From: To:	@persimmonhomes.com> "@millardconsulting.co.uk>, "@millardconsulting.co.uk>, "@millardconsulting.co.uk"							
Cc:	@dundeecity.gov.uk>,							
	@dundeecity.gov.uk>, @dundeecity.gov.uk>							
Date: Thursday, 05 March, 2020 20:20 Subject: RE: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments								
we still hav	I had a catch-up with and and yesterday to review all pre-commencement conditions – the only thing e to submit (following schedule below) is a copy of our surface water management plan through the n phase. Copy attached for info.							
-	but to send a note following the meeting yesterday which I'll copy you into. We start on site Tuesday so the for to discharge all pre-commencement conditions with yourself and on Monday if possible.							
Thanks								
Engineering	Manager							
	Homes North Scotland							
PER	RSIMMON							
To: Cc:	@millardconsulting.co.uk> arch 2020 11:56 @dundeecity.gov.uk; Hocking, @dundeecity.gov.uk; @dundeecity.gov.uk; @dundeecity.gov.uk @dundeecity.gov.uk; Flood Risk and Drainage Related Comments							
Good Mor								
Please se	e attached:							
• Pl	anning Condition 8 – Maintenance Certificate and Schedule,pdf							
	nis is sufficient to clear this Condition however please don't hesitate to contact me if you require any information.							
Regards								
Millard Con	sulting							
t <u> </u>								
From:	@dundeecity.gov.uk]							
Sent: 06 Fe To:	bruary 2020 10:38 @millardconsulting.co.uk>; @persimmonhomes.com>							

Subject: RE: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments

I can confirm that Dundee City Council are satisfied that surface water runoff from the development can discharge to the Gelly Burn at the discharge rates below. This is on the basis that the post-development surface water discharge rate to the Gelly Burn culvert is no greater that the pre-development discharge to the culvert, as demonstrated by the submitted Millard "Drainage Statement: Kingspark - Justification of Attenuated Surface Water Discharge Rate" Revision B:

critical 1:30 year plus CC storm event = 5.72l/s critical 1:200 year plus CC storm event = 14.30l/s

Confirmation of the above discharge rates will now allow you to address all of the other comments included in my email dated 27/1/2020 and satisfy Scottish Water with regard to confirmation from DCC that surface water can discharge to the Gelly Burn.

I look forward to a full response in due course that will allow all of the flooding and surface water related planning conditions to be discharged.

Paul, you advised in your email dated 27/1/2020 (attaching the latest FRA) that the FRA independent check certificate would be submitted the following day. I don't recall this being submitted to date.

Dealing with this application is now my priority and I will be able to provide a quick turn around to reviewing any additional information/responses submitted.

You can give me a call on 9 if you wish to require any clarification or discuss anything in more detail.

regards,

Engineer
Infrastructure Team
City Development
Dundee City Council
Floor 6, Dundee House
Dundee
DD1 1LS

Tel (direct dial):

@millardconsulting.co.uk> wrote:
To: <u>@dundeecity.gov.uk</u> >,
@persimmonhomes.com>
From: @millardconsulting.co.uk>
Date: 06/02/2020 09:55AM
Subject: RE: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments
Hi ggs ,
Thanks for phoning yesterday.

I've managed to update the Statement for Item 4 to include the run-off from the hardstanding area only.

As you will note, this is still higher than the proposed discharge rates which also include allowance for climate change.

Trust this now gives you the comfort to sign off and I can address the remaining queries.

Any other info you need, please don't hesitate to contact me,

Regards

Millard Consulting

@dundeecity.gov.uk] From: Sent: 04 February 2020 16:59 To: @persimmonhomes.com> @millardconsulting.co.uk> Subject: RE: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments Apologies for the delay. I'll get back to you tomorrow on this. regards, Engineer Infrastructure Team City Development **Dundee City Council** Floor 6, Dundee House Dundee DD1 1LS Tel (direct dial): @persimmonhomes.com> wrote: -----To: @dundeecity.gov.uk> From: g@persimmonhomes.com> Date: 04/02/2020 03:00PM @millardconsulting.co.uk> Subject: RE: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments - sorry to keep pushing you but can you at least confirm the flows into the Gelly are acceptable please? Scottish Water have again written to us this morning confirming the sewer tech approval is on hold pending your confirmation. Thanks **Engineering Manager Persimmon Homes North Scotland PERSIMMON** @millardconsulting.co.uk> **Sent:** 28 January 2020 16:00 To: @dundeecity.gov.uk; @persimmonhomes.com> @dundeecity.gov.uk;
@dundeecity.gov.uk; @dundeecity.gov.uk; @dundeecity.gov.uk Subject: RE: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments Good Afternoon Revised Statement including additional information for Item 4 attached as requested, with further justification of the proposed discharge rates.

