Kieran Lyons

From: SAB <SAB@wrexham.gov.uk>
Sent: 11 March 2025 11:09
To: Kieran Lyons; SAB; Chris Kendrick
Subject: RE: SAB for Western Gateway, Wrexham

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kieran,
The allowance for Climate Change is largely up the discretion of the SAB in regards to the suitable climate change allowance. Whilst it is under review at this time due to development of guidance for North Wales, the allowance that we ask for is based on total potential change by 2050. This figure is used because we assumed a minimum development lifetime of 25 years.

If the development is residential, we add an additional 10% to allow for urban creep assuming that people will put sheds up, add conservatories, extend within permitted development, etc.

Does this help?

Kind regards,

Cathryn Hughes
Swyddog Risg Llifogydd Technegol
Technical Flood Risk Officer

BSc (Hons) Earth and Environmental Science, MSc Sustainable Water Management

Ar ran: / On behalf of:
Corff Cymeradwyo SDCau (CCS) Wrecsam
Wrexham SuDS Approving Body (SAB)

01978 729639
Cyngor Bwrdeistref Sirol Wrecsam, Adran Amgylchedd a Thechnegol, De Ffordd yr Abaty, Ystad Ddiwydiannol Wrecsam, Wrecsam LL13 9PW
Wrexham County Borough Council, Environment & Technical Department, Abbey Road South, Wrexham Industrial Estate, Wrexham LL13 9PW
wrecsam.gov.uk | wrexham.gov.uk
twitter.com/cbswrecsam | twitter.com/wrexhamcbc
facebook.com/cyngorwrecsam | facebook.com/wrexhamcouncil

From: Kieran Lyons [redacted]
Sent: 10 March 2025 10:58
To: SAB <SAB@wrexham.gov.uk>; Chris Kendrick [redacted]
Subject: RE: SAB for Western Gateway, Wrexham

Hi Cathyrn,

Hope you had a nice weekend!

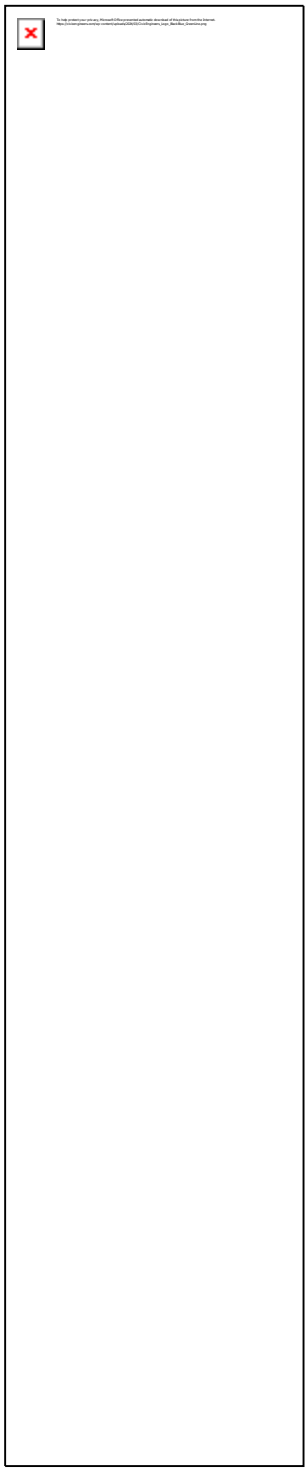
Just a quick query about climate change allowances, as I note that you mentioned that applying an allowance of 30% was standard for Wrexham.

