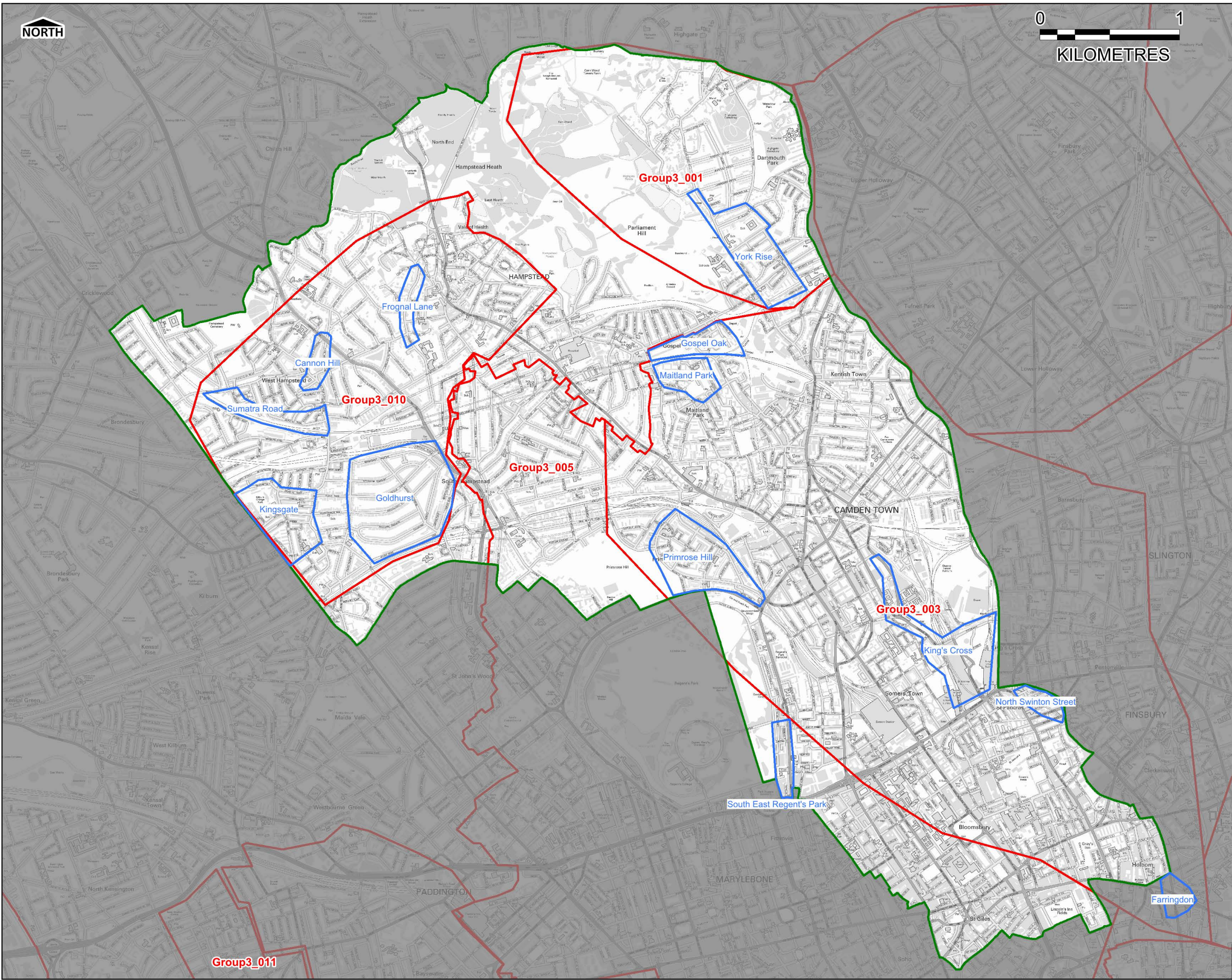


N:\Water\Current Projects\47070547 Camden SFRA Update (ghost)\0700 WIP\0705 GIS_Data\01-WIP\01_03-Project_Files\WORS



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

LEGEND

- London Borough Camden Boundary
- Critical Drainage Area
- Local Flood Risk Zone

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Revision Details	By	Check	Date	Suffix

Purpose of Issue

FINAL

Client

Camden

Project Title

LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title

Critical Drainage Areas / Local Flood Risk Zones

Drawn	Checked	Approved	Date
CB/EB	EY	MT	04/06/2014

URS Internal Project No.

