

The College of Richard Collyer New Technology Centre Flood Risk Assessment & Drainage Strategy

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1.0. Executive Summary

Building Design Partnership (BDP) has been commissioned by The College of Richard Collyer to prepare this site-specific Flood Risk Assessment and Outline Drainage Strategy in support of a full planning application for a new Technology Centre at the College's campus at 82 Hurst Road, Horsham RH12 2EJ. The proposals comprise the phased construction of two new teaching buildings, a car park and associated landscaping on part of the existing college campus, replacing an existing car park and part of the existing playing fields.

The site lies wholly within Flood Zone 1 and is therefore at low risk of fluvial flooding. The nearest watercourse is Boldings Brook, approximately 1 kilometre to the north-west, and no historic flooding from watercourses is recorded at the site. The assessment identifies low residual risk from sewer flooding, groundwater flooding and other artificial sources, although a small area of the site is shown to have a high annual probability of surface water flooding. This area is proposed to form part of the hardstanding and has informed the outline drainage design. Educational development is classified as more vulnerable, but this is appropriate in Flood Zone 1 and neither the Sequential Test nor the Exception Test is required for the proposed development.

Ground investigation and site observations indicate that infiltration drainage is not currently feasible. Infiltration testing was inconclusive due to heavy rain and waterlogged ground, groundwater was encountered in boreholes, the site is underlain by low-permeability strata, and parts of the site are identified as having high groundwater vulnerability. In accordance with the drainage hierarchy, the preferred outline strategy is therefore to attenuate runoff on site and discharge at a controlled rate to the existing Southern Water surface water sewer crossing the site and outfalling towards Hurst Road, subject to agreement with Southern Water and the Lead Local Flood Authority.

The outline surface water strategy proposes to limit discharge from the eastern car park area to the 1 in 1 year greenfield rate of 1.9 l/s and to restrict the remaining developed area to 50% of the calculated brownfield runoff rate, giving a total proposed discharge of 35.9 l/s. Preliminary attenuation storage for the car park and public realm areas is estimated at approximately 437 m³ to 654 m³, with storage to be provided through a combination of permeable paving and geocellular tanks. The strategy has been developed to ensure that the site does not flood in the critical 1 in 30 year rainfall event, with exceedance during the 1 in 100 year plus 45% climate change event managed on site without causing damage to buildings, essential infrastructure or adjacent land. SuDS measures such as permeable paving and geocellular storage are considered feasible and will also provide water quality treatment in line with CIRIA guidance.

Foul drainage is proposed to discharge via a new private gravity network to a new pumping chamber and rising main connecting to the public foul sewer in Hurst Road. Overall, the assessment concludes that the proposed development can be delivered safely in flood risk terms and without increasing flood risk elsewhere, subject to detailed design, approval of discharge arrangements, and implementation of an appropriate long-term maintenance regime for the private drainage infrastructure. On this basis, the proposed development is considered acceptable in flood risk and drainage terms for full planning submission.

2.0. Introduction

2.1. Appointment and Brief

Building Design Partnership (BDP) have been commissioned by The College of Richard Collyer to carry out a formal site-specific Flood Risk Assessment and Outline Drainage Strategy Report in support of a Full Planning Application, for the proposed development of a new Technology Centre, 82 Hurst Rd, Horsham RH12 2EJ.

The proposals include the phased construction of two new teaching buildings, a carpark, and associated landscaping on The College of Richard Collyer campus. The proposed development would replace an existing carpark. A copy of the Proposed Masterplan can be found in Appendix A.

This Flood Risk Assessment has been prepared in accordance with the National Planning Policy Framework (NPPF) and the accompanying Technical Guidance to assess all forms of flooding including the management of surface water on-site.

2.2. Sources of information

This Report summarises data supplied or provided from the following external sources listed below.

Table 1: Existing available information

Source of Information	Author	Date
The SuDS Manual C753	CIRIA	2014
Non-statutory technical standards for sustainable drainage systems	DEFRA	2015
The Building Regulations, Drainage and waste disposal, Part H	HM Government	2015
Southern Water SuDS Outline Guidance	Southern Water	-
Southern Water Surface Water Management Policy DS 001	Southern Water	2024
Horsham District Council Sustainable Design and Climate Change Policies	Horsham District Council	2024

2.3. Limitations

This report has been prepared for exclusive use by BDP's client The College of Richard Collyer, for the purpose of assisting them in evaluating the potential risk of flooding associated with the site, proposed drainage strategy and in making a Planning Application.

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BDP has endeavoured to assess all information provided to them during this appraisal. The report summarises from a number of external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon.

This report addresses the flood risk posed to and from the proposed development, the extent of which is shown on the Proposed Plan contained within Appendix A. This report has been undertaken with the assumption that the site will be developed in accordance with the above proposals without significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

3.0. Site Context

3.1. Site Location

The site is located on The College of Richard Collyer campus at 82 Hurst Road, Horsham RH12 2 EJ (537942, 178526). A Site location plan is included in Appendix B.

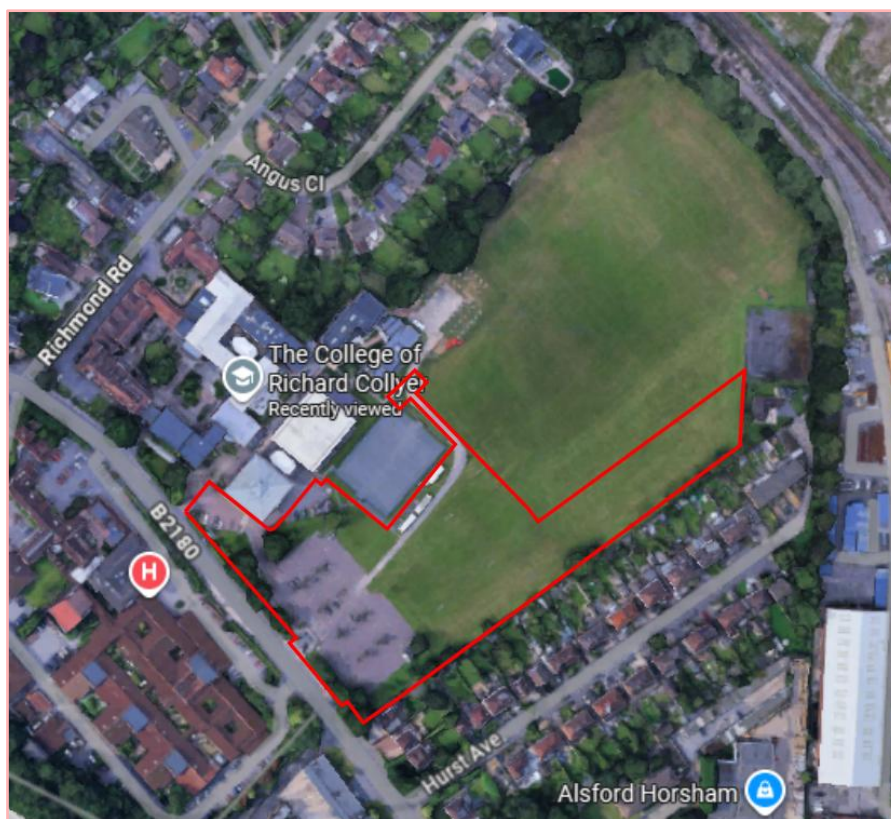


Figure 1: Aerial image of the site (Google.co.uk/maps)

3.2. Site Characterisation/ Land-Use

Key features of the existing site have been summarised below.

Table 2: Summary of site characteristics

Site Area (m²)		18,218
Site Description and Current Use		Existing carpark and green playing fields. Site falls from North to South, with lowest point in South-West.
Boundaries	North	Green playing fields and school buildings
	East	Rear boundary of properties on Hurst Avenue
	South	N/A
	West	Hurst Road
Access	Vehicular	Via Hurst Road at existing carpark
	Pedestrian	Via Hurst road sidewalk, and from existing school buildings

3.3. Topography

A topographical survey of the site was undertaken by Sitech surveying services in 2018. The site is composed of an existing carpark and green playing fields. The site is relatively flat with a slight fall to the South and West. Existing ground levels are shown to range from approximately 51m Above Ordnance Datum (AOD) in the Northeast decreasing to 50m AOD in the Southwest. The lowest point is located at the South-West corner of the existing carpark, with an elevation of 49.5m AOD. The topographical survey can be found in Appendix C.

3.4. Geology

A soil investigation (SI) was undertaken by Soils Limited in April of 2026. The soil investigation comprised two boreholes to twenty meters, and 5 trial pits.

The geology is composed of made ground, topsoil and upper Tunbridge Wells sand. All three types of soil were determined to be mostly made up of silt and clay. Made ground and topsoil were found at widely varying levels, believed to be indicative of a historic clay pit. Upper Tunbridge Wells sand was present below the made ground and topsoil, to depths beyond 20m.

Groundwater is present on the site and was found in both boreholes; in one at approximately 2m depth, and in the other at 9m depth. Infiltration tests were carried out at seven locations; however, no results were returned as they were interrupted by heavy rain, and waterlogged soils, invalidating the results. Additionally, an extensive area of poor drainage has been identified within the existing playing fields area, based on liaison with the client. These factors suggest that infiltration is not likely to be feasible.

3.5. Hydrogeology

A review of DEFRA's Aquifer designation Map indicates that the site is underlain by a Secondary A aquifer. This designation aquifer comprises permeable layers that can support local water supplies and may form an important source of base flow to rivers. This furthers the notion that infiltration of surface run off from the site should not be considered.

In addition, the ground water vulnerability map also shows that the site is located in a location with areas of high vulnerability to a pollutant discharged at ground level. The vulnerability map also denotes unproductive areas, implying a very low permeability. However, the site is not located within a groundwater Source Protection Zones (SPZ).

Due to the high vulnerability within the site, appropriate mitigation measures for the removal of pollutants from surface water runoff should be incorporated into the forthcoming drainage strategy if infiltrating SuDS features are to be utilised.

3.6. Existing Public Sewers

Southern Water are the local Water Authority serving the area where the proposed development is located. Based on available sewer records, which can be found in Appendix C, an existing surface water sewer crosses the site, running Northeast to Southwest, a changing pipe diameter, from 375mm to 600mm. The sewer exits the site boundary at Hurst Road, to the West of the site. Additionally, an existing foul water public sewer runs South to North along Hurst Road outside of the site boundary.

3.7. Existing Private Drainage

Based on available drainage plans and information, the nearest private foul water drainage is located at the Northeast corner of the existing library building, which sits outside of the site boundary. This sewer is served by an existing pumping chamber, indicated on the Topographical and Utilities survey (Appendix C.)

An existing private surface water drain runs North to South across the site, and joins the public surface water drain under Hurst Road.

3.8. Watercourses, Land Drainage and other Waterbodies

The closest watercourse to the site is Boldings Brook, 1 kilometre to the Northwest of the site. The brook flows North to South and includes a large pond and local nature reserve at Warnham Mill.

4.0. Policy and Guidance

This report takes into account the provisions of the development plan and a range of other material considerations. However, it is the Government's National Planning Policy Framework (NPPF), Local Council's Policies and CIRIA document C624, which provide the most up to date and specific guidance on the Scope of Flood Risk Assessments.

4.1. National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) was first published in England in March 2012 and a revised version was published in December 2024. This included PPS25: Development and Flood Risk, along with its supplement on Development and Coastal Change.

One of the main aims of the NPPF is to ensure that flood risk is taken into account at all stages of the planning process to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest risk. Chapter 14 of the document advises that where new development is necessary in areas of higher risk, this should be safe, without increasing flood risk elsewhere, and where possible should reduce flood risk overall.

Annex 3 from the 'Flood Risk and Coastal Change 'Planning Practice Guidance' (2025) defines the type and nature of different development classifications in the context of their flood risk vulnerability. This should be compared against 'Table 2: Flood Risk Vulnerability and Flood Zone 'compatibility' to determine the risk of flooding to a proposed development.

4.2. Local Plan/Core Strategy

The Horsham District Planning Framework was adopted in November 2015 and sets out the local planning strategy for the years up to 2031. The policies of particular relevance to this report are Policy 35: Climate Change, and Policy 38: Flooding. An extract of selected policies are provided in Appendix D.

4.3. Strategic Flood Risk Assessment (SFRA)

West Sussex County Council Strategic Flood Risk Assessment (SFRA) was produced by Capita Symonds (2009). The report assists West Sussex County Council in meeting their duties as a Lead Local Flood Authority (LLFA) in managing local flood risk and delivering the requirements of the Flood Risk Regulations (2009).

SFRA's assess the risk associated with all types of flooding and provide the information required to identify the amount of development permitted in an area; how the drainage systems in the area should function and also how the risks in vulnerable areas can be reduced and/or mitigated.

The West Sussex County Council SFRA identifies several historic incidents of sewer flooding adjacent to the development site. This risk is further discussed in section 5.3. The SFRA map identifying areas more prone to flooding from sewers is provided in appendix E.

5.0. Sources of Flood Risk

5.1. Fluvial Flood Risk

The Environment Agency Flood Zone Map indicates that the proposed development lies entirely within Flood Zone 1 (low risk).

These Flood Zones are defined as follows:

- Flood Zone 1: Land assessed as having less than 1 in 1000 annual probability of flooding from rivers (<0.1%).
- Flood Zone 2: Land assessed as having between a 1 in 100 and 1 in 1000 annual probability of flooding from rivers (1%-0.1%).
- Flood Zone 3: Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%)

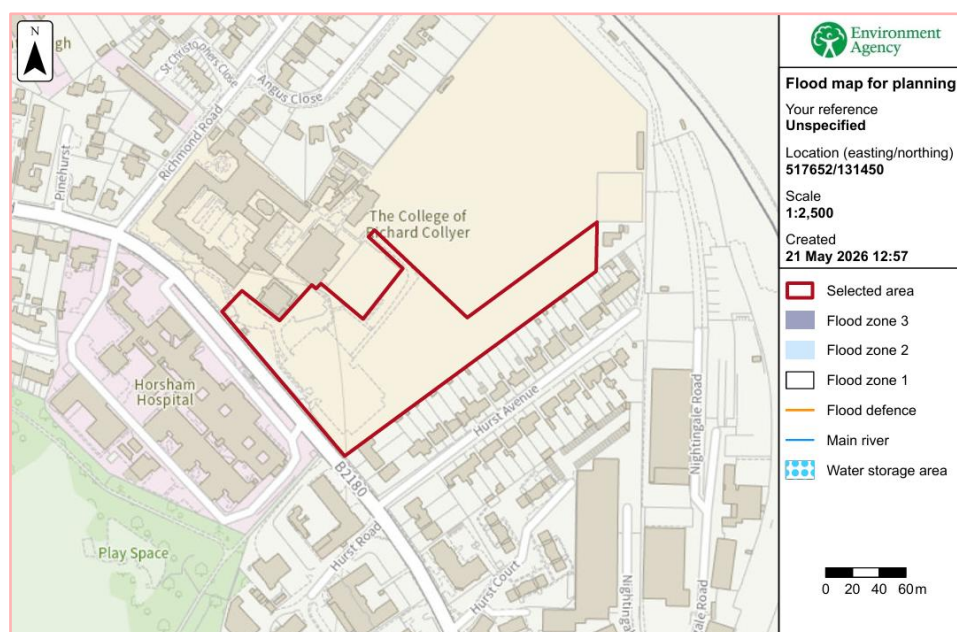


Figure 2: Environment Agency Flood Map for Planning - Flooding from Rivers and Sea (Gov.uk)

The flood risk at the College of Richard Collyer as a result of overflowing water courses is, therefore, considered very low. No historical flood events have been recorded.