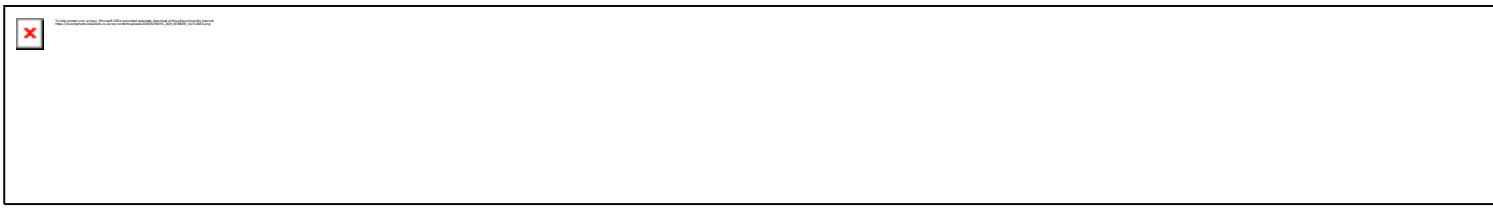
The figure of 20% we presented in the meeting was based on the https://www.gov.wales/climate-change-allowances-and-flood-consequence-assessments using the central estimate .

Would you be able to confirm the requirement to allow for 30% in Wrexham and is there any documentation we can refer to on this?

Best wishes,

Kieran Lyons
Civil Design Engineer
[redacted]





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Please do not print this email unless it is necessary.
Every unprinted email helps the environment.

From: SAB <SAB@wrexham.gov.uk>
Sent: 20 February 2025 13:53
To: Kieran Lyons <kieran.lyons@civicengineers.com>; Chris Kendrick <chris.kendrick@civicengineers.com>
Subject: SAB for Western Gateway, Wrexham

Hi both,
Thank you for your time this afternoon.

Please see attached the application forms for pre application advice and for a full SAB application. I have also attached a guidance note.

In terms of what is needed for the applications, please refer to Table A and Table B from page 27 of the application form.

If I can be of any further assistance, please do not hesitate to get in touch.

Kind regards,

Cathryn Hughes
Swyddog Risg Llifogydd Technegol
Technical Flood Risk Officer

BSc (Hons) Earth and Environmental Science, MSc Sustainable Water Management

Ar ran: / On behalf of:
Corff Cymeradwyo SDCau (CCS) Wrecsam
Wrexham SuDS Approving Body (SAB)

01978 729639
Cyngor Bwrdeistref Sirol Wrecsam, Adran Amgylchedd a Thechnegol, De Ffordd yr Abaty, Ystad Ddiwydiannol Wrecsam, Wrecsam LL13 9PW
Wrexham County Borough Council, Environment & Technical Department, Abbey Road South, Wrexham Industrial Estate, Wrexham LL13 9PW
wrecsam.gov.uk | wrexham.gov.uk
twitter.com/cbswrecsam | twitter.com/wrexhamcbc
facebook.com/cyngorwrecsam | facebook.com/wrexhamcouncil

Rydym yn croesawu gohebiaeth yn Gymraeg. Byddwn yn ymateb i unrhyw ohebiaeth yn Gymraeg ac ni fydd hyn yn arwain at unrhyw oedi.

Ewch i weld - mi fedrwch chi dalu, rhoi gwybod, gwneud cais, dweud eich dweud, a dod o hyd i

wybodaeth ar-lein yn www.wrecsam.gov.uk. Arbedwch bapur - meddyliwch cyn argraffu!

Mae'r neges e-bost hon ac unrhyw atodiadau wedi eu bwriadu ar gyfer yr unigolyn neu'r sefydliad y'i cyfeirir atynt yn unig. Am yr amodau llawn ynglŷn â chynnwys a defnyddio'r neges e-bost hon, ac unrhyw atodiadau, cyfeiriwch at www.wrecsam.gov.uk/top_navigation/disclaimersw.htm

We welcome correspondence in Welsh. We will respond to any correspondence in Welsh and this will not lead to any delay.

Take a look - you can pay, report, request, have your say and find information online at www.wrexham.gov.uk. Save paper - think before you print!

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Rydym yn croesawu gohebiaeth yn Gymraeg. Byddwn yn ymateb i unrhyw ohebiaeth yn Gymraeg ac ni fydd hyn yn arwain at unrhyw oedi.