I'll get to the other items asap but the flowrate obviously dictates much of the drainage design.

I'd be grateful if you could confirm if this now addresses Item 4 satisfactorily.
Regards
Millard Consulting
t
From @dundeecity.gov.uk] Sent: 27 January 2020 18:23
To: @persimmonhomes.com>
@millardconsulting.co.uk> @dundeecity.gov.uk;
@dundeecity.gov.uk; @dundeecity.gov.uk; @dundeecity.gov.uk
Subject: Re: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments

Further to your emails below and our meeting last week where you advised of changes to the site layout, I have added additional comments in red below to your responses to my original comments.

I can also confirm that it appears from the disposition that the culvert route had previously been agreed as going through the site to the south at 45 degrees as stated at last weeks meeting so no further action is required in relation to the route of the diverted culvert.

I would also appreciate if the latest drainage layout drawing which incorporates any changes required to address the matters raised by Scottish Water in their letter dated 13/12/19 and shows any cut off drainage proposed in the southern part of the site could be submitted asap to allow me to fully complete my review.

I also recall you saying at our meeting last week that an updated FRA is to be submitted but I do not appear to have received this to date?

In addition to the comments below I have provided below in red, below are 2 additional comments:

- 19. For condition 6 and 15: Full package of latest surface water drainage drawings to be submitted which includes latest drainage layout, full details of the SUDS basin (including a section through the basin showing the water level during the critical 1:30 plus CC and critical 1:200 year plus CC storm events, the inlet and outlet construction details and the control manhole/device details). It is noted that drawing 14325/02/001F states a 1.0m deep detention basin with a maximum water depth of 0.525m during the M30 event and a maximum depth of 0.737m during the M200 storm event. However, it appears from the latest design calculations submitted that the depth of water in the basin will now be 1.27m during the critical 1:30 plus CC storm event. It also appears that the depth of water during the critical 1:200 plus CC storm even twill be 1.648m, more than double the originally proposed water level. This should be clarified on the drawings submitted.
- 20. For condition 6 and 15: I can't recall seeing a Design Risk Assessment for the SUDS basin. Can you submit a copy of this please or re-submit if it has been submitted previously.
- 21. For condition 7: measures to manage surface water (quantity and quality) during construction to be submitted.

I am under some pressure to discharge the planning conditions in order for the land sale to be concluded, but I can't do this until all of the outstanding information required to discharge the planning conditions is submitted.

regards,

Engineer
Infrastructure Team
City Development
Dundee City Council

Floor 6, Dundee House Dundee DD1 1LS Tel (direct dial): @persimmonhomes.com> wrote: ----@dundeecity.gov.uk> To: " From: @persimmonhomes.com> Date: 13/01/2020 01:42PM @millardconsulting.co.uk>, " Cc: @dundeecity.gov.uk> Subject: FW: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments Please see attached further info following the note I sent previously (and the maintenance agreement I issued last week). Are you now in a position to close off some of these action points and in turn update (cc'd) so he can start to purify the pre commencement conditions applicable to each? Still a few minor items to come through but this hopefully allows us to purify the majority. Thanks, **Engineering Manager Persimmon Homes North Scotland** Tel: **PERSIMMON** From: @millardconsulting.co.uk] **Sent:** 10 January 2020 16:07 To: @persimmonhomes.com>; @kayaconsulting.co.uk>; @persimmonhomes.com> @persimmonhomes.com> Subject: RE: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments Please see attached: Item 4 – Justification of Attenuated Discharge Rate Item 11 - Culvert Connection drawing to follow Monday 13th Item 13 - Basin Calculations Item 15 - SuDS Certificates Item 16 – Simple Index Approach Item 17 – Scottish Water Approval to follow – see also email of 13 December requesting additional info "FW:786393"– the PDE response is attached and should be sufficient for Andy at this stage, knowing we're addressing the TA comments. I'll get Item 11 to you asap on Monday. Regards Millard Consulting

From:

Sent: 18 December 2019 14:19

To: @dundeecity.gov.uk>

Subject: Kingspark 17/00765/FULL - Flood Risk and Drainage Related Comments

Following our meeting recently I've added my notes below each of the points we discussed. I'm trying to get all the information packed up and issued the first week back in January. Is there anything you wish to add / amend below? Thanks,

- 1. Location and maintenance responsibility for cut-off drains to side slope located in southern part of site to be confirmed.
- DCC & SW confirmed they would not adopt, therefore to form part of the factor agreement. Agreed this wasn't additional flow, rather part of the greenfield run-off.
- 27/1/1/2020 With my understanding being that the land in the southern part of the site is to be raised, clarification is required as to whether cut off drainage is still to be constructed in this part of the site. If it is, then drawing to be submitted which clearly shows the location of the cut off drainage and any outlet proposed. Note that this cannot discharge to the develoment's new surface water drainage system. Completed DCC Future Maintenance Certificate (confirming who is legally responsible for maintenance of the cut of drainage) and associated drawing and maintenance schedule for the cut off drainage system is also to be submitted. Condition 6 and 15.
- 2. It is stated that the drainage associated with the development's access road to the north is to connect to the existing surface water drainage. Confirmation is required as to whether this is ultimately connected to the existing Public sewer network or to the Gelly Burn. If connected to the existing Public Sewer then Scottish Water approval to connect will be required and evidence of this approval to be submitted.

confirmed, as per the FRA, existing gullies connect directly to the Gelly. Also outlined the point at which proposed gullies will significantly reduce the flow to the culverted Gelly based on location and topography in that area.

- 27/1/2020 latest revision of Drainage Layout drawing 14325/02/001 to be updated to clarify that the gullies located in the developments access road to the north are to be connected to existing culvert. condition 6 and 15.
- 3. Maintenance access arrangements to the SUDS basin to be confirmed along with evidence of Scottish Water agreement to the maintenance access proposals. Also refer to point 18 below.
 - DCC & SW agreed to conclude this action, and number 18 below, as part of their joint maintenance agreement.
- 27/1/2020 Scottish Waters latest letter dated 13/12/19 states that "Scottish Water assets must be accessed by public roads or dedicated access from a public road, not via shared drives. Please review the access points for the SUDS basin, bearing in mind tankers cannot reverse off or into a public road to gain access." Updated drainage layout drawing to be submitted which meets Scottish Water's maintenance access requirements, along with evidence of Scottish Water's approval of the surface water drainage proposals. Condition 6, 9 and 15.
- 4. Calculations/statement to be submitted to demonstrate that the attenuated surface water discharge from the development site to the Gelly Burn culvert (1.5l/s during the 1:30 year event plus allowance for climate change and 1.8l/s during the 1:200 year event plus allowance for climate change) will not increase flood risk elsewhere. If any other additional flow is to be introduced to the culvert/Gelly Burn (ie. from the cut off drainage to side slope in the southern part of the site, then calculations/statement to be submitted to demonstrate that this additional flow will not increase flood risk elsewhere.

explained the discharge rate of 1.5l/s could be raised in line with DCC's standard of 2l/s/ha, subject to justification being accepted re an overall betterment.

27/1/2020 - It is noted that the surface water discharge rate from the development site to the Gelly Burn during the critical 1:30 year event plus CC is now proposed to be 5.7l/s which is just under 4 times the originally proposed discharge rate of 1.5l/s. The discharge rate during the critical 1:200 year event plus CC is now proposed to be 6.5l/s instead of the originally proposed discharge rate of 1.8l/s (increase of just over 3.5 times the originally proposed rate). It is also, as covered in comment 13 below, that there is flooding predicted from the basin during the 1:200 year event.

The greenfield runoff calculation method included in Sewers For Scotland must also be used to determine a greenfield runoff rate in order to allow a sensitivity analysis to be completed.

