

Karen Parsons

From: Michael Eastham
Sent: 23 February 2018 14:59
To: Karen Parsons
Cc: Claire Potts
Subject: FW: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Karen,

We have an extension of time for LU/278/17/RES – Lyminster Bypass to **13th April 2018**. Please would you update the records on Ocella.

Thanks,

Michael

From: Clark, Robert [REDACTED]
Sent: 23 February 2018 14:56
To: Michael Eastham
Subject: RE: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Michael
Thanks for the email. I agree to the extension of time to take the application to the 13th April committee.

I note that the application can't be approved until the Deed of Variation is finalised.

Kind Regards

Rob

Robert Clark
Head of Planning
Persimmon Homes Thames Valley
Persimmon House
Knoll Road
Camberley
GU15 3TQ
[REDACTED]

Please vote for our 'Healthy Communities' nominee Basingstoke & Mid Hants Athletics Club who are in with a chance of winning £200,000 to contribute towards a new stand with indoor facilities. [Click here to vote!](#)

From: Michael Eastham [<mailto:Michael.Eastham@arun.gov.uk>]
Sent: 23 February 2018 14:52
To: Clark, Robert
Subject: RE: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Rob,

Please could I have an extension of time (EoT) to deal with the Lyminster Bypass application to **13th April 2018**, so that it can go to the April Committee.

The Section 73 application needs to be finalised before the Lyminster Bypass application goes to Committee as it aligns with the revised masterplan rather than the original masterplan.

Kind regards,

Michael

From: Clark, Robert [REDACTED]
Sent: 23 February 2018 13:41
To: Michael Eastham
Subject: RE: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Ok thanks Michael.

Rob

Robert Clark
Head of Planning
Persimmon Homes Thames Valley
Persimmon House
Knoll Road
Camberley
GU15 3TQ
[REDACTED]

Please vote for our 'Healthy Communities' nominee Basingstoke & Mid Hants Athletics Club who are in with a chance of winning £200,000 to contribute towards a new stand with indoor facilities. [Click here to vote!](#)

From: Michael Eastham [<mailto:Michael.Eastham@arun.gov.uk>]
Sent: 23 February 2018 12:56
To: Clark, Robert
Subject: RE: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Rob,

It is not just that. I need a final response from the Local Highway Authority.

Kind regards,

Michael

From: Clark, Robert [REDACTED]
Sent: 23 February 2018 12:48
To: Michael Eastham
Subject: RE: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Michael

Thanks for the email. Is there any way of taking it to committee with that information pending i.e. subject to drainage?

Kind Regards

Rob

Robert Clark
Head of Planning
Persimmon Homes Thames Valley
Persimmon House
Knoll Road
Camberley
GU15 3TQ
[REDACTED]

Please vote for our 'Healthy Communities' nominee Basingstoke & Mid Hants Athletics Club who are in with a chance of winning £200,000 to contribute towards a new stand with indoor facilities. [Click here to vote!](#)

From: Michael Eastham [REDACTED]
Sent: 23 February 2018 12:40
To: Clark, Robert
Subject: LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Rob,

I have received the following message from Tim Townsend regarding the Lyminster Bypass application.

It looks like the application is not going to the March committee meeting as I needed the final response from the Local Highway Authority today.

Kind regards,

Michael

From: Tim Townsend [REDACTED]
Sent: 23 February 2018 12:50
To: Michael Eastham
Subject: RE: RES application LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

It is unlikely today because we've had to go back to Mayer Brown to query some of the drainage information that they sent us last night. More likely next week now. **However, this does still depend on them resolving ALL the drainage issues we've identified.**

Tim

From: Michael Eastham [<mailto:Michael.Eastham@arun.gov.uk>]
Sent: 23 February 2018 12:27
To: Tim Townsend
Subject: RES application LU/278/17/RES - SOUTHERN SECTION OF LYMINSTER BYPASS

Hi Tim,

Do you think you will be able to submit a final response to me today or will it be next week?

Kind regards,

Michael

From: Mark Akmenkalns [REDACTED]
Sent: 23 February 2018 11:21
To: Sean Foley
Cc: Tim Townsend; Graham, Laura (laura.graham@persimmonhomes.com); robert.clark@persimmonhomes.com; Adrian Barnley; Oliver Nevett; Michael Eastham; David Lambert; Sara McKnight; Edgley, Martin; Edgley, Antony
Subject: D1013/00: RES application LU/278/17/RES - SURFACE WATER DRAINAGE - WSCC Response 18-02-23

Sean,

Thank you for your comprehensive email response. My comments as below.

