

From: Amanda Scholes on behalf of Planning.Responses
Sent: 02 December 2020 10:48
To: Planning Scanning
Subject: FW: Reserved matters application A/109/20/RES – Land South of Water Lane, Angmering.

Amanda Scholes | Receptionist, Department, [Arun District Council](#) | Location: Ground Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

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Save the environment - think before you print.

From: Michael Eastham <Michael.Eastham@arun.gov.uk>
Sent: 01 December 2020 13:08
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Subject: FW: Reserved matters application A/109/20/RES – Land South of Water Lane, Angmering.

Please upload onto Ocella the email below which is a consultation response from the **ADC Drainage Engineers** withdrawing their holding objection to reserved matters application **A/109/20/RES** relating to Land South of Water Lane, Angmering.

Thanks,

Michael

Michael Eastham
Principal Planning Officer,
Planning Department

T: 01903 737772
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Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
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From: Laura Gibbons [REDACTED]
Sent: 01 December 2020 12:45
To: Michael Eastham <Michael.Eastham@arun.gov.uk>

Cc: Sparkes, Jessica <[REDACTED]>; Havis, Sean <[REDACTED]>; Jonathan Shuttleworth <[REDACTED]> Shaun Letchford <[REDACTED]>

Subject: Re: Reserved matters application A/109/20/RES – Land South of Water Lane, Angmering.

Michael,

I have just discussed the technical note with Shaun. Based upon the technical note and our discussion I confirm that we are willing to remove our holding objection at this stage.

Information such as groundwater monitoring at the basin is not available currently but ALP are confident that the free volume can be provided. In addition if it is found that it is necessary to make wider changes such as to the pipe network or to provide additional storage these should be able to be provided within the layout. Improvements to the design have been made, along with an acknowledged willingness to provide additional features should these be required at a later stage.

Further information will be required at discharge of conditions stage to demonstrate that the developments drainage meets policy requirements and fully resolves the comments we have raised as part of this reserved matters application.

Kind regards,

Laura Gibbons

Engineer, Adur & Worthing Councils

[REDACTED]
Address: Facilities & Technical Services, Worthing Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA

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On Mon, 30 Nov 2020 at 18:12, Shaun Letchford <[REDACTED]> wrote:

Laura

Further to the below and Michael's email please find attached a further technical note following your comments. We have also included a link below to the amended drainage and areas drawings, and attached the full drainage print outs as well as an areas table.

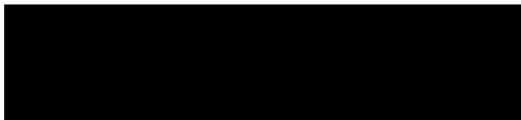
I trust you are now able to remove your objection to the reserved matters, and can confirm this with immediate effect.

<https://we.tl/t-5bFcb0tP9v>

Kind regards

Shaun Letchford BEng (Hons) FCIHT

Director



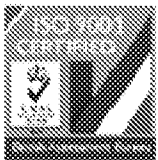
Abley Letchford Partnership Ltd

Consulting Engineers

3 Tealgate, Charnham Park

Hungerford, RG17 0YT

www.alpce.co.uk



From: Laura Gibbons [REDACTED]

Sent: 24 November 2020 09:10

To: Shaun Letchford [REDACTED]

Cc: Michael Eastham <Michael.Eastham@arun.gov.uk>; Sparkes, Jessica [REDACTED]
Havis, Sean [REDACTED] Jonathan Shuttleworth [REDACTED]

Subject: Re: Reserved matters application A/109/20/RES – Land South of Water Lane, Angmering.

Hi Shaun,

Comments below in *blue*.

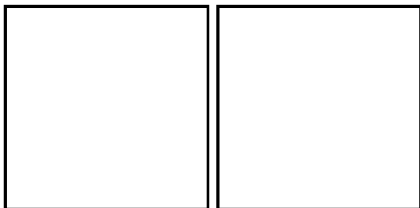
Thanks,

Laura Gibbons

Engineer, Adur & Worthing Councils



Hall, Chapel Road, Worthing, West Sussex, BN11 1HA



On Wed, 18 Nov 2020 at 16:13, Shaun Letchford <[redacted]> wrote:

Laura

Thank you for your response. Please see comments below.

Kind regards

Shaun Letchford BEng (Hons) FCIHT

Director



Abley Letchford Partnership Ltd

Consulting Engineers

3 Tealgate, Charnham Park

Hungerford, RG17 0YT

www.aigce.co.uk

From: Laura Gibbons [REDACTED]
Sent: 18 November 2020 15:18
To: Shaun Letchford [REDACTED]
Cc: Michael Eastham <Michael.Eastham@arun.gov.uk>; Sparkes, Jessica [REDACTED];
Havis, Sean [REDACTED]; Jonathan Shuttleworth [REDACTED]
Subject: Re: Reserved matters application A/109/20/RES – Land South of Water Lane, Angmering.

Shaun,

Thank you for your response.

In response:

1. You state that my statement regarding the boreholes and groundwater is based upon assumptions, this is correct, as is your statement. You do not have data for the groundwater level at the basin location. I would ask that you please try to obtain some winter groundwater data at the basin location or I will be asking that the basin is lined and that flotation calculations are completed based upon groundwater at the surface level. This is fundamental to establishing if the strategy you propose can be implemented. We will either provide additional groundwater modelling or a lined basin with flotation calculations. However, if these are to be provided how does that prove that the strategy we propose is more viable than it is now. I.e. if ground water is present the basin will be lined and if it isn't present it will not be lined. How does that make the strategy unviable and prevent RM approval. Again this is a detailed design matter and discharge of conditions as opposed to RM approval as the strategy is wholly viable and can be implemented. *If lining is required this will require a design to resist flotation, achieving sufficient resisting force typically impacts upon the free volume available for water, which can result in depth of basin needing to be increased and then a greater depth of material, and so on. Sometimes it is necessary to instead increase the basin footprint or provide storage elsewhere to achieve the required storage volume. Thus why this is considered important at this stage.*
2. Apologies but I cannot see where you have set cv to 1. Page 27 of the technical note has a cv of 0.75/ 0.84 applied, as does the 10% urban creep calculations. Please see below (Page 1) where the global Cv is set to one. Setting the Cv to one within the modelling criteria will mean the whole system is overdesigned and will not be adoptable to Southern Water as they will not take oversized pipes and will ask for the Cv to be reduced to the standard Wallingford method used in all design and as per this design. In this instance we will revert to using FEH rainfall as opposed to providing calculations that do not adhere to design

standards. This is in line with your original email that to use a Cv of one or use FEH rainfall. As stated p27 then does not have CV set to 1. Your comments appear to confirm that Cv does in fact make a difference to calculations and that your original assertion that PIMP overrides this was incorrect. As stated please apply a