47070547

Scale at A3

1:25,000

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www.ursglobal.com

Drawing Number	Rev
FIGURE 6	Rev 2

1. Project & Site Details	Project / Site Name (including sub-catchment / stage / phase where appropriate)	Camden Goods Yard P2
	Address & post code	Chalk Farm Road, Camden Town, London NW1 8AA
	OS Grid ref. (Easting, Northing)	E 528412 N 184106
	LPA reference (if applicable)	2017/3847/P
	Brief description of proposed work	mixed use development including newly built undercroft morrisons supermarket with 2 storey basement car park and 644 residential properties
	Total site Area	28600 m ²
	Total existing impervious area	28600 m ²
	Total proposed impervious area	28600 m ²
	Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	Site located in critical drainage area group3_003 on the London Borough of Camden Strategic Flood Risk Assessment
	Existing drainage connection type and location	Gravity connection to existing Thames water combined sewer
	Designer Name	Winston Rollings
	Designer Position	Civil Engineer
	Designer Company	Walsh Associates

3. Drainage Strategy	3a. Discharge Rates & Required Storage				
		Greenfield (GF) runoff rate (l/s)	Existing discharge rate (l/s)	Required storage for GF rate (m ³)	Proposed discharge rate (l/s)
	Qbar				
	1 in 1	9.4		488-721	9.4
	1 in 30	25		1037-1411	25
	1 in 100	35.1	335.4	1333-1775	35.1
	1 in 100 + CC			1333-1775	35.1
	Climate change allowance used		40%		
	3b. Principal Method of Flow Control		Hydrobreak with upstream below ground Geocellular storage tanks		
	3c. Proposed SuDS Measures				
		Catchment area (m ²)	Plan area (m ²)	Storage vol. (m ³)	
	Rainwater harvesting	0		0	
	Infiltration systems	0		0	
	Green roofs	1348	1348	unknown	
	Blue roofs	0	0	0	
	Filter strips	0	0	0	
	Filter drains	0	0	0	
Bioretention / tree pits	143	143	unknown		
Pervious pavements	1308	1308	unknown		
Swales	0		0		
Basins/ponds	0	0	0		
Attenuation tanks	0		0		
Total		2799	2799	0	

2. Proposed Discharge Arrangements	2a. Infiltration Feasibility		
	Superficial geology classification	Made ground	
	Bedrock geology classification	london clay	
	Site infiltration rate	N/A	m/s
	Depth to groundwater level	1.7	m below ground level
	Is infiltration feasible?	No	
	2b. Drainage Hierarchy		
		Feasible (Y/N)	Proposed (Y/N)
	1 store rainwater for later use	Y	Y
	2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
	3 attenuate rainwater in ponds or open water features for gradual release	Y	Y
	4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
	5 discharge rainwater direct to a watercourse	N	N
	6 discharge rainwater to a surface water sewer/drain	N	N
	7 discharge rainwater to the combined sewer.	Y	Y
	2c. Proposed Discharge Details		
Proposed discharge location	Thames water combined sewers CGY00-WAL-XXX-00-DR-CV-3000 W02		
Has the owner/regulator of the discharge location been consulted?	Yes		

4. Supporting Information	4a. Discharge & Drainage Strategy	Page/section of drainage report
	Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Page 28 - section 4.1.1. SuDS assessment
	Drainage hierarchy (2b)	Page 28 - section 4.1.1. SuDS assessment
	Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Appendices A,B,C,D,E and Sections 3.2.3.
	Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Appendix I
	Proposed SuDS measures & specifications (3b)	Drainage Strategy Report - section 4/section 5
	4b. Other Supporting Details	Page/section of drainage report
	Detailed Development Layout	Appendix G
	Detailed drainage design drawings, including exceedance flow routes	Appendix A drawing numbers CGY00-WAL-XXX-00-DR-CV-3000 W02
	Detailed landscaping plans	Appendix C
	Maintenance strategy	Section 5.3.
	Demonstration of how the proposed SuDS measures improve:	
	a) water quality of the runoff?	able paving, rain gardens, green roofs, podium soft landscaping - provide filt
	b) biodiversity?	green roofs, rain gardens, soft landscaping
	c) amenity?	Soft landscaping