5.1.1. Climate Change

Fluvial flooding risks due to climate change are not applicable to the site as sits entirely within Flood Risk Zone 1.

5.1.2. Mitigation Measures

Mitigation measures for fluvial flooding risks are not required.

5.2. Pluvial Flood Risk

Pluvial flooding is defined as flooding resulting from rainfall-generated overland flow before runoff enters any watercourse or sewer. It is usually associated with high intensity rainfall events but can also occur with low intensity rainfall or melting snow where ground is saturated, frozen, developed or otherwise has low permeability

resulting in overland flow and ponding in depressions in the topography. Large catchment areas are particularly prone to this type of flooding.

The majority of the New Technology Buildings site has a very low yearly chance of surface water flooding and a very low yearly chance of surface water flooding between 2040 and 2060. A small area of the site has a high yearly chance of surface water flooding, both currently, and between 2040 and 2060. This is assumed to be a result of runoff from the existing car park flowing north and accumulating in a topographic low point. Levels in this area will be re-engineered as part of the proposed development to remove undrained low points. A new drainage strategy as described in section 6.0, also proposes to attenuate runoff up to the 1 in 100 year plus 45% climate change. As such the risk of pluvial flooding is regarded as low.

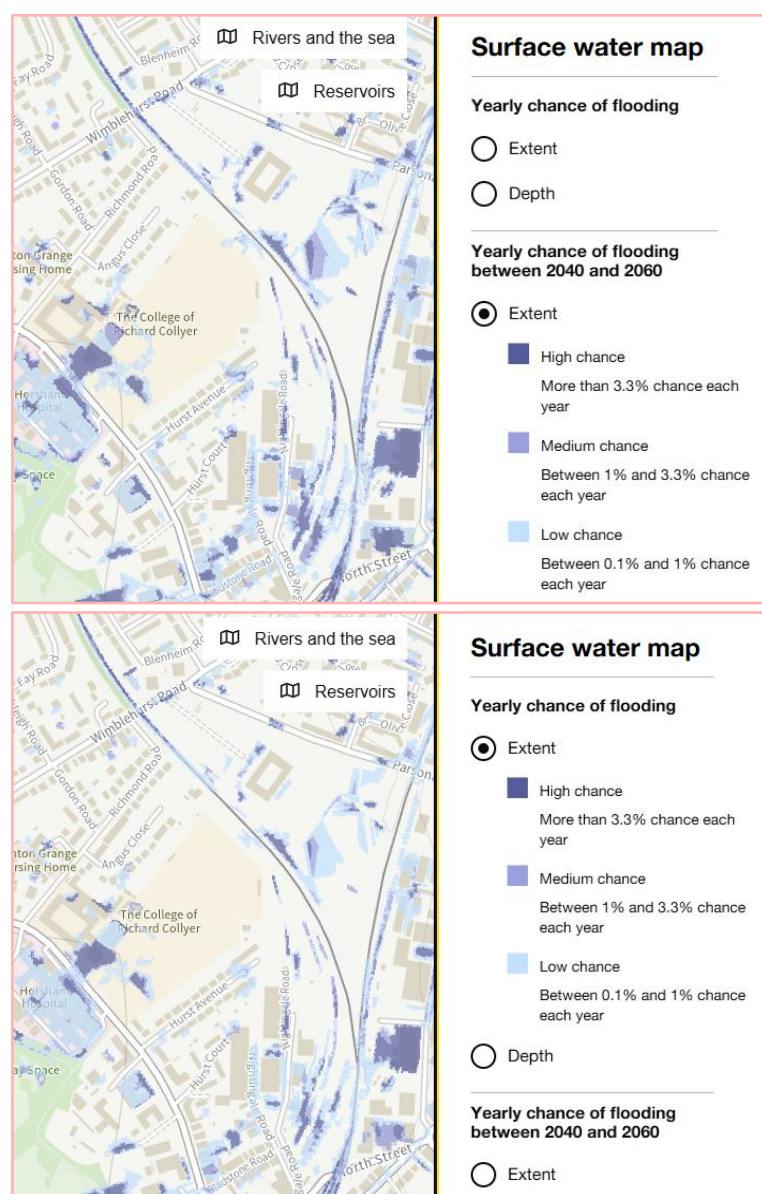


Figure 3: Environment Agency Surface Water Map of New Tech Building Site

5.3. Sewer Flood Risk

Sewer flooding occurs when the capacity of the local drainage system is exceeded either as a result of intense rainfall, blockages or high-water levels in watercourses preventing sewers from discharging properly.

The West Sussex County Council SFRA identifies historic flooding due to sewer overflow within 500m of the site. The site itself has no recorded historic sewer overflow events. This is considered a low risk.

5.4. Groundwater Flood Risk

In general terms groundwater flooding can occur from three main sources, raised water tables, seepage and percolation, and groundwater recovery or rebound. If groundwater levels are naturally close to the surface, then this can present a flood risk during intense rainfall.

The New Tech Building site is outside of a groundwater flood alert area. The soil investigation conducted at the site identified groundwater at 2m below surface level. This recording was made in January of 2026 during heavy rainfall. Continued monitoring of the groundwater over the subsequent three months indicated a stable water table level of 2m below surface level. This represents a low risk of flooding due to groundwater.

5.5. Flooding from Other Sources/Infrastructure Failure

Non-natural or artificial sources of flooding that can occur as a result of structural, hydraulic or geotechnical failure of infrastructure that retains, transmits or controls the flow of water; such as reservoirs, lakes and canals etc.

The Environment Agency Flood Map for Planning shows that the site is not at risk from flooding from reservoir breach.

5.6. Summary of Flood Risk

Taking into consideration the evidence collated and the implementation of the recommended mitigation measures, the flood risk proposed to the development can be summarised as indicated in the table below:

Table 3: Summary of mitigated sources of flood risk

Source	Mitigated Risk
Fluvial	Low
Coastal – Sea	N/A
Coastal – Estuarine	N/A
Pluvial Flooding	Low
Sewer - SWS, FWS, CS, CSO	Low
Groundwater	Low
Other Sources	Low

The proposed development is for educational use and can be considered as more vulnerable according to Annex 3 of the Technical Guidance to the NPPF. Considering Table 2: Flood Risk Vulnerability and flood zone compatibility, this type of development is seen to be appropriate for Flood Zone 1. An exception test is not required.

Table 4 – Extract from Table 3: Flood Risk Vulnerability and Flood Zone Compatibility (Technical Guidance for NPPF, Gov.co.uk)

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a	Exception Test Required	X	Exception Test Required	✓	✓
Zone 3b	Exception Test Required	X	X	X	✓

Key:

✓ Development is appropriate

X Development should not be permitted

5.7. Sequential Test

The proposed development is located within Flood Zone 1, which has the lowest risk of flooding, therefore a sequential test is not required.

5.8. Exceptions Test

As demonstrated in section 5.6, an exceptions test is not required.

6.0. Surface Water Management Strategy

6.1. Existing Site Drainage Regime

The proposed site predominantly comprises soft landscaped areas (1.33 Ha) and an existing car park (0.49 Ha). Although the car park has been constructed using permeable blocks, it is assumed that this system is lined based on the underlying geology, with a positive drainage connection into Hurst Road via an existing 150mm surface drain. The remaining greenfield areas are expected to discharge directly into the soil.

6.2. Pre-development Surface water Runoff

Since the site comprises of existing hardstanding, which is positively drained into the local sewer network, the pre-development runoff rate from this area (0.49Ha) has been calculated using the Modified Rational Method, as per the Wallingford Procedure. The method is given:

$$Q = 2.78C_vC_r iA$$

Where:

- Q = design event peak rate runoff (l/s)
- C_v = volumetric runoff coefficient
- C_r = dimensionless routing coefficient
- i = rainfall intensity for the design return period (mm/hr)
- A = total catchment area being drained (ha)

The values for the proposed development site are provided:

- C_v = 1 (assumed)
- C_r = 1 (assumed)
- i = 50 (SuDs manual C753, Section 24.6)
- A = 0.49 (measured)

The value for the design event peak rate runoff is calculated:

$$\begin{aligned} Q &= 2.78 * 1 * 50 * 0.49 \\ &= 68 \text{ l/s} \end{aligned}$$

The drainage regime for 69% of the existing landscaped areas (0.92 Ha) is to remain as existing with runoff draining directly to the ground. This area has therefore been omitted from the pre-development runoff rate calculations. Approximately 0.41 Ha of the existing landscaped area is proposed to be developed into a new car park. The greenfield runoff rate for this area has been calculated based on the FEH2025 method using HR Wallingford and is tabulated overleaf:

Table 5: Summary of Greenfield runoff rates

Return Period	FEH2025 (l/s)
QBAR (l/s)	2.3
1 in 1 year (l/s)	1.9
1 in 30 year (l/s)	5.3
1 in 100 year (l/s)	7.3

6.3. Post-development Surface water Runoff

Consultation with the West Sussex County Council is yet to be undertaken as the site sits in Flood Zone 1 and the scheme represents a betterment to risk of flooding on the site. Discharge consent will be required from Southern Water.

For the proposed car park area in the east of the site, the post-development discharge rate is to be restricted to the 1 in 1 year greenfield rate of 1.9 l/s as demonstrated in Table 5. For the remainder of the proposed development, the post-development discharge rate is proposed to be restricted to 50% of the brownfield runoff rate of 68 l/s, equating to a maximum rate of 34 l/s.

Therefore, the proposed total surface water discharge rate is proposed to be 35.9 l/s, subject to confirmation from Southern Water and the Lead Local Flood Authority, West Sussex County Council.

In May 2022, the Environment Agency released updated climate change allowances for peak rainfall intensities which should be applied to new developments. Table 6 demonstrates the climate change allowances with central and upper end being considered. In addition, a 1 in 30-year rainfall event must now also be modelled.

Based on the nature of the development, a lifespan of 60 years is anticipated. The potential climate change allowance for 1% and 3.3% annual exceedance rainfall events considering 2070 to 2115 ranges between 25% for the central allowance and 45% for the upper end allowance. As such the design will consider an allowance of 45% climate change on peak rainfall intensity for all calculations.

Table 6: Extract of Environment Agency Guidance - Peak Rainfall Allowances for Arun and Western Streams

3.3% Annual Exceedance Rainfall Event	Central Allowance	Upper End Allowance
2050s	20%	35%
2070s	25%	40%

1% Annual Exceedance Rainfall Event	Central Allowance	Upper End Allowance
2050s	20%	45%
2070s	25%	45%

6.4. Methods of Surface Water Management

In accordance with Building Regulations and the NPPF Drainage Hierarchy the management and discharge of surface water from a development should be applied in the order of priority as listed.

- 1) Collected for non-potable use
- 2) Infiltrated to ground
- 3) Discharged to an above ground surface water body
- 4) Discharged to a surface water sewer, or another piped surface water drainage system
- 5) Discharged to a combined sewer.

No surface water will be allowed to connect to a foul sewer.

The feasibility of each disposal method has been assessed and summarised in the Table 7.

Table 7: Feasibility of disposal methods for surface water discharge

Method	Comments	Feasible
Collected for non-potable use	Rainwater harvesting is to be considered for new roofs. Application of water butts or similar is a potential option for watering adjacent planters. At this stage, it is assumed that some rainwater will be collected and reused for WC flushing.	Y
Infiltration	Infiltration tests during SI were unable to collect results. Geological mapping shows the site is underlain by low permeability bedrock and contains areas with a high level of vulnerability to ground source pollutants. Anecdotal evidence from the client regarding poorly draining playing fields suggests low permeability soil. Revision of infiltration feasibility may be possible in light of accurate infiltration tests.	N
Watercourse	The nearest watercourse is over a kilometre from the development. Gravity feeding to the water course is not feasible.	N
Surface Water Sewer	An existing public sewer crosses the site with conveniently located existing manholes, allowing for a limited discharge rate off site. Potential to reuse the existing outfall to Hurst road.	Y
Combined Water Sewer	There are no public combined sewer in close proximity to site.	N

Based on the underlying ground conditions and location of the site, the most appropriate method for the discharge of surface water runoff is to a nearby public surface water drain which eventually discharges to the closest watercourse.

6.5. Sustainable urban Drainage Systems (SuDS)

The general principle of the surface water drainage strategy for the development site is to collect runoff from buildings and hardstanding areas and attenuate at source, with a controlled discharge to the surrounding network.

The CIRIA SuDS Manual encourages the use of the 'SuDS management train' concept to manage runoff. The hierarchy of techniques to be used is:

1. Prevention – Prevention of runoff by good site design and reduction of impermeable areas.
2. Source Control – Dealing with water where and when it falls (e.g., infiltration techniques).
3. Site Control – Management of water in the local area (e.g., swales, detention basins).
4. Regional Control – Management of runoff from sites (e.g., balancing ponds, wetlands).

Various SuDS methods have been summarised in Table 8 to assess and establish which are most feasible for the site.

Table 8: Summary of potential SuDS features and feasibility within the proposed drainage strategy

Suds Method	Comments	Feasible
Green & Blue Roof	Vegetated or hardstanding roof designed to store water, which can be used for irrigation, cooling water or non-potable use within the building. Proposed roofs could be designed with this feature if structural capacity, extra loadings and waterproofing are taken into consideration within the design.	Y
Rainwater Harvesting	Rainwater from roofs and hard surfaces can be stored and reused. It is feasible to implement rainwater harvesting for the proposed buildings.	Y
Permeable Paving	Surfaces can be either porous or permeable. Rainwater infiltrates through the surface and into underlying layers where it is temporarily stored before either infiltrating into the ground or discharge through the drainage system. The proposed hard landscaped areas may utilise permeable paving however, due to the existing geology of the site, it is not anticipated that it can infiltrate into the ground. Areas of permeable paving will discharge into the proposed drainage system.	Y
Swales	Shallow, broad and vegetated channels designed to store and/or convey runoff and remove pollutants. Check dams and berms can also be installed along the flow path to promote settling and infiltration. The use of swales on site has been explored and discounted to allow for the planting of trees in the assessed area.	N
Channels and Rills	Open surface water channels with hard edge to convey rainwater. Planting can be used to enhance visual appearance and provide water treatment. Channels and rills have been discounted based on the potential impact on accessibility.	N
Filter Drains	Shallow excavations filled with gravel to create temporary storage of runoff used to filter and convey rainwater. It is feasible to implement filter drains within the proposed strategy to store and convey runoff.	Y

Infiltration Basin	Vegetated depressions designed to store runoff on the surface and infiltrate it gradually into the ground. Based on the geology of the site, it is unlikely that the use of infiltration basins will be feasible.	N
Rain Garden	Relatively small depressions in the ground that act as infiltration points for roof water and other 'clean' surface water runoff (low contamination levels). The use of rain gardens could be incorporated into the soft landscaped areas with excess runoff discharging into the proposed surface water drainage network, however these have not been continued into stage 3.	N
Detention Basin	Surface storage basins are normally dry and provide flow control through attenuation of stormwater runoff. The large, landscaped areas within the proposed plan are located towards the North of the site and based on existing levels, it is unlikely that these areas may act as a detention basin due being at an increased level within the site.	N
Retention Pond	Retention ponds provide stormwater attenuation and treatment. The large, landscaped areas within the proposed plan are located towards the North of the site and based on existing levels, it is unlikely that these areas may act as a detention basin due being at an increased level within the site.	N
Geocellular Storage Systems	Geocellular systems can be used to control and manage surface water runoff. The modular systems mean that they can be tailored to suit specification requirements of any site. Geocellular storage systems can be used on site to provide surface water runoff attenuation.	Y

The type of land use is considered to be the primary influencing factor in the quality of urban surface water runoff. The indicative pollution hazard indices for the land uses associated with the proposed development have been extracted from Table 26.14 of the SuDS Manual and have been tabulated below.