The justification/Drainage Statement must be updated to compare the pre-development and post development discharge to the Gelly Burn during the critical 1:200 year plus CC storm event as well as the critical 1:30 plus CC storm event. It should also be noted that the existing gullies will also control/restrict the pre-development flow into the Gelly Burn and the document should be updated if appropriate to acknowledge this. - Condition 6 and 15. 5. Completed/signed DCC Flood Risk Assessment "Compliance" and "Independent Check" certificates still to be submitted. Action on Kaya to issue. 27/1/2020 - I can't recall receiving these certificates to date. I also understand that an updated FRA is to be submitted. - Condition 11. 6. I will consult my Legal Team to get advice on whether any consent is required by Persimmon Homes from the individual owners of the existing open drain/culverted sections within the properties located to the west of the development before the private watercourse within their property is diverted. - Agreed strategy to divert all water through our site with the option to open up to 5l/s back into private gardens if required. 27/1/2020 - This appears to be a private matter between Persimmon and the individual owners. Any notification process/consent to be put in place by Persimmon is to be clarified. - Condition 6 and 15. 7. Ownership of the footpath south of Clive Road (where the proposed drain/culvert bypass sewer is to be routed) to be clarified and evidence of any arrangement/approval required with the land owner should be submitted as part of the Planning Application. confirmed licence agreement in place with DCC legal/property services. 27/1/2020 - ok 8. Clarification required as to whether the planning application red boundary will need to be changed to include the proposed drain/culvert bypass sewer works. Planning Case Officer to confirm. confirmed not required. 27/1/2020 - ok. 9. Proposed ownership/maintenance responsibilities of/for the proposed drain/culvert bypass sewer to be clarified and a Maintenance Schedule submitted. As above, agreed this will be owned / maintained by factor. Evidence to be submitted. AR 27/1/2020 - The letter dated 6/1/2020 from SGPM confirms that they will be incorporate the maintenance of the

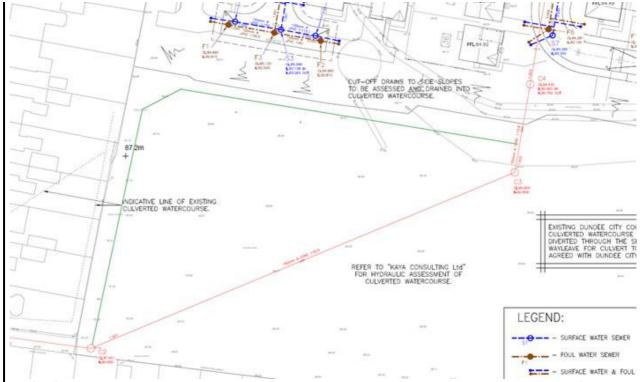
culvert (within the development site) into the "Factoring Responsibility". Completed DCC Future Maintenance Certificate (confirming who is legally responsible for maintenance of the culvert/proposed drain/culvert bypass sewer within the development site) and associated drawing and maintenance schedule for the culvert to be submitted. Ownership of the proposed drain/culvert bypass sewer within the development site must also be clarified on a drawing. If ownership of the culvert/proposed drain/culvert bypass sewer within the development site is to be split between the property owners then

10. The FRA, particularly pages 22, 23, 24 should be updated to reflect the current drain/culvert bypass sewer layout.

this must be included in the property title deeds/missives. - Condition 8.

Kaya action, albeit to request a slight amendment to the route.

27/1/2020 - updated FRA to be submitted. - Condition 11.



11. Clarification required as to whether the secondary culvert shown to run through the and and Clive Road properties is also to be connected to the proposed drain/culvert bypass sewer. The detail for connecting the culvert(s) to the proposed drain/culvert bypass sewer to be submitted.

confirmed this was evidenced by CCTV works yesterday. Detail as per drainage detail drawing.

- 27/1/2020 ok, on review if the disposition servitude agreement the existing culvert is to diverted upstream of the secondary culvert also. Culvert connection drawing to be submitted or confirmation required on the drawing that shows this detail. Condition 11.
- 12. No pedestrian access/egress to/from the eastern part of the development site (as recommended in the FRA) is shown as part of the current proposals. Clarification to be provided as to whether this is to be included to provide access/egress during potential flood events.
 - to request Kaya to update FRA to remove this reference.
- 27/1/2020 updated FRA to be submitted.
- 13. The updated Microdrainage calculations/simulation results do not appear to include the detention basin storage and this should be submitted.
- Calcs available, to submit.
- 27/1/2020 Receipt of the part handwritten, part Microdrainage outputs dated 10/1/2020 for the SUDS basin is acknowledged. It is noted that approximately 34cu.m of flooding is predicted from the basin during some of the simulated 1:200year plus CC storm events. Overland flow routes to be submitted to show where this flood water will collect to allow DCC to assess if this is acceptable. It is normally expected that the runoff from the critical 1:200 year plus CC storm event is stored within the development site with a controlled discharge and it may be necessary to provide additional storage on site to accommodate this flood water.

Updated full surface water drainage calculations/Microdrainage outputs which include any changes to the pipework hydraulic design (required to accommodate the increases in predicted climate change and use of the FEH rainfall method) also to be submitted if appropriate. - Condition 6 and 15.

