From: Scott Bradshaw
Sent: 10 August 2021 14:50
To: Julian Pearson ; David Wright

Cc: John Jackson
Subject: FW: Waters Edge Close, Whitehaven - High Road (Rhodia) - 4200008300

Email below from United Utilities with notional approval of principle being discussed.

Scott Bradshaw
Senior Engineer & Project Manager
Story Homes Ltd
Story House, Lords Way, Kingmoor Business Park, Carlisle, CA6 4SL

www.storyhomes.co.uk

From: Duckworth, Mik
Sent: 24 July 2020 08:04
To: Christopher Tweedle
Cc: SewerAdoptions ; Watson, Matt
Subject: RE: Waters Edge Close, Whitehaven - High Road (Rhodia) - 4200008300

Morning Chris,

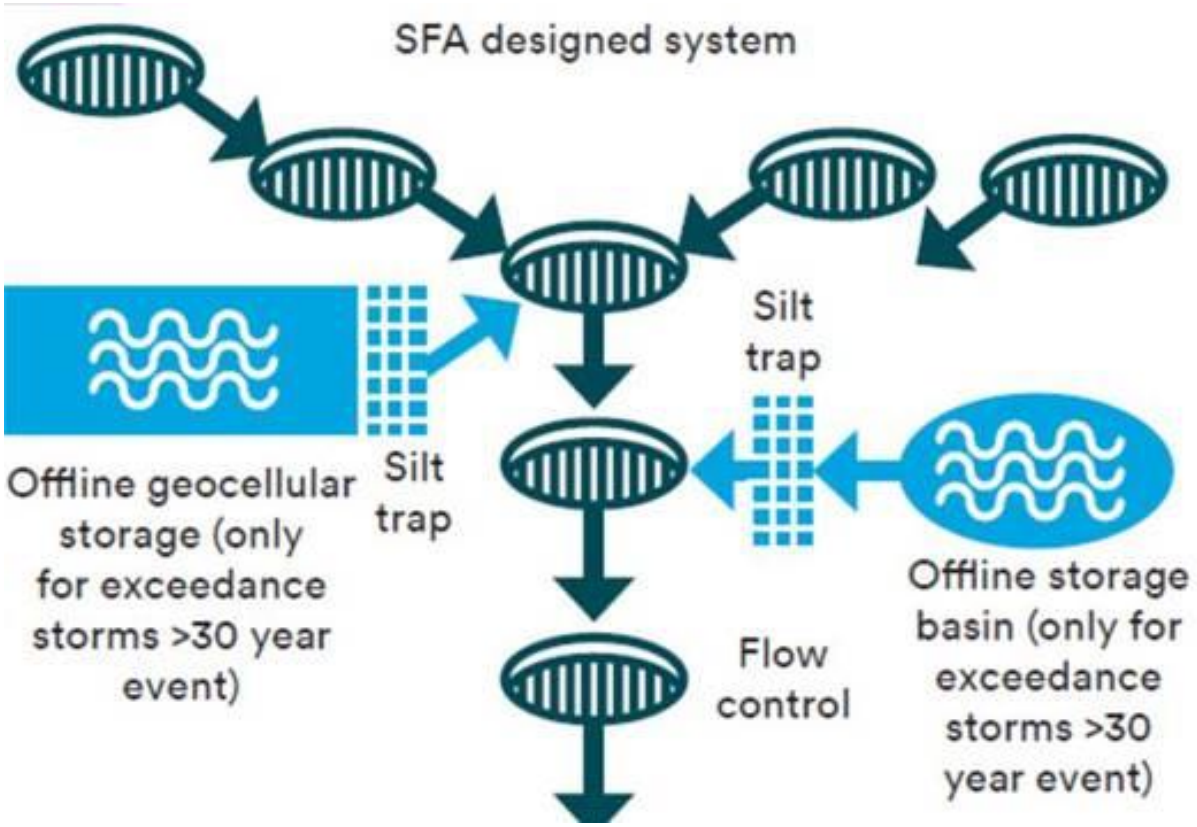
Flows are to be restricted to 6 l/s from phase2 to phase 1 by the pre dev team on the basis that the Phase 1 scheme can be satisfactorily redesigned:-

Initial comments on the Phase 1 scheme:-

- No flooding should occur on the 30 year simulations for adoption assessment (as per assessment form)
- You may need to provide additional storage for the excess i.e. the 100year
- The proposed position of the new basin in Phase 1 would require the diversion of the 2 pipes under agreement out into the public highway as they cannot be near / under 100 year storage systems (basins or cellular). They will have easements for this reason , so no private storage can be within this area (see below for typical example)
- Any 100 year storage should be ebb and flow pipe connection at 30 year level at appropriate manhole
- You would need LLFA consent/agreement/planning permission for new design (may increase ultimate flow rates etc)
- You will need to officially resubmit the Phase 1 scheme if it is to be redesigned and will be charged a new S104 fee
- The Phase2 scheme application is to be submitted at a later date

Many Thanks

Mike



From: Duckworth, Mike
Sent: 08 July 2020 14:12
To: 'Christopher Tweedle'
Cc: SewerAdoption O'Connor, Neil (UUSD)
Bell. Chris Graham Parker
; Luke Walker Craig Kerr
Scott Bradsha
Subject: RE: Waters Edge Close, Whitehaven - High Road (Rhodia) - 4200008300

Afternoon Chris,

I've looked at the site and would comment as follows:-

- The position of the new basin in Phase 1 would require the diversion of the 2 pipes under agreement out into the public highway as they cannot be near / under 100 year storage systems (basins or cellular). They will have easements for this reason , so no private storage can be within this area
- Adding the new flows may cause surcharge on 2 year storms which whilst the basin may stop flooding, would contravene SFA for the phase 1 site
- I would suggest trying to not alter the system already under agreement if possible as this may render any legal agreement null and void

- The normal sorts of flows we see for approx. 5l/s/ hydrobrakes tend to be very close to 100mm so if 4 l/s is near 90mm it might be acceptable as a compromise
- You appear to have Offline storage on your phase 2 proposals
- Any 100 year storage should be ebb and flow pipe conn at 30 year level at appropriate manhole (see examples)
- As built drawings/H & S files for progression for adoption should be as per attached information
- Your new design should ensure to comply with the hydraulic information below
- Although we would need to see that the phase 1 still works with the additional flows for both 2 year and 30 year requirements. The new Phase 2 design needs to be designed at point of new connection e.g. free outfall 1 in 2 year , 30 year 1m surch outfall
- I haven't checked the design info supplied

- Online control information within the MDX file corresponds with the manufacturers details and specifica
- Simulations confirm that the 1m surcharge has been applied to the soffit level of the receiving sewer (or
- Simulations show no surcharge within the adoptable system in a 1 in 2 year storm modelled with a free control which can be accepted)
- Simulations show no flooding from the surface water sewers in a 1 in 30 year storm
- Critical storm water levels are not higher than any private drainage cover levels or FFLs
- Outfalls to SUDs feature or watercourse clearly shows an acceptable outfall level which should be 300m

Hope this helps

Mike

Kind regards

United Utilities
Water for the North West

Mike Duckworth
Developer Services Engineer
Developer Services & Metering
Customer Services
[redacted]
unitedutilities.com

From: Christopher Tweedle
Sent: 25 June 2020 11:19
To: Duckworth, Mike
Cc: SewerAdoptions ; O'Connor, Neil (UUSD)
Bell, Chris ; Graham Parker
; Luke Walker Craig Kerr
; Scott Bradshaw
Subject: RE: Waters Edge Close, Whitehaven - High Road (Rhodia) - 4200008300

Hi Mike,

Further to your email below I have now remodelled the SW drainage system based upon the as built survey. Please find attached a copy of the following for your review;

- As Built Survey
- As Built SW Design Report (Phase 1 Only)
- As Built SW Design Report with preliminary Phase 2 design
- As Built SW Design Report with preliminary Phase 2 design and additional storage.
- Engineering Layout Phase 2
- 100yr Flood Basin Location

As previously discussed there has been now allowance for any additional flows within the phase 2 system. I have therefore created a preliminary SW model for phase 2 and incorporated this into the as built phase 1 design. The phase 2 system is to be restricted to 6l/s, this requires the phase 1 system to be upsized to cater for an additional 34m3 of storage. Please note that my previous design issued to you assumed that the existing hydrobrake was a Hydro International Optimum, this is not the case and the as built design has been amended accordingly.

As per my original email we wish to overcome the flooding by inserting an additional hydrobrake within the phase 1 system, between manholes S9 and S10 (fortunately under a POS area), and restrict this to 6l/s which then floods the system during the 100yr event at this new manhole, which

we can contain within a newly formed flood basin. Also the existing hydrobrake within s25 will require replacing with a more efficient Optimum.

At this stage I require your approval in principal that this strategy is acceptable. The main drainage design for phase 2 will be submitted under a separate application by a third party. The detailed design information for the upgrading of the phase 1 system will be submitted along with the main drainage design for phase 2. No works will be progressed without your written approval.

I'd be grateful if you could please review our proposal and provide your approval in principal of the strategy. Alternative, would UU accept a limited discharge rate of 4l/s from phase 2 with an agreement to adopt the phase 2 network, bearing in mind that the minimum hydrobrake diameter of 100mm would not be met in this scenario? This reduced rate removes the requirement to install an additional manhole within phase 1. We will however still need to upgrade the existing hydrorbake to an Optimum.

Should you wish to discuss in more detail then please do not hesitate to contact me.

Regards

Chris

Chris Tweedle
Senior Engineer
Story Homes Ltd - North West
Kensington House, Ackhurst Business Park, Foxhole Road, Chorley, PR7 1NY

www.storyhomes.co.uk

From: Duckworth, Mike
Sent: 22 June 2020 14:11
To: Christopher Tweedl
Cc: SewerAdoption ; O'Connor, Neil (UUSD) ; Bell, Chris
Subject: RE: Waters Edge Close, Whitehaven - High Road (Infodia) - 4200008300

Afternoon Chris,

Thanks for your email and information

We would require 'as built' information for the finished Phase 1 part of the design in the first instance
We would need to establish what has actually been constructed on site and then this should be used in any further design proposals as opposed to using designs from 6/7 years ago
The actual storage/invert levels/points of connection/ground levels/hydrobrake may well be different

Please find attached the kind of info we need to progress/discuss
I can confirm that we would normally expect attenuation for both phases either in Phase 1 or alternatively attenuation within each individual phase

On another note we appear to have a different Consultant on the system than the drawing provided

Many Thanks

Mike

From: Christopher Tweedle
Sent: 08 June 2020 11:00
To: Duckworth, Mike ; O'Connor, Neil (UUSD)

Cc: SewerAdoption
Subject: Waters Edge Close, Whitehaven

Good Morning Mike/Neil,

Our Story Homes Carlisle office have a development at Waters Edge, Whitehaven. I believe pre lockdown, a pre maintenance inspection was undertaken on the site sewers but no certificate was issued. The existing development forms phase 1 of the former Rhodia Offices. The undeveloped phase 2 land lies to the south of the existing development. We are currently looking to progress this to develop and the point of outfall for SW and FW is to the existing phase 1 network. Whilst reviewing the SW drainage network for phase 1 it is apparent that no additional flow or storage has been accounted for within the phase 1 system.

I have rebuilt the phase 1 drainage model based upon the windes design report, provided by the original designers DAB, and have inputted a preliminary design for phase 2. The additional unrestricted flow from phase 2 floods the existing phase 1 system at the hydrobrake manhole by circa 300m3. I am therefore proposing that the phase 2 drainage is restricted to 6ls. Attenuation for the 30yr storms will be provided within oversized pipes and the 100yr would be attenuated within a cellular storage crate system. Please see attached draft proposal for your information. Whilst restricting to 6l/s this still creates downstream flooding of circa 30m3. We wish to overcome this by inserting an additional hydrobrake within the phase 1 system, between manholes S9 and S10 (fortunately under a POS area), and restrict this to 6l/s which then floods the system during the 100yr event which we can contain within a newly formed flood basin. The system does not flood within the 30yr or 2yr event.

I would be grateful if you could please review and provide you approval in principal for the following;

1. Acceptance of a SW discharge from phase 2 into the phase 1 system at a rate of 6l/s
2. Introduction of an additional hydrobrake between S9 and S10, forcing the system to flood at this location to remove flooding at the existing hyrobrake, which is located within third party land.
3. Alternatively to remove any works required on phase 1, would UU accept a discharge of 4l/s from phase 2 into the phase 1 system. Note the min hydrobrake diameter of 100mm would not be met.

I attach a copy of the following for you to review;

1. Original Phase 1 Engineering Layout
2. Engineering Layout Phase 2 (6ls)
3. SW Design Report 6l/s with additional phase 1 storage
4. 100yr Flood Basin Proposed Location

If you wish to discuss then please do not hesitate to contact me.

Regard

Chris

Chris Tweedle
Senior Engineer
Story Homes Ltd - North West
Kensington House, Ackhurst Business Park, Foxhole Road, Chorley, PR7 1NY

www.storyhomes.co.uk