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	1661.00	29.5	12.816
Catchment Area_DP01	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	286.00	5.1	2.207
Catchment non siphonic roof	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	130.73	2.2	0.957
Catchment - (4)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	324.05	5.5	2.378
Catchment - (6)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	344.46	5.8	2.522
Catchment Canopy C	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	81.00	1.4	0.591
Catchment Canopy D	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	115.00	1.9	0.843
Catchment Canopy A	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	195.00	3.3	1.427
Catchment Canopy E	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	139.00	2.3	1.017
Catchment - (10)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	159.55	2.7	1.169
Catchment - (11)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	65.17	1.1	0.474

Catchment - (26)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	325.00	5.5	2.381

FSR (attenuation peak): 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (m²)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment - (2)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	87.55	3.6	1.577
Catchment - (3)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	293.37	12.2	5.272
Catchment - (5)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	147.04	6.1	2.648
Catchment - (9)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	251.08	10.4	4.513
Catchment Canopy B	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	407.00	16.9	7.317
Catchment - (12)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	73.97	3.1	1.329
Catchment - (17)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	171.43	7.1	3.083
Catchment - (18)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	65.51	2.7	1.176
Catchment - (19)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	139.23	5.8	2.501
Catchment - (20)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	177.92	7.4	3.200

Catchment - (21)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	132.50	5.5	2.381
Catchment - (23)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	214.83	8.9	3.863
Catchment - (24)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	135.42	5.6	2.435
Catchment - (25)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	84.48	3.5	1.520
Catchment - (8)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	208.62	8.6	3.749
Catchment - (7)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	106.67	4.4	1.916
Catchment - (13)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	112.11	4.7	2.015
Catchment - (1)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	252.08	10.5	4.531
Catchment - (16)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	41.46	1.7	0.744
Catchment - (BIN STORE)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	123.73	5.1	2.225
Catchment Area_DP03	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	571.00	24.9	10.808

Catchment Area_DP02	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	1661.00	72.5	31.438
Catchment Area_DP01	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	286.00	12.5	5.410
Catchment non siphonic roof	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	130.73	5.4	2.348
Catchment - (4)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	324.05	13.4	5.830
Catchment - (6)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	344.46	14.3	6.193
Catchment Canopy C	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	81.00	3.4	1.457
Catchment Canopy D	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	115.00	4.8	2.069
Catchment Canopy A	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	195.00	8.1	3.509
Catchment Canopy E	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	139.00	5.8	2.498
Catchment - (10)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	159.55	6.6	2.870
Catchment - (11)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	65.17	2.7	1.173

Catchment - (26)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	325.00	13.5	5.848

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (m²)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment - (2)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	87.55	5.9	2.555
Catchment - (3)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	293.37	19.7	8.559
Catchment - (5)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	147.04	9.9	4.291
Catchment - (9)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	251.08	16.9	7.320
Catchment Canopy B	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	407.00	27.4	11.870
Catchment - (12)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	73.97	5.0	2.159
Catchment - (17)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	171.43	11.5	4.999
Catchment - (18)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	65.51	4.4	1.910
Catchment - (19)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	139.23	9.4	4.060
Catchment - (20)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	177.92	12.0	5.191

Catchment - (21)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	132.50	8.9	3.866
Catchment - (23)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	214.83	14.4	6.265
Catchment - (24)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	135.42	9.1	3.947
Catchment - (25)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	84.48	5.7	2.462
Catchment - (8)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	208.62	14.0	6.085
Catchment - (7)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	106.67	7.2	3.110
Catchment - (13)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	112.11	7.5	3.272
Catchment - (1)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	252.08	17.0	7.353
Catchment - (16)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	41.46	2.8	1.209
Catchment - (BIN STORE)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	123.73	8.3	3.611
Catchment Area_DP03	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	571.00	40.4	17.534

Catchment Area_DP02	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	1661.00	117.6	50.999
Catchment Area_DP01	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	286.00	20.2	8.781
Catchment non siphonic roof	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	130.73	8.8	3.812
Catchment - (4)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	324.05	21.8	9.449
Catchment - (6)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	344.46	23.2	10.046
Catchment Canopy C	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	81.00	5.5	2.363
Catchment Canopy D	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	115.00	7.7	3.356
Catchment Canopy A	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	195.00	13.1	5.692
Catchment Canopy E	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	139.00	9.3	4.054
Catchment - (10)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	159.55	10.7	4.657
Catchment - (11)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	65.17	4.4	1.898

Catchment - (26)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	325.00	21.9	9.479

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW-09	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.720	36.300	36.358	0.058	15.8	0.037	0.000	15.4	7.234	OK
SW-10 taking DP03	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.475	36.470	36.546	0.076	16.2	0.086	0.000	15.8	7.237	OK
MAIN ENTRANCE ACO NODE	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.431	36.200	36.379	0.179	4.8	0.029	0.000	4.5	2.058	OK
SW-17	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.441	36.465	36.502	0.037	3.1	0.006	0.000	3.0	1.475	OK
SW-16	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.095	36.040	36.114	0.074	7.8	0.084	0.000	7.5	3.488	OK
SW-15	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.055	36.000	36.059	0.059	7.5	0.067	0.000	6.4	3.464	OK
SW-07	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	37.025	35.640	35.707	0.067	20.2	0.076	0.000	19.5	9.552	OK
SW-02	FSR (attenuation peak): 1 years: +0 %: 6.00 hrs: Winter	37.079	34.420	34.685	0.265	0.4	0.299	0.000	0.4	3.744	OK
SW-13 taking DP02	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.866	35.610	35.668	0.058	40.4	0.065	0.000	40.0	18.460	OK
SW-23	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.689	35.160	35.198	0.038	2.3	0.006	0.000	2.2	0.991	OK
SW-01	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.445	34.400	34.756	0.356	64.0	0.403	0.000	2.0	26.076	OK
FC-01	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.120	34.145	34.761	0.616	62.5	1.569	0.000	2.3	27.429	Surcharged
SW-14 taking DP01	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.874	35.710	35.795	0.085	11.5	0.096	0.000	10.8	5.653	OK
WW-4707	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.826	32.320	33.195	0.875	2.3	0.000	0.000	2.3	3.725	OK
SW-22	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.558	35.070	35.102	0.032	2.9	0.005	0.000	2.8	1.293	OK

SW-21	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.185	34.690	34.743	0.053	9.1	0.015	0.000	8.8	4.041	OK
RE-25	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.071	34.385	34.420	0.035	4.2	0.006	0.000	4.1	1.849	OK
SW-24	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.165	33.735	33.853	0.118	27.4	0.134	0.000	25.4	17.706	OK
AS-01	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.501	33.665	33.745	0.080	25.4	0.091	0.000	24.9	17.656	OK
SW-20	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.215	33.900	33.997	0.097	18.6	0.110	0.000	17.5	13.520	OK
River Outfall	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	35.615	33.340	33.412	0.072	24.9	0.000	0.000	25.0	17.656	OK
SW-08	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.957	35.700	35.787	0.087	16.5	0.098	0.000	15.9	7.702	OK

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW-09	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.720	36.300	36.390	0.090	37.1	0.057	0.000	36.6	17.800	OK
SW-10 taking DP03	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.475	36.470	36.591	0.121	37.9	0.136	0.000	37.1	17.804	OK
MAIN ENTRANCE ACO NODE	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.431	36.200	36.416	0.216	12.2	0.034	0.000	11.7	5.409	OK
SW-17	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.441	36.465	36.528	0.063	7.9	0.010	0.000	7.7	3.694	OK
SW-16	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.095	36.040	36.165	0.125	19.7	0.141	0.000	19.1	8.931	OK
SW-15	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.055	36.000	36.102	0.102	19.1	0.115	0.000	17.5	8.904	OK
SW-07	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	37.025	35.640	35.750	0.110	49.0	0.124	0.000	48.0	23.521	OK
SW-02	FSR (attenuation peak): 30 years: +0 %: 10.00 hrs: Winter	37.079	34.420	35.235	0.815	1.8	0.922	0.000	1.7	17.724	Surcharged
SW-13 taking DP02	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	36.866	35.610	35.704	0.094	101.4	0.106	0.000	100.9	45.720	OK
SW-23	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.689	35.160	35.222	0.062	5.6	0.010	0.000	5.5	2.433	OK
SW-01	FSR (attenuation peak): 30 years: +0 %: 10.00 hrs: Winter	36.445	34.400	35.235	0.835	14.8	0.944	0.000	5.9	251.173	Surcharged
FC-01	FSR (attenuation peak): 30 years: +0 %: 10.00 hrs: Winter	36.120	34.145	35.235	1.090	16.0	2.773	0.000	2.4	307.567	Surcharged
SW-14 taking DP01	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	36.874	35.710	35.852	0.142	30.0	0.160	0.000	29.0	14.294	OK
WW-4707	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.826	32.320	33.195	0.875	2.3	0.000	0.000	2.3	3.564	OK
SW-22	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.558	35.070	35.120	0.050	7.2	0.008	0.000	7.0	3.172	OK

SW-21	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.185	34.690	34.781	0.091	22.5	0.026	0.000	21.9	9.907	OK
RE-25	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.071	34.385	34.441	0.056	10.4	0.009	0.000	10.1	4.521	OK
SW-24	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.165	33.735	33.982	0.247	67.2	0.280	0.000	63.6	45.080	Surcharged
AS-01	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.501	33.665	33.810	0.145	63.6	0.163	0.000	62.5	45.010	OK
SW-20	FSR (attenuation peak): 30 years: +0 %: 0.50 hrs: Summer	35.215	33.900	34.149	0.249	50.7	0.282	0.000	47.7	48.603	Surcharged
River Outfall	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	35.615	33.340	33.460	0.120	62.5	0.000	0.000	62.6	45.010	OK
SW-08	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	36.957	35.700	35.841	0.141	39.3	0.159	0.000	38.4	18.958	OK