Ewch i weld - mi fedrwch chi dalu, rhoi gwybod, gwneud cais, dweud eich dweud, a dod o hyd i wybodaeth ar-lein yn www.wrecsam.gov.uk. Arbedwch bapur - meddyliwch cyn argraffu!

Mae'r neges e-bost hon ac unrhyw atodiadau wedi eu bwriadu ar gyfer yr unigolyn neu'r sefydliad y'i cyfeirir atynt yn unig. Am yr amodau llawn ynglŷn â chynnwys a defnyddio'r neges e-bost hon, ac unrhyw atodiadau, cyfeiriwch at www.wrecsam.gov.uk/top_navigation/disclaimersw.htm

We welcome correspondence in Welsh. We will respond to any correspondence in Welsh and this will not lead to any delay.

Take a look - you can pay, report, request, have your say and find information online at www.wrexham.gov.uk. Save paper - think before you print!

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Appendix G: InfoDrainage Infiltration Attenuation Storage Modelling

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address:		

Catchment Area

Type : Catchment Area

Area (ha)	0.88

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	1.000
Winter Volumetric Runoff	1.000
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		

Bioretention

Type : Bioretention

Ponding Area

Exceedance Level (m)	10.000
Depth (m)	0.200
Base Level (m)	9.800
Top Area (m²)	1650.497
Side Slope (1:X)	0.00
Base Area (m²)	1650.50
Freeboard (mm)	50
Porosity (%)	100
Length (m)	38.500
Long. Slope (1:X)	0.00
Filtration Rate (m/hr)	0.3
Friction Scheme	Manning's n
n	0.03
Total Volume (m³)	581.800

Filter Area

Base Level (m)	8.750

Filtration Layers

Use	Name	Filtration Layer Depth (mm)	Porosity (%)	Conductivity (m/hr)	Soil Type
☑	Soil	750	15	0.3	Soil Type
	Storage	300	30	250.0	

Inlets

Inlet

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

Advanced

Safety Factor	5.0

Ponding Area

Base Perimeter (m)	162.740
Top Perimeter (m)	162.740

Filter Area

Base Infiltration Rate (m/hr)	1.08
Side Infiltration Rate (m/hr)	1.08

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 100 years: Increase Rainfall (%): +20: 180 mins: Summer

Inflow	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Catchment Area	0.88	184.0	549.273

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 30 years: Increase Rainfall (%): +0: 720 mins: Summer

Inflow	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Catchment Area	0.88	50.5	556.913

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

FEH: 100 years: Increase Rainfall (%): +20: 180 mins: Summer

Stormwater Control	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
Bioretention	9.976	9.976	1.226	1.226	184.0	367.986	0.000	502.588	0.0	0.000	36.750	Flood Risk

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

FEH: 30 years: Increase Rainfall (%): +0: 720 mins: Summer

Stormwater Control	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
Bioretention	9.843	9.843	1.093	1.093	50.5	147.808	0.000	510.015	0.0	0.000	74.595	OK

Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

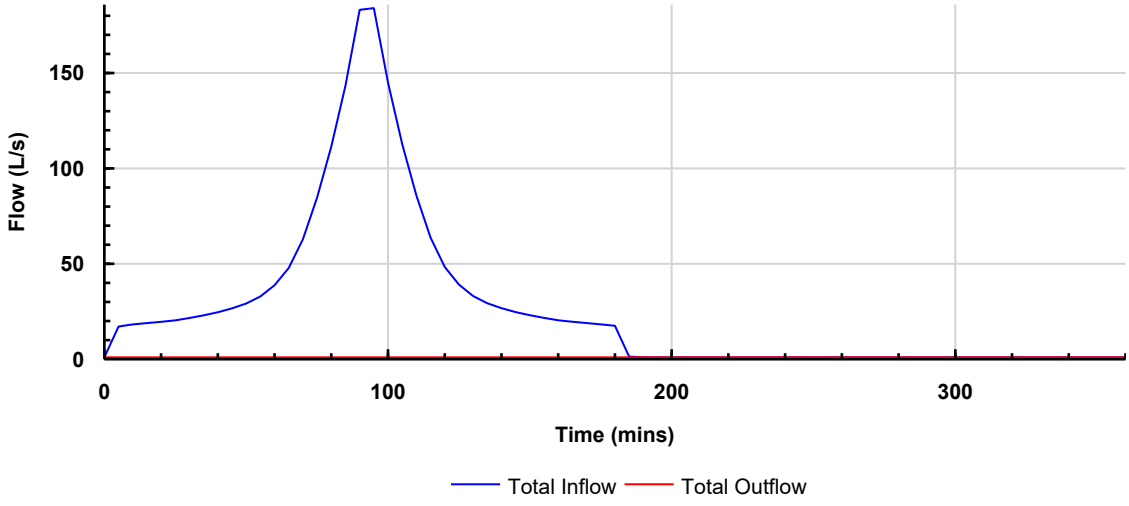
Phase
FEH: 100 years: Increase Rainfall (%): +20: 180 mins: Summer

Tables

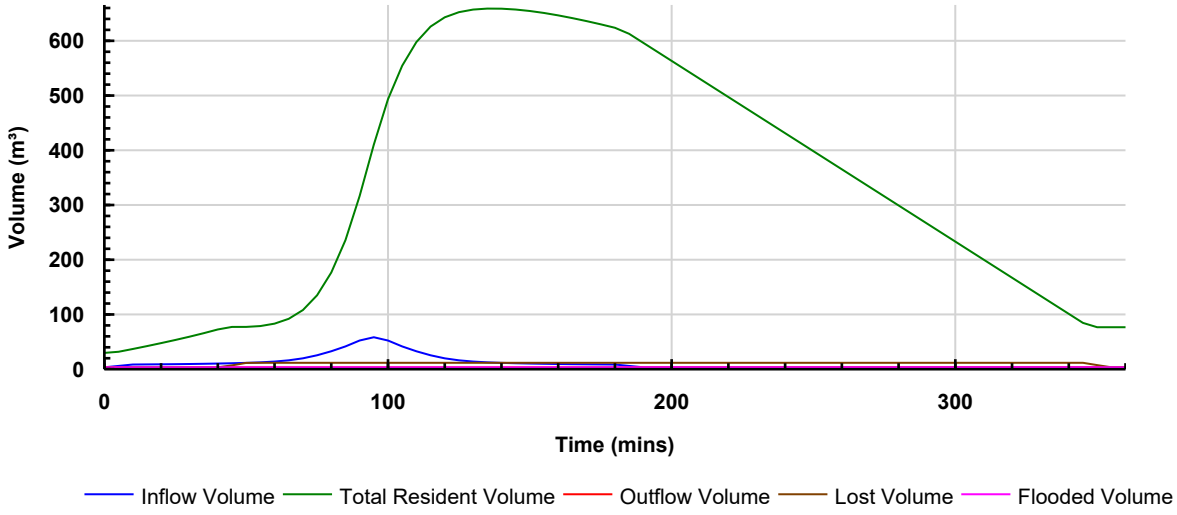
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	184.0	549.273	0.0	0.000