Regards,

<u>Mark Akmenkalns</u> Infrastructure Engineer (Consultant), Implementation Team, Strategic Planning, Communities and Infrastructure, <u>West Sussex County Council</u> Location: Ground Northleigh, County Hall, Chichester PO19 1RG Internal: 25753 External: 03302 225753 E-mail: mark.akmenkalns@westsussex.gov.uk
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From: Sean Foley [REDACTED]
Sent: 22 February 2018 15:21
To: Tim Townsend

[REDACTED]
Edgley, Antony
Subject: RE: RES application LU/278/17/RES - SURFACE WATER DRAINAGE

Tim,

Many thanks for your response, which looks quite positive

Below are our responses in red. Happy to discuss

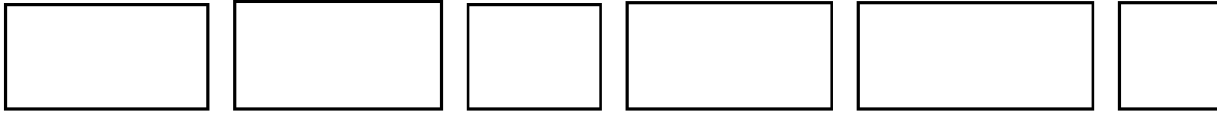
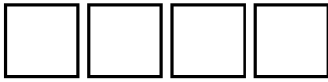
Regards,

Sean Foley
[REDACTED]

Sean Foley,
Principal Engineer
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Subject: RES application LU/278/17/RES - SURFACE WATER DRAINAGE

Dear Sean,

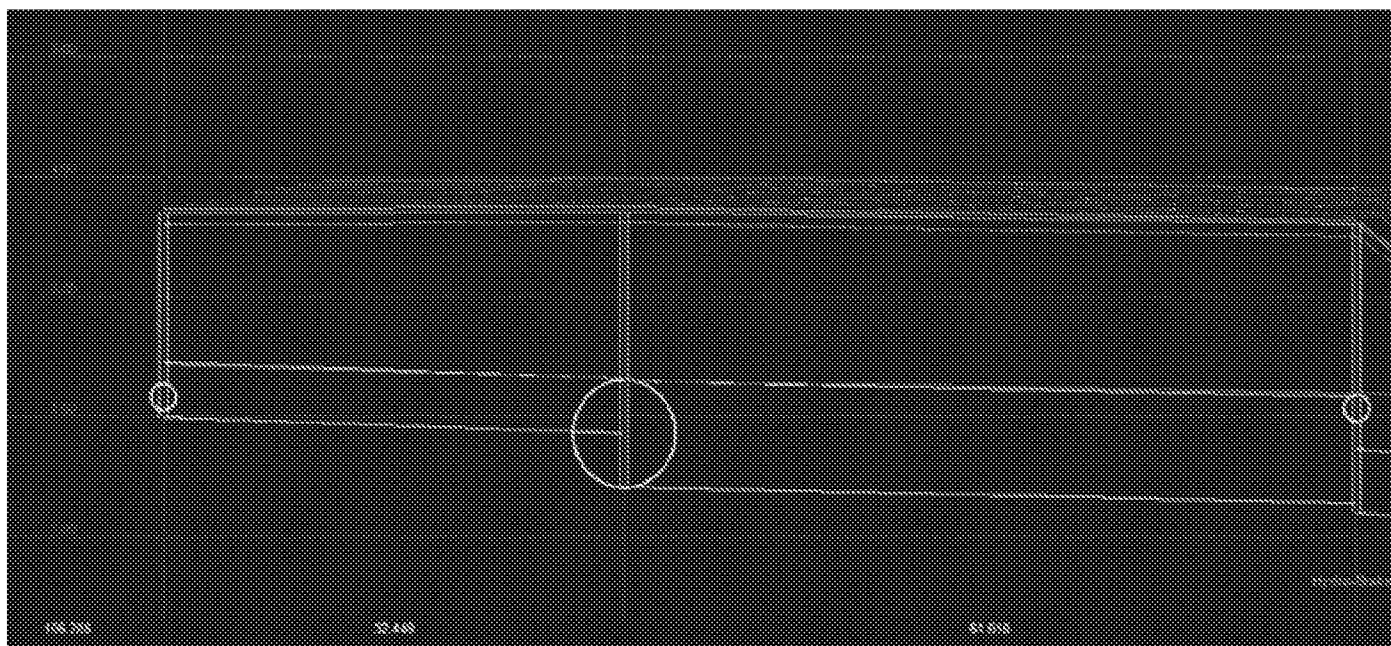
Thank you for your recent submission dated 30th January 2018 containing your surface water drainage assessment for the Southern By-Pass scheme. This has been reviewed and WSCC comments as follows:

- Item 1 Response - Noted, no further comments.
- Item 2 Response - Noted, no further comments.
- Item 3 Response - Agreed, no further comments.
- Item 4 Response - WSCC has reviewed the Micro-drainage simulation and accept this is a comprehensive model. However, noting the ultimate outfall is to the Black Ditch, it is not clear if this outfall will ever discharge under surcharged conditions. **If so, what bearing will this have on the upstream network and anticipated road extents (public and private)?**

The 1in100yr+CC flood level in the wetlands is 3.23m AOD by the outfall, but this will result in the outfall (@ 1.0m AOD) being surcharged by approximately 2.23m. There will be a flap valve on the final headwall to ensure this floodwater will not back up into the drainage network but in this scenario the drainage network can't push open the flap valve until the water level within the site goes above the flood level in the wetlands. In our opinion the chance of the critical 1in100yr+CC flood level in the wetlands (which is tidal) coinciding with the peak 1in100yr+CC storm event on the site are infinitesimally small.



We have however run the simulation with a fully surcharged outfall (@ 3.23m – see image above) and it results in a combined flood volume of 1750m³ escaping from the drainage network. We do not believe it is reasonable keep this flood water on site for this unlikely occurrence and the resulting flood water will flow safely through the road network and eventually into the wetlands.



We've also run the simulations with a 1m surcharged outfall (see image) and it results in a combined flood volume of approximately 500m³ escaping from the network.

It's important to note that these are for the long duration 4 hours (average rainfall intensity of 20.5mm/hr) relatively low intensity rainfall events so the flood water will flow benignly in the road channel.

For the short duration high intensity event 30mins (average rainfall intensity of 75mm/hr) the system won't event flood because the storm will barely create enough water to fill the drainage network.

We agree the likelihood of a coincidence occurrence is low. We also appreciate that the standing time may only be for a few hours until the River water level reduces. Our only main concern here is to consider where flooding will occur within the site and what the impacts will be:

1. Will any flood water continue to flow 'overland' towards an outfall? (It may be prudent to show a basic sketch of the routing through roads/wetlands as you state)

2. Will flooding impact on access/egress (inc emergency access)
 3. Will flooding impact on any buildings i.e. flood damage
- Item 5 Response - I note that you say you are obliged to follow the guidance agreed at the time planning was consented. Please note however that the WSCC look to observe the 100yr plus 40% climate change impacts to Section 38 roads as noted above in accordance with NPPF requirements. This is to understand overland flow routing and flooding vs standing time and accessibility. **Please confirm that the 100yr + 40% climate change has been modelled in accordance with NPPF requirements.**

We'd like to clarify that none of the S38 Roads are simulated to flood for the 30% allowance CC. There will be approx. 15m3 at the low point in the private road immediately to the east but none of this will reach the S38 Road.

However, we believe it is reasonable to undertake some sensitivity testing of the model to ascertain the impact the 40%CC allowance will have on the network when compared to the 30%CC allowance. We have re-run the model using 40%CC and the combined flood volume at this low point increases from 15m3 to 60m3. (see pipe numbers 14.00 & 15.00 below which represent the low point). This additional flood water will spill over the S38 table and flow safely in the estate roads a northerly direction and into the wetlands.

Noted. Whilst the overall impacts at 40% are negligible on the scale of the development, the same issues would apply as noted above.