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW-09	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.720	36.300	36.418	0.118	59.5	0.075	0.000	58.3	28.882	OK
SW-10 taking DP03	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.475	36.470	36.629	0.159	60.3	0.180	0.000	59.5	28.886	OK
MAIN ENTRANCE ACO NODE	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.431	36.200	36.455	0.255	19.5	0.041	0.000	18.9	8.937	OK
SW-17	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.441	36.465	36.551	0.086	12.7	0.014	0.000	12.4	6.029	OK
SW-16	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.095	36.040	36.214	0.174	31.8	0.197	0.000	30.9	14.654	OK
SW-15	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.055	36.000	36.138	0.138	30.9	0.156	0.000	28.6	14.626	OK
SW-07	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	37.025	35.640	35.887	0.247	7.2	0.280	0.000	7.2	123.179	OK
SW-02	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	37.079	34.420	35.887	1.467	1.7	1.659	0.000	1.7	26.962	Surcharged
SW-13 taking DP02	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	36.866	35.610	35.887	0.277	14.1	0.314	0.000	14.1	240.442	OK
SW-23	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.689	35.160	35.242	0.082	9.1	0.013	0.000	9.0	3.944	OK
SW-01	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	36.445	34.400	35.887	1.487	21.2	1.682	0.000	2.7	401.763	Surcharged
FC-01	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	36.120	34.145	35.887	1.742	22.3	4.434	0.000	3.0	488.498	Surcharged
SW-14 taking DP01	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	36.874	35.710	35.895	0.185	48.9	0.209	0.000	47.5	23.386	OK
WW-4707	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.826	32.320	33.195	0.875	2.2	0.000	0.000	2.2	3.540	OK
SW-22	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.558	35.070	35.134	0.064	11.7	0.010	0.000	11.4	5.147	OK

SW-21	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.185	34.690	34.816	0.126	36.6	0.036	0.000	35.6	16.070	OK
RE-25	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.071	34.385	34.459	0.074	16.9	0.012	0.000	16.7	7.281	OK
SW-24	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.165	33.735	34.295	0.560	101.4	0.633	0.000	99.5	72.414	Surcharged
AS-01	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.501	33.665	33.896	0.231	99.5	0.262	0.000	94.8	72.360	Surcharged
SW-20	FSR (attenuation peak): 100 years: +25 %: 0.50 hrs: Summer	35.215	33.900	34.580	0.680	67.3	0.769	0.000	67.2	78.711	Surcharged
River Outfall	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	35.615	33.340	33.498	0.158	94.8	0.000	0.000	95.0	72.360	OK
SW-08	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	36.957	35.700	35.887	0.187	5.8	0.212	0.000	5.8	99.279	OK

FSR (attenuation peak): 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FSR (attenuation peak): 1 years: +0 %: 6.00 hrs: Winter	34.685	34.685	0.275	0.275	10.6	65.990	0.000	0.000	2.2	48.254	81.722	OK
Rain Garden	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	34.574	34.552	0.074	0.052	16.4	1.731	0.000	0.000	13.1	7.106	72.564	OK
Swale-01	FSR (attenuation peak): 1 years: +0 %: 0.50 hrs: Summer	35.427	34.200	0.947	0.180	8.2	4.819	0.000	0.000	5.4	6.906	62.561	OK
Infiltration Trench 02	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.175	36.148	0.047	0.021	1.9	0.036	0.000	0.000	1.9	0.818	95.655	OK
Infiltration Trench 01	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.579	36.542	0.080	0.045	3.5	0.281	0.000	0.000	3.1	1.480	91.633	OK
Infiltration Trench 03	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	36.812	36.692	0.109	0.042	6.6	0.340	0.000	0.000	6.0	2.835	89.072	OK

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FSR (attenuation peak): 30 years: +0 %: 10.00 hrs: Winter	35.235	35.235	0.825	0.825	17.4	198.228	0.000	0.000	6.0	110.729	45.093	OK
Rain Garden	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	34.616	34.587	0.116	0.087	40.5	2.921	0.000	0.000	35.3	17.739	53.707	OK
Swale-01	FSR (attenuation peak): 30 years: +0 %: 0.50 hrs: Summer	35.489	34.525	1.009	0.505	19.9	9.493	0.000	0.000	14.8	17.087	26.255	Flood Risk
Infiltration Trench 02	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	36.197	36.167	0.069	0.040	4.7	0.057	0.000	0.000	4.5	2.012	93.094	OK
Infiltration Trench 01	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	36.626	36.574	0.127	0.077	8.6	0.449	0.000	0.000	7.9	3.699	86.621	OK
Infiltration Trench 03	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	36.986	36.722	0.283	0.072	16.2	0.731	0.000	0.000	13.0	6.999	76.484	OK

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FSR (attenuation peak): 100 years: +25 %: 12.00 hrs: Winter	35.887	35.887	1.477	1.477	25.3	355.063	0.000	0.000	2.7	128.736	1.651	OK
Rain Garden	FSR (attenuation peak): 100 years: +25 %: 0.50 hrs: Summer	34.666	34.659	0.166	0.159	45.3	4.908	0.000	0.000	39.4	38.991	22.204	OK
Swale-01	FSR (attenuation peak): 100 years: +25 %: 0.50 hrs: Summer	35.481	35.254	1.001	1.234	32.6	16.575	0.000	0.000	21.3	26.900	-28.768	Flood Risk
Infiltration Trench 02	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	36.226	36.216	0.098	0.089	7.5	0.098	0.000	0.000	7.3	3.268	88.053	OK
Infiltration Trench 01	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	36.678	36.602	0.179	0.105	14.0	0.617	0.000	0.000	12.7	6.034	81.630	OK
Infiltration Trench 03	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	37.324	36.750	0.621	0.100	26.2	1.447	0.000	0.000	19.9	11.356	53.477	OK

FSR (attenuation peak): 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe43	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-10 taking DP03	SW-09	37.475	36.546	0.067	7.237	1.3	0.12	15.8	OK
Pipe57	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-17	MAIN ENTRANCE ACO NODE	37.441	36.502	0.108	1.475	0.2	0.15	3.0	OK
Pipe58	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	MAIN ENTRANCE ACO NODE	SW-16	37.431	36.379	0.048	2.058	0.9	0.22	4.5	OK
Pipe59	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-16	SW-15	37.095	36.114	0.067	3.488	0.8	0.23	7.5	OK
Pipe60	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-15	SW-14 taking DP01	37.055	36.059	0.058	3.464	0.8	0.14	6.4	OK
Pipe61	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-14 taking DP01	SW-13 taking DP02	36.874	35.795	0.079	5.653	0.6	0.1	10.8	OK
Pipe64	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-23	SW-22	35.689	35.198	0.035	0.991	0.7	0.13	2.2	OK
Pipe65	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-22	SW-21	35.558	35.102	0.043	1.293	0.5	0.04	2.8	OK
Pipe70	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	RE-25	SW-24	35.071	34.420	0.077	1.849	0.3	0.06	4.1	OK

Pipe71	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-24	AS-01	35.165	33.853	0.099	17.706	1.5	0.48	25.4	OK
Pipe	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Winter	Pipe	SW-02	Cellular Storage	37.079	34.537	0.122	1.079	0.8	0	2.5	OK
Pipe (1)	FSR (attenuation peak): 1 years: +0 %: 8.00 hrs: Summer	Pipe	Cellular Storage	SW-01	36.434	34.683	0.278	15.230	0.5	0.01	2.2	OK
Pipe (2)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	Rain Garden	SW-20	34.501	34.564	0.075	7.106	1.1	0.12	13.1	OK
Pipe (18)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 02	SW-16	37.046	36.161	0.047	0.818	0.4	0.04	1.9	OK
Pipe (19)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 01	SW-17	37.381	36.567	0.041	1.480	0.8	0.17	3.1	OK
Pipe (8)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	AS-01	River Outfall	35.501	33.745	0.076	17.656	2.1	0.22	24.9	OK
Pipe (11)	FSR (attenuation peak): 1 years: +0 %: 10.00 hrs: Winter	Pipe	SW-01	FC-01	36.445	34.677	0.404	26.710	0.1	0	2.2	OK
Pipe (12)	FSR (attenuation peak): 1 years: +0 %: 96.00 hrs: Summer	Pipe	FC-01	WW-4707	36.120	34.465	0.150	276.512	2.0	0.03	2.3	Surcharged
Pipe (16)	FSR (attenuation peak): 1 years: +0 %: 0.50 hrs: Summer	Pipe	SW-20	SW-24	35.215	33.994	0.103	19.702	1.0	0.32	16.9	OK
Pipe (3)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-21	Rain Garden	35.185	34.743	0.064	4.041	1.0	0.11	8.8	OK

Pipe44	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-09	SW-08	37.720	36.358	0.072	7.234	1.2	0.08	15.4	OK
Pipe44 (1)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-08	SW-07	36.957	35.787	0.077	7.702	1.1	0.16	15.9	OK
Pipe (4)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	SW-07	FC-01	37.025	35.707	0.065	9.552	1.7	0.1	19.5	OK
Pipe (5)	FSR (attenuation peak): 1 years: +0 %: 0.50 hrs: Summer	Pipe	SW-13 taking DP02	FC-01	36.866	35.660	0.211	24.727	1.4	0.03	28.8	OK
Pipe (7)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 03	SW-10 taking DP03	37.462	36.736	0.059	2.835	0.9	0.15	6.0	OK
Pipe (6)	FSR (attenuation peak): 1 years: +0 %: 0.25 hrs: Summer	Pipe	Swale-01	SW-20	35.336	34.927	0.059	4.121	0.6	0.15	5.4	OK

Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe43	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-10 taking DP03	SW-09	37.475	36.591	0.105	17.804	1.7	0.29	37.1	OK
Pipe57	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-17	MAIN ENTRANCE ACO NODE	37.441	36.528	0.140	3.694	0.5	0.38	7.7	OK
Pipe58	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	MAIN ENTRANCE ACO NODE	SW-16	37.431	36.416	0.083	5.409	1.2	0.56	11.7	OK
Pipe59	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-16	SW-15	37.095	36.165	0.113	8.931	1.0	0.58	19.1	OK
Pipe60	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-15	SW-14 taking DP01	37.055	36.102	0.099	8.904	1.0	0.38	17.5	OK
Pipe61	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-14 taking DP01	SW-13 taking DP02	36.874	35.852	0.132	14.294	0.8	0.28	29.0	OK
Pipe64	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-23	SW-22	35.689	35.222	0.056	2.433	0.9	0.32	5.5	OK
Pipe65	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-22	SW-21	35.558	35.120	0.071	3.172	0.7	0.11	7.0	OK
Pipe70	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Winter	Pipe	RE-25	SW-24	35.071	34.439	0.143	4.529	0.4	0.14	9.5	OK

Pipe71	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Winter	Pipe	SW-24	AS-01	35.165	33.967	0.185	44.447	1.8	1.13	60.1	Surcharged
Pipe	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-02	Cellular Storage	37.079	34.747	0.332	2.544	0.9	0.01	5.8	OK
Pipe (1)	FSR (attenuation peak): 30 years: +0 %: 72.00 hrs: Winter	Pipe	Cellular Storage	SW-01	36.434	34.850	0.445	68.798	0.5	0.01	2.2	OK
Pipe (2)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Winter	Pipe	Rain Garden	SW-20	34.501	34.600	0.135	17.740	1.3	0.3	33.4	OK
Pipe (18)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 02	SW-16	37.046	36.181	0.082	2.012	0.5	0.11	4.5	OK
Pipe (19)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 01	SW-17	37.381	36.608	0.070	3.699	1.0	0.44	7.9	OK
Pipe (8)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	AS-01	River Outfall	35.501	33.810	0.132	45.010	2.6	0.56	62.5	OK
Pipe (11)	FSR (attenuation peak): 30 years: +0 %: 10.00 hrs: Summer	Pipe	SW-01	FC-01	36.445	35.220	0.600	1.048	0.4	0.13	113.6	Surcharged
Pipe (12)	FSR (attenuation peak): 30 years: +0 %: 36.00 hrs: Summer	Pipe	FC-01	WW-4707	36.120	35.115	0.150	393.429	2.0	0.03	2.3	Surcharged
Pipe (16)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Winter	Pipe	SW-20	SW-24	35.215	34.085	0.208	34.010	1.2	0.84	44.2	OK
Pipe (3)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-21	Rain Garden	35.185	34.781	0.104	9.907	1.2	0.28	21.9	OK

Pipe44	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-09	SW-08	37.720	36.390	0.115	17.800	1.5	0.2	36.6	OK
Pipe44 (1)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-08	SW-07	36.957	35.841	0.125	18.958	1.4	0.39	38.4	OK
Pipe (4)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Summer	Pipe	SW-07	FC-01	37.025	35.750	0.105	23.521	2.2	0.24	48.0	OK
Pipe (5)	FSR (attenuation peak): 30 years: +0 %: 1.00 hrs: Summer	Pipe	SW-13 taking DP02	FC-01	36.866	35.682	0.349	77.386	1.6	0.07	62.1	OK
Pipe (7)	FSR (attenuation peak): 30 years: +0 %: 0.50 hrs: Summer	Pipe	Infiltration Trench 03	SW-10 taking DP03	37.462	36.777	0.081	9.305	1.1	0.28	10.8	OK
Pipe (6)	FSR (attenuation peak): 30 years: +0 %: 0.25 hrs: Winter	Pipe	Swale-01	SW-20	35.336	34.965	0.119	10.585	0.9	0.52	19.3	Surcharged

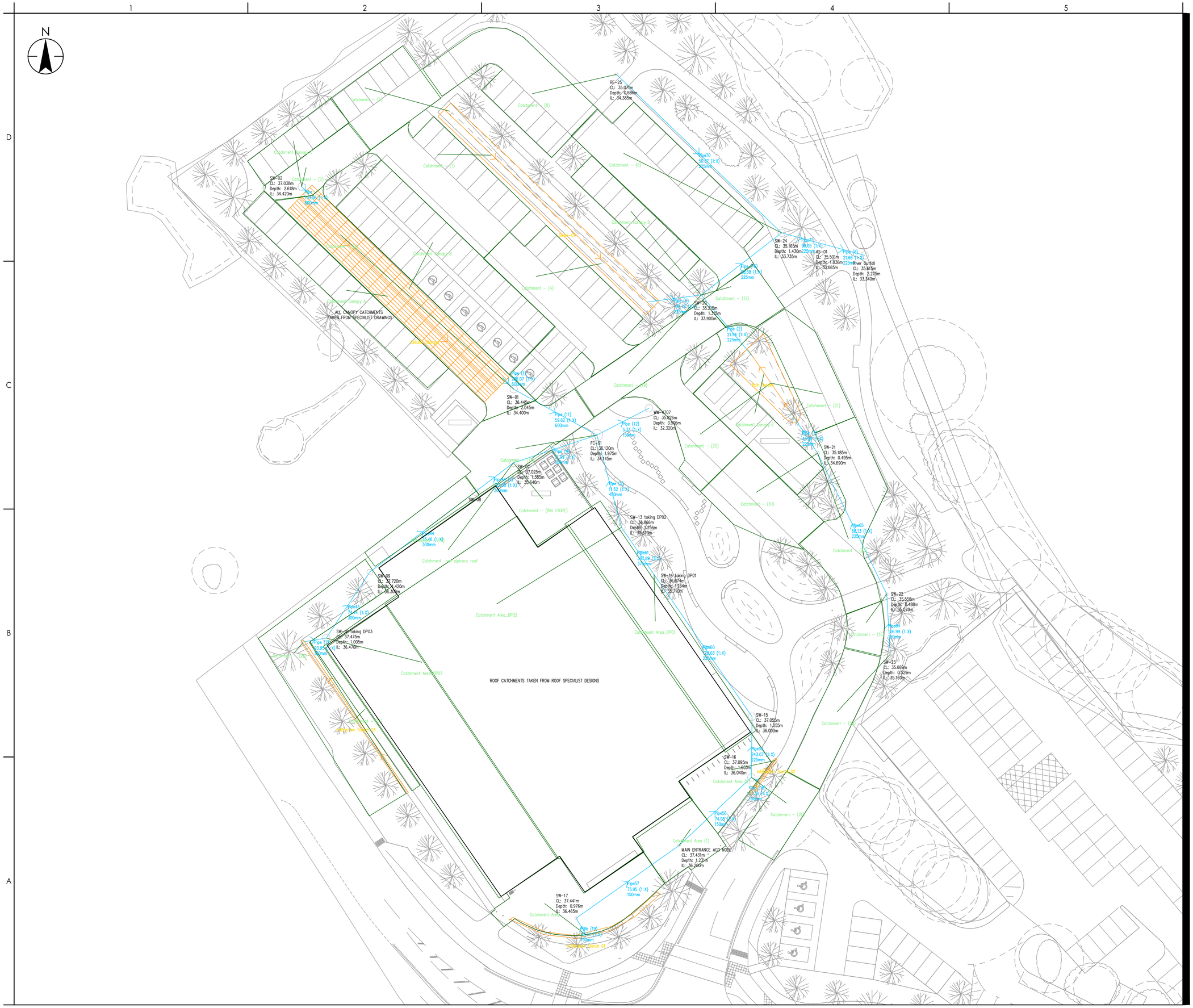
Trowbridge Leisure Centre:	Date: 12/02/2026		
	Designed by: H.M	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Storm	Stantec:		

FSR (attenuation peak): 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Velocity

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe43	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-10 taking DP03	SW-09	37.475	36.629	0.139	28.886	1.9	0.46	59.5	OK
Pipe57	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-17	MAIN ENTRANCE ACO NODE	37.441	36.551	0.150	6.029	0.7	0.61	12.4	OK
Pipe58	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	MAIN ENTRANCE ACO NODE	SW-16	37.431	36.455	0.118	8.937	1.3	0.91	18.9	OK
Pipe59	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-16	SW-15	37.095	36.214	0.156	14.654	1.0	0.93	30.9	OK
Pipe60	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-15	SW-14 taking DP01	37.055	36.138	0.133	14.626	1.2	0.63	28.6	OK
Pipe61	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-14 taking DP01	SW-13 taking DP02	36.874	35.895	0.171	23.386	1.0	0.46	47.5	OK
Pipe64	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-23	SW-22	35.689	35.242	0.073	3.944	1.0	0.52	9.0	OK
Pipe65	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-22	SW-21	35.558	35.134	0.095	5.147	0.7	0.18	11.4	OK
Pipe70	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	RE-25	SW-24	35.071	34.459	0.225	7.281	0.4	0.24	16.7	OK