Graphs

Flow Graph



Volume Graph



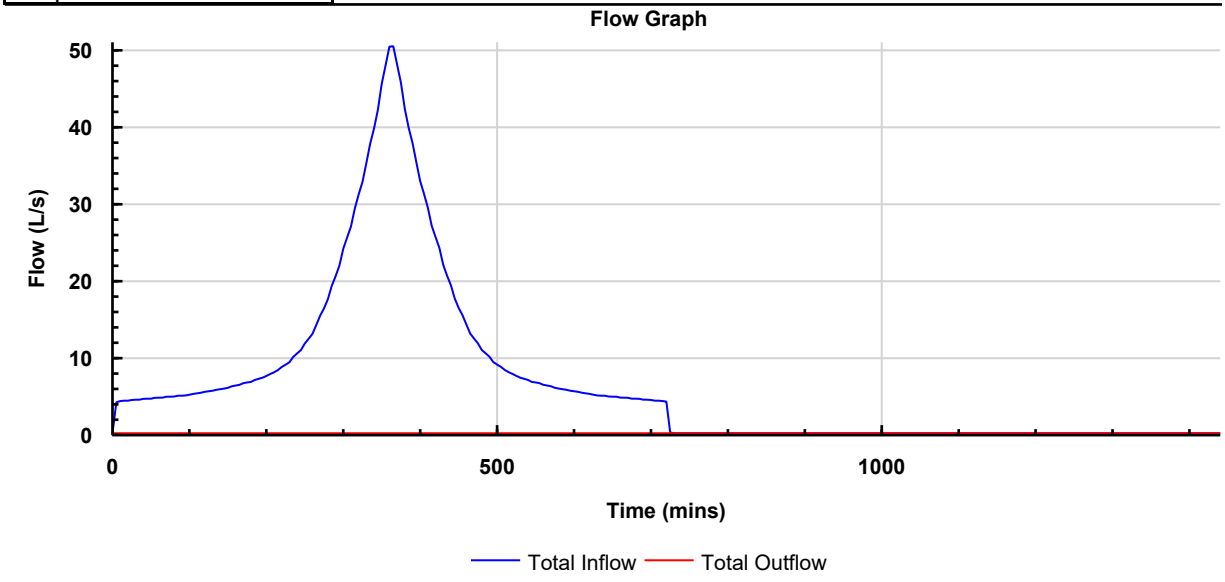
Project:	Date: 29/01/2025		
	Designed by: kieranl	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

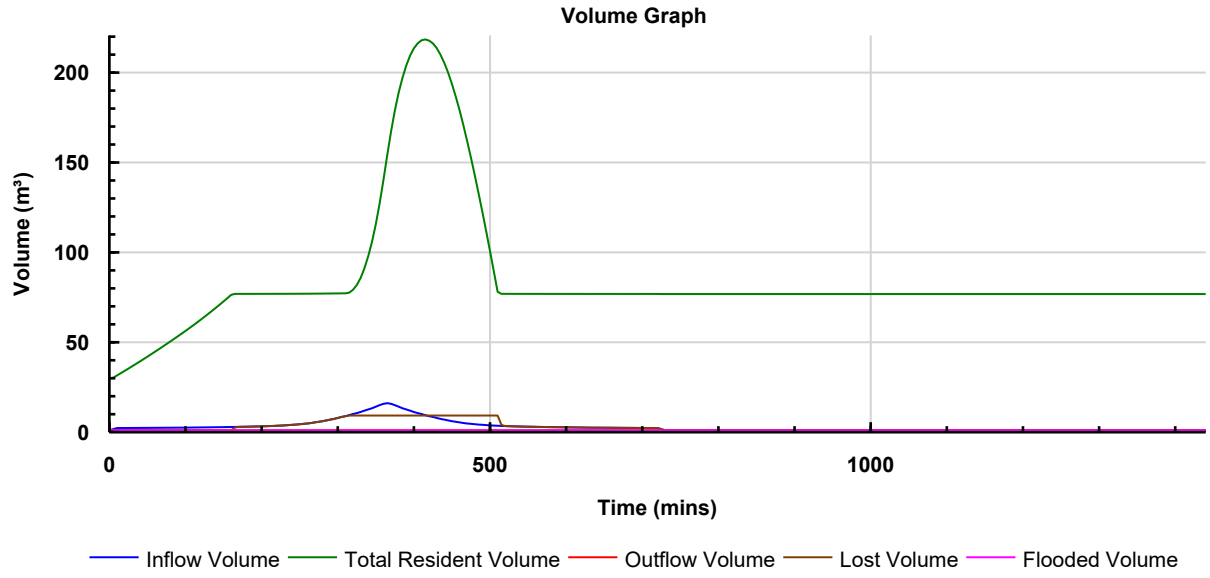
Phase
FEH: 30 years: Increase Rainfall (%): +0: 720 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	50.5	556.913	0.0	0.000

