[redacted]

Date. 17th May 2024

3202404 21P

RIBBLE VALLEY BOROUGH COUNCIL
Department of Development Council Offices
Church Walk
Clitheroe
Lancashire
BB7 2RA

For the attention of Ribble Valley Borough Council

BROAD OAKS, NORTHCOTE ROAD, BB6 8BG

This letter, issued on behalf of our client, Mr John Holland, is in response to correspondence received from United Utilities, aiming to fulfil condition 5 of the planning approval granted by Ribble Valley Borough Council, reference 3/2023/0381. The approval involves the construction of a new detached outbuilding in the rear garden of the specified property, incorporating a swimming pool, a plant room, and an entrance lobby with shower/changing facilities.

A predevelopment application (Ref no. 05556448) was submitted to ascertain United Utilities' requirements. They responded with a request for the standard SUDS hierarchy to be followed.

Adhering to National Standards for Sustainable Drainage, the scheme should incorporate Sustainable Drainage (SUDS) where feasible. However, due to impermeable site conditions, infiltration into the ground is not viable. There is no watercourse on or near to our site. The attached drainage statement by REFA Consulting Engineers produced in May 2022 for an adjacent property supports these findings.

We therefore propose to discharge surface water from the new development into the existing combined UU sewer within the client's site, with a discharge rate restricted to 2 litres/second using a Hydrobrake flow control system for all events up to a 1 in 100 year storm including 40% increase due to climate change.

In conclusion, due to soil conditions and lack of nearby watercourses, surface water discharge into the combined sewer is the only option available.

We trust that this will meet your approval, but please contact us if further information is required.

Yours sincerely,
For and on behalf of

[redacted]

Direc[redacted]

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	75.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.300	Preferred Cover Depth (m)	0.600
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.001	5.00	86.500	450	137.932	54.904	0.700
S2	0.008	5.00	86.400	450	154.172	59.727	0.885
S3	0.001	5.00	86.400	1200	156.195	52.394	1.013
CO1			86.350	450	156.527	51.190	0.984
UUCO			86.330	300	158.834	51.223	1.003

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.00	S1	S2	16.941	0.600	85.800	85.515	0.285	59.4	100	5.28	59.3
1.001	S2	S3	7.607	0.600	85.515	85.387	0.128	59.4	100	5.41	58.8
1.002	S3	CO1	1.249	0.600	85.387	85.366	0.021	59.5	100	5.43	58.7
1.003	CO1	UUCO	2.307	0.600	85.366	85.327	0.039	59.2	100	5.47	58.5

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.00	1.001	7.9	0.2	0.600	0.785	0.001	0.0	10	0.383
1.001	1.001	7.9	1.4	0.785	0.913	0.009	0.0	29	0.766
1.002	1.000	7.9	1.6	0.913	0.884	0.010	0.0	31	0.788
1.003	1.003	7.9	1.6	0.884	0.903	0.010	0.0	30	0.779

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.00	16.941	59.4	100	Circular	86.500	85.800	0.600	86.400	85.515	0.785
1.001	7.607	59.4	100	Circular	86.400	85.515	0.785	86.400	85.387	0.913
1.002	1.249	59.5	100	Circular	86.400	85.387	0.913	86.350	85.366	0.884
1.003	2.307	59.2	100	Circular	86.350	85.366	0.884	86.330	85.327	0.903

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.00	S1	450	Manhole	Adoptable	S2	450	Manhole	Adoptable
1.001	S2	450	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.002	S3	1200	Manhole	Adoptable	CO1	450	Manhole	Adoptable
1.003	CO1	450	Manhole	Adoptable	UUCO	300	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	137.932	54.904	86.500	0.700	450				
						0	1.00	85.800	100
S2	154.172	59.727	86.400	0.885	450	1	1.00	85.515	100
						0	1.001	85.515	100
S3	156.195	52.394	86.400	1.013	1200	1	1.001	85.387	100
						0	1.002	85.387	100
CO1	156.527	51.190	86.350	0.984	450	1	1.002	85.366	100
						0	1.003	85.366	100
UUCO	158.834	51.223	86.330	1.003	300	1	1.003	85.327	100

Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	0.0
M5-60 (mm)	20.000	Check Discharge Rate(s)	✓
Ratio-R	0.300	1 year (l/s)	0.1
Summer CV	0.750	30 year (l/s)	0.2
Winter CV	0.840	100 year (l/s)	0.2
Analysis Speed	Normal	Check Discharge Volume	x
Skip Steady State	x		

Storm Durations

15 30 60 120 180 240 360 480 600 720 960 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	40	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.99
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)	0.011	Betterment (%)	0
SAAR (mm)	1148	QBar	0.1
Soil Index	3	Q 1 year (l/s)	0.1
SPR	0.47	Q 30 year (l/s)	0.2
Region	1	Q 100 year (l/s)	0.2
Growth Factor 1 year	0.85		

Node S3 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	85.387	Product Number	CTL-SHE-0070-2000-0800-2000
Design Depth (m)	0.800	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	38	85.808	0.008	0.1	0.0013	0.0000	OK
15 minute winter	S2	11	85.540	0.025	1.1	0.0040	0.0000	OK
15 minute winter	S3	12	85.453	0.066	1.2	0.0747	0.0000	OK
15 minute winter	CO1	12	85.394	0.028	1.1	0.0044	0.0000	OK
15 minute winter	UUCO	12	85.353	0.026	1.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1	1.00	S2	0.1	0.170	0.013	0.0120	
15 minute winter	S2	1.001	S3	1.1	0.501	0.140	0.0264	
15 minute winter	S3	Hydro-Brake®	CO1	1.1				
15 minute winter	CO1	1.003	UUCO	1.1	0.674	0.143	0.0039	0.6

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	19	85.815	0.015	0.4	0.0024	0.0000	OK
15 minute winter	S2	14	85.740	0.225	3.9	0.0358	0.0000	SURCHARGED
15 minute winter	S3	14	85.732	0.345	3.1	0.3906	0.0000	SURCHARGED
30 minute winter	CO1	27	85.404	0.038	2.0	0.0061	0.0000	OK
30 minute winter	UUCO	27	85.361	0.034	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	1.00	S2	0.4	0.185	0.051	0.0727	
15 minute winter	S2	1.001	S3	2.8	0.548	0.352	0.0595	
15 minute winter	S3	Hydro-Brake®	CO1	2.0				
30 minute winter	CO1	1.003	UUCO	2.0	0.781	0.254	0.0059	2.8

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	S1	24	85.913	0.113	1.3	0.0180	0.0000	SURCHARGED
30 minute winter	S2	24	85.913	0.398	4.2	0.0633	0.0000	SURCHARGED
30 minute winter	S3	24	85.907	0.520	3.2	0.5881	0.0000	SURCHARGED
15 minute summer	CO1	21	85.404	0.038	2.0	0.0061	0.0000	OK
60 minute winter	UUCO	50	85.361	0.034	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1	1.00	S2	-0.9	0.165	-0.113	0.1326	
30 minute winter	S2	1.001	S3	2.7	0.583	0.342	0.0595	
30 minute winter	S3	Hydro-Brake®	CO1	2.0				
15 minute summer	CO1	1.003	UUCO	2.0	0.781	0.254	0.0059	2.3

Wastewater pre-development enquiry

United Utilities
Water for the North West

Please complete this form for enquiring about drainage strategies and points of connection for new developments.

You can fill in this form, just save a copy, complete it and email it to **SewerAdoptions@uuplc.co.uk** alternatively you can print the form and post it to us at this address **United Utilities Developer Services, Second Floor, Grasmere House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP**

All fields are required unless otherwise stated. Please note incomplete information may cause delays to your application. When answering the yes/no questions please tick in the appropriate box. Please keep a copy of the completed application for your records.

If you need any help completing the form please call us on **0345 026 8989** and we'll be happy to help.

We aim to respond to enquiries within 15 working days from receipt of your completed enquiry form.

Section 1: Your details			
Are you (please tick)	Developer ☐ Consultant ☑ Land owner ☐ Other (please state) ☐		
Name	[redacted]		
Company Name (if applicable)			
Address (including post code)			
Telephone number			
Email address			
Section 2: Development details			
Do you intend to offer any of the sewers for adoption by United Utilities under S104?			Yes ☐ No ☑
Please provide as much of the site address that is available. This address must contain a road name, town/city.			
Address (including nearest postcode)	Broad Oaks Northcote Road, Langho, Blackburn, BB6 8BG		
Site name	Broad Oaks		
The grid reference is a 12 digit grid reference split into two 6 digit numbers (X and Y).			
Grid reference number	X - 370703 , Y - 434613		
Development type	Commercial ☐ Residential ☑		
Approx. number units	1		
Total site area (hectares)	0.010		
Does this site have planning permission?			Yes ☐ No ☑
Planning reference number	-		
Council area	Ribble Valley		
Have you approached us about this site previously?	Yes ☐ No ☑	If yes, please provide reference number	
Is the development part of a larger site that will be developed in phases?			Yes ☐ No ☑

Section 3: Previous land use			
Please confirm what the land was previously used for and provide the following information:			
Greenfield	☐	**Brownfield** Evidence of positive drainage to the public sewer must be provided (Drawings showing connecting pipe sizes, permeable/impermeable areas)	☑

Section 4: Drainage strategy			
Foul connection: How are you proposing to drain foul flows from the site?			
Via an existing connection to the public sewer?	☑	Via a new connection to the public sewer?	☐
Do your drainage proposals involve pumping to the public sewer network?	Yes ☐ No ☑		
Surface water connection: How are you proposing to drain your site, following the surface water hierarchy, as outlined in National Planning Policy Guidance? Please indicate below and provide evidence to support your strategy			
Infiltration ☐ Surface water body ☐ Surface water sewer/Highway Drain ☐ Combined sewer ☑			
SuDS: Have SuDS features been considered in the surface water drainage strategy?	Yes ☑ No ☐		

Section 5: Supporting Information		
Please confirm that the following list of information has been provided to support with your enquiry:		
• Site location plan including site boundary and road/street names	Yes ☐	No ☑
• Preferred drainage outfall route(s) and point(s) of access etc.	Yes ☑	No ☐
• Topographical survey	Yes ☑	No ☐
• Ground investigation report	Yes ☐	No ☑
• Evidence of existing drainage connections and estimated rates of discharge (for Brownfield sites)	Yes ☑	N/A ☐
• Full calculations to show pre-development surface water rates for Greenfield sites	Yes ☐	N/A ☑

Section 6 : Declaration

I understand that the submission of this form is to be treated as a preliminary enquiry and the information may be subject to change. In particular, I understand that the information United Utilities Water Limited provides in response is only valid in conjunction with the information provided in relation to this enquiry, any changes to regulation or development layout will invalidate our response.

Signature	[redacted]	Date	05.04.2024
Print Name	[redacted]	Position	[redacted]