Pipe71	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-24	AS-01	35.165	34.295	0.225	72.414	2.5	1.88	99.5	Surcharged
Pipe	FSR (attenuation peak): 100 years: +25 %: 0.50 hrs: Summer	Pipe	SW-02	Cellular Storage	37.079	35.171	0.600	5.507	0.9	0.01	6.2	Surcharged
Pipe (1)	FSR (attenuation peak): 100 years: +25 %: 36.00 hrs: Winter	Pipe	Cellular Storage	SW-01	36.434	35.727	0.600	85.440	0.5	0.01	2.7	Surcharged
Pipe (2)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	Rain Garden	SW-20	34.501	34.658	0.225	28.927	1.2	0.44	49.2	OK
Pipe (18)	FSR (attenuation peak): 100 years: +25 %: 0.50 hrs: Summer	Pipe	Infiltration Trench 02	SW-16	37.046	36.194	0.100	4.378	0.5	0.12	5.1	OK
Pipe (19)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 01	SW-17	37.381	36.650	0.096	6.034	1.1	0.71	12.7	Surcharged
Pipe (8)	FSR (attenuation peak): 100 years: +25 %: 1.00 hrs: Summer	Pipe	AS-01	River Outfall	35.501	33.860	0.173	131.394	2.7	0.8	89.8	OK
Pipe (11)	FSR (attenuation peak): 100 years: +25 %: 72.00 hrs: Winter	Pipe	SW-01	FC-01	36.445	35.473	0.600	146.702	0.1	0	2.3	Surcharged
Pipe (12)	FSR (attenuation peak): 100 years: +25 %: 72.00 hrs: Summer	Pipe	FC-01	WW-4707	36.120	35.540	0.150	702.733	2.0	0.03	2.7	Surcharged
Pipe (16)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-20	SW-24	35.215	34.575	0.225	55.252	1.8	1.35	70.7	Surcharged
Pipe (3)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-21	Rain Garden	35.185	34.816	0.138	16.070	1.4	0.46	35.6	OK

Pipe44	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-09	SW-08	37.720	36.418	0.152	28.882	1.6	0.31	58.3	OK
Pipe44 (1)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-08	SW-07	36.957	35.886	0.166	30.774	1.5	0.62	60.9	OK
Pipe (4)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	SW-07	FC-01	37.025	35.785	0.137	38.186	2.4	0.39	76.2	OK
Pipe (5)	FSR (attenuation peak): 100 years: +25 %: 2.00 hrs: Summer	Pipe	SW-13 taking DP02	FC-01	36.866	35.690	0.450	156.332	1.6	0.08	74.3	OK
Pipe (7)	FSR (attenuation peak): 100 years: +25 %: 0.25 hrs: Summer	Pipe	Infiltration Trench 03	SW-10 taking DP03	37.462	37.014	0.130	11.356	1.3	0.51	19.9	Surcharged
Pipe (6)	FSR (attenuation peak): 100 years: +25 %: 1.00 hrs: Winter	Pipe	Swale-01	SW-20	35.336	35.022	0.225	35.646	0.9	0.57	21.3	Flood Risk



Stantec

Stantec UK Limited
Merchants' House North, Wapping Road
Bristol
BS1 4RW
Tel. +44 (0)117 945 9225
www.stantec.com/uk

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P01 FIRST ISSUE	H.M	A.T	12/02/26
Issued/Revision	By	Appd	DD.MM.YYYY
	H.M	H.M	A.T	12/02/26
	Dwn.	Dsgn.	Chkd.	DD.MM.YYYY

Issue Status

S2 - FOR INFORMATION

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Client/Project

PELLIKAAN

TROWBRIDGE LEISURE CENTRE

Title

INFODRAINAGE CALCULATION LAYOUT

Project No.	## Scale
333700603	NTS
Revision	**Drawing No.**
P01	**TLC-HYD-XX-XX-SK-C-7740**

Appendix G Overland Flow Routes

KEY

FULL PLANNING BOUNDARY

DRAINAGE STRATEGY BOUNDARY

KEY PLAN

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P01	PRELIMINARY ISSUE					
	A.TODD	30/08/24	A.TODD	30/08/24	A.TODD	30/08/24
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

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PROJECT

TROWBRIDGE LEISURE CENTRE

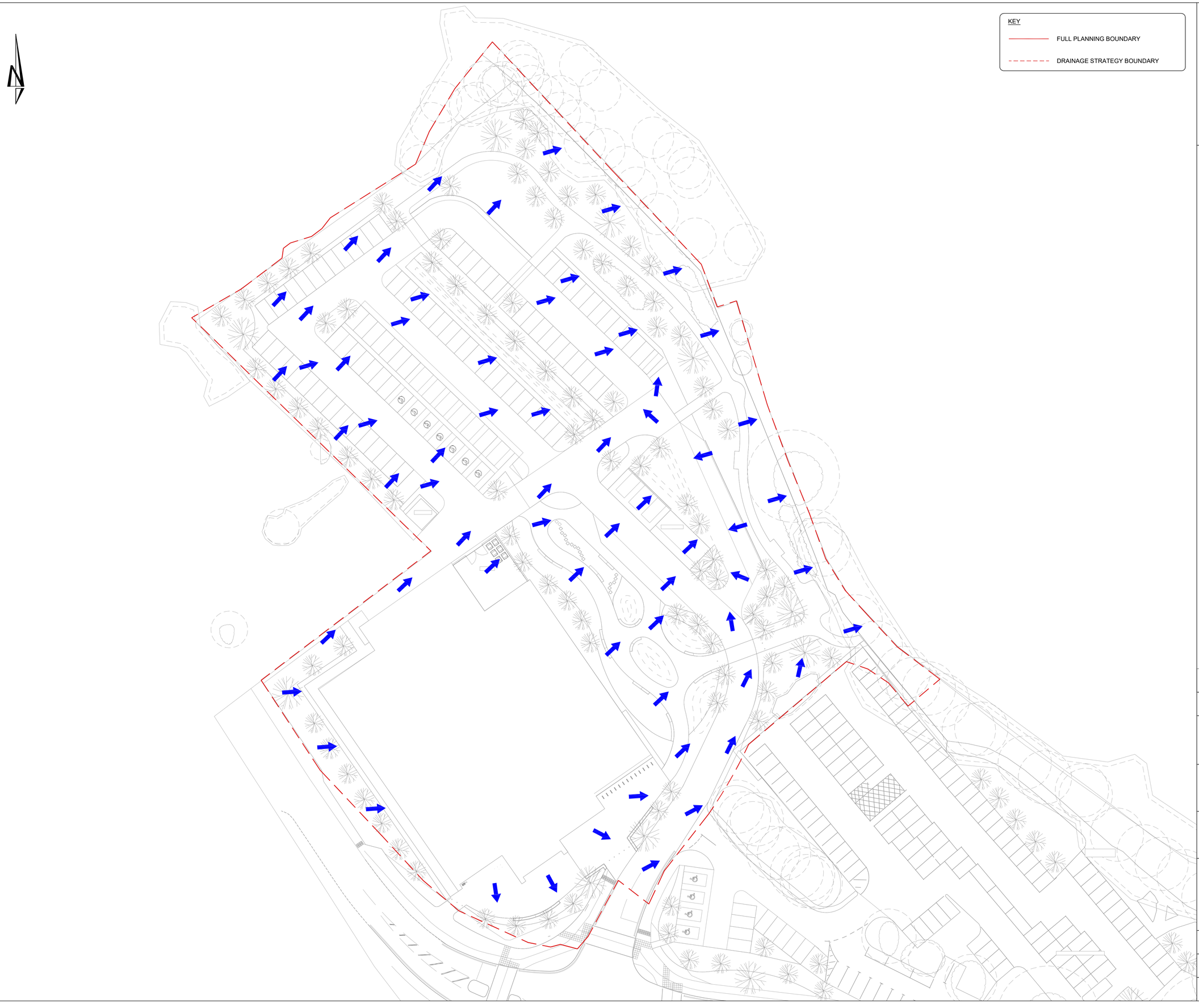
TITLE

PRE-DEVELOPMENT
EXCEEDANCE FLOWS

HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	NTS

STATUS DESCRIPTION	STATUS
PLANNING	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
TLC-HYD-00-ZZ-SK-C-7712	P01



KEY PLAN

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REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	PRELIMINARY ISSUE					
	O.Sparks	11/02/26	A.TODD	30/08/24	A.TODD	30/08/24

Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

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PROJECT

TROWBRIDGE LEISURE CENTRE

TITLE

POST-DEVELOPMENT
EXCEEDANCE FLOWS

HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	NTS

STATUS DESCRIPTION	STATUS
PLANNING	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
31436-HYD-00-ZZ-SK-C-7713	P01

Appendix H Proposed Drainage Strategy Layout

LEGEND - DRAINAGE

PROPOSED DRAINAGE - FOUL

100Ø@1:100 — FOUL WATER DRAIN - **PVCu**
Approx. gradient and diameter as noted, 100mm Ø UNO

FW-01 — FOUL WATER MANHOLE
PC Ring 1.2m Ø UNO

FW-01 — FOUL WATER INSPECTION CHAMBER
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m
Connections over 150mm - chamber to be **RANGE 600**
NOTE: Drawn to 900mm Ø for clarity

Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.

SAC — FOUL WATER SHALLOW ACCESS CHAMBER
Max depth to invert 600mm from GL, 300mm Ø

RE — FOUL RODDING EYE
Ø as noted

YG — FOUL YARD GULLY (to be trapped)
Gully reference as noted on drawing.
Cover grade to suit loading.

FD — FLOOR DRAIN (to be trapped)
Internal use only, refer to architect for details / specification.
Roddable from above slab into standard (01) fitting.
Floor Drain / Gully to be kept charged to avoid odours.

01 & 01A — FOUL OUTLET / STACK POSITION
Shown indicative, refer to architect for setting out.
All branches 100mm Ø UNO.
01 - Outlet connects into standard 90° rest bend.
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.
SVP - Indicates soil vent pipe by service engineer: with access.