Graphs





Appendix H: Outline Drainage Strategy

RUNOFF RATE & ATTENUATION STORAGE

SITE AREA
TOTAL - 1.15ha
PERMEABLE AREA - 0.27ha (24%)
IMPERMEABLE AREA - 0.88ha (76%)

CLIMATE CHANGE ALLOWANCE
AS PER PLANNING POLICY WALES, FLOOD CONSEQUENCE ASSESSMENTS: CLIMATE CHANGE ALLOWANCES

CENTRAL ESTIMATE FOR THE 2080s EPOCH
= 20%

INFILTRATION RATE
1.08m/hr
conservatively assumed
AS PER CIRIA C753 THE SUDS MANUAL FOR GRAVELS AND BASED ON LOCAL BOREHOLE INFORMATION (BGS & THE KOP DEVELOPMENT)

SURFACE WATER ATTENUATION ESTIMATE
DERIVED USING INFODRAINAGE SOFTWARE
= 582m3
FOR NO FLOODING IN THE 1 IN 100 YR + 20% CLIMATE CHANGE STORM EVENT

WIDER SITE BOUNDARY

RED LINE BOUNDARY CONSIDERED FOR DRAINAGE CALCULATIONS

GROUND TO BE PROFILED TOWARDS INFILTRATING SUDS FEATURES TO PROVIDED MAXIMAL WATER QUALITY TREATMENT FOR RUNOFF

HIERARCHY OF DISCHARGE
AS PER WELSH SuDS STATUATORY STANDARDS

1. SURFACE WATER IS COLLECTED FOR USE;
2. SURFACE WATER RUNOFF IS INFILTRATED INTO GROUND
3. SURFACE WATER RUNOFF IS DISCHARGED TO A SURFACE WATER BODY
4. SURFACE WATER RUNOFF IS DISCHARGED TOA SURFACE WATER SEWER, HIGHWAY DRAIN OR OTHER DRAINAGE SYSTEM,
5. SURFACE WATER IS DISCHARGED TO A COMBINED SEWER

N.B. AWAITING GI TESTING AND WELSH WATER ASSET MAPPING BEFORE POSSIBLE POINTS OF DISCHARGE CAN BE CONFIRMED

SURFACE WATER ATTENUATION

FEATURE	LAYER	AREA (m2)	DEPTH (m)	POROSITY	EFFECTIVE STORAGE (m3)
BIORETENTION AREA	DEPRESSION STORAGE	1650	0.150	1.000	247.500
	BIORETENTION SOIL	1650	0.750	0.150	185.625
	SUB-BASE	1650	0.300	0.300	148.500
=> TOTAL ATTENUATION = 582m3, DRAIN DOWN TIME < 24hrs => INFILTRATION DESIGN IS FEASIBLE					

STANDARD NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S AND ENGINEER'S DRAWINGS AND THE SPECIFICATIONS.
2. THIS DRAWING SHOULD NOT BE SCALED.
3. ALL DIMENSIONS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE.
4. ALL DISCREPANCIES SHOULD BE REPORTED TO C.A./E.A. PRIOR TO THE COMMENCEMENT OF WORKS.