Table 9: Extracted from Table 26.2 Pollution hazard indices for different land use classifications (CIRIA SuDS Manual C753)

Land use	Pollution hazard level	Total suspended solids (TSS)	Hydro-carbons	Metals
Other roofs (typically commercial / industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements/day	Low	0.5	0.4	0.4

Maximum	Low	0.5	0.4	0.4
----------------	------------	------------	------------	------------

In order to provide adequate treatment to the site, the proposed SuDS components should have a total pollution mitigation index greater than or equal to the pollution hazard index of the land use. The surface water drainage strategy proposes the use of permeable paving, geocellular storage systems and tree pits. The mitigation indices for these SuDS feature, tabulated below, are shown to be greater than the pollution indices from the proposed land use and are therefore considered appropriate to mitigate potential pollutants from the site.

Table 10: Extracted from Table 26.3 Indicative SuDS mitigation indices for discharges to surface waters (CIRIA SuDS Manual C753)

Types of SuDS Components	Mitigation Indices		
	Total suspended solids (TSS)	Metals	Hydrocarbons
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Maximum	0.8	0.8	0.8

Final coordination of the SUDs features will be undertaken at the detailed design stage in conjunction with the design of the piped drainage systems.

6.6. Surface Water Drainage Strategy

The proposed development is for the construction of two new teaching buildings, carpark, and associated landscaping, which will increase the impermeable area of the site to 0.95 Ha and reduce the overall soft landscaping to 0.83 Ha.

The drainage strategy proposes to discharge surface water runoff from the new roof and hardstanding areas to an existing Southern Water surface water sewer in Hurst Road via an existing connection. Surface water will be restricted to the proposed rate of 35.9 l/s in accordance with national guidance, providing a betterment on existing conditions.

Using the Quick Storage Estimate Tool in InfoDrainage, an approximate storage volume has been calculated for the car park and public realm areas with a total estimated storage ranging between 437m³ and 654m³:

Table 11: Indicative Attenuation Volumes

Proposed Catchment	Preliminary Storage Estimate, m ³	
	Range	Average
Car Park	292-407	350
Public Realm	145-247	196

The proposed drainage strategy is to be developed in accordance with current best practice and has been designed not to flood for the critical 1 in 30-year flood event. Flood water generated for up to the critical 1 in 100-year plus climate change storm event is permitted but shall be constrained within the areas on site so as not to cause damage to buildings, essential services or adjoining developments.

Surface water will be directed to the public surface water sewer in Hurst Road via a new network of private surface water drains and restricted to 35.9 l/s using a hydrobrake flow control. Attenuation is to be provided in the form of rain gardens, permeable paving and geocellular tanks to provide storage up to the 1 in 100 year plus 45% climate change event.

All proposed SuDS have been designed to attenuate runoff from all the proposed impermeable areas. Any storage created from the incorporation of the rainwater tanks will be in addition to the attenuation provided in the drainage strategy drawing. The proposed drainage features represent a betterment to the flood risk of the existing site, and will ensure occupiers and users will remain safe from both current and future surface water flood risks for the lifetime of the development.

The new drainage network will not be offered for adoption to Southern Water. It is important that any drainage systems that are not offered for adoption to either the Water Company or the Local Authority have an appropriate maintenance regime scheduled and an appropriate management company appointed to carry out the works.

A copy of the proposed drainage strategy and calculations is included in Appendix E.

7.0. Foul Water Drainage Strategy

The nearest existing below foul water drainage network is located Northeast of the library building. However, this network is too shallow to enable a new gravity connection from the proposed development and is currently served by an existing pump chamber from the college. A public foul water sewer within Hurst Road to the south of the site is also identified to be too shallow to facilitate a gravity connection from the new buildings.

As a result, a new foul water network has been proposed, gravitating to a new pumping chamber with a rising main, which will discharge into the public foul water sewer in Hurst Road via an existing manhole.

Approximately 5.8 l/s is estimated to be generated from the new building based on the Discharge Units Method (BS 12056-2:2000 System III) and applying estimated peak flows from appliances. The number of appliances is to be confirmed at detailed design. The proposal is subject to change, following further design development and coordination with the Public Health Engineer.

The foul water system will be designed and constructed in accordance with the current Building Regulations, BS EN:752 drainage and sewer systems outside buildings, the local authority building control specifications and requirements, Design and Construction Guidance (DCG) and the Civil Engineering Specification for the Water Industry 7th Edition.

As with surface water, the new drainage network will not be offered for adoption to Southern Water. It is important that any drainage systems that are not offered for adoption to either the Water Company or the Local Authority have an appropriate maintenance regime scheduled and an appropriate management company appointed to carry out the works. The proposed drainage strategy plan is enclosed in Appendix E.

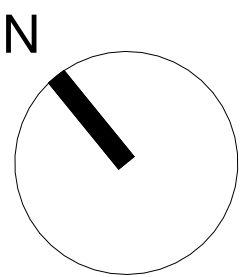
8.0. Conclusion

This site-specific Flood Risk Assessment and Outline Drainage Strategy has been prepared in support of a full planning application for the proposed New Tech Building development at The College of Richard Collyer, Horsham. The assessment confirms that the site lies wholly within Flood Zone 1 and is therefore at low risk of fluvial flooding. No recorded historic flooding from watercourses affects the site. A small area is identified as having a high annual probability of surface water flooding; however, this area is proposed to form part of the hardstanding and has been taken into account in the drainage design. Residual risks from sewer flooding, groundwater flooding and other artificial sources are assessed as low. Educational development is classified as more vulnerable, but this is appropriate in Flood Zone 1 and neither the Sequential Test nor the Exception Test is required.

In accordance with the drainage hierarchy, infiltration is not considered feasible due to inconclusive infiltration testing, low-permeability ground conditions, observed groundwater and groundwater vulnerability constraints. The preferred outline strategy is therefore to attenuate runoff on site and discharge at a controlled rate to the existing Southern Water surface water sewer, subject to agreement with Southern Water and the Lead Local Flood Authority. The proposed strategy limits discharge from the eastern car park area to the 1 in 1 year greenfield rate of 1.9 l/s and restricts the remainder of the development to 50% of the calculated brownfield runoff rate, giving a total proposed discharge of 35.9 l/s. Indicative attenuation storage of approximately 437 m³ to 654 m³ is to be provided through a combination of SuDS features including permeable paving and geocellular storage, with the system designed so that the site does not flood during the critical 1 in 30 year event and that exceedance in the 1 in 100 year plus 45% climate change event is managed safely on site.

Foul drainage is proposed to discharge via a new private gravity network to a new pumping chamber and rising main connecting to the public foul sewer in Hurst Road. Subject to detailed design development, confirmation of discharge arrangements, and implementation of an appropriate long-term operation and maintenance regime for the private drainage infrastructure, the proposed development can be delivered safely in flood risk terms and without increasing flood risk elsewhere. On this basis, the development is considered acceptable in flood risk and drainage terms for full planning submission.

Appendix A: Proposed Site Plan



BUILDING DESIGN PARTNERSHIP SHALL HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DOCUMENT OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.

ALL DIMENSIONS SHOULD BE CHECKED ON SITE.

ANY DRAWING ERRORS OR DIVERGENCIES SHOULD BE BROUGHT TO THE ATTENTION OF BUILDING DESIGN PARTNERSHIP AT THE ADDRESS SHOWN BELOW.

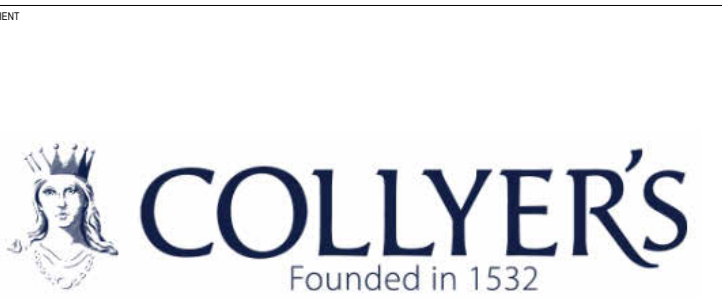
NOTES

Full landscaping design and external lighting proposals are reflected in the landscape drawings ref no. CRC-BDP-EX-00-PL-L-900101, CRC-BDP-EX-00-PL-L-900102 and CRC-BDP-EX-00-PL-L-900103.

Key

- CRC Ownership
- Project Site Boundary
- Pedestrian access
- Vehicular access
- Vehicular exit
- Logistics and vehicular access
- Existing trees
- Proposed trees
- Electric vehicle charging points (active)
- Electric vehicle charging points (passive)

P01	Planning Issue	CP	CH	01/07/2026
REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
1				



BDP.

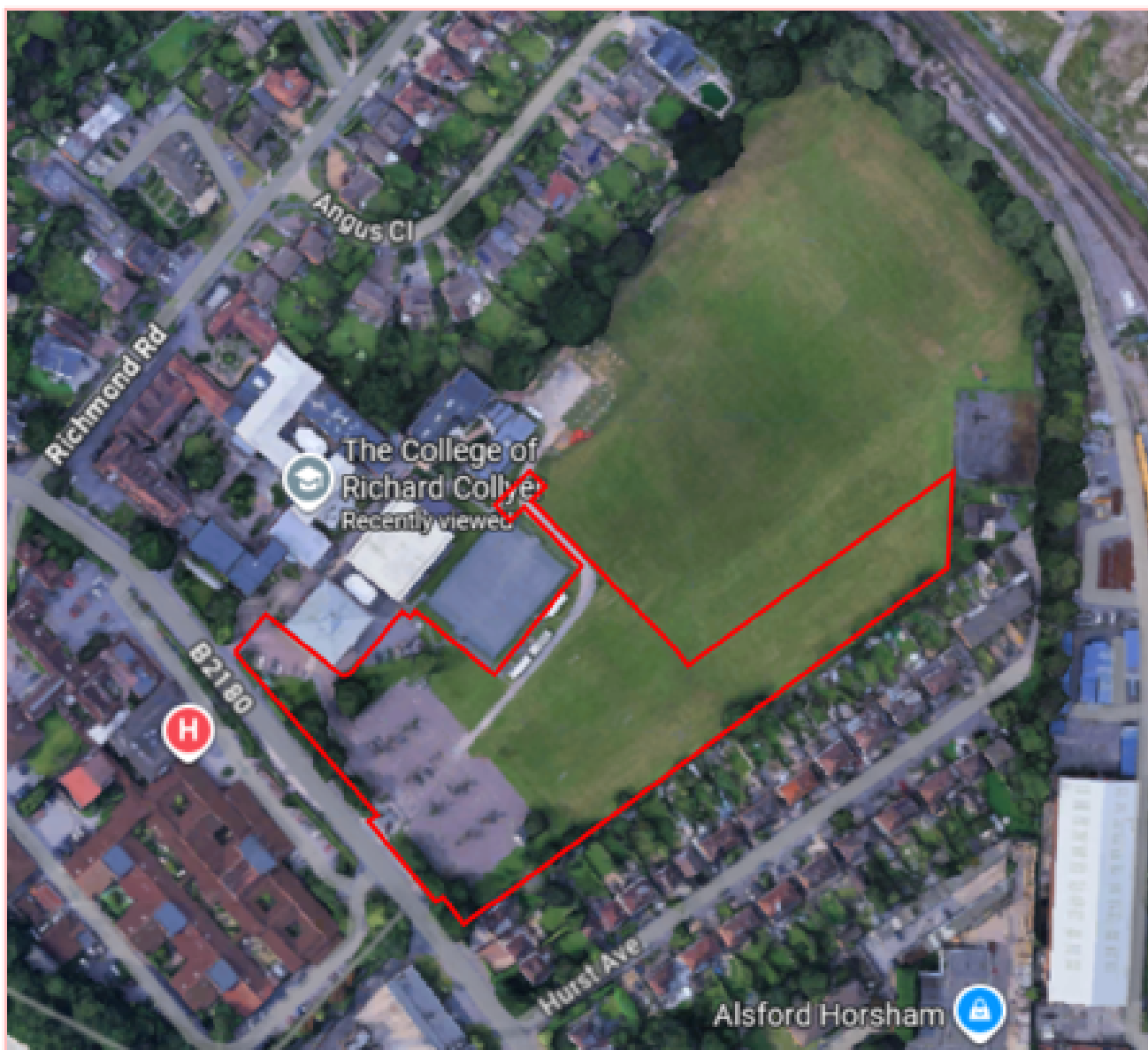
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Clacknell
London
EC1V 4LJ
United Kingdom
T +44 (0)20 7812 8000
www.bdp.com

together with:
ritchie studio

The College of Richard Collyer - New Technology Centre			
P3003919			
Phase 2 - Proposed Site Plan		Scale	@ A0
		1:500	
		01/07/26	
CRC-BDP-XX-00-PL-A-910003		P01	

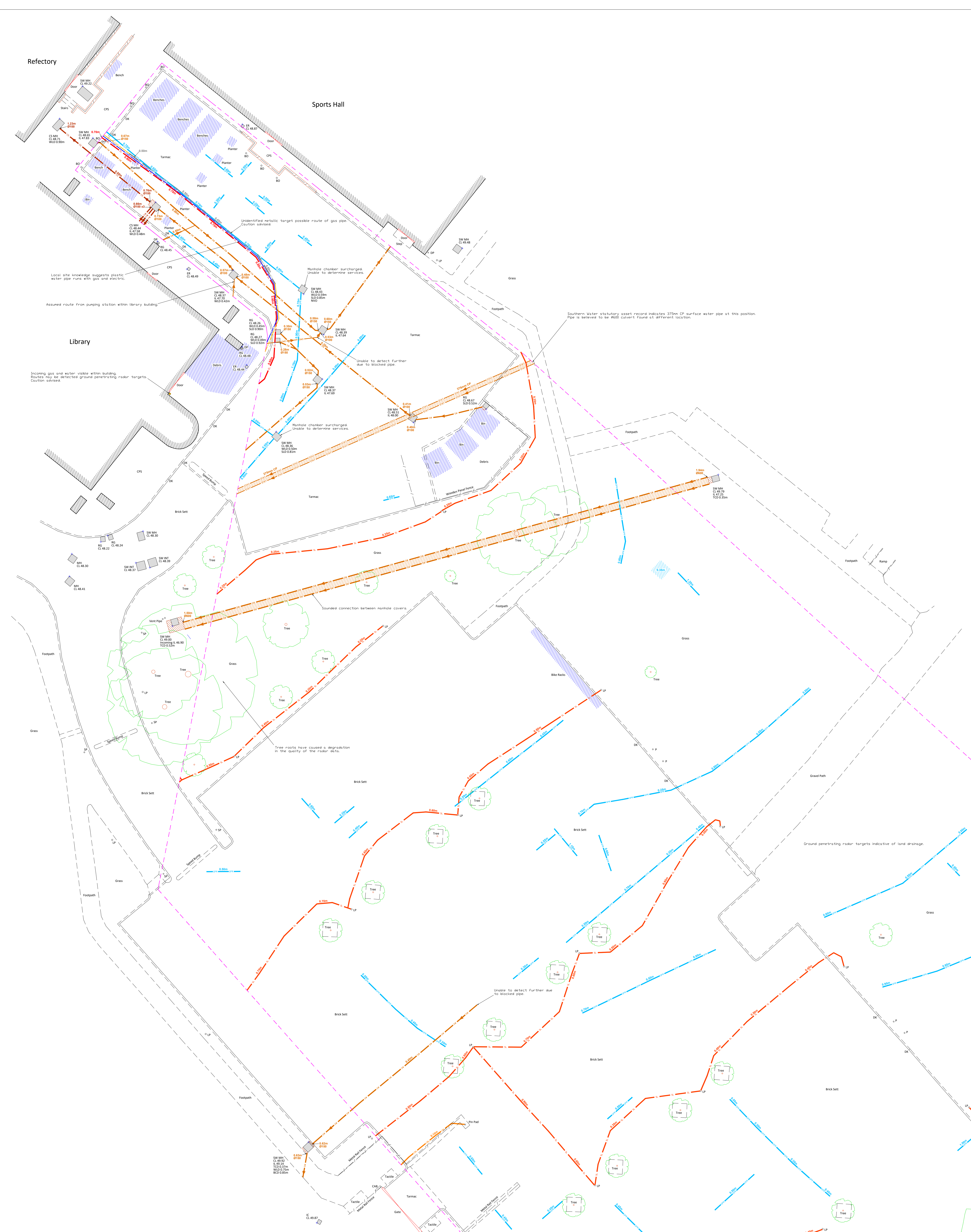
Appendix B: Site Location

The College of Richard Collyer, 82 Hurst Rd, Horsham RH12 2EJ



Key plan, site boundary in red

Appendix C: Topographical and Utilities Surveys



NOTES

A variety of detection technologies were used to produce the underground information recorded for this non-invasive survey. Variation in ground conditions, depth and density of services and signal interference from surrounding features can affect the accuracy of these technologies, therefore 100% detection and accuracy cannot be guaranteed.