PROPOSED DRAINAGE - STORM

150Ø@1:100 — STORM WATER DRAIN - **PVCu**
(Structured walled pipe required at diameter >150mm)
Approx. gradient and diameter as noted, 100mm Ø UNO

SW-01 — STORM WATER MANHOLE
PC Ring 1.2m Ø UNO

SW-01 — STORM WATER INSPECTION CHAMBER
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m
Connections over 150mm - chamber to be **RANGE 600**
NOTE: Drawn to 900mm Ø for clarity

RE — STORM RODDING EYE
Ø as noted

SILT TRAP

CONCRETE ENCASEMENT TO PIPE
Refer to limits of cover table drawing 7101

01 & 01A — RAIN WATER OUTLET
Shown indicative, refer to architect for setting out.
Branch Ø to suit RWO diameter.
01 - Outlet connects into standard 90° rest bend.
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.

AG — RAIN WATER OUTLET ACCESS GULLY
Branch Ø to be max 100mm .
AG - Outlet connects to gully.

RG — ROAD GULLY (to be trapped)

YG — YARD GULLY (to be trapped)

PG — PAVED AREA GULLY (to be trapped)

DC — DRAINAGE CHANNEL
(Refer to layout for specification)

TH — THRESHOLD DRAINAGE CHANNEL
(Assumed not required. Architect to confirm.
Refer to architect for details / specification)

PUBLIC AND PRIVATE EXISTING/PROPOSED DRAINAGE

150Ø@1:100 — EXISTING PUBLIC FOUL SEWER

150Ø@1:100 — EXISTING PUBLIC STORM SEWER

150Ø@1:100 — EXISTING PRIVATE FOUL SEWER

150Ø@1:100 — EXISTING PRIVATE STORM SEWER

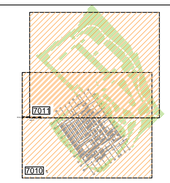
SCALE 0 5 10 15 20 Metres

SEE SHEET 2 FOR CONTINUATION

SW-03 D400 CVR CL: 36.910 IL: 35.760
SW-02 D400 CVR CL: 36.340 IL: 35.165
SW-01 D400 CVR CL: 36.445 IL(BD): 35.115 IL: 34.400
EXSW-07 ENSURE D400 CVR CL: 36.350 IL: 35.290
SW-100 D400 CVR CL: 36.785 IL: 35.900
SW-07 D400 CVR CL: 37.025 IL: 35.640
EXSW-06 CL: 36.860 IL: 36.160
SW-08 D400 CVR CL: 36.960 IL: 35.700
SW-09 D400 CVR CL: 37.770 IL: 36.300
SW-10 B125 CVR VENTED CL: 37.475 IL: 36.470 IL SIPHONIC: 36.770
SW-25 B125 CVR CL: 35.320 IL: 34.020
B125 CVR 600x600 GRATED COVER - WREKIN OR SIMILAR CL: 35.215 IL(150Ø): 33.975 IL(225Ø): 33.900 CATCHPIT
RAINGARDEN OUTLET IL: 34.500 FLEX MSE HEADWALL
WESSEX MAP SHOWN AS 450mm FOUL SEWER AND SURFACE WATER SEWER . WESSEX WATER CONFIRM THIS IS A 450mm SURFACE WATER PIPE WITH SMALLER FOUL PIPE CONCRETED AT IT'S BASE.
500mm GRAVEL LOW FLOW CHANNEL
ROAD RUNOFF DIRECT DISCHARGE TO RAINGARDEN. EDENKERB ALONG ROAD EDGE
DISCHARGE LOCATION 1
WW-4707 D400 CVR CL: 35.810 IL: 32.320 (TBC)
FLEX MSE HEADWALL
FLOW CONTROL MANHOLE - FC-01
HYDRO-BRAKE FLOW CONTROL.
UNIT REF:
DISCHARGE LIMITED TO 3 l/s
CL: 36.120
IL(BD): 35.200
IL: 34.145
HEAD: 1.025
CHAMBER DIAMETER: 1.8m
SW-21 600Ø CHAMBER B125 CVR CL: 35.185 IL: 34.690
RISK NEW HIGH VOLTAGE CABLE INSTALLATION. CAUTION TO BE TAKEN DURING DRAINAGE WORKS
FW-02a D400 CVR CL: 37.110 IL: 36.605
DRAINAGE HOLES IN WALL TO ALLOW RUNOFF TO SOFT
SW-13 B125 CVR VENTED CL: 36.855 IL(375Ø): 35.685 IL(450Ø): 35.610 IL SIPHONIC: 36.550
BACKWASH ATTENUATION TANK SHOWN INDICITAVELY
FW-02 D400 CVR CL: 37.410 IL(100Ø): 36.500 IL(150Ø): 36.425
FW-03 A15 CVR CL: 37.500 IL(100Ø): 36.380 IL(150Ø): 36.330
SW-14 B125 CVR VENTED CL: 36.880 IL(225Ø): 35.860 IL(375Ø): 35.710 IL SIPHONIC: 36.950
PIPE TO BE CONCRETE ENCASED WHERE INSUFFICIENT COVER
IL: 34.905
SW-22 B125 CVR CL: 35.560 IL: 35.070
SW-23 B125 CVR CL: 35.690 IL: 35.160
INDICATES ROUTE OF UNKNOWN SERVICE
INDICATES ROUTE OF UNKNOWN SERVICE (TAKEN FROM RECORDS)
FW-01 A15 CVR CL: 37.500 IL: 36.750
INDICATES GRASS COVERED FILTER TRENCH
FW-10 A15 CVR CL: 37.500 IL: 36.430
FW-04 A15 CVR CL: 37.500 IL: 36.200
INFILTRATION TRENCH - 03
0.5m WIDE X 0.8m DEEP
STORAGE PROVIDED IN OPEN GRADED CRUSHED ROCK (OGCR) TYPE 3 OR SIMILAR WITH MIN 30% VOIDS.
150Ø PERFORATED PIPE UNDERDRAIN
WESSEX MAP SHOWN AS 975mm FOUL SEWER. 6m EASEMENT.
EXSW-01 D400 CVR CLEX: 36.435 CLPR: 36.435 IL: 32.520
WESSEX MAP SHOWN AS 875mm SURFACE CULVERTED WATERCOURSE.
FFL=37.500
INTERNAL MANHOLE COVERS TO BE DOUBLE SEALED
FW-09 A15 CVR CL: 37.500 IL: 36.220
FW-05 A15 CVR CL: 37.500 IL: 35.855
FW-06 B125 CVR CL: 36.865 IL BD(150Ø): 35.600 IL(150Ø): 34.120
SW-15 B125 CVR CL: 37.055 IL36.000
EXFW-01 D400 CVR CLEX: 36.520 CLPR: 36.600 IL BD (PROP):32.800 IL: 31.300
SW-16 B125 CVR CL: 37.215 IL(150Ø): 36.115 IL(225Ø): 36.040
ENTRY TO EXISTING CHAMBER AT 33.620mAOD
CL: 36.40 IL: 33.40
FW-08 A15 CVR CL: 37.500 IL: 36.400
INDICATES ROUTE OF UNKNOWN SERVICE (END OF TRACE)
FW-07 A15 CVR CL: 37.500 IL(100Ø): 36.580 IL(150Ø): 36.530
MULTIPLE DEFECTS TO PIPE.
INFILTRATION TRENCH - 02
0.5m WIDE X 0.8m DEEP
STORAGE PROVIDED IN OPEN GRADED CRUSHED ROCK (OGCR) TYPE 3 OR SIMILAR WITH MIN 30% VOIDS.
150Ø PERFORATED PIPE UNDERDRAIN
UNCONFIRMED PIPE ROUTE OF PRIVATE SURFACE WATER DRAINAGE. PIPE COLLAPSED AT APPROX LOCATION SHOWN. REQUIREMENT FOR EXCAVATION AND REPAIR TO BE CONFIRMED
CL: 37.20
INFILTRATION TRENCH - 01
0.5m WIDE X 0.85m DEEP
STORAGE PROVIDED IN OPEN GRADED CRUSHED ROCK (OGCR) TYPE 3 OR SIMILAR WITH MIN 30% VOIDS.
150Ø PERFORATED PIPE UNDERDRAIN
SW-17 B125 CVR CL: 37.440 IL36.465
WESSEX MAP SHOWN AS 225mm FOUL SEWER. ASSUMED 3m EASEMENT
IL: 35.13

EASEMENTS
WESSEX WATER SEWER EASEMENT
LLFA CULVERTED WATERCOURSE EASEMENT

KEY PLAN



NOTES

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7. Final foul pipe connection routes and manholes are subject to confirmation of above ground drainage design discharge points at ground level by others to allow final pipe sizes, configuration and connections.
8. Door threshold drainage channel requirements to be advised by others.
9. Surface water drainage RWP locations to be confirmed by Architect.
10. External levels shown on this drawing relating to the civils, drainage works etc are to be confirmed on receipt of final external levels drawing (by others).
11. Foul drainage shown indicative subject to detailed design.