Appendix K **Application to connect to public sewer**



Apply to connect to a public sewer

Please complete this form and return it to us at



developer.services@thameswater.co.uk or



Thames Water, Developer Services,
Clearwater Court, Vastern Road, Reading, RG1 8DB

Notes on your application

Please complete this application form and submit it with your drawing plans before you:

- 1 Make a direct connection
- 2 Make an indirect connection
- 3 Relocate an existing manhole

You don't need to complete this form if your property has an existing right to discharge and you're not making any new direct connections. You should have a consent letter addressed to you or previous property owners OR existing historical connections of the same type (foul, surface, or combined) that you can use for the new flows you're seeking to discharge.

Any changes to the curtilage or premises (eg splitting one plot into two; constructing extra properties; building commercial facilities on residential land, etc.) will invalidate your right to discharge, which means you'll need to submit a new application.

If you're not sure whether you need to submit an application, please get in touch using the details on the back of this form.

Direct connections

The fee for direct connections is £330 per connection point. This covers the cost of processing and technically reviewing the design and connection methodology as well as the cost of inspecting the works once they've been completed.

You should connect to a public sewer using:

- a new or existing manhole or inspection chamber, or
- a preformed oblique junction fitting, unless we've authorised an alternative method

We don't permit the use of clay saddles very often, but we may consider them on pipes larger than 375mm diameter.

You should plan to install an access chamber at the boundary of the property for maintenance purposes.

Don't forget you can't connect to a pumping or rising main under any circumstances.

All works must meet the standards set in the latest Code for Adoption, as published by WaterUK.

Please employ a competent drainage contractor to carry out the sewer connection works on your behalf. We'll only carry out the connection under Section 107 of the Water Industry Act under special circumstances.

We'll inspect the work upon completion. To make sure we're available at a time that suits you, please give us a minimum of 10 days' notice before you think you'll finish the work. We recommend you don't backfill your trenches until you've passed the inspection, otherwise we may ask you to excavate the site at your cost so that we can inspect the connection work properly.

We give our consent solely for the legal right of communication with the public sewer, which does not infer the right to enter or cross land owned by a third party. You'll be responsible for obtaining all other necessary licences and/or permission from the highway authority, local planning authority and/or third-party land owners.

Indirect connections

If you're not connecting directly to the public sewer (ie you're connecting to private drainage, which in turn discharges to a public sewer), you'll need to apply for an indirect connection if:

1. You're constructing new buildings
2. You're increasing the number of properties on a development
3. You're changing the type of properties (eg converting residential properties into a commercial building)
4. You're changing the type of flow (eg a new surface water connection that's never discharged into the public sewer)

The fee for indirect connections is £110 per connection point, which covers the cost of processing, logging and technically reviewing your application.

We won't need to inspect indirect connections. Once you've received your consent letter, you can undertake the works specified within it. You'll maintain full responsibility for all private drainage.

Manhole relocations

If you're moving an existing manhole on the public sewerage network, please apply for a manhole relocation. The fee is £330 per manhole, which covers the cost of processing and reviewing your application as well as inspection of the completed work.

You must use similar materials to the manhole you're replacing, and construction should meet the standards set in the latest Code for Adoption.

Everything else you need to know

Checking legislation

You can find the legislation covering connections to public sewers in Sections 106 to 109 of the Water Industry Act 1991. Under Section 106, the owner or occupier of any premises may connect his drains or private sewer with the public sewers of a sewerage undertaker. However, private connections that aren't approved by the undertaker are unlawful and an offence under Section 109.

Paying infrastructure charges

In addition to connection fees, all properties connecting to the public sewer for the first time are subject to an infrastructure charge. We invoice for these separately. You can find out more about our infrastructure charges at thameswater.co.uk/developerservices

Sourcing sewer records

Sewer records are publicly available at your local authority office. Alternatively, you can pay a commercial asset record provider to help you find the information you need. We offer this service – just call our Property Searches team on 0845 070 9148 or email searches@thameswater.co.uk

Providing additional information

Any drawings you submit with your application should be in the scale range 1:100 to 1:500. Please include a location plan showing the lowest floor levels relative to ground levels at the proposed point of connection. For private drainage, it's best to assume that the public sewer may surcharge up to ground level in certain circumstances. If your proposal includes basements or semi-basements or you'll be constructing your development in a low-lying area, such as near a river, don't forget to consider protection against backflow.