All utility/service depths are in metres and are taken to the top of utility/service unless otherwise stated.

Underground services shown on this drawing are illustrated by a single service line. The single service line may actually represent multiple cables and/or ducts.

An anomalous feature is an unidentified subsurface area evident within the radar data that differs in response to its surrounding area. Examples of anomalous features include voiding, heavily saturated ground, buried tanks and demolished building foundations.

Topographical survey control is to OSGB36(13) datum by GPS (as recorded at the time of acquisition) and the project rotated to North, all subsequent data acquired does not have a coordinate applied and therefore is based on a flat earth scenario. Real Time Kinematic accuracies: Horizontal 10mm + 1ppm, Vertical 20mm + 1ppm. Read Rate accuracies: Horizontal 10mm + 1ppm, Vertical 20mm + 1ppm.

Availability of Statutory Records		
Utility/Service Type	Record Provided	Record Owner
BT	Yes	BT
Electricity	Yes	UKPN
Gas	Yes	SGG
Oil/Fuel	Yes	Southern Water
Sewer	Yes	Virgin Media
Telecom	Yes	Virgin Media
Water	Yes	Southern Water
Other	Yes	Southern Water

SHEET LAYOUT

ABBREVIATIONS

AV	Air Valve	IRS	Illuminated Road Sign
AB	Abutment	LP	Lamp Post
BCD	Bottom of Chamber Depth	MH	Manhole
BM	Benchmark	MM	Monitoring Well
BO	Bottom	MS	Manhole Stop
BS	Bus Stop	PE	Polystyrene
BT	British Telecom Cover	PS	Post Box
CAB	Cabinet	RE	Rodding Eye
CATV	Cable Television Cover	RG	Rain Gully
CI	Cast Iron	RS	Road Sign
CL	Cont Level	SD	Sign Post
CPS	Concrete Paving Slabs	ST	Steel
CS	Combined Sewer	STN	Survey Station
DK	Drainage	SW	Surface Water
DM	Down Pipe	TCD	Top of Chamber Depth
ER	Electricity Pole	TCB	Traffic Light Control Box
FB	Flower Bed	TL	Traffic Light
FI	Fire Hydrant	TLB	Traffic Light Control Box
FL	Flood Light	UTL	Unable To Lift
FW	Foul Water	UTL	Unable To Lift
FWP	Foul Water Pipe	VP	Vent Pipe
GM	Gas Meter	WD	Water Level Depth
GP	Gas Pipe	WMD	Water Main Depth
GV	Gas Valve	WM	Water Meter
IC	Inspection Cover	WSP	Water Stop Valve
ID	Invert Depth	WWD	Water Wash Out

LINE-TYPE KEY

Electricity	Scan Area
Street Lighting	Unable to GPR Area
Water	Kerb
Gas	Fence
British Telecom	Unknown Telecom
Unknown Telecom	Virgin Media
Virgin Media	From Data
From Data	Surface Scar
Surface Scar	Change of Surface
Change of Surface	Building
Building	Extents of Chamber
Extents of Chamber	GPR Detected Anomalous Area
GPR Detected Anomalous Area	GPR Detected Reinforcing
GPR Detected Reinforcing	Area of Obstruction
Area of Obstruction	Electrical Interference

CLIENT: The College of Richard Collyer
Horsham
West Sussex
RH12 2EJ

SITE: Canopy and Sports Hall Project
The College of Richard Collyer
Horsham
West Sussex
RH12 2EJ

PROJECT REF: P231017-Collyer's College

DRAWN: JC	DATE: 14/02/2024
CHECKED: NIG	SHEET NO: 1 of 2
SCALE: AD 1:100	REV: P01

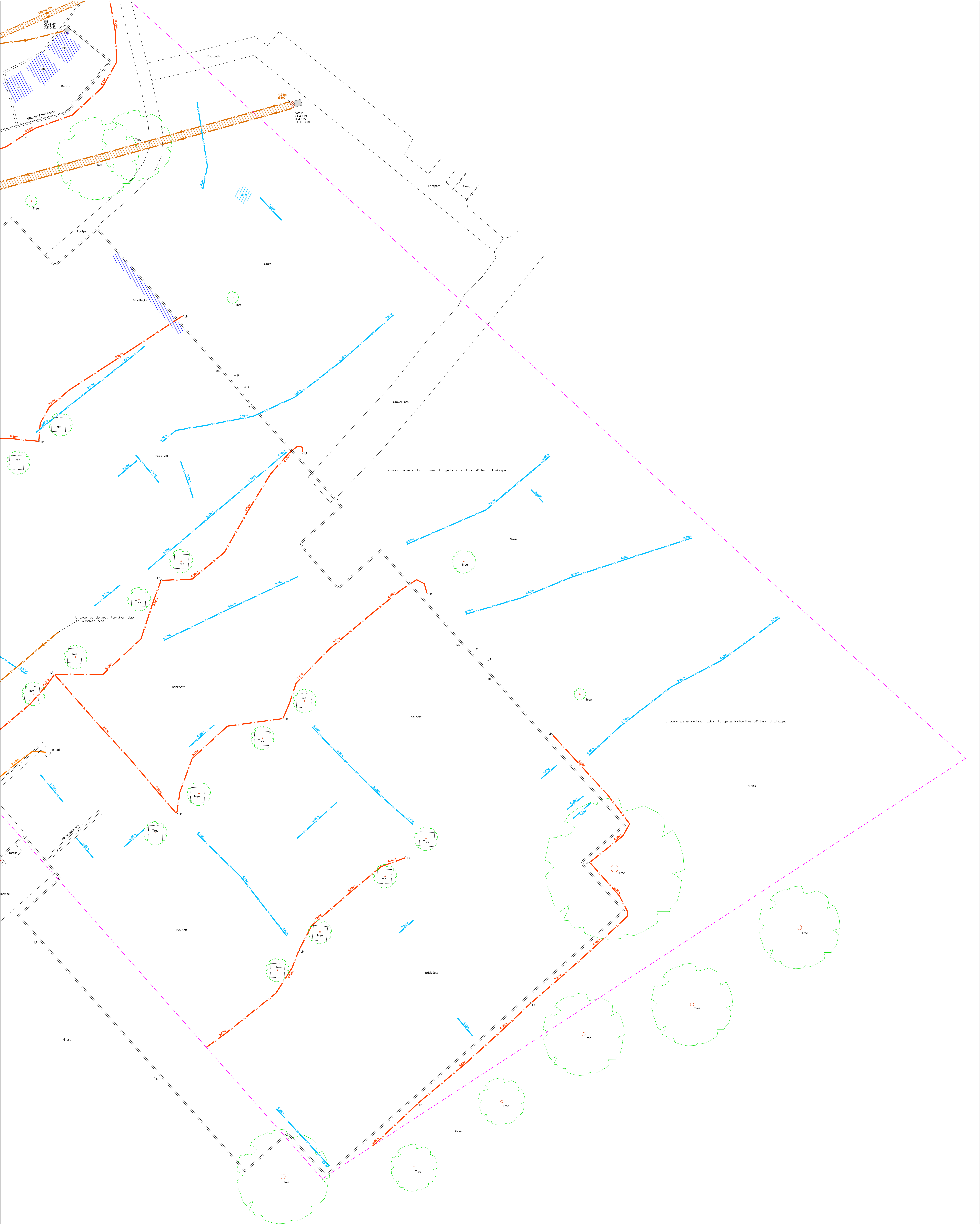
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NOTES

A variety of detection technologies were used to produce the underground information presented for this non-invasive survey. Variation in ground conditions, depth and density of services and signal interference from surrounding features can affect the accuracy of these technologies, therefore 100% detection and accuracy cannot be guaranteed.

All utility/service depths are in metres and are taken to the top of utility/service unless otherwise stated.

Pipe sizes are shown from visual inspection or taken from statutory information.

All dimensions measured by tape at manholes and inspection covers are determined from ground level due to non-entry of chambers. Therefore these should be treated as indicative only.

Underground services shown on this drawing are illustrated by a single service line. The single service line may actually represent multiple cables and/or ducts.

An anomalous feature is an unidentified subsurface area evident within the radar data that differs in response to its surrounding area. Examples of anomalous features include voiding, heavily saturated ground, buried tanks and demolished building foundations.

Topographical survey control is to OSGB36(13) datum by GPS (as recorded at the time of acquisition) and the project rotated to North, all subsequent data acquired does not have a coordinate applied and therefore is based on a flat earth scenario. Real Time Kinematic accuracies: Horizontal 10mm +10ppm, Vertical 20mm +10ppm. Read Rate accuracies: Horizontal 5mm +5ppm, Vertical 10mm +10ppm.

Availability of Statutory Records		
Utility/Service Type	Record Provided	Record Owner
BT	Yes	Openreach
Electricity	Yes	LMN
Gas	Yes	SGG
Oil/Fuel	Yes	Southern Water
Sewer	Yes	Virgin Media
Telecom	Yes	Virgin Media
Water	Yes	Southern Water
Other		

SHEET LAYOUT

ABBREVIATIONS

AV	Air Valve	IRS	Illuminated Road Sign
BB	Bellman Branch	LP	Lamp Post
BCD	Bottom of Chamber Depth	MH	Manhole
BM	Bench Mark	MK	Marker
BO	Bolted	MW	Monitoring Well
BS	Bus Stop	PS	Post Box
BT	British Telecom Cover	PE	Polystyrene
CAB	Cabinet	RE	Rodding Eye
CCTV	Cable Television Cover	RG	Rain Gully
CI	Cast Iron	RS	Road Sign
CL	Coast Level	SI	Sign Post
CPS	Concrete Paving Slabs	SID	Site Level Depth
CS	Combined Sewer	SP	Sign Post
DK	Dropped Kerb	ST	Steel
DIA	Diameter	STN	Survey Station
DP	Down Pipe	SV	Stop Valve
EJB	Electricity Junction Box	SW	Surface Water
EP	Electricity Pole	TCB	Telephone Call Box
ER	Earth Road	TCD	Top of Chamber Depth
FL	Flowed Med	TL	Traffic Light
FI	Fire Hydrant	TLCB	Traffic Light Control Box
FH	Flood Light	TL	Traffic Light
FW	Foul Water	UTL	Unable To Lift
FWP	Foul Water Pipe	VIC	Vertical Clearance
GM	Gas Meter	VP	Vent Pipe
GP	Gas Pipe	WLD	Water Level Depth
GV	Gas Valve	WM	Water Meter
IC	Inspection Cover	WSC	Water Stop Cock
ID	Invert Depth	WV	Water Stop Valve
IL	Invert Level	WWD	Water Main Out

LINE-TYPE KEY

Electricity	Scan Area
Street Lighting	Unable to GPR Area
Water	Kerb
Gas	Fence
British Telecom	Building
Unknown Telecom	Wall
Virgin Media	Surface Scar
Flow Data	Change of Surface
Traffic Control Signalling	
CCTV	Building
Empty Duct	
Surface Water	
Foul Water	
Combined Sewer	
Oil/Fuel Pipe	
Unknown Pipe	
Unknown Cable	
Metallic Target	
Radar Target	
Possible Target	
Assumed	
Statutory Records	

CLIENT: The College of Richard Collyer
Horsham
West Sussex
RH12 2EJ

SITE: Canopy and Sports Hall Project
The College of Richard Collyer
Horsham
West Sussex
RH12 2EJ

PROJECT REF: P231017-Collyer's College

DRAWN: JC	DATE: 14/02/2024
CHECKED: NIG	SHEET NO: 2 of 2
SCALE: AD 1:100	REV: P01

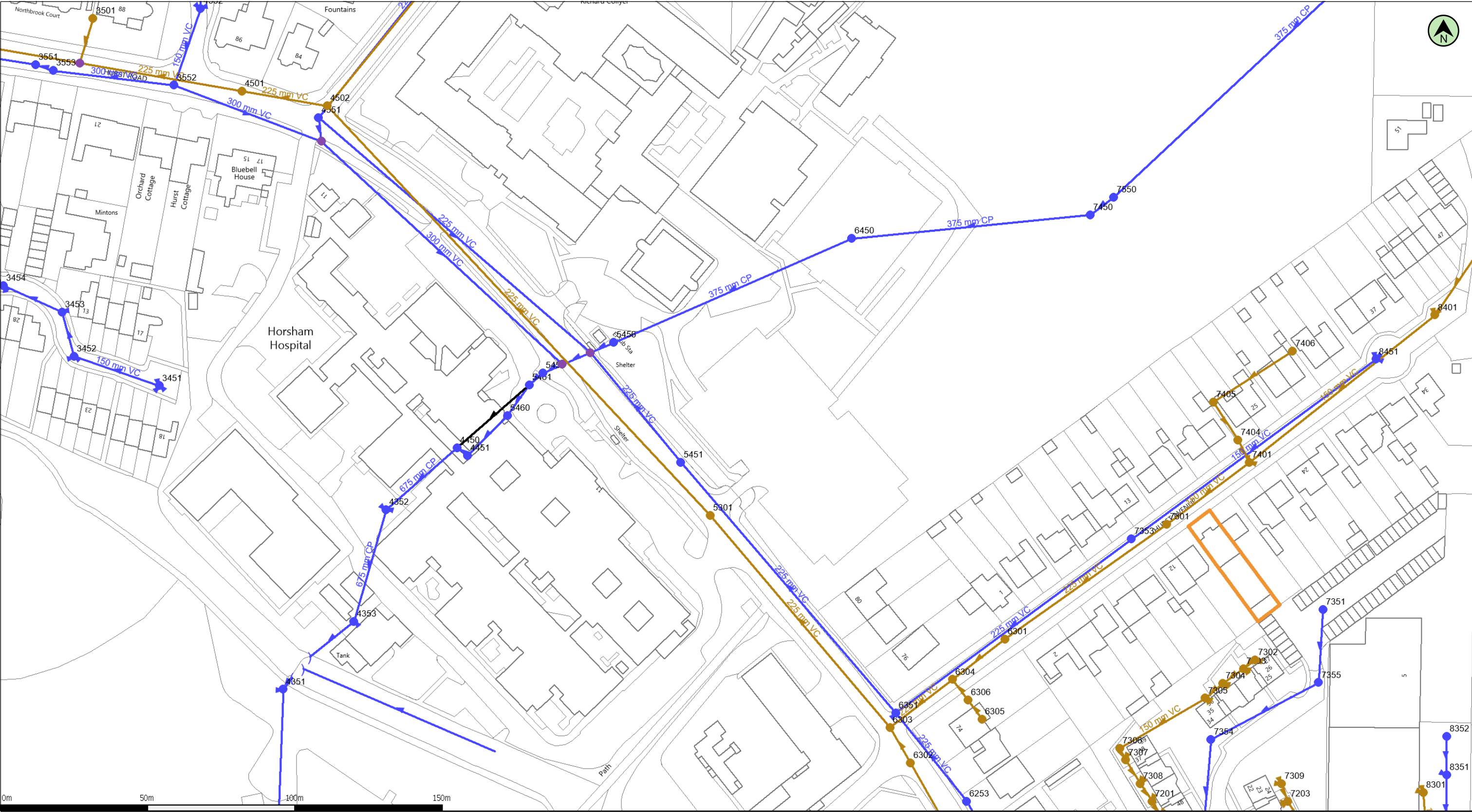
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0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0