- TOPO SURVEY INFORMATION BASED OFF MENDIP LAND SURVEYS 2017
- GPR SURVEY INFORMATION BASED OFF 40 SEVEN SURVEYS 2007

REFER TO REFER TO *TLC-HYD-00-ZZ-DR-C-7104/7105* FOR SECTION DETAILS

REV	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P05	O.SPARKS	12/02/26	A.TODD	12/02/26	J.MAGEE	12/02/26
	UPDATED TO NEW LAYOUT					
P04	K.ARSLAN	06/05/25	H.MILLER	06/05/25	H.MILLER	06/05/25
	SECTION LINES ADDED SWALES/RAINGARDEN. PERMEABLE PAVING NOTE UPDATED					
P03	H.MILLER	10/09/24	J.MAGEE	10/09/24	J.MAGEE	10/09/24
	SCALE BAR ADDED					
P02	A.TODD	02/09/24	A.TODD	02/09/24		
	PRELIMINARY ISSUE					
P01	H.MILLER	30/08/24	A.TODD	30/08/24	A.TODD	30/08/24
	PRELIMINARY ISSUE					

Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

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PROJECT
TROWBRIDGE LEISURE CENTRE

TITLE
DRAINAGE STRATEGY
SHEET 1

HYDROCK PROJECT NO.	SCALE @ A1
C-31436	1:200
STATUS DESCRIPTION: FOR INFORMATION	STATUS: S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): TLC-HYD-00-ZZ-DR-C-7000	REVISION: P05

EASEMENTS

WESSEX WATER SEWER EASEMENT

LLFA CULVERTED WATERCOURSE EASEMENT

LEGEND - DRAINAGE

PROPOSED DRAINAGE - FOUL

100Ø@1:100 — FOUL WATER DRAIN - **PVCu**
Approx. gradient and diameter as noted, 100mm Ø UNO

FW-01 — FOUL WATER MANHOLE
PC Ring 1.2m Ø UNO

FW-01 — FOUL WATER INSPECTION CHAMBER
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m
Connections over 150mm - chamber to be **RANGE 600**
NOTE: Drawn to 900mm Ø for clarity

Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.

SAC — FOUL WATER SHALLOW ACCESS CHAMBER
Max depth to invert 600mm from GL, 300mm Ø

RE — FOUL RODDING EYE
Ø as noted

YG — FOUL YARD GULLY (to be trapped)
Gully reference as noted on drawing.
Cover grade to suit loading.

FD — FLOOR DRAIN (to be trapped)
Internal use only, refer to architect for details / specification.
Roddable from above slab into standard (01) fitting.
Floor Drain / Gully to be kept charged to avoid odours.

01 & 01A — FOUL OUTLET / STACK POSITION
Shown indicative, refer to architect for setting out.
All branches 100mm Ø UNO.
01 - Outlet connects into standard 90° rest bend.
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.
SVP - Indicates soil vent pipe by service engineer: with access.

PROPOSED DRAINAGE - STORM

150Ø@1:100 — STORM WATER DRAIN - **PVCu**
(Structured walled pipe required at diameter >150mm)
Approx. gradient and diameter as noted, 100mm Ø UNO

SW-01 — STORM WATER MANHOLE
PC Ring 1.2m Ø UNO

SW-01 — STORM WATER INSPECTION CHAMBER
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m
Connections over 150mm - chamber to be **RANGE 600**
NOTE: Drawn to 900mm Ø for clarity

RE — STORM RODDING EYE
Ø as noted

SILT TRAP

CONCRETE ENCASEMENT TO PIPE
Refer to limits of cover table drawing 7101

01 & 01A — RAIN WATER OUTLET
Shown indicative, refer to architect for setting out.
Branch Ø to suit RWO diameter.
01 - Outlet connects into standard 90° rest bend.
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.

AG — RAIN WATER OUTLET ACCESS GULLY
Branch Ø to be max 100mm .
AG - Outlet connects to gully.

RG — ROAD GULLY (to be trapped)

YG — YARD GULLY (to be trapped)

PG — PAVED AREA GULLY (to be trapped)

DC — DRAINAGE CHANNEL
(Refer to layout for specification)

TH — THRESHOLD DRAINAGE CHANNEL
(Assumed not required. Architect to confirm.
Refer to architect for details / specification)

SCALE 0 5 10 15 20 Metres

REPAIR REQUIRED TO EXISTING PIPE
400mm UPSTREAM OF OUTFALL

SWALE – 01 (VEGETATED BASIN WITH GRAVEL UNDERDRAIN TRENCH)
TOTAL STORAGE VOLUME (ABOVE + BELOW GROUND) = 13m³
STORAGE PROVIDED BY ABOVE GROUND SWALE
0.4m DEEP x 3m TOP WIDTH (WITH 1:3 SIDE SLOPES)
AND GRAVEL FILLED UNDERDRAIN TRENCH BELOW
TOP OF SWALE = 35.320 (MIN)
BASE OF SWALE = 34.920 (MIN)
GRAVEL TRENCH DEPTH = 0.9 m
TOP OF TRENCH LEVEL = 34.920 (MIN)
BOTTOM OF TRENCH LEVEL = 34.020 (MIN)
PERFORATED PIPE OUTFALL LEVEL = 34.020

ATTENUATION TANK - AT-01
TO BE LOCATED BENEATH CAR PARK
SRP = 1 IN 100 YR + 25% CLIMATE CHANGE.
361m³ STORAGE PROVIDED IN CELLULAR STORAGE CRATES.
46m x 5.5m x 1.5m DEEP
TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS
CL = 36.410
IL(IN) = 34.400
TOP OF TANK = 35.910
BASE OF TANK = 34.410

RISK
NEW HIGH VOLTAGE CABLE INSTALLATION. CAUTION TO BE TAKEN DURING DRAINAGE WORKS

FLOW CONTROL MANHOLE - FC-01
HYDRO-BRAKE FLOW CONTROL.
UNIT REF:
DISCHARGE LIMITED TO 3 **l/s**
CL: 36.120
IL(BD): 35.200
IL: 34.145
HEAD: 1.025
CHAMBER DIAMETER: 1.8m

DISCHARGE LOCATION 1

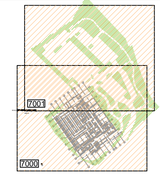
DISCHARGE LOCATION 3

SW-25 B125 CVR CL: 35.720 IL: 34.460
SW-02 D400 CVR CL: 37.035 IL (BD): 35.620 IL(225Ø): 34.795 IL(600Ø): 34.420
SW-03 D400 CVR CL: 36.365 IL: 35.560
SW-03 D400 CVR CL: 36.500 IL: 35.375
SW-03 D400 CVR CL: 36.910 IL: 35.760
SW-02 D400 CVR CL: 36.340 IL: 35.165
SW-01 D400 CVR CL: 36.445 IL(BD): 35.115 IL: 34.400
SW-100 D400 CVR CL: 36.785 IL: 35.900
SW-07 D400 CVR CL: 37.025 IL: 35.640
SW-08 D400 CVR CL: 36.960 IL: 35.700
SW-09 D400 CVR CL: 37.770 IL: 36.300
SW-10 B125 CVR VENTED CL: 37.475 IL: 36.470 IL SIPHONIC: 36.770
SW-24 B125 CVR CL: 35.165 IL: 33.735
SW-20 B125 CVR 600x600 GRATED COVER - WREKIN OR SIMILAR CL: 35.215 IL(150Ø): 33.975 IL(225Ø): 33.900 CATCHPIT
SW-25 B125 CVR CL: 35.320 IL: 34.020
SW-13 B125 CVR VENTED CL: 36.855 IL(375Ø): 35.685 IL(450Ø): 35.610 IL SIPHONIC: 36.550
SW-14 B125 CVR VENTED CL: 36.880 IL(225Ø): 35.860 IL(375Ø): 35.710 IL SIPHONIC: 36.950
SW-21 600Ø CHAMBER B125 CVR CL: 35.185 IL: 34.690
AS-01 B125 CVR AQUASWIRL AS-5 CL: 35.515 IL: 33.665
EXSW-04 B125 CVR CL: 35.630 IL: 33.430
EXSW-06 CL: 36.860 IL: 36.160
EXSW-07 ENSURE D400 CVR CL: 36.350 IL: 35.290
WW-4707 D400 CVR CL: 35.810 IL: 32.320 (TBC)
EXFW-02 D400 CVR CL: 36.700 IL: 30.790
FW-01 A15 CVR CL: 37.500 IL: 36.750
FW-02 D400 CVR CL: 37.410 IL(100Ø): 36.500 IL(150Ø): 36.425
FW-02a D400 CVR CL: 37.110 IL: 36.605
FW-03 A15 CVR CL: 37.500 IL(100Ø): 36.380 IL(150Ø): 36.330
FW-04 A15 CVR CL: 37.500 IL: 36.200
FW-10 A15 CVR CL: 37.500 IL: 36.430

RE CL: 35.105 IL(225Ø): 34.200
ACO M2000 0.0 D400
ACO ROADDRAIN 100 D400
ACO M2000 0.0 D400 PERFORATED PIPE @ 1:100
1500 PERFORATED PIPE 500mm DEEP
2250@1:95
2250@1:100
2250@1:20
2250@1:190
1500@1:100
1500@1:20
1500@1:10
1500@1:80
1500@1:60
1500@1:27
1500@1:120
1500@1:85
600Ø@1:80
300Ø@1:32
300Ø@1:35
300Ø@1:10
150Ø@1:85
150Ø@1:100
150Ø@1:175
150Ø@1:80
150Ø@1:20
150Ø@1:10
150Ø@1:60
150Ø@1:27
150Ø@1:120
150Ø@1:100
1:80, 100Ø
1:16, 100Ø
1:20, 150Ø
1:27, 150Ø
1:175, 150Ø
1:80, 150Ø
1:60, 150Ø
1:10, 150Ø
1:120, 150Ø
1:100, 150Ø
1:85, 150Ø
1:35, 300Ø
1:32, 300Ø
1:10, 300Ø
1:100, 300Ø
1:80, 600Ø
1:60, 600Ø
1:95, 2250Ø
1:100, 2250Ø
1:20, 2250Ø
1:190, 2250Ø
9750
8750
36.59
36.55
35.75
35.32
35.00
37.01
37.26
36.24
36.850