You must show the number and position of all connections on the drawings together with pipe sizes and connection design methods for each connection. Please also show the existing public sewer on your drawing. These details help us to make sure the proposed connection method won't have a negative impact on the existing sewerage system. Missing information may delay your application.

Connecting surface water and foul water

Foul water should never discharge into the surface water sewerage system. Surface water shouldn't discharge into the foul sewerage system unless specifically approved by us. We'll only permit the connection of surface water to a combined or foul water sewer if you've exhausted all other surface water disposal methods.

If your proposal includes connection to a combined public sewer, please separate the site drainage and only combine at the final manhole nearest the boundary.

We don't permit permanent connections for the removal of groundwater or any other non-domestic flows, and we don't permit internal backdrop connections unless we've expressly requested them for operational reasons.

Discharging trade effluent and construction groundwater

You can't discharge non-domestic effluent until we've issued a valid trade effluent consent. If you discharge anything other than domestic sewage into public sewers without this consent, you'll have committed an offence and you'll be liable for the penalties in Section 118 of the Act.

For enquiries and application forms contact your Retailer or visit the Thames Water website at <https://wholesale.thameswater.co.uk/Wholesale-services/Business-customers/Trade-effluent>

Carrying out the connection

Under Section 107 of the Water Industry Act 1991, we may need to carry out the connection works ourselves if special circumstances apply. WaterUK defines special circumstances as including one or more of the following:

- The technical complexity of the work is high, or the type of work required is bespoke or carried out infrequently (eg connection to strategic sewer, such as a trunk sewer, Class C sewer or pump station)
- Sewerage undertakers can legitimately recover their costs if there's not a reasonable level of certainty of those costs before work starts
- Sewerage undertakers need to protect their assets or interests in a way that affects the construction method, and the requirements are unknown up front
- The development is close to land with particular environmental, historical or archaeological characteristics

If we decide to make the connection, we'll let you know within 14 days of receiving this application. We'll also let you know what we'll charge to review your proposal in more detail, including a topographical survey, utility searches and manhole survey, in addition to the cost of construction. You may also like to consider alternative connection points to meet your budget and programme.

Our [current charging arrangements](#) show how we calculate these costs.

Issuing consent

We'll always let you know our decision within 21 days of receipt of a completed application. Please bear in mind we can refuse a connection if the proposed method or mode of construction doesn't meet the standards we reasonably require, or if we believe the works would be detrimental to the public sewer.

Constructing a sewer

Any contractor employed to work on the public sewerage system must be competent and suitably qualified to meet current Health & Safety legislation. This includes certified personnel for confined working and all the necessary public indemnity insurances. In most cases, your site will need to meet the requirements of the Construction Design and Management Regulations 2015 and the Confined Spaces Regulations 1997.

For more guidance on constructing and connecting to sewers, visit thameswater.co.uk/developerservices

Preventing pollution

Plumbing and drainage misconnections can pollute rivers and beaches across the UK. Not only do these help to supply water for our homes and businesses, but they're also essential habitats for our wildlife to thrive.

Please check that your property is connected correctly. If your wastewater or sewage connects to a surface water drain, you may be polluting your local river or beach.

Find out more at connectright.org.uk

Your application

Please complete ALL sections of this form in BLOCK CAPITALS

A – Preferred point of contact

We'll contact this person to discuss the application. It can be yourself or someone you wish to deal with this application on your behalf. We'll send them all invoices and the consent letter, unless otherwise specified in the sections below.