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Date: 04/03/25

Scale: 1:1250

Map Centre: 517588,131433

Data updated: 26/02/25

Our Ref: 1706565 - 1

Wastewater Plan A3
Powered by digdat

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

Foul Gravity Sewer	Combined Gravity Sewer	Culverted Water Course or Treated Effluent	Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon	Combined Outfall	Surface Water Outfall	Surface Water Inlet
Combined Pumping Station	Surface Water Pumping Station	Foul Pumping Station	Foul Manhole
Combined Manhole	Surface Water Manhole	Water Treatment Works	Side Entry Manhole, Demarcation Chamber, Dummy Manhole or Surface Water Soakaway
Section 104 Area	Building Over Agreement Area		

tatiana.patten@bdp.com

P3003919 Collyers

South-east car park, College of Richard Collyer



Appendix D: Horsham District Policies

Policy 35

Strategic Policy: Climate Change

Development will be supported where it makes a clear contribution to mitigating and adapting to the impacts of climate change and to meeting the district's carbon reduction targets as set out in the Council's Acting Together on Climate Change Strategy, 2009.

Measures which should be used to mitigate the effects of climate change include;

1. Reduced energy use in construction;
2. Improved energy efficiency in new developments, including influencing the behaviour of occupants to reduce energy use;
3. The use of decentralised, renewable and low carbon energy supply systems;
4. The use of patterns of development which reduce the need to travel, encourage walking and cycling and include good accessibility to public transport and other forms of sustainable transport; and
5. Measures which reduce the amount of biodegradable waste sent to landfill.

Development must be designed so that it can adapt to the impacts of climate change, reducing vulnerability, particularly in terms of flood risk, water supply and changes to the district's landscape. Developments should adapt to climate change using the following measures:

1. Provision of appropriate flood storage capacity in new building development;
2. Use of green infrastructure and dual use SuDS to help absorb heat, reduce surface water runoff, provide flood storage capacity and assist habitat migration;
3. Use of measures which promote the conservation of water and/or grey water recycling; and
4. Use of site layout, design measures and construction techniques that provide resilience to climate change (opportunities for natural ventilation and solar gain).

If it is not possible to incorporate the adaption and mitigation measures proposed, an explanation should be provided as to why this is the case.

Policy 38

Strategic Policy: Flooding

1. Development proposals will follow a sequential approach to flood risk management, giving priority to development sites with the lowest risk of flooding and making required development safe without increasing flood risk elsewhere. Development proposals will;
 - a. take a sequential approach to ensure most vulnerable uses are placed in the lowest risk areas.
 - b. avoid the functional floodplain (Flood zone 3b) except for water-compatible uses and essential infrastructure.
 - c. only be acceptable in Flood Zone 2 and 3 following completion of a sequential test and exceptions test if necessary.
 - d. require a site-specific Flood Risk Assessments for all developments over 1 hectare in Flood Zone 1 and all proposals in Flood Zone 2 and 3.
2. Comply with the tests and recommendations set out in the Horsham District Strategic Flood Risk Assessment (SFRA).
3. Where there is the potential to increase flood risk, proposals must incorporate the use of sustainable drainage systems (SuDS) where technically feasible, or incorporate water management measures which reduce the risk of flooding and ensure flood risk is not increased elsewhere.
4. Consider the vulnerability and importance of local ecological resources such as water quality and biodiversity when determining the suitability of SuDS. New development should undertake more detailed assessments to consider the most appropriate SuDS methods for each site. Consideration should also be given to amenity value and green infrastructure.
5. Utilise drainage techniques that mimic natural drainage patterns and manage surface water as close to its source as possible will be required where technically feasible.
6. Be in accordance with the objective of the Water Framework Directive, and accord with the findings of the Gatwick Sub Region Water Cycle Study in order to maintain water quality and water availability in rivers and wetlands and wastewater treatment requirements.

Appendix E: Proposed Drainage Strategy and Calculations

LEGEND

PLANNING BOUNDARY

EXISTING DRAINAGE

EXISTING FOUL WATER SEWER

EXISTING MANHOLE

PROPOSED DRAINAGE

PROPOSED SURFACE WATER DRAINAGE

PROPOSED SURFACE WATER MANHOLE/ INSPECTION CHAMBER

PROPOSED SURFACE WATER DRAINAGE CHANNEL WITH SUMP OUTLET

PROPOSED GEOCELLULAR TANK

PROPOSED FOUL WATER DRAINAGE

PROPOSED FOUL WATER MANHOLE/ INSPECTION CHAMBER

PROPOSED PERMEABLE PAVING

ACRONYMS:

FW - FOUL WATER

SW - SURFACE WATER

MH - MANHOLE

RWP - RAINWATER PIPE

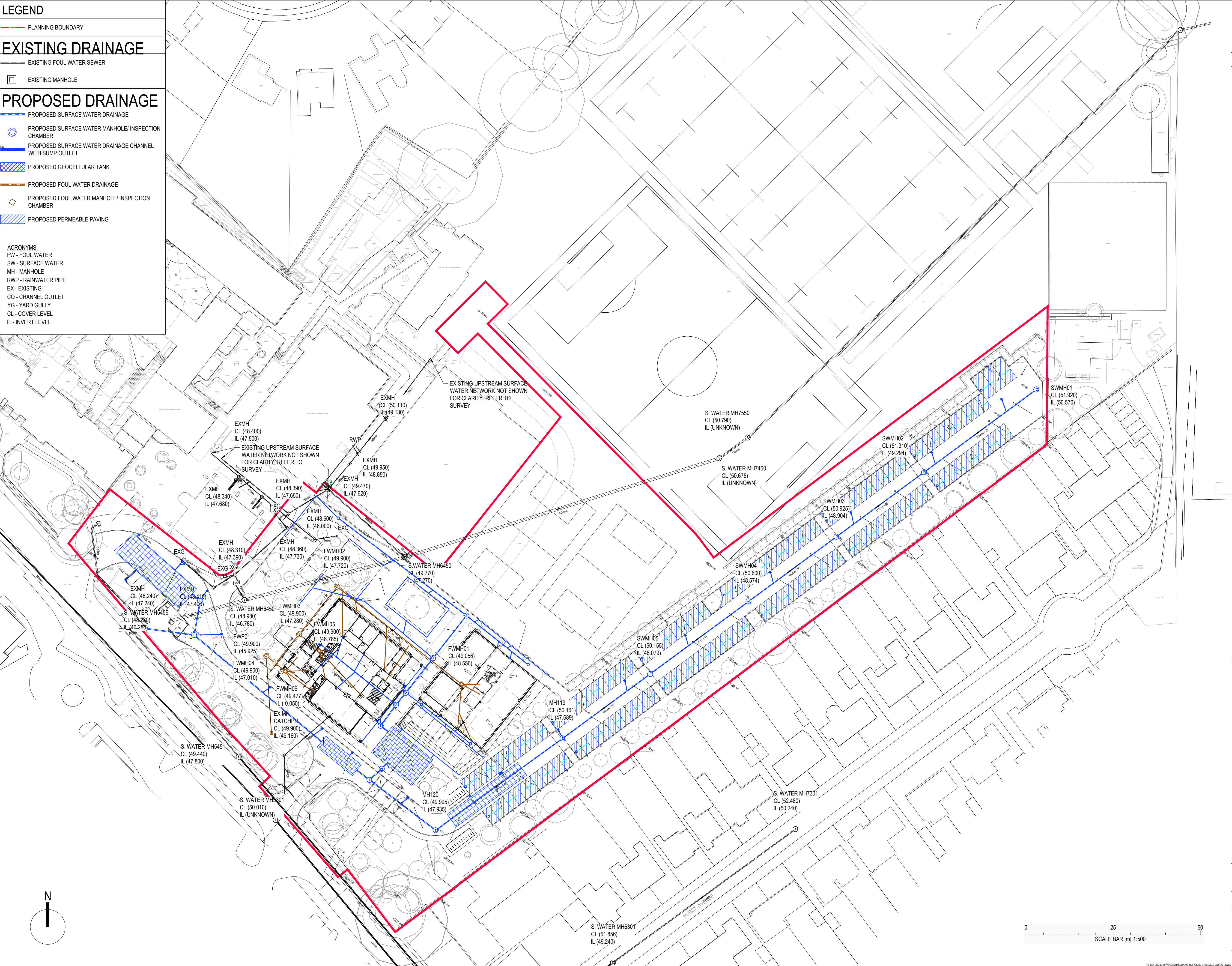
EX - EXISTING

CO - CHANNEL OUTLET

YG - YARD GULLY

CL - COVER LEVEL

IL - INVERT LEVEL



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DO NOT SCALE FROM THIS DRAWING.

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NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED. WHERE THERE APPEARS TO BE A CONFLICT BETWEEN DIMENSIONS OR WHERE DIMENSIONS CANNOT BE DETERMINED FROM THE DRAWINGS, CONSULT THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.

3. THE CONTRACTOR SHALL:

3.1. VERIFY EXISTING UTILITIES BEFORE STARTING WORKS.

3.2. VERIFY THE DIMENSIONS SHOWN ON THE DRAWINGS BEFORE FABRICATION, SETTING OUT OR EXCAVATION OF THE WORK, AND SHALL BE HELD RESPONSIBLE FOR ANY ERRORS OR INACCURACIES RESULTING FROM FAILURE TO DO SO.

3.3. CHECK AND VERIFY THE LOCATION AND LEVELS ALL EXISTING DRAINS, SEWERS, INSPECTION CHAMBERS AND MANHOLES AGAINST DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

4. UNLESS FORMING OUTFALL PIPEWORK OR SHOWN AS BEING DEMOLISHED, ALL EXISTING DRAINAGE TO BE REPLACED LIKE FOR LIKE, WHERE NO GRADIENT HAS BEEN RECORDED, ASSUME 1:40 UNLESS OTHERWISE STATED ON DRAWING.

5. PROPOSED DRAINAGE LAYOUT IS INDICATIVE ONLY AND SUBJECT TO DESIGN DEVELOPMENT, COORDINATION AND ADDITIONAL SURVEYS.

6. ALL DRAINAGE PIPES/POINTS/COVERS SETTING OUT/DIMENSIONS TBC.

7. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.

8. ALL PROPRIETARY PRODUCTS / SYSTEMS TO BE VERIFIED BY THE MANUFACTURER AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION / DETAILS.

9. ALL DRAINAGE TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH BS EN 12056-1:2000, BS EN 752:2017, AND BS EN 1610:2015.

10. EXTERNAL SURFACE WATER DRAINAGE CHANNELS TO BE CONFIRMED AND COORDINATED AT LATER STAGE.

11. LANDSCAPE ARCHITECT TO CONFIRM SURFACE FINISHES LOCATION AND DETAIL.

12. RWP LOCATIONS ARE INDICATIVE AND SUBJECT TO FURTHER COORDINATION WITH PUBLIC HEALTH DESIGN

P01 For Planning

COB TA 01/07/26

REVISION DESCRIPTION DRAWN CHECKED DATE

DATE

COLLYER'S

Founded in 1532

BDP.

16 Brewhouse Yard

Clerkenwell

London

EC1V 4LJ

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PROJECT TITLE

The College of Richard Collyer - New Technology Centre

DWG NO. NUMBER

P3003919

REVISED CLASSIFICATION

DRAWING TITLE

Existing Below Ground

PROPOSED DRAINAGE LAYOUT

Overall Plan

SCALE

1:500 @ A1

DATE FIRST ISSUED

01/07/26

DRAWING NO.