TREEPIT/RAINGARDEN
RAINGARDEN OUTLET IL: 34.500
FLEX MSE HEADWALL
WESSEX MAP SHOWN AS 450mm FOUL SEWER AND SURFACE WATER SEWER . WESSEX WATER CONFIRM THIS IS A 450mm SURFACE WATER PIPE WITH SMALLER FOUL PIPE CONCRETED AT IT'S BASE.
500mm GRAVEL LOW FLOW CHANNEL
ROAD RUNOFF DIRECT DISCHARGE TO RAINGARDEN. EDENKERB ALONG ROAD EDGE
DRAINAGE HOLES IN WALL TO ALLOW RUNOFF TO SOFT
BACKWASH ATTENUATION TANK SHOWN INDICITAVELY
INDICATES ROUTE OF UNKNOWN SERVICE
INDICATES ROUTE OF UNKNOWN SERVICE (TAKEN FROM RECORDS)
INDICATES GRASS COVERED FILTER TRENCH
PIPE TO BE CONCRETE ENCASED WHERE INSUFFICIENT COVER
IL: 34.905
INFILTRATION TRENCH - 03
SEE SHEET 1 FOR CONTINUATION

KEY PLAN



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- GPR SURVEY INFORMATION BASED OFF 40 SEVEN SURVEYS 2007

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REV						
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	PRELIMINARY ISSUE					
	H.MILLER	30/08/24	A.TODD	30/08/24	A.TODD	30/08/24
P02	PRELIMINARY ISSUE					
	A.TODD	02/09/24	A.TODD	02/09/24		
P03	SCALE BAR ADDED					
	H.MILLER	10/09/24	J.MAGEE	10/09/24	J.MAGEE	10/09/24
P04	CLIMATE CHANGE AMENDED TO PERMEABLE PAVING					
	A.TODD	21/11/24	A.TODD	21/11/24		
P05	SECTION LINES ADDED SWALES/RAINGARDEN. PERMEABLE PAVING NOTE UPDATED					
	K.ARSLAN	06/05/25	H.MILLER	06/05/25	H.MILLER	06/05/25
P06	UPDATED TO NEW LAYOUT					
	O.SPARKS	12/02/26	A.TODD	12/02/26	J.MAGEE	12/02/26

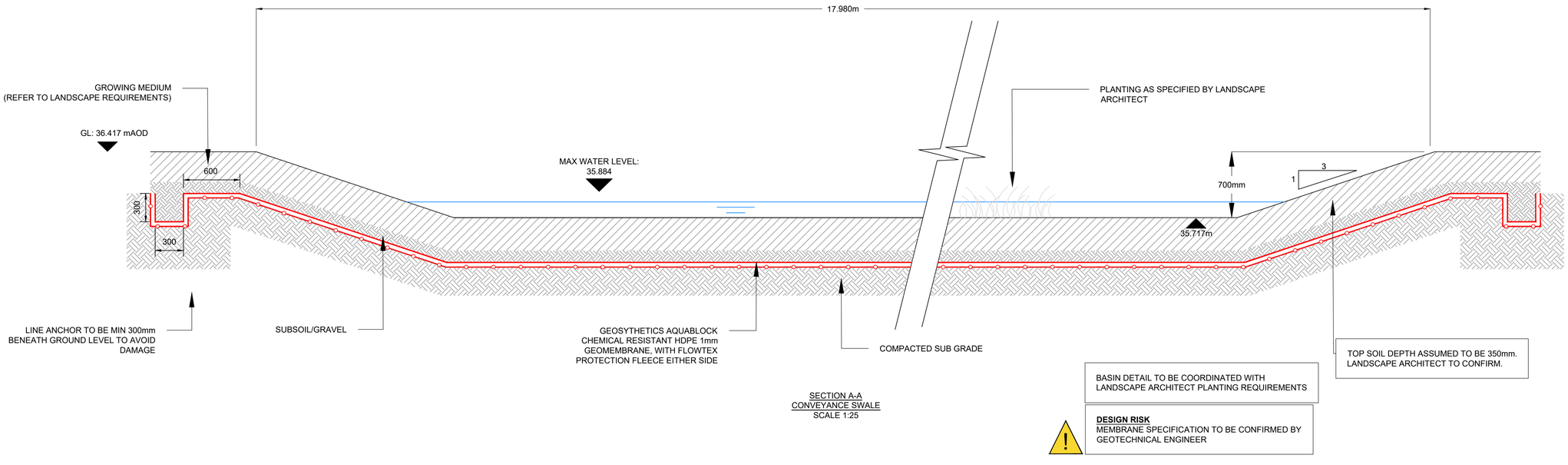
Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

CLIENT
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PROJECT
TROWBRIDGE LEISURE CENTRE

TITLE
DRAINAGE STRATEGY
SHEET 2

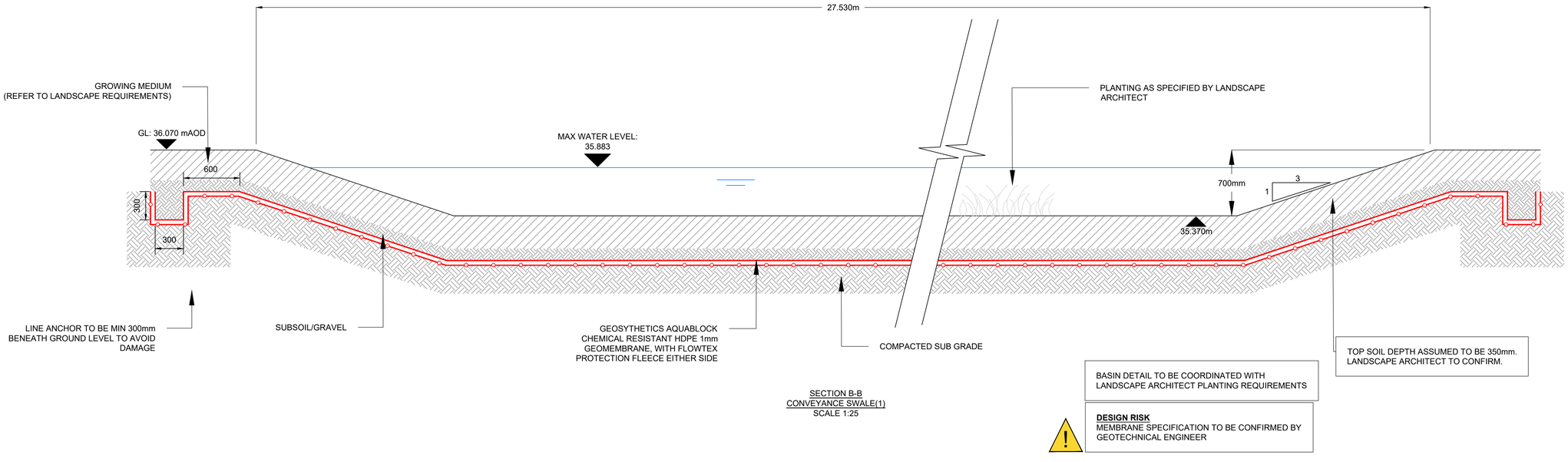
HYDROCK PROJECT NO.	SCALE @ A1
C-31436	1:200
STATUS DESCRIPTION: FOR INFORMATION	STATUS: S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): TLC-HYD-00-ZZ-DR-C-7001	REVISION: P06



SECTION A-A
CONVEYANCE SWALE
SCALE 1:25

BASIN DETAIL TO BE COORDINATED WITH LANDSCAPE ARCHITECT PLANTING REQUIREMENTS

DESIGN RISK
MEMBRANE SPECIFICATION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER



SECTION B-B
CONVEYANCE SWALE(1)
SCALE 1:25

BASIN DETAIL TO BE COORDINATED WITH LANDSCAPE ARCHITECT PLANTING REQUIREMENTS

DESIGN RISK
MEMBRANE SPECIFICATION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

KEY PLAN

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P01	FOR INFORMATION					
	K.ARSLAN	06/05/25	H.MILLER	06/05/25	H.MILLER	06/05/25
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

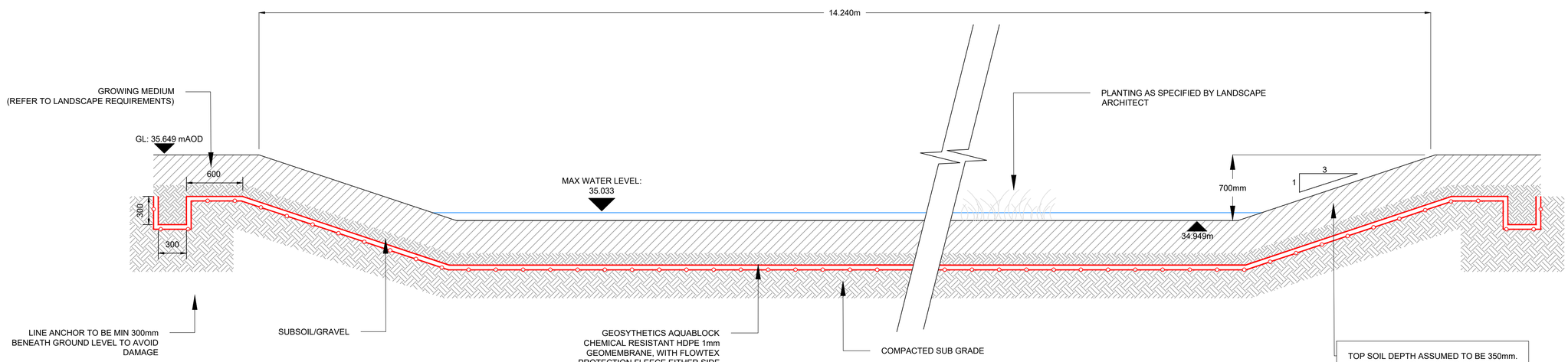
Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

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PROJECT
TROWBRIDGE LEISURE CENTRE