NOTES

1. THIS DRAWING IS BASED ON THE FOLLOWING:
1.1. GENERAL ARRANGEMENT PLAN DWG '2454-EXA-00-00-DR-L-00100' BY EXTERIOR ARCHITECTURE DATED 21.01.25

KEY

RED LINE BOUNDARY

BIORETENTION AREA

DATE	REV	DESCRIPTION	DRAWN	CHKD
16.05.25	P01	ISSUED FOR PLANNING	KL	CK

CIVIC ENGINEERS
civicengineers.com

PROJECT
WREXHAM GATEWAY
EASTERN ZONE

TITLE
OUTLINE SUDS DESIGN

DRAWING STATUS	STATUS CODE
PRELIMINARY	-

CE PROJECT No.	SCALE @ A1	DATE CREATED	DRAWN	CHECKED
3709	1:250	MAY25	KL	CK

DRAWING No. 3709-CIV-XX-XX-S-C-30002

REV P01

FILE LOCATION PATH: P:\PROJECTS HOT\3709 - WREXHAM GATEWAY EASTERN ZONE\004 BIM\CIVIL\S\DRAWINGS\3709-CIV-XX-XX-S-C-30002 OUTLINE SUDS STRATEGY.DWG

Appendix I: Maintenance Schedules

3709, Wrexham Gateway Eastern Zone - SuDS Maintenance Schedule

Rev 01 - 16/05/2025

For Planning

The below table is extracted from The SuDS Manual 2015 (CIRIA C753)

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

Appendix J: Welsh Water Pre-development Enquiry

Dŵr Cymru
Welsh Water

Developer Services
PO Box 3146
Cardiff
CF30 0EH

Tel: +44 (0)800 917 2652
Fax: +44 (0)2920 740472
E.mail: developer.services@dwrcymru.com

Gwasanaethau Datblygu
Blwch Post 3146
Caerdydd
CF30 0EH

Ffôn: +44 (0)800 917 2652
Ffacs: +44 (0)2920 740472
E.bost: developer.services@dwrcymru.com

Mr Kieran Lyons
Civic Engineers
Dale Street
Manchester
Greater Manchester
M1 2HG

Date: 11/04/2025
Our Ref: PPA0009320

Dear Mr LYONS

Grid Ref: 332981 350813
Site Address: Station Approach, Wrexham LL11 2AA
Development: Commercial/Retail/Office building and associated public realm

I refer to your pre-planning enquiry received relating to the above site, seeking our views on the capacity of our network of assets and infrastructure to accommodate your proposed development. Having reviewed the details submitted I can provide the following comments which should be taken into account within any future planning application for the development.

Firstly, we note that the proposal relates to a development comprising commercial/retail/ office building and associated public realm at Station Approach, Wrexham, with foul water disposal via public sewers and also for surface water disposal.

No residential development is proposed, and no site layout or floorplans accompany the current enquiry details.

We acknowledge that the extent of the site, as defined within the submitted location plan, lies within the defined Local Development Plan (LDP development boundary for Wrexham City Centre and is identified as a Mineral Railhead Safeguarded site. In this regard, the proposed development comprises of a potential windfall development. Accordingly, whilst it does not appear an assessment has been previously undertaken of the public sewerage and watermains systems, we offer the following comments as part of our appraisal of this development.

PUBLIC SEWERAGE NETWORK

The proposed development site is located in the immediate vicinity of a mixed sewerage system, comprising separate foul and combined public sewers which drains to Five Fords Wastewater Treatment Works (WwTW).

You are also advised that some public sewers and lateral drains may not be recorded on our maps of public sewers because they were originally privately owned and were transferred into public ownership by nature of the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011.The presence of such assets may affect the proposal. In order to assist you may contact Dwr Cymru Welsh Water on 0800 085 3968 to establish the location and status of the apparatus in and around your site. Please be mindful that under the Water Industry Act 1991 Dwr Cymru Welsh Water has rights of access to its apparatus at all times.

SURFACE WATER DRAINAGE

As of 7th January 2019, this proposed development is subject to Schedule 3 of the Flood and Water Management Act 2010. The development therefore requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. As highlighted in these standards, the developer is required to explore and fully exhaust all surface water drainage options in accordance with a hierarchy which states that discharge to a combined sewer shall only be made as a last resort. Disposal should be made through the hierarchical approach, preferring infiltration and, where infiltration is not possible, disposal to a surface water drainage body in liaison with the Land Drainage Authority and/or Natural Resources Wales.