Company name	Walsh Associates	
Title	Mr <input checked="" type="checkbox"/> Mrs <input type="checkbox"/> Ms <input type="checkbox"/> Miss <input type="checkbox"/> Dr <input type="checkbox"/> Other <input type="text"/>	
First name(s)	Winston	
Last name	Rollings	
Preferred contact number	020 3841 2103	
Alternative number	<input type="text"/>	
Email address	winston.rollings@walsh.co.uk	
Full postal address	Address line 1	32 Lafone street
	Address line 2	<input type="text"/>
	Town	London
	County	<input type="text"/>
	Postcode	SE1 2LX

If you'd like another individual to receive the consent letter, please go to section B

If you'd like another individual to receive invoices, please go to section C

B – Applicant (if different to A)

We'll send the consent letter to this person. This is usually the owner of the site where the works are taking place. Please leave this section blank if not required.

Company name	<input type="text"/>
Title	Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Ms <input type="checkbox"/> Miss <input type="checkbox"/> Dr <input type="checkbox"/> Other <input type="text"/>
First name(s)	<input type="text"/>
Last name	<input type="text"/>
Preferred contact number	<input type="text"/>
Alternative number	<input type="text"/>
Email address	<input type="text"/>

Full postal address	Address line 1	<input type="text"/>	
	Address line 2	<input type="text"/>	
	Town	<input type="text"/>	
	County	<input type="text"/>	Postcode <input type="text"/>

If you'd like another individual to receive invoices, please go to section C

If the site address (where the works are taking place) is different to the above, please go to section D

Otherwise, skip to section E

C – Payee (if different to A)

We'll send all invoices to this person. Please leave this section blank if not required.

Company name	<input type="text"/>					
Title	Mr <input type="checkbox"/>	Mrs <input type="checkbox"/>	Ms <input type="checkbox"/>	Miss <input type="checkbox"/>	Dr <input type="checkbox"/>	Other <input type="text"/>
First name(s)	<input type="text"/>					
Last name	<input type="text"/>					
Preferred contact number	<input type="text"/>					
Alternative number	<input type="text"/>					
Email address	<input type="text"/>					
Full postal address	Address line 1	<input type="text"/>				
	Address line 2	<input type="text"/>				
	Town	<input type="text"/>				
	County	<input type="text"/>	Postcode <input type="text"/>			

If the site address (where the works are taking place) is different to the above, please go to section D

Otherwise, skip to section E

D – Site address (if different to A)

This is the address where the works are taking place. Please leave blank if not required.

Site name	<input type="text" value="Camden Goods Yard"/>		
Full postal address	Address line 1	<input type="text" value="Chalk Farm Road"/>	
	Address line 2	<input type="text" value="Camden Town"/>	
	Town	<input type="text" value="London"/>	
	County	<input type="text"/>	Postcode <input type="text" value="NW1 8AA"/>

E – Site details

Who supplies the site water?	Thames Water		
Who is the local authority for the site?	London Borough of Camden		
Planning application reference	2017/3847/P		
Proposed connection date	01	05	2021
Are you connecting surface water to the public sewer?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Is a trade effluent agreement required?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't know <input type="checkbox"/>
Please note new sites will not have this unless industrial premises were previously there.			
Trade effluent reference number			
Is this an existing property connecting to the sewer for the first time?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't know <input type="checkbox"/>
This includes individual properties that have never been connected to drainage before and are currently using septic/cesspool tanks. This doesn't apply to new premises.			
How many properties will be served by this connection?	700 residential units + commercial		
What are you building?	New domestic <input checked="" type="checkbox"/>	New commercial <input checked="" type="checkbox"/>	New industrial <input type="checkbox"/> New other <input type="checkbox"/>
Please include the total number	Existing domestic <input type="checkbox"/>	Existing commercial <input type="checkbox"/>	Existing industrial <input type="checkbox"/> Existing other <input type="checkbox"/>

If you ticked 'other', please provide more details:

F – How much connections cost

Work	Cost
Direct connections	£330
Indirect connections	£110
Manhole relocation	£330

We charge per connection point to the public sewer, not per property or new pipe. Please fill out one line per separate connection point in the table below. If you're moving a manhole, please leave the first two columns blank.