TITLE
DRAINAGE DETAILS
SHEET 5

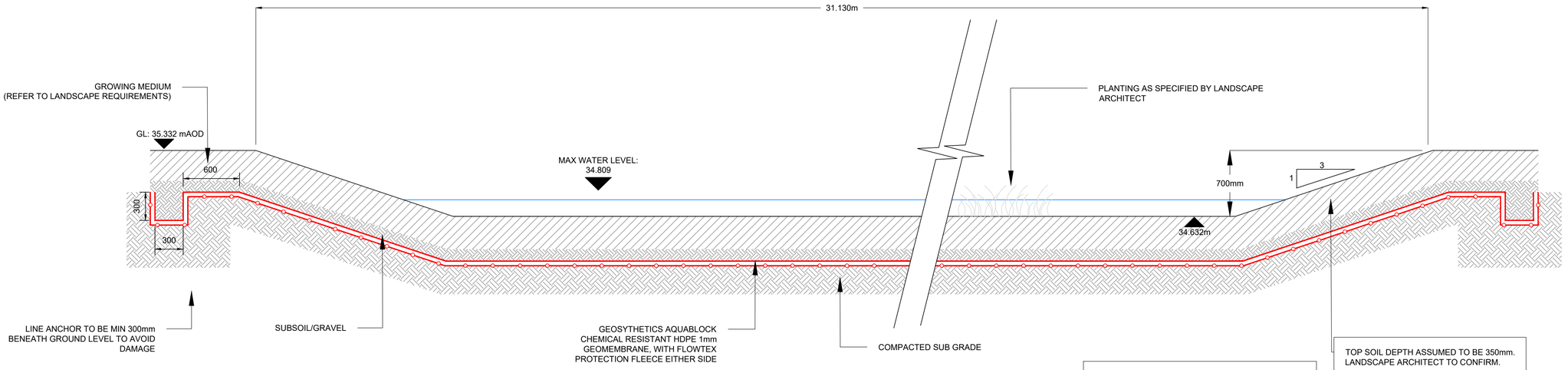
HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	AS SHOWN
STATUS DESCRIPTION	STATUS
FOR INFORMATION	S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
TLC-HYD-00-ZZ-DR-C-7104	P01



SECTION C-C
CONVEYANCE SWALE(2)
SCALE 1:25

BASIN DETAIL TO BE COORDINATED WITH LANDSCAPE ARCHITECT PLANTING REQUIREMENTS

DESIGN RISK
MEMBRANE SPECIFICATION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER



SECTION D-D
CONVEYANCE SWALE(3)
SCALE 1:25

BASIN DETAIL TO BE COORDINATED WITH LANDSCAPE ARCHITECT PLANTING REQUIREMENTS

DESIGN RISK
MEMBRANE SPECIFICATION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER

KEY PLAN

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Refer to *TLC-HYD-00-ZZ-DR-C-7000/7001* for section locations

P01	FOR INFORMATION					
	K.ARSLAN	06/05/25	H.MILLER	06/05/25	H.MILLER	06/05/25
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

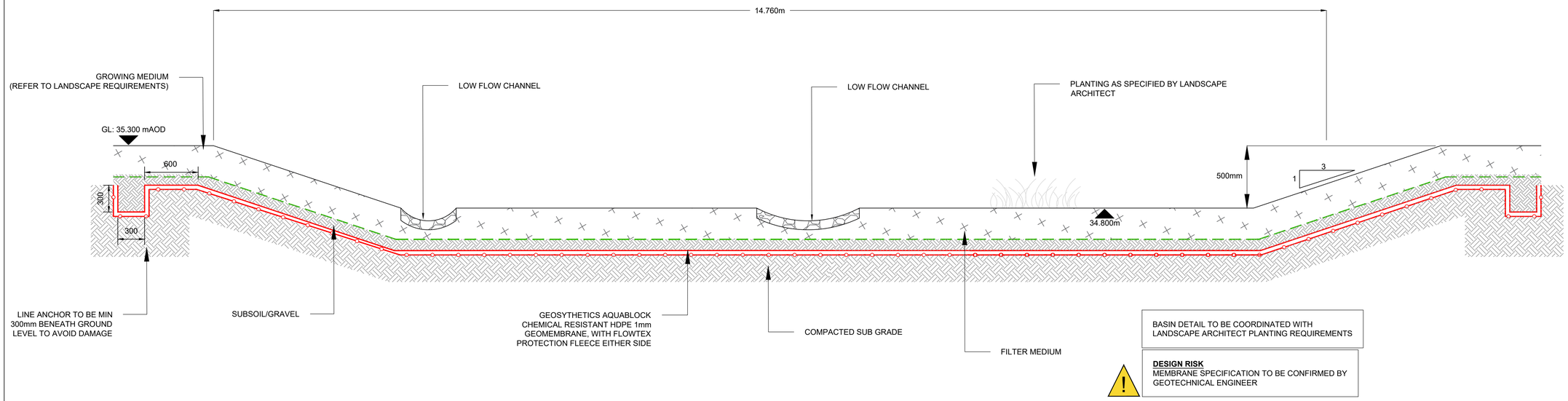
Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

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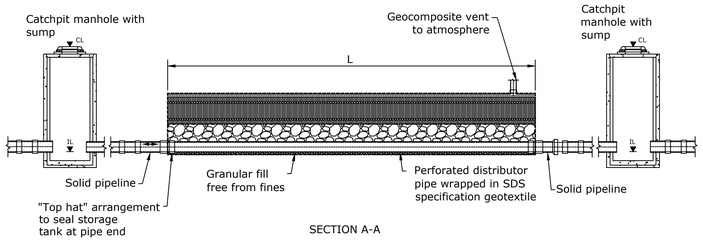
PROJECT
TROWBRIDGE LEISURE CENTRE

TITLE
DRAINAGE DETAILS
SHEET 5

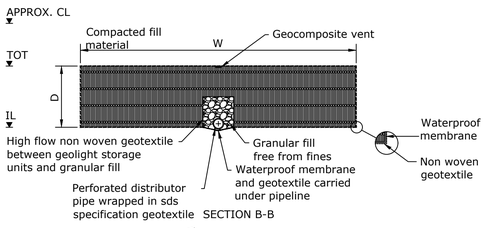
HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	AS SHOWN
STATUS DESCRIPTION	STATUS
FOR INFORMATION	S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
TLC-HYD-00-ZZ-DR-C-7105	P01



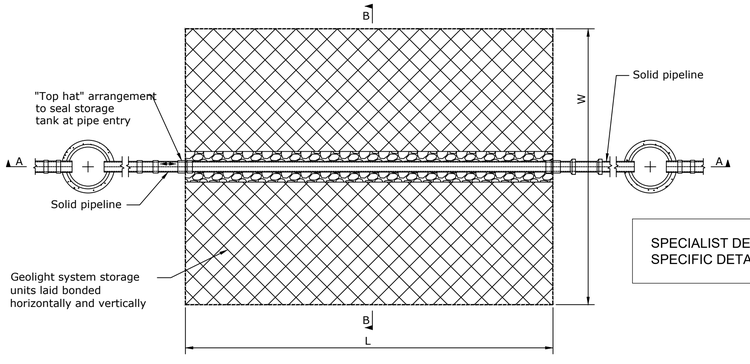
SECTION E-E
RAINGARDEN
SCALE 1:25



SECTION A-A

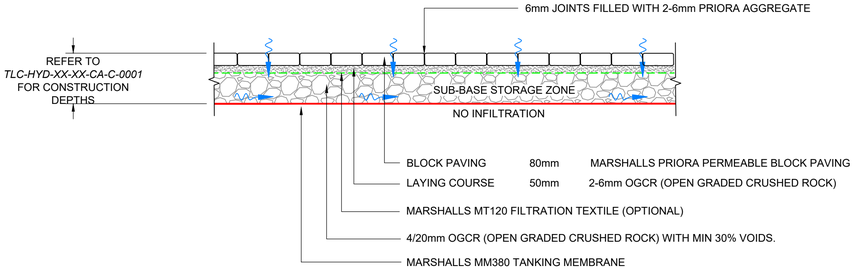


SECTION B-B



SPECIALIST DESIGNER TO PROVIDE SPECIFIC DETAIL FOR TANK

TYPICAL SDS STORAGE TANK (or similar approved)
SCALE 1:20
Refer to drainage plan for tank sizes



NOTE:
- MATERIALS TO MARSHALLS SPECIFICATION TS-0644.
- BUILD UP SUBJECT TO TYPICAL SITE CBR VALUES

TYPICAL BLOCK PAVING CONSTRUCTION (PERMEABLE)
SYSTEM TYPE C
SCALE 1:20

KEY PLAN

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. The DWG file is issued for the purposes of coordination only and do not represent formal drawing issue and are not to be reprinted in any form. Formal issue of drawings is via DWF, Adobe PDF files and/or hard copies and their associated information issue sheets.
3. Note that all care has been taken with the export of DWG files and their content, but we recommend that you make due dimensional checks before using any DWG file information. Any errors found are to be reported to Hydrock immediately.

Refer to *TLC-HYD-00-ZZ-DR-C-7000/7001* for section locations

P01	FOR INFORMATION					
	K.ARSLAN	06/05/25	H.MILLER	06/05/25	H.MILLER	06/05/25
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

Hydrock
Merchants' House North
Wapping Road
Bristol
BS1 4RW
t: +44 (0)117 945 9225
e: bristolcentral@hydrock.com

CLIENT
PELLIKAAN

PROJECT
TROWBRIDGE LEISURE CENTRE

TITLE
DRAINAGE DETAILS
SHEET 7

HYDROCK PROJECT NO.	SCALE @ A1
C-31436-C	AS SHOWN
STATUS DESCRIPTION: FOR INFORMATION	STATUS: S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): TLC-HYD-00-ZZ-DR-C-7106	REVISION: P01