It is therefore recommended that the developer consult with Wrexham County Council, as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features. Please note, DCWW is a statutory consultee to the SAB application process and will provide comments to any SuDS proposals by response to SAB consultation. Please refer to further detailed advice relating to surface water management included in our attached Advice & Guidance note.

In addition, please note that no highway or land drainage run-off will be permitted to discharge directly or indirectly into the public sewerage system.

FOUL WATER DRAINAGE – SEWERAGE NETWORK

We have considered the impact of foul flows generated by the proposed development and, based on the current enquiry details submitted, concluded it is unlikely that sufficient capacity exists to accommodate your development within the immediate public sewerage system without causing detriment to the existing services we provide to our customers, or in regard to the protection of the environment. There are no planned reinforcement works within Dwr Cymru Welsh Water's Capital Investment Programme and therefore, at this stage, we are unable to provide you with a point of adequacy on the network.

In light of the above, our recommendation is that the developer undertakes a development enabling assessment to identify a solution for mitigating the impact of the proposed development. This may include the removal of surface water flows from the immediate public sewerage system to offset the new foul flows from the development. Where this is not possible, the identification of an alternative reinforcement solution to the network via further hydraulic modelling will be required to identify suitable off-site reinforcement works to the public sewerage system.

Please note that we will seek to control the identification and delivery of a solution via appropriate planning conditions and therefore recommend that a development enabling assessment is undertaken in advance of a planning application being submitted, in order to avoid any subsequent delays. Please contact us to discuss further on this matter.

You may need to apply to Dwr Cymru Welsh Water for any connection to the public sewer under Section 106 of the Water industry Act 1991. However, if the connection to the public sewer network is either via a lateral drain (i.e. a drain which extends beyond the connecting property boundary) or via a new sewer (i.e. serves more than one property), it is now a mandatory requirement to first enter into a Section 104 Adoption Agreement (Water Industry Act 1991). The design of the sewers and lateral drains must also conform to the Welsh Ministers Standards for Foul Sewers and Lateral Drains, and conform with the publication "Sewers for Adoption"- 7th Edition. Further information can be obtained via the Developer Services pages of www.dwrcymru.com.

FOUL WATER DRAINAGE – SEWAGE TREATMENT

The proposed development site is located in the catchment of a public sewerage system which drains to Five Fords Wastewater Treatment Works (WwTW) and ultimately discharges to a river Special Area of Conservation (SAC). We would advise that this WwTW has a phosphorus consent limit and is aiming to comply with the 95% quartile for its flow passed forward (FPF) performance, at the time of this consultation. The current phosphate permit consent will include further limitations effective from the 31/03/2030. Accordingly, we would advise there is currently suitable capacity in the public sewerage system and downstream WwTW to accommodate foul water flows from the development subject of this application.

I trust the above information is helpful and will assist you in forming water and drainage strategies that should accompany any future planning application. I also attach copies of our water and sewer extract plans for the area, and a copy of our Planning Guidance Note which provides further information on our approach to the planning process, making connections to our systems and ensuring any existing public assets or infrastructure located within new development sites are protected.

Please note that our response is based on the information provided in your enquiry and should the information change we reserve the right to make a new representation. Should you have any queries or wish to discuss any aspect of our response please do not hesitate to contact our dedicated team of planning officers, either on 0800 917 2652 or via email at **developer.services@dwrcymru.com**

Please quote our reference number in all communications and correspondence.

Yours faithfully,

Rhys Evans
Planning Liaison Manager
Developer Services

***Please Note** that demands upon the water and sewerage systems change continually; consequently the information given above should be regarded as reliable for a maximum period of 12 months from the date of this letter.*

CIVIC

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together

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