CRC-BDP-ZZ-00-DR-C-20500

REVISION

P01

Results

Method	IH124	
Flow rate 1 year (l/s)	1.9	l/s
Flow rate 2 year (l/s)	2	l/s
Flow rate 10 years (l/s)	3.7	l/s
Flow rate 30 years (l/s)	5.3	l/s
Flow rate 100 years (l/s)	7.3	l/s
Flow rate 200 years (l/s)	8.6	l/s

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.0.0) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area

Type : Catchment Area

Area (ha)	0.022
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (1)

Type : Catchment Area

Area (ha)	0.021
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (2)

Type : Catchment Area

Area (ha)	0.031
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (3)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (4)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (5)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (6)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (7)

Type : Catchment Area

Area (ha)	0.022
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (8)

Type : Catchment Area

Area (ha)	0.026
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (9)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (10)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (11)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
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Catchment Area (12)

Type : Catchment Area

Area (ha)	0.023
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (13)

Type : Catchment Area

Area (ha)	0.073
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (14)

Type : Catchment Area

Area (ha)	0.025
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (15)

Type : Catchment Area

Area (ha)	0.011
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (16)

Type : Catchment Area

Area (ha)	0.092
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (17)

Type : Catchment Area

Area (ha)	0.111
-----------	-------

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: fefef		





Catchment Area (18)

Type : Catchment Area

Area (ha)	0.165
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100



Catchment Area (19)

Type : Catchment Area

Area (ha)	0.08
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Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.750
Winter Volumetric Runoff	0.840
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address: fefef		



Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)	Lock
Outfall	Manhole	517544.740	131449.393	48.230	1.650	46.580	Circular	1.200	None
MH11	Manhole	517799.404	131517.303	51.800	1.050	50.750	Circular	1.200	None
MH10	Manhole	517766.779	131493.321	51.230	1.175	50.055	Circular	1.200	None
MH09	Manhole	517741.711	131474.818	51.254	1.589	49.665	Circular	1.200	None
MH08	Manhole	517720.414	131459.136	50.600	1.265	49.335	Circular	1.200	None
MH07	Manhole	517688.291	131435.457	50.384	1.544	48.840	Circular	1.200	None
MH06	Manhole	517663.218	131416.976	49.800	1.350	48.450	Circular	1.200	None
MH05	Manhole	517629.963	131392.506	50.020	2.085	47.935	Circular	1.200	None
Manhole	Manhole	517574.733	131433.771	49.600	2.790	46.810	Circular	1.200	None
Manhole (1)	Manhole	517604.504	131409.833	49.800	2.505	47.295	Circular	1.200	None

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



 **Porous Paving (0)**

Type : Porous Paving

Dimensions		
Exceedance Level (m)		51.750
Depth (m)		0.430
Base Level (m)		51.320
Paving Layer Depth (mm)		130
Membrane Percolation (m/hr)		2.5
Porosity (%)		30
Length (m)		10.770
Long. Slope (1:X)		200.00
Width (m)		7.493
Total Volume (m³)		7.322

Under Drain		
Height Above Base (m)		0.000
Diameter (mm)		100
No. of Barrels		1
Release Height (m)		0.000
Friction Scheme		Manning's n
n		0.015

Inlets

Inlet	
Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Outlets

Outlet	
Outgoing Connection	Pipe (11)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Porous Paving (1)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.500
Depth (m)	0.430
Base Level (m)	51.070
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	26.405
Long. Slope (1:X)	200.00
Width (m)	4.793
Total Volume (m³)	11.536

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Inlets

Inlet	
Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet	
Outgoing Connection	Pipe (8)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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 **Porous Paving (2)**

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.500
Depth (m)	0.430
Base Level (m)	51.070
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.812
Long. Slope (1:X)	200.00
Width (m)	26.407
Total Volume (m³)	11.463

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (2)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (7)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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 Porous Paving (4)

Type : Porous Paving

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Dimensions		
Exceedance Level (m)		51.000
Depth (m)		0.430
Base Level (m)		50.570
Paving Layer Depth (mm)		130
Membrane Percolation (m/hr)		2.5
Porosity (%)		30
Length (m)		28.806
Long. Slope (1:X)		200.00
Width (m)		4.804
Total Volume (m³)		12.612

Under Drain		
Height Above Base (m)		0.000
Diameter (mm)		100
No. of Barrels		1
Release Height (m)		0.000
Friction Scheme		Manning's n
n		0.015

Inlets		
Inlet		
Inlet Type	Lateral Inflow	
Incoming Item(s)	Catchment Area (4)	
Bypass Destination	(None)	
Capacity Type	No Restriction	

Outlets		
Outlet		
Outgoing Connection	Pipe (9)	
Outlet Type	Free Discharge	

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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Advanced

Conductivity (m/hr)	250.0
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 Porous Paving (3)

Type : Porous Paving

Dimensions

Exceedance Level (m)	51.000
Depth (m)	0.430
Base Level (m)	50.570
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.799
Long. Slope (1:X)	200.00
Width (m)	28.804
Total Volume (m³)	12.468

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Outlets

Outlet	
Outgoing Connection	Pipe (10)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Porous Paving (6)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.750
Depth (m)	0.430
Base Level (m)	50.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	28.795
Long. Slope (1:X)	200.00
Width (m)	4.791
Total Volume (m³)	12.575

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Inlets

Inlet	
Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (5)
Bypass Destination	(None)
Capacity Type	No Restriction

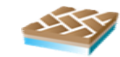
Outlets

Outlet	
Outgoing Connection	Pipe (12)
Outlet Type	Free Discharge

Outlet (1)	
Outgoing Connection	Pipe (21)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Porous Paving (5)

Type : Porous Paving

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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Dimensions		
Exceedance Level (m)		50.750
Depth (m)		0.430
Base Level (m)		50.320
Paving Layer Depth (mm)		130
Membrane Percolation (m/hr)		2.5
Porosity (%)		30
Length (m)		4.806
Long. Slope (1:X)		200.00
Width (m)		28.795
Total Volume (m³)		12.482

Under Drain		
Height Above Base (m)		0.000
Diameter (mm)		100
No. of Barrels		1
Release Height (m)		0.000
Friction Scheme		Manning's n
n		0.015

Inlets		
Inlet		
Inlet Type	Lateral Inflow	
Incoming Item(s)	Catchment Area (6)	
Bypass Destination	(None)	
Capacity Type	No Restriction	

Outlets		
Outlet		
Outgoing Connection	Pipe (13)	
Outlet Type	Free Discharge	

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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Advanced

Conductivity (m/hr)	250.0
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 **Porous Paving (7)**

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.250
Depth (m)	0.430
Base Level (m)	49.820
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.788
Long. Slope (1:X)	200.00
Width (m)	24.002
Total Volume (m³)	10.369

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (7)
Bypass Destination	(None)
Capacity Type	No Restriction

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Outlets

Outlet	
Outgoing Connection	Pipe (14)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Porous Paving (8)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.250
Depth (m)	0.430
Base Level (m)	49.820
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.802
Long. Slope (1:X)	200.00
Width (m)	31.211
Total Volume (m³)	13.514

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

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Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (8)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (15)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Porous Paving (10)

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.000
Depth (m)	0.430
Base Level (m)	49.570
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.813
Long. Slope (1:X)	200.00
Width (m)	28.804
Total Volume (m³)	12.504

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (9)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (16)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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 Porous Paving (9)

Type : Porous Paving

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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Dimensions		
Exceedance Level (m)		50.000
Depth (m)		0.430
Base Level (m)		49.570
Paving Layer Depth (mm)		130
Membrane Percolation (m/hr)		2.5
Porosity (%)		30
Length (m)		4.797
Long. Slope (1:X)		200.00
Width (m)		28.793
Total Volume (m³)		12.457

Under Drain		
Height Above Base (m)		0.000
Diameter (mm)		100
No. of Barrels		1
Release Height (m)		0.000
Friction Scheme		Manning's n
n		0.015

Inlets		
Inlet		
Inlet Type	Lateral Inflow	
Incoming Item(s)	Catchment Area (10)	
Bypass Destination	(None)	
Capacity Type	No Restriction	

Outlets		
Outlet		
Outgoing Connection	Pipe (17)	
Outlet Type	Free Discharge	

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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DRN

Advanced

Conductivity (m/hr)	250.0
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 **Porous Paving (12)**

Type : Porous Paving

Dimensions

Exceedance Level (m)	49.750
Depth (m)	0.430
Base Level (m)	49.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.800
Long. Slope (1:X)	200.00
Width (m)	28.792
Total Volume (m³)	12.466

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (11)
Bypass Destination	(None)
Capacity Type	No Restriction

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Outlets

Outlet	
Outgoing Connection	Pipe (18)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Porous Paving (11)

Type : Porous Paving

Dimensions

Exceedance Level (m)	49.750
Depth (m)	0.430
Base Level (m)	49.320
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	2.5
Porosity (%)	30
Length (m)	4.793
Long. Slope (1:X)	200.00
Width (m)	28.795
Total Volume (m³)	12.447

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

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Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Catchment Area (12)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (19)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	250.0
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Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		





Cellular Storage (Car Park)

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	50.020
Depth (m)	1.200
Base Level (m)	47.985
Number of Crates Long	25
Number of Crates Wide	9
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	129.085

Inlets	
Inlet (1)	
Inlet Type	Point Inflow
Incoming Item(s)	Pipe (6)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets	
Outlet	
Outgoing Connection	Pipe (20)
Outlet Type	Free Discharge



Cellular Storage (Road South)

Type : Cellular Storage

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		

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Dimensions		
Exceedance Level (m)		49.800
Depth (m)		0.800
Base Level (m)		47.165
Number of Crates Long		13
Number of Crates Wide		8
Number of Crates High		2
Porosity (%)		95
Crate Length (m)		1
Crate Width (m)		0.5
Crate Height (m)		0.4
Total Volume (m³)		41.355

Inlets		
Inlet (4)		
Inlet Type	Point Inflow	
Incoming Item(s)	Catchment Area (14)	
	Catchment Area (19)	
Bypass Destination	(None)	
Capacity Type	No Restriction	

Inlet (5)		
Inlet Type	Point Inflow	
Incoming Item(s)	Catchment Area (15)	
Bypass Destination	(None)	
Capacity Type	No Restriction	

Inlet		
Inlet Type	Point Inflow	
Incoming Item(s)	Pipe (26)	
Bypass Destination	(None)	
Capacity Type	No Restriction	

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Outlets

Outlet

Outgoing Connection	Pipe (24)
Outlet Type	Free Discharge



Cellular Storage (Road West)

Type : Cellular Storage

Dimensions

Exceedance Level (m)	48.400
Depth (m)	0.400
Base Level (m)	47.090
Number of Crates Long	24
Number of Crates Wide	15
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	69.310

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (13)
Bypass Destination	(None)
Capacity Type	No Restriction

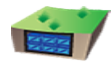
Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (16)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (22)
Outlet Type	Free Discharge



Cellular Storage (Buildings)

Type : Cellular Storage

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: fefef		



Dimensions

Exceedance Level (m)	49.750
Depth (m)	0.800
Base Level (m)	47.750
Number of Crates Long	15
Number of Crates Wide	19
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	109.500

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (17)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (18)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (23)
Outlet Type	Free Discharge

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Company Address: fefef		



Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Flow Restriction (L/s)
Pipe (1)	40.491	Pipe	58.260		0.6	150	51.800	50.750	51.230	50.055	None	
Pipe (2)	31.157	Pipe	79.891		0.6	150	51.230	50.055	51.254	49.665	None	
Pipe (3)	26.448	Pipe	80.145		0.6	150	51.254	49.665	50.600	49.335	None	
Pipe (4)	39.907	Pipe	80.621		0.6	150	50.600	49.335	50.384	48.840	None	
Pipe (5)	31.147	Pipe	79.865		0.6	225	50.384	48.840	49.800	48.450	None	
Pipe (11)	7.949	Pipe	13.946		0.6	100	51.804	51.320	51.800	50.750	None	
Pipe (7)	14.448	Pipe	14.235		0.6	100	51.524	51.070	51.230	50.055	None	
Pipe (8)	20.605	Pipe	20.300		0.6	100	51.632	51.070	51.230	50.055	None	
Pipe (9)	17.478	Pipe	19.313		0.6	100	51.144	50.570	51.254	49.665	None	
Pipe (10)	17.371	Pipe	19.195		0.6	100	51.024	50.570	51.254	49.665	None	
Pipe (12)	12.291	Pipe	12.478		0.6	100	50.894	50.320	50.600	49.335	None	
Pipe (13)	12.649	Pipe	12.842		0.6	100	50.774	50.320	50.600	49.335	None	
Pipe (14)	13.791	Pipe	14.073		0.6	100	50.274	49.820	50.384	48.840	None	
Pipe (15)	18.238	Pipe	18.611		0.6	100	50.274	49.820	50.384	48.840	None	
Pipe (16)	16.933	Pipe	15.119		0.6	100	50.024	49.570	49.800	48.450	None	
Pipe (17)	12.483	Pipe	11.145		0.6	100	50.024	49.570	49.800	48.450	None	
Pipe (18)	27.518	Pipe	19.868		0.6	100	49.774	49.320	50.020	47.935	None	
Pipe (19)	26.740	Pipe	19.307		0.6	100	49.774	49.320	50.020	47.935	None	
Pipe (20)	4.536	Pipe	90.729		0.6	100	50.020	47.985	50.020	47.935	None	
Pipe (6)	17.658	Pipe	37.974		0.6	225	49.800	48.450	50.020	47.985	None	
Pipe (21)	6.103	Pipe	6.196		0.6	100	50.894	50.320	50.600	49.335	None	
Pipe (22)	28.136	Pipe	100.485		0.6	150	48.400	47.090	49.600	46.810	None	
Pipe (24)	27.974	Pipe	78.800		0.6	150	49.800	47.165	49.600	46.810	None	
Pipe (25)	33.818	Pipe	147.034		0.6	225	49.600	46.810	48.230	46.580	None	39.3
Pipe	30.796	Pipe	48.119		0.6	100	50.020	47.935	49.800	47.295	None	
Pipe (26)	10.235	Pipe	78.732		0.6	100	49.800	47.295	49.800	47.165	None	
Pipe (23)	45.294	Pipe	99.547		0.6	150	49.750	47.750	49.800	47.295	None	

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Company Address: fefef		



Name	Velocity (m/s)	Culvert Type	Culvert Entrance
Pipe (1)		(None)	(None)
Pipe (2)		(None)	(None)
Pipe (3)		(None)	(None)
Pipe (4)		(None)	(None)
Pipe (5)		(None)	(None)
Pipe (11)		(None)	(None)
Pipe (7)		(None)	(None)
Pipe (8)		(None)	(None)
Pipe (9)		(None)	(None)
Pipe (10)		(None)	(None)
Pipe (12)		(None)	(None)
Pipe (13)		(None)	(None)
Pipe (14)		(None)	(None)
Pipe (15)		(None)	(None)
Pipe (16)		(None)	(None)
Pipe (17)		(None)	(None)
Pipe (18)		(None)	(None)
Pipe (19)		(None)	(None)
Pipe (20)		(None)	(None)
Pipe (6)		(None)	(None)
Pipe (21)		(None)	(None)
Pipe (22)		(None)	(None)
Pipe (24)		(None)	(None)
Pipe (25)		(None)	(None)
Pipe		(None)	(None)
Pipe (26)		(None)	(None)
Pipe (23)		(None)	(None)

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: fefef		



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: fefef		



Manhole Options

Apply Offset ☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address: fefef		



Outfalls				
Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge			
MH05	Free Discharge			

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Company Address: fefef		



Runoff Type	Dynamic
Output Interval (mins)	1
Time Step	Reduced
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: fefef		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Project Title: P3003919 College of Richard Collyer		Date: 26/03/2026	
		Designed by: EH44949	Checked by:
		Approved By:	
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address: fefef	



Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.6	1.664
Catchment Area (1)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.4	1.558
Catchment Area (2)	FEH: 2 years: +0 %: 15 mins: Winter	0.03	5.0	2.306
Catchment Area (3)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.752
Catchment Area (4)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.748
Catchment Area (5)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.749
Catchment Area (6)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.750
Catchment Area (7)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.6	1.665
Catchment Area (8)	FEH: 2 years: +0 %: 15 mins: Winter	0.03	4.2	1.929
Catchment Area (9)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.750
Catchment Area (10)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.746
Catchment Area (11)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.746
Catchment Area (12)	FEH: 2 years: +0 %: 15 mins: Winter	0.02	3.8	1.752
Catchment Area (13)	FEH: 2 years: +0 %: 15 mins: Winter	0.07	12.0	5.547
Catchment Area (14)	FEH: 2 years: +0 %: 15 mins: Winter	0.03	4.1	1.895
Catchment Area (15)	FEH: 2 years: +0 %: 15 mins: Winter	0.01	1.7	0.802
Catchment Area (16)	FEH: 2 years: +0 %: 15 mins: Winter	0.09	15.0	6.937
Catchment Area (17)	FEH: 2 years: +0 %: 15 mins: Winter	0.11	18.2	8.395
Catchment Area (18)	FEH: 2 years: +0 %: 15 mins: Winter	0.16	26.9	12.442
Catchment Area (19)	FEH: 2 years: +0 %: 15 mins: Winter	0.08	13.1	6.049

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: fefef		

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FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Project Title: P3003919 College of Richard Collyer		Date: 26/03/2026	
		Designed by: EH44949	Checked by:
		Approved By:	
Report Details: Type: Inflows Summary Storm Phase: Phase		Company Address: fefef	



Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.2	5.193
Catchment Area (1)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	10.5	4.867
Catchment Area (2)	FEH: 30 years: +40 %: 15 mins: Winter	0.03	15.6	7.204
Catchment Area (3)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.9	5.477
Catchment Area (4)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.8	5.468
Catchment Area (5)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.8	5.470
Catchment Area (6)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.9	5.473
Catchment Area (7)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.3	5.199
Catchment Area (8)	FEH: 30 years: +40 %: 15 mins: Winter	0.03	13.0	6.024
Catchment Area (9)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.8	5.471
Catchment Area (10)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.8	5.466
Catchment Area (11)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.8	5.459
Catchment Area (12)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	11.9	5.475
Catchment Area (13)	FEH: 30 years: +40 %: 15 mins: Winter	0.07	37.5	17.337
Catchment Area (14)	FEH: 30 years: +40 %: 15 mins: Winter	0.03	12.8	5.925
Catchment Area (15)	FEH: 30 years: +40 %: 15 mins: Winter	0.01	5.4	2.509
Catchment Area (16)	FEH: 30 years: +40 %: 15 mins: Winter	0.09	46.9	21.678
Catchment Area (17)	FEH: 30 years: +40 %: 15 mins: Winter	0.11	56.8	26.243
Catchment Area (18)	FEH: 30 years: +40 %: 15 mins: Winter	0.16	84.2	38.890
Catchment Area (19)	FEH: 30 years: +40 %: 15 mins: Winter	0.08	40.9	18.910

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: fefef		

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FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: fefef		



Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area	FEH: 100 years: +45 %: 15 mins: Winter	0.02	14.7	6.779
Catchment Area (1)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	13.8	6.353
Catchment Area (2)	FEH: 100 years: +45 %: 15 mins: Winter	0.03	20.4	9.410
Catchment Area (3)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.151
Catchment Area (4)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.139
Catchment Area (5)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.142
Catchment Area (6)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.145
Catchment Area (7)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	14.7	6.786
Catchment Area (8)	FEH: 100 years: +45 %: 15 mins: Winter	0.03	17.0	7.865
Catchment Area (9)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.144
Catchment Area (10)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.138
Catchment Area (11)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.4	7.126
Catchment Area (12)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	15.5	7.149
Catchment Area (13)	FEH: 100 years: +45 %: 15 mins: Winter	0.07	49.0	22.636
Catchment Area (14)	FEH: 100 years: +45 %: 15 mins: Winter	0.03	16.8	7.737
Catchment Area (15)	FEH: 100 years: +45 %: 15 mins: Winter	0.01	7.1	3.273
Catchment Area (16)	FEH: 100 years: +45 %: 15 mins: Winter	0.09	61.3	28.306
Catchment Area (17)	FEH: 100 years: +45 %: 15 mins: Winter	0.11	74.2	34.266
Catchment Area (18)	FEH: 100 years: +45 %: 15 mins: Winter	0.16	110.0	50.777
Catchment Area (19)	FEH: 100 years: +45 %: 15 mins: Winter	0.08	53.5	24.691

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: fefef		

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FEH: 2 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
Outfall	FEH: 2 years: +0 %: 120 mins: Winter	48.230	46.580	46.689	0.109	20.5	0.000	0.000	20.5	131.769	OK
MH11	FEH: 2 years: +0 %: 15 mins: Winter	51.800	50.750	50.781	0.031	2.2	0.035	0.000	2.2	1.378	OK
MH10	FEH: 2 years: +0 %: 30 mins: Winter	51.230	50.055	50.112	0.057	6.2	0.065	0.000	6.1	6.399	OK
MH09	FEH: 2 years: +0 %: 30 mins: Winter	51.254	49.665	49.738	0.073	9.4	0.083	0.000	9.3	10.194	OK
MH08	FEH: 2 years: +0 %: 30 mins: Winter	50.600	49.335	49.425	0.090	12.7	0.102	0.000	12.6	14.026	OK
MH07	FEH: 2 years: +0 %: 30 mins: Winter	50.384	48.840	48.924	0.084	16.3	0.095	0.000	16.3	17.996	OK
MH06	FEH: 2 years: +0 %: 15 mins: Winter	49.800	48.450	48.533	0.083	18.7	0.094	0.000	19.0	13.223	OK
MH05	FEH: 2 years: +0 %: 120 mins: Winter	50.020	47.935	48.122	0.187	7.2	0.211	0.000	7.5	48.388	Surcharged
Manhole	FEH: 2 years: +0 %: 120 mins: Winter	49.600	46.810	47.136	0.326	20.5	0.369	0.000	20.5	131.807	Surcharged
Manhole (1)	FEH: 2 years: +0 %: 120 mins: Winter	49.800	47.295	47.830	0.535	13.1	0.605	0.000	12.6	87.397	Surcharged

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: fefef		





FEH: 30 years: Increase Rainfall (%): +40: 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
Outfall	FEH: 30 years: +40 %: 60 mins: Winter	48.230	46.580	46.721	0.141	31.1	0.000	0.000	31.1	166.343	OK
MH11	FEH: 30 years: +40 %: 30 mins: Winter	51.800	50.750	51.038	0.288	7.7	0.326	0.000	7.1	6.702	Surcharged
MH10	FEH: 30 years: +40 %: 30 mins: Winter	51.230	50.055	50.980	0.925	21.6	1.046	0.000	18.4	22.029	Flood Risk
MH09	FEH: 30 years: +40 %: 30 mins: Winter	51.254	49.665	50.669	1.004	25.1	1.135	0.000	22.6	35.628	Surcharged
MH08	FEH: 30 years: +40 %: 30 mins: Winter	50.600	49.335	50.294	0.959	34.8	1.084	0.000	32.2	49.361	Surcharged
MH07	FEH: 30 years: +40 %: 15 mins: Winter	50.384	48.840	49.006	0.166	47.7	0.188	0.000	47.7	42.846	OK
MH06	FEH: 30 years: +40 %: 120 mins: Winter	49.800	48.450	48.859	0.409	39.7	0.463	0.000	39.7	123.653	Surcharged
MH05	FEH: 30 years: +40 %: 120 mins: Winter	50.020	47.935	48.772	0.837	9.1	0.946	0.000	9.1	102.368	Surcharged
Manhole	FEH: 30 years: +40 %: 60 mins: Winter	49.600	46.810	47.295	0.485	31.1	0.549	0.000	31.1	166.731	Surcharged
Manhole (1)	FEH: 30 years: +40 %: 120 mins: Winter	49.800	47.295	48.329	1.034	15.8	1.170	0.000	15.9	186.529	Surcharged

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: fefef		





FEH: 100 years: Increase Rainfall (%): +45: 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
Outfall	FEH: 100 years: +45 %: 120 mins: Winter	48.230	46.580	46.736	0.156	35.8	0.000	0.000	35.8	361.286	OK
MH11	FEH: 100 years: +45 %: 30 mins: Winter	51.800	50.750	51.140	0.390	9.1	0.441	0.000	8.6	8.883	Surcharged
MH10	FEH: 100 years: +45 %: 30 mins: Winter	51.230	50.055	51.052	0.997	22.9	1.127	0.000	19.1	29.226	Flood Risk
MH09	FEH: 100 years: +45 %: 30 mins: Winter	51.254	49.665	50.728	1.063	26.4	1.203	0.000	22.9	47.061	Surcharged
MH08	FEH: 100 years: +45 %: 30 mins: Winter	50.600	49.335	50.344	1.009	36.1	1.141	0.000	32.9	65.246	Flood Risk
MH07	FEH: 100 years: +45 %: 60 mins: Winter	50.384	48.840	49.639	0.799	48.1	0.904	0.000	48.4	110.528	Surcharged
MH06	FEH: 100 years: +45 %: 60 mins: Winter	49.800	48.450	49.604	1.154	63.6	1.305	0.000	61.5	133.274	Flood Risk
MH05	FEH: 100 years: +45 %: 120 mins: Winter	50.020	47.935	49.411	1.476	13.0	1.670	0.000	13.1	121.713	Surcharged
Manhole	FEH: 100 years: +45 %: 60 mins: Winter	49.600	46.810	48.254	1.444	36.5	1.633	0.000	35.3	187.773	Surcharged
Manhole (1)	FEH: 100 years: +45 %: 60 mins: Winter	49.800	47.295	49.221	1.926	26.4	2.178	0.000	19.4	100.411	Surcharged

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: fefef		



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Project Title: P3003919 College of Richard Collyer		Date: 26/03/2026	
		Designed by: EH44949	Checked by:
		Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address: fefef	



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
Porous Paving (0)	FEH: 2 years: +0 %: 15 mins: Winter	51.408	51.345	0.034	0.025	3.6	0.830	0.000	0.000	2.2	1.401	88.668	OK
Porous Paving (1)	FEH: 2 years: +0 %: 30 mins: Winter	51.227	51.092	0.025	0.022	2.6	1.130	0.000	0.000	1.4	1.718	90.201	OK
Porous Paving (2)	FEH: 2 years: +0 %: 30 mins: Winter	51.133	51.098	0.039	0.028	3.9	1.278	0.000	0.000	2.7	2.719	88.849	OK
Porous Paving (4)	FEH: 2 years: +0 %: 30 mins: Winter	50.740	50.592	0.026	0.022	2.9	1.286	0.000	0.000	1.5	1.913	89.801	OK
Porous Paving (3)	FEH: 2 years: +0 %: 30 mins: Winter	50.625	50.594	0.031	0.024	2.9	1.143	0.000	0.000	1.8	1.959	90.836	OK
Porous Paving (6)	FEH: 2 years: +0 %: 30 mins: Winter	50.490	50.332	0.026	0.012	2.9	1.192	0.000	0.000	1.5	1.944	90.523	OK
Porous Paving (5)	FEH: 2 years: +0 %: 30 mins: Winter	50.375	50.342	0.031	0.022	2.9	1.091	0.000	0.000	1.8	1.982	91.260	OK
Porous Paving (7)	FEH: 2 years: +0 %: 30 mins: Winter	49.877	49.843	0.033	0.023	2.8	0.953	0.000	0.000	1.9	1.943	90.811	OK
Porous Paving (8)	FEH: 2 years: +0 %: 30 mins: Winter	49.876	49.844	0.032	0.024	3.2	1.272	0.000	0.000	1.9	2.145	90.586	OK
Porous Paving (10)	FEH: 2 years: +0 %: 30 mins: Winter	49.625	49.592	0.031	0.022	2.9	1.113	0.000	0.000	1.8	1.970	91.103	OK
Porous Paving (9)	FEH: 2 years: +0 %: 30 mins: Winter	49.625	49.591	0.031	0.021	2.9	1.077	0.000	0.000	1.9	1.984	91.355	OK
Porous Paving (12)	FEH: 2 years: +0 %: 30 mins: Winter	49.375	49.344	0.031	0.024	2.9	1.149	0.000	0.000	1.7	1.957	90.779	OK
Porous Paving (11)	FEH: 2 years: +0 %: 30 mins: Winter	49.375	49.344	0.031	0.024	2.9	1.148	0.000	0.000	1.7	1.970	90.777	OK
Cellular Storage (Car Park)	FEH: 2 years: +0 %: 120 mins: Winter	48.172	48.172	0.187	0.187	13.7	19.977	0.000	0.000	7.0	40.817	84.524	OK
Cellular Storage (Road South)	FEH: 2 years: +0 %: 120 mins: Winter	47.365	47.365	0.200	0.200	19.3	9.862	0.000	0.000	15.5	106.003	76.153	OK
Cellular Storage (Road West)	FEH: 2 years: +0 %: 120 mins: Winter	47.163	47.163	0.073	0.073	9.7	12.545	0.000	0.000	5.2	26.016	81.900	OK
Cellular Storage (Buildings)	FEH: 2 years: +0 %: 120 mins: Winter	47.897	47.897	0.147	0.147	16.1	19.959	0.000	0.000	9.2	44.996	81.773	OK

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: fefef		



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

Project Title: P3003919 College of Richard Collyer		Date: 26/03/2026	
		Designed by: EH44949	Checked by:
		Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address: fefef	



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
Porous Paving (0)	FEH: 30 years: +40 %: 15 mins: Winter	51.458	51.372	0.084	0.052	11.2	1.874	0.000	0.000	8.1	4.864	74.406	OK
Porous Paving (1)	FEH: 30 years: +40 %: 30 mins: Winter	51.255	51.117	0.053	0.047	8.3	2.609	0.000	0.000	5.7	6.113	77.379	OK
Porous Paving (2)	FEH: 30 years: +40 %: 30 mins: Winter	51.184	51.145	0.090	0.075	12.3	3.087	0.000	0.000	9.4	9.250	73.068	OK
Porous Paving (4)	FEH: 30 years: +40 %: 30 mins: Winter	50.770	50.708	0.056	0.138	9.3	4.079	0.000	0.000	7.5	6.822	67.658	OK
Porous Paving (3)	FEH: 30 years: +40 %: 30 mins: Winter	50.682	50.680	0.088	0.110	9.3	4.122	0.000	0.000	7.5	6.822	66.940	OK
Porous Paving (6)	FEH: 30 years: +40 %: 30 mins: Winter	50.520	50.346	0.056	0.026	9.3	2.793	0.000	0.000	6.3	6.882	77.791	OK
Porous Paving (5)	FEH: 30 years: +40 %: 30 mins: Winter	50.414	50.379	0.070	0.059	9.3	2.651	0.000	0.000	7.3	6.920	78.758	OK
Porous Paving (7)	FEH: 30 years: +40 %: 15 mins: Winter	49.917	49.870	0.073	0.050	11.3	2.116	0.000	0.000	8.0	4.698	79.590	OK
Porous Paving (8)	FEH: 30 years: +40 %: 15 mins: Winter	49.919	49.874	0.075	0.054	13.0	2.907	0.000	0.000	8.0	5.200	78.489	OK
Porous Paving (10)	FEH: 30 years: +40 %: 15 mins: Winter	49.665	49.620	0.071	0.050	11.8	2.507	0.000	0.000	7.7	4.781	79.948	OK
Porous Paving (9)	FEH: 30 years: +40 %: 15 mins: Winter	49.664	49.616	0.070	0.046	11.8	2.393	0.000	0.000	8.0	4.809	80.789	OK
Porous Paving (12)	FEH: 30 years: +40 %: 15 mins: Winter	49.416	49.373	0.072	0.053	11.8	2.592	0.000	0.000	7.4	4.734	79.203	OK
Porous Paving (11)	FEH: 30 years: +40 %: 15 mins: Winter	49.416	49.373	0.072	0.053	11.9	2.586	0.000	0.000	7.5	4.756	79.227	OK
Cellular Storage (Car Park)	FEH: 30 years: +40 %: 120 mins: Winter	48.854	48.854	0.869	0.869	39.7	92.849	0.000	0.000	8.7	81.181	28.071	OK
Cellular Storage (Road South)	FEH: 30 years: +40 %: 60 mins: Winter	47.763	47.763	0.598	0.598	44.1	29.563	0.000	0.000	22.7	121.807	28.514	OK
Cellular Storage (Road West)	FEH: 30 years: +40 %: 60 mins: Winter	47.366	47.366	0.276	0.276	45.0	47.146	0.000	0.000	8.7	46.036	31.978	OK
Cellular Storage (Buildings)	FEH: 30 years: +40 %: 120 mins: Winter	48.412	48.412	0.662	0.662	46.1	89.576	0.000	0.000	8.9	99.266	18.195	OK

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: fefef		



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Resident Volume

Project Title: P3003919 College of Richard Collyer		Date: 26/03/2026	
		Designed by: EH44949	Checked by:
		Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address: fefef	



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
Porous Paving (0)	FEH: 100 years: +45 %: 15 mins: Winter	51.494	51.378	0.120	0.058	14.7	2.437	0.000	0.000	10.3	6.414	66.723	OK
Porous Paving (1)	FEH: 100 years: +45 %: 30 mins: Winter	51.279	51.173	0.077	0.103	10.9	3.919	0.000	0.000	6.5	8.144	66.031	OK
Porous Paving (2)	FEH: 100 years: +45 %: 30 mins: Winter	51.230	51.210	0.136	0.140	16.2	5.256	0.000	0.000	9.9	12.244	54.148	OK
Porous Paving (4)	FEH: 100 years: +45 %: 30 mins: Winter	50.805	50.766	0.091	0.196	12.3	6.110	0.000	0.000	8.5	8.952	51.553	OK
Porous Paving (3)	FEH: 100 years: +45 %: 60 mins: Winter	50.744	50.741	0.150	0.171	8.4	6.652	0.000	0.000	8.4	12.100	46.649	OK
Porous Paving (6)	FEH: 100 years: +45 %: 30 mins: Winter	50.549	50.363	0.085	0.043	12.3	3.878	0.000	0.000	7.3	9.163	69.158	OK
Porous Paving (5)	FEH: 100 years: +45 %: 30 mins: Winter	50.441	50.428	0.097	0.108	12.3	4.261	0.000	0.000	8.1	9.185	65.860	OK
Porous Paving (7)	FEH: 100 years: +45 %: 15 mins: Winter	49.936	49.880	0.092	0.060	14.7	2.601	0.000	0.000	10.6	6.255	74.915	OK
Porous Paving (8)	FEH: 100 years: +45 %: 15 mins: Winter	49.938	49.887	0.094	0.067	17.0	3.601	0.000	0.000	10.8	6.976	73.355	OK
Porous Paving (10)	FEH: 100 years: +45 %: 15 mins: Winter	49.683	49.630	0.089	0.060	15.5	3.082	0.000	0.000	10.3	6.401	75.353	OK
Porous Paving (9)	FEH: 100 years: +45 %: 15 mins: Winter	49.681	49.625	0.087	0.055	15.5	2.931	0.000	0.000	10.7	6.435	76.468	OK
Porous Paving (12)	FEH: 100 years: +45 %: 120 mins: Winter	49.413	49.413	0.069	0.093	5.0	3.370	0.000	0.000	4.8	15.306	72.962	OK
Porous Paving (11)	FEH: 100 years: +45 %: 120 mins: Winter	49.413	49.413	0.069	0.093	5.1	3.364	0.000	0.000	4.8	15.353	72.970	OK
Cellular Storage (Car Park)	FEH: 100 years: +45 %: 60 mins: Winter	49.589	49.589	1.604	1.604	69.0	128.672	0.000	0.000	14.4	37.464	0.320	OK
Cellular Storage (Road South)	FEH: 100 years: +45 %: 60 mins: Winter	48.659	48.659	1.494	1.494	54.7	40.198	0.000	0.000	30.6	137.703	2.799	OK
Cellular Storage (Road West)	FEH: 100 years: +45 %: 60 mins: Winter	48.347	48.347	1.257	1.257	59.9	69.274	0.000	0.000	10.7	51.263	0.052	OK
Cellular Storage (Buildings)	FEH: 100 years: +45 %: 120 mins: Winter	49.758	49.758	2.008	2.008	60.1	110.511	1.023	0.000	24.8	115.241	-0.924	Flood

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: fefef		

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DRN



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

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
Pipe (1)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	MH11	MH10	51.800	50.781	0.044	1.378	0.5	0.1	2.2	OK
Pipe (2)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	MH10	MH09	51.230	50.112	0.065	6.399	0.8	0.31	6.1	OK
Pipe (3)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	MH09	MH08	51.254	49.738	0.081	10.194	1.0	0.47	9.3	OK
Pipe (4)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	MH08	MH07	50.600	49.425	0.087	14.026	1.2	0.64	12.6	OK
Pipe (5)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	MH07	MH06	50.384	48.924	0.082	17.996	1.2	0.28	16.3	OK
Pipe (11)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (0)	MH11	51.804	51.354	0.028	1.401	1.2	0.14	2.2	OK
Pipe (7)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (2)	MH10	51.524	51.103	0.042	1.803	1.0	0.17	2.7	OK
Pipe (8)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (1)	MH10	51.632	51.100	0.039	1.718	0.5	0.1	1.4	OK
Pipe (9)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (4)	MH09	51.144	50.601	0.047	1.913	0.4	0.11	1.5	OK
Pipe (10)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (3)	MH09	51.024	50.598	0.048	1.959	0.5	0.13	1.8	OK
Pipe (12)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (6)	MH08	50.894	50.349	0.051	0.797	0.4	0.04	0.6	OK
Pipe (13)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (5)	MH08	50.774	50.345	0.054	1.256	0.6	0.11	1.9	OK
Pipe (14)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (7)	MH07	50.274	49.847	0.051	1.278	0.8	0.12	1.9	OK
Pipe (15)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (8)	MH07	50.274	49.848	0.054	2.145	0.5	0.14	1.9	OK
Pipe (16)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (10)	MH06	50.024	49.596	0.052	1.240	0.6	0.12	1.8	OK
Pipe (17)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Porous Paving (9)	MH06	50.024	49.595	0.052	1.259	0.7	0.1	1.9	OK

Project Title: P3003919 College of Richard Collyer				Date: 26/03/2026									
Report Details: Type: Connections Summary Storm Phase: Phase				Designed by: EH44949		Checked by:						Approved By:	
				Company Address: fefef									

Pipe (18)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (12)	MH05	49.774	49.348	0.071	1.957	0.8	0.13	1.7	OK
Pipe (19)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (11)	MH05	49.774	49.348	0.071	1.970	0.8	0.13	1.7	OK
Pipe (20)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Cellular Storage (Car Park)	MH05	50.020	48.172	0.100	40.817	1.0	1.11	7.0	Surcharge d
Pipe (6)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	MH06	Cellular Storage (Car Park)	49.800	48.531	0.085	21.891	2.4	0.24	19.9	OK
Pipe (21)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Porous Paving (6)	MH08	50.894	50.349	0.051	1.147	0.5	0.04	0.9	OK
Pipe (22)	FEH: 2 years: +0 %: 30 mins: Winter	Pipe	Cellular Storage (Road West)	Manhole	48.400	47.158	0.150	10.884	0.3	0.32	5.6	OK
Pipe (24)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Cellular Storage (Road South)	Manhole	49.800	47.365	0.150	106.003	0.9	0.77	15.5	Surcharge d
Pipe (25)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Manhole	Outfall	49.600	47.136	0.112	131.769	1.0	0.48	20.5	Surcharge d
Pipe	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	MH05	Manhole (1)	50.020	48.122	0.100	42.436	0.9	0.78	6.8	Surcharge d
Pipe (26)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Manhole (1)	Cellular Storage (Road South)	49.800	47.781	0.100	14.675	1.6	1.85	12.6	Surcharge d
Pipe (23)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Cellular Storage (Buildings)	Manhole (1)	49.750	47.866	0.150	10.339	0.9	0.74	13.1	OK

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: fefef		

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DRN



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

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
Pipe (1)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	MH11	MH10	51.800	50.954	0.150	4.244	0.7	0.34	7.9	Surcharge d
Pipe (2)	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	MH10	MH09	51.230	50.980	0.150	22.029	1.0	0.93	18.4	Flood Risk
Pipe (3)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	MH09	MH08	51.254	50.653	0.150	24.190	1.3	1.16	23.0	Surcharge d
Pipe (4)	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	MH08	MH07	50.600	50.294	0.150	49.361	1.8	1.63	32.2	Surcharge d
Pipe (5)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	MH07	MH06	50.384	49.006	0.165	42.846	1.6	0.82	47.7	OK
Pipe (11)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (0)	MH11	51.804	51.397	0.100	4.864	1.8	0.5	8.1	OK
Pipe (7)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (2)	MH10	51.524	51.149	0.100	6.531	1.3	0.64	10.3	OK
Pipe (8)	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	Porous Paving (1)	MH10	51.632	51.139	0.100	6.113	0.7	0.42	5.7	OK
Pipe (9)	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	Porous Paving (4)	MH09	51.144	50.668	0.100	6.822	0.9	0.54	7.5	OK
Pipe (10)	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	Porous Paving (3)	MH09	51.024	50.669	0.100	6.822	1.0	0.54	7.5	OK
Pipe (12)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (6)	MH08	50.894	50.386	0.100	1.912	0.6	0.15	2.6	OK
Pipe (13)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (5)	MH08	50.774	50.381	0.100	4.783	1.0	0.46	7.8	OK
Pipe (14)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (7)	MH07	50.274	49.881	0.100	4.698	1.0	0.49	8.0	OK
Pipe (15)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (8)	MH07	50.274	49.885	0.100	5.200	1.0	0.57	8.0	OK
Pipe (16)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (10)	MH06	50.024	49.630	0.100	4.781	1.0	0.49	7.7	OK
Pipe (17)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (9)	MH06	50.024	49.628	0.100	4.809	1.0	0.44	8.0	OK

Project Title: P3003919 College of Richard Collyer		Date: 26/03/2026			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: EH44949	Checked by:		Approved By:
		Company Address: fefef			

Pipe (18)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (12)	MH05	49.774	49.382	0.100	4.734	1.0	0.54	7.4	OK
Pipe (19)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (11)	MH05	49.774	49.382	0.100	4.756	1.1	0.54	7.5	OK
Pipe (20)	FEH: 30 years: +40 %: 120 mins: Winter	Pipe	Cellular Storage (Car Park)	MH05	50.020	48.854	0.100	81.181	1.1	1.37	8.7	Surcharge d
Pipe (6)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	MH06	Cellular Storage (Car Park)	49.800	48.613	0.225	52.096	3.1	0.75	63.4	OK
Pipe (21)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Porous Paving (6)	MH08	50.894	50.386	0.100	2.762	0.8	0.15	3.8	OK
Pipe (22)	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	Cellular Storage (Road West)	Manhole	48.400	47.366	0.150	46.036	0.5	0.49	8.7	Surcharge d
Pipe (24)	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	Cellular Storage (Road South)	Manhole	49.800	47.763	0.150	121.807	1.3	1.13	22.7	Surcharge d
Pipe (25)	FEH: 30 years: +40 %: 60 mins: Winter	Pipe	Manhole	Outfall	49.600	47.295	0.146	166.343	1.1	0.73	31.1	Surcharge d
Pipe	FEH: 30 years: +40 %: 120 mins: Winter	Pipe	MH05	Manhole (1)	50.020	48.772	0.100	88.761	1.0	0.9	7.8	Surcharge d
Pipe (26)	FEH: 30 years: +40 %: 120 mins: Winter	Pipe	Manhole (1)	Cellular Storage (Road South)	49.800	48.329	0.100	186.529	2.0	2.33	15.9	Surcharge d
Pipe (23)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	Cellular Storage (Buildings)	Manhole (1)	49.750	48.178	0.150	11.828	1.0	0.91	16.2	Surcharge d

Project Title: P3003919 College of Richard Collyer	Date: 26/03/2026		
	Designed by: EH44949	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: fefef		

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FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

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
Pipe (1)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	MH11	MH10	51.800	51.088	0.150	5.616	0.7	0.39	9.1	Surcharge d
Pipe (2)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	MH10	MH09	51.230	51.039	0.150	19.479	1.1	0.97	19.2	Flood Risk
Pipe (3)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	MH09	MH08	51.254	50.682	0.150	27.535	1.3	1.16	23.0	Surcharge d
Pipe (4)	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	MH08	MH07	50.600	50.344	0.150	65.246	1.9	1.66	32.9	Flood Risk
Pipe (5)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	MH07	MH06	50.384	49.026	0.187	52.171	1.6	0.92	53.4	OK
Pipe (11)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (0)	MH11	51.804	51.421	0.100	6.414	1.9	0.63	10.3	Surcharge d
Pipe (7)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (2)	MH10	51.524	51.196	0.100	8.516	1.5	0.73	11.9	Surcharge d
Pipe (8)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (1)	MH10	51.632	51.165	0.100	5.490	0.9	0.5	6.8	OK
Pipe (9)	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Porous Paving (4)	MH09	51.144	50.717	0.100	8.952	1.1	0.62	8.5	Surcharge d
Pipe (10)	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Porous Paving (3)	MH09	51.024	50.730	0.100	8.953	1.2	0.67	9.3	Surcharge d
Pipe (12)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (6)	MH08	50.894	50.408	0.100	2.555	0.6	0.19	3.3	OK
Pipe (13)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	Porous Paving (5)	MH08	50.774	50.400	0.100	5.608	1.2	0.53	9.1	OK
Pipe (14)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (7)	MH07	50.274	49.895	0.100	6.255	1.4	0.65	10.6	OK
Pipe (15)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (8)	MH07	50.274	49.900	0.100	6.976	1.4	0.76	10.8	OK
Pipe (16)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (10)	MH06	50.024	49.644	0.100	6.401	1.3	0.66	10.3	OK
Pipe (17)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (9)	MH06	50.024	49.641	0.100	6.435	1.4	0.58	10.7	OK

Project Title: P3003919 College of Richard Collyer				Date: 26/03/2026								
				Designed by: EH44949			Checked by:		Approved By:			
Report Details: Type: Connections Summary Storm Phase: Phase				Company Address: fefef								
Pipe (18)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (12)	MH05	49.774	49.397	0.100	6.348	1.3	0.73	10.0	OK
Pipe (19)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (11)	MH05	49.774	49.397	0.100	6.378	1.3	0.73	10.1	OK
Pipe (20)	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	Cellular Storage (Car Park)	MH05	50.020	49.589	0.100	24.990	1.8	2.28	14.4	Surcharge d
Pipe (6)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	MH06	Cellular Storage (Car Park)	49.800	48.659	0.225	63.676	3.2	0.88	74.2	OK
Pipe (21)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	Porous Paving (6)	MH08	50.894	50.408	0.100	3.614	0.9	0.19	4.7	OK
Pipe (22)	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	Cellular Storage (Road West)	Manhole	48.400	48.347	0.150	49.877	0.6	0.61	10.7	Surcharge d
Pipe (24)	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	Cellular Storage (Road South)	Manhole	49.800	48.659	0.150	137.703	1.7	1.53	30.6	Surcharge d
Pipe (25)	FEH: 100 years: +45 %: 120 mins: Winter	Pipe	Manhole	Outfall	49.600	47.427	0.162	361.286	1.2	0.84	35.8	Surcharge d
Pipe	FEH: 100 years: +45 %: 120 mins: Winter	Pipe	MH05	Manhole (1)	50.020	49.411	0.100	96.035	1.5	1.31	11.4	Surcharge d
Pipe (26)	FEH: 100 years: +45 %: 120 mins: Winter	Pipe	Manhole (1)	Cellular Storage (Road South)	49.800	49.170	0.100	209.569	2.8	3.19	21.8	Surcharge d
Pipe (23)	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	Cellular Storage (Buildings)	Manhole (1)	49.750	49.757	0.150	59.702	1.5	1.46	25.9	Flood