Discharging (new sewer)		Receiving (existing) public sewer		Method of connection (junction, flexible saddle, existing manhole, new manhole or relocated manhole)	Connection fees
Type (foul, surface, or combined)	Pipe diameter (in mm)	Type (foul, surface, or combined)	Pipe diameter (in mm)		
foul	150	combined	1050	Junction	£330
combined	375	combined	1524x914	Junction	£330
surface	150	combined	1372x914	new MH	£330
combined	225	combined	1050	new MH	£330
foul	150	foul	150	new MH	£330
foul	225	combined	1524x914	new MH	£330

- New manholes connections to be as per S104/116 sewer diversion agreement REF DS6079781
- See attached drawings for connections

Total fees £1980

G – Minimum information checklist

We need the information above to process your application as quickly as possible. It may take longer to process your application if there's any missing information. If you make any changes to your proposal, you'll need to submit new plans for review. We can only issue one revision to the consent letter.

Once we've issued our consent, we won't be able to refund your application fee.

Please make sure you've attached the following documents to support your application:

- Detailed drainage plan (scale 1:100 – 1:500) showing your entire site, including all buildings, roadways, location and direction of flow for all private sewers/drainage, and the proposed connection point to the public sewer, north point and drawing legend/key
- Site location plan (scale 1:500 – 1:1250) showing your site boundary within the surrounding area

H – Your data

We'll use the information you include in this application form to provide the service you've requested. This could include contacting you to discuss your application and/or request more details, visiting the site where work needs to be carried out, and invoicing you when appropriate.

Your feedback is important to us, so we may also use the information to ask for your feedback on how we can improve our performance.

We may share this information with our delivery partners. We won't use it for marketing purposes without contacting you to seek your consent.

You can find our full privacy policy at thameswater.co.uk/legal/privacy

I – Payment and declaration

Please pay your application fee:

- **By phone** Call our contact centre on 0800 009 3921 to pay by card
- **By bank transfer** Complete our online Bacs form and include the unique DS reference with your payment details. If you've applied by post, add your site name or postcode. Our bank account number is 904787703 and our sort code is 60 00 01
- **By cheque** Please make it payable to Thames Water Utilities Ltd and write the site address on the back

Please include the minimum information we've requested on pages 7 and 8. Otherwise, we'll consider this an incomplete application, which will delay the process. We'll let you know if your application is incomplete within 7 days of receiving your application.

Your declaration

I/we confirm that this application is complete and the information we've supplied is in accordance with the current Code for Adoption.

I/we undertake to pay Thames Water any reasonable costs incurred in preparing the adoption agreement. By signing this application, I/we understand we won't be automatically granted technical approval or guaranteed adoption.

Signature

Name in BLOCK CAPITALS

Date

Get in touch

For enquiries regarding this application or any other questions relating to your building or development work, please contact us:



thameswater.co.uk/developerservices



developer.services@thameswater.co.uk



0800 009 3921

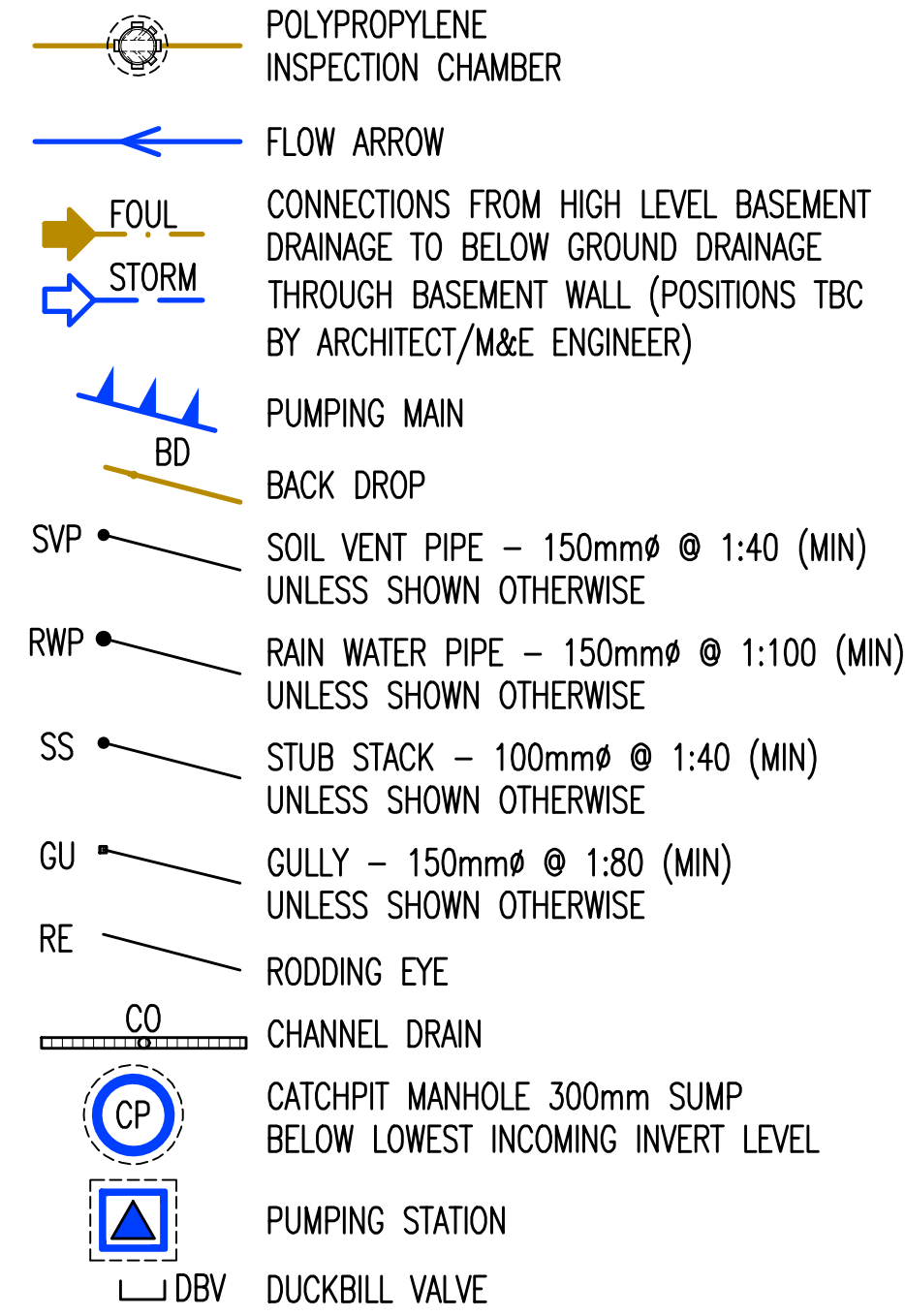
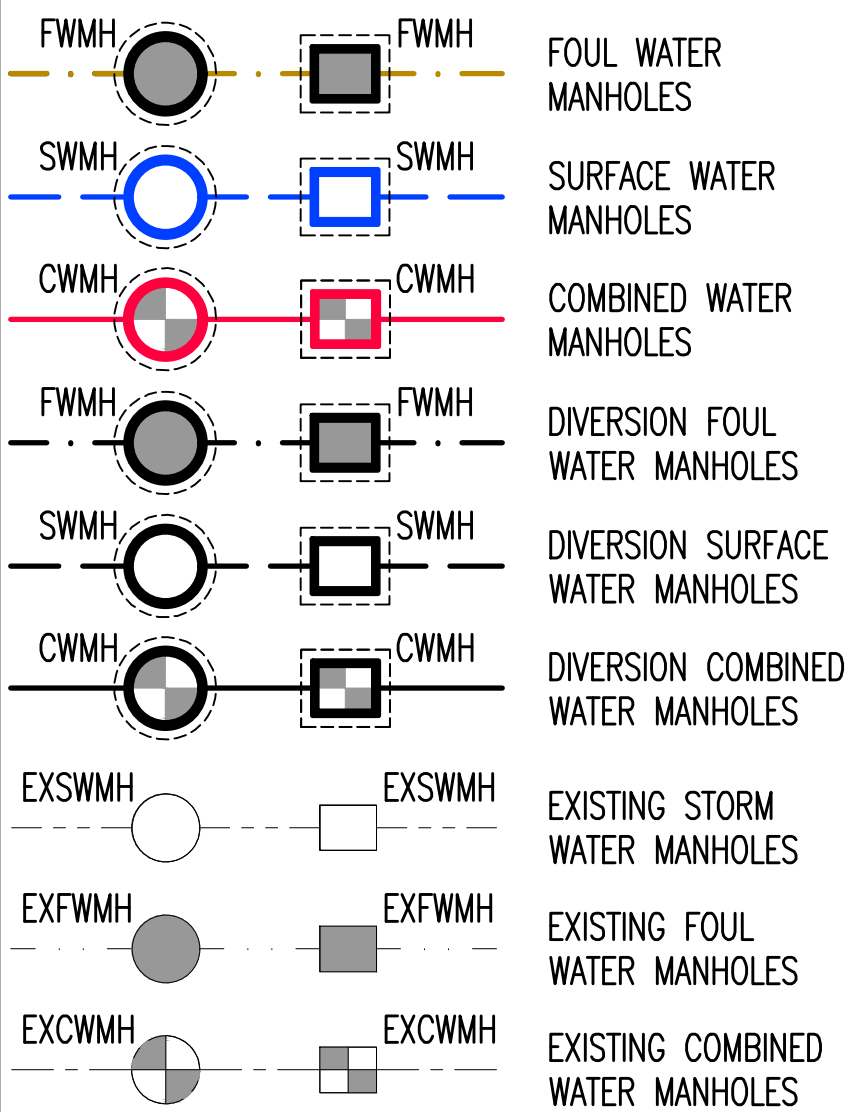
Monday-Friday, 8am-5pm