1.012	SW04	240 minute 100 year Winter I+40%	240	4.400	3.972	1.232
13.000	SW-FUT-01	120 minute 100 year Winter I+40%	120	4.000	3.951	1.091
14.000	Plots 80-86	240 minute 100 year Winter I+40%	240	3.800	3.828	1.053
15.000	Plots 87-94	240 minute 100 year Winter I+40%	240	3.800	3.831	1.056
1.013	SW05	240 minute 100 year Winter I+40%	240	4.100	3.843	1.243
16.000	C2 Resiblock A	120 minute 100 year Winter I+40%	120	4.300	3.843	1.343
1.014	SW06	240 minute 100 year Winter I+40%	240	3.700	3.730	1.296
17.000	SW-FUT-02	240 minute 100 year Winter I+40%	240	4.200	3.723	1.103
18.000	Plots 60-73	240 minute 100 year Winter I+40%	240	3.700	3.701	0.876

- Item 6 Response - Noted, no further comments.
- Item 7 Response - Noted, drawings 312 & 412 are now subject to the S278/38 design check.
- Item 7 Response - Agreed, no further comments.
- Item 8 Response - Agreed, no further comments.
- Item 9 Response - Agreed, no further comments.
- Item 10 Response - Agreed, no further comments.
- Microdrainage - WSCC note that there numerous hydrobrake flow controls proposed. WSCC recommendation (and S38 policy) is to ensure the solid handling opening is a minimum of 75mm to mitigate future block risks; we note a few are specified just below this size. **Please confirm that all will have opening of minimum of 75mm.**

All of the controls on the network apart from the final outfall are on the private / future development plots and we anticipate that all of the flow control devices will be specified with an opening no less than 75mm. There will be designed / specified as there plots are development in the near future.

The only flood control on the main drainage runs are on the final outfall where the opening is 286mm.

Noted. No further comments.

- Microdrainage - Please note the WSCC requirement for selecting an appropriate coefficient of volumetric run-off (Cv); where your calculations consider the impermeable areas only as contributing to the drainage system we recommend a Cv of 1.0 (This is also advised in Sewers For Adoption 7th Edition and so may already apply elsewhere). **Please confirm that a Cv of 1.0 has been used.**

We have conformed to the requirements of SFA7 and 100% of the hardstanding from roads, footpath, parking, driveways and houses have been plugged into the micro drainage model. However we have not used a Cv of 1.0 because it will be an incorrect usage of this parameter within micro drainage

When selecting a suitable Cv value the Wallingford Procedure Volume 4 states:

"An extensive study of the runoff data from sewered urban catchments showed that the volume of runoff was related to the impervious area, the soil type and the catchment wetness. An approximate result may be obtained by assuming that the runoff derives from a proportion of the impervious area (paved and roof), the proportion varying according to soil type. On this basis the overall average value of Cv is about 0.75, ranging from 0.6 on catchments with rapidly-draining soils to about 0.9 on catchments with heavy soils"

These values reflect the loss of some rainfall from impervious areas through cracks and into depressions and by drainage onto pervious (unpaved) areas. Similarly, any runoff from the pervious areas onto the impervious areas is also incorporated. The above range of values for Cv should therefore be used in conjunction with the total impervious area (paved and roof) intended to drain to the storm system. This is a large drainage catchment extending over 19 hectares.

Microdrainage has two default settings for Cv, which are 0.75 (the summer setting) or 0.84 (the winter setting). All of our simulations has used the higher winter setting of 0.84

If you take the typical value of Cv as 0.75 and multiply it by 1.3 (which is the routing co-efficient in the modified rational method) you get 0.975 which is very nearly 1 and therefore makes no difference compared to the Rational Method of design if using a Cv of 1. By choosing the higher setting of 0.84 in micro drainage the figure increases to 1.09.

I trust the above explanation explains why we have chosen the higher default setting of 0.84 within micro drainage as the Cv value

CIRIA advises that the Microdrainage (and other design software) 'defaults' may not be appropriate. Microdrainage points to Wallingford Vol 1 to determine the calculation criteria, however your reference to Wallingford is not relevant as the catchment is 100% impervious (with no soil factors). Indeed the Wallingford website questions/answers also covers this topic. Whilst I appreciate your summary of your parameters, however it is a **WSCC policy (as LLFA) to use a Cv of 1.0** (100% run-off).

I look forward to your early responses to the highlighted points in the text above.

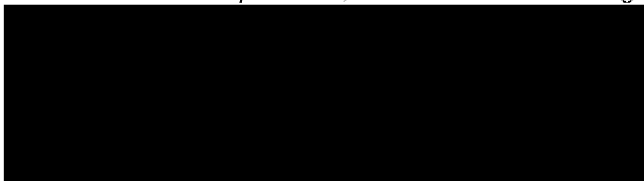
Thank you,

Tim

Tim Townsend

Principal Planner, Highways – Planning Services

West Sussex County Council, Ground Floor Northleigh, County Hall, Chichester PO19 1RH



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