- 14. Overland flow from the path to the east of the site onto Gillburn Road (to the east of the proposed SUDS basin shown Millard drawing 14325/02/001A) has been witnessed in the past. This has not been mentioned in the FRA and should be investigated and included in the FRA if appropriate.
- explained expectation is the flow is a result of the contributing area to the footpath combined with gradient of same. also suggested that unrecorded field drains / culverts are often discovered during the construction phase of brownfield sites. Suspicion is we'll find something during the construction phase which will be designed and re-routed accordingly if so.

-	-		Compliance and I	ndependent Check Cer	rtificates to be submitted.
27/1/		ted certificates are			age design is to be updated (eg.
_			- ·	er the date stated on the	e certificates then
	certificates to be sence of compliance		ndex Approach to	oe submitted.	
	to complete and i	-	μμ		
	р на				
27/1/	2020 - ok, docume	entation submitted	and no further con	nment.	
17. Evide	ence of Scottish W	ater Technical Ap	proval for proposed	surface water drainag	e system to be submitted.
			d next week – SW i hence current dela		e of a major IT project which has
				3/12/19 asks for some of submitted Condition	drainage design matters to be
drainage This agre and repa analysis) maintena 11.97m le	system is likely to eement will make S irs/maintenance to to demonstrate th ince vehicle type is ong but this should tion sheet can be — As per #3 abo	be undertaken the Scottish Water restored at a Scottish Water at a Scottish Water so currently a DAF do be confirmed with found using the above	rough a joint mainte ponsible for desiltir ctures. Therefore e er maintenance vel CF400, FAS 6x2 (a h Scottish Water. S pove vehicle inform	enance agreement betward the SUDS feature, and vidence to be provide (incle can access the SUXIE configuration), rigic time below link to DAF varion.	nance of the surface water ween DCC and Scottish Water. ny inlet/outlet forebay cleaning in the form of swept path JDS feature. The Scottish Water I, double mounted training axle, website where the above vehicle
	27/1/2020 - as	per comment 3 ab	ove Condition 6,	9 and 15	
Engineer	ing Manager				
Persimm	non Homes North	Scotland			
Tel:					
PE PE	ERSIMMON				
We ere n	roud to be an offic	sial partner of Too	m CB		
vve are p	roud to be an offic	iai partilei oi Teai	II Gb.		
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	to local groups a				Champions scheme donates donations of over £1 million.
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27/1/2020 - ok

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----- Message from @millardconsulting.co.uk> on Fri, 13 Dec 2019 16:20:19 +0000 -----

"<u>@persimmonhomes.com</u>>,

To: < <u>@persimmonhomes.com</u>>,

< <u>@persimmonhomes.com</u>>

<u>@millardconsulting.co.uk</u>>

Subject: FW: 786393

Hi IIII,

Please see Scottish Water comments attached:

MHs F1, S1 & F2, S2 can be removed, with the tails from plots 45 & 47 connecting into the main sewer.

 <MC: Surface Tail from Plot 47 > 15m and Foul Tail from Plot 46 > 15m but will amend drawing to suit comments on Monday morning>

Could the line from S26 connect directly into the existing watercourse? To remove the need of the additional manholes.

 <MC: S27 is to accommodate the abrupt change in ground levels and associated gradients. I'll have a proper look on Monday but think it should stay as shown>

Please provide acceptance from the owner of the watercourse that the development is discharging to accepting the flows

O <MC: Can PHNS please provide response?>

Scottish Water assets must be accessed by public roads or dedicated access from a public road, not via shared drives. Please review the access points for the SUDs basin, bearing in mind tankers cannot reverse off or onto a public road to gain access.

<MC: Paul, I think you've got written agreement of this before? If the argument on access from shared drives is accepted, there is a turning head at the outlet. Depending on acceptable discharge rate from basin (to be provided by KAYA), we could potentially fit a turning head on the track to the inlet>

Regards

Associate Director

From:

Sent: 13 December 2019 16:01

To: <u>@millardconsulting.co.uk</u>>

Subject: FW: 786393

fyi

EngTech MICE

Technician

Millard Consulting

t

From: @SCOTTISHWATER.CO.UK]

Sent: 13 December 2019 15:18

@millardconsulting.co.uk>

Subject: 786393

Good Afternoon,

Please find the attached.

Kind regards,

Technical Advisor East Team Scottish Water