**Thames Water
Developer Services
Clearwater Court
Vastern Road
Reading
Berkshire RG1 8DB**

Please note: under no circumstances must any person enter the public sewerage system without our express authorisation.

LEGEND



GEOCELLULAR BELOW GROUND ATTENUATION TANK NO.3
MINIMUM COVER =1.3m BASED ON AQUACELL PLUS-R AND MAX 44TONNE LOADING
AREA=80m²
DEPTH=3.2m
VOLUME @ 95% POROSITY = 243.2m³
IL = 29.700

HYDROBRAKE OPTIMUM FLOW CONTROL CHAMBER
MD-SHE-0154-1900-4000-19000
DESIGN FLOW = 19.0 l/s
DESIGN HEAD = 4.0m
IL = 29.234

GEOCELLULAR BELOW GROUND ATTENUATION TANK NO. 9
POLYPIPE PERMAVOID ATTENUATION GRATES
AREA = 80m²
DEPTH=0.150m
VOLUME @ 95% POROSITY =11.4m³
IL=33.150

GEOCELLULAR BELOW GROUND ATTENUATION TANK NO.4
MINIMUM COVER =1.3m BASED ON AQUACELL PLUS-R AND MAX 44 TONNE LOADING
AREA=100m²
DEPTH=2.4m
VOLUME @ 95% POROSITY = 228m³
IL = 25.968

FOR CONTINUATION REFER TO DRAWING CGY00-WAL-XXX-00-DR-CV-3003

FOR CONTINUATION REFER TO DRAWING CGY00-WAL-XXX-00-DR-CV-3004

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METRES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECT'S AND ENGINEER'S DRAWINGS AND SPECIFICATIONS.
3. THIS DRAWING HAS BEEN PRODUCED ELECTRONICALLY AND MAY HAVE BEEN PHOTO REDUCED OR ENLARGED WHEN COPIED. HENCE, DO NOT RELY ON ANY SCALES QUOTED. WORK ONLY TO FIGURED DIMENSIONS (DO NOT SCALE). ALL DIMENSIONS TO BE CHECKED ON SITE. ANY ERRORS OR OMISSIONS TO BE REPORTED TO THE ENGINEER IMMEDIATELY.

C.D.M.
SIGNIFICANT RISKS AND HAZARDS:

KEY DESIGN DECISIONS TO REDUCE OR ELIMINATE HAZARDS:

CONNECTION 6
FOUL WATER MANHOLE 3 TO CONNECT INTO NEW PUBLIC SEWER MANHOLE CWMH05 VIA 225MM DIAMETER PIPE CONNECTION

ST GEORGE WEST LONDON

CAMDEN GOOD YARD (PHASE2)

GROUND FLOOR DRAINAGE LAYOUT
SHEET 1 OF 5



PRELIMINARY

Dr:	EB	A:	1:100	A:	1:100
D:	14.12.20	E:	HW	C:	JK
WA:	5359	S:	1:100	S:	1:100
ACTUAL DIMENSION = 1:100					
CGY00-WAL-XXX-00-DR-CV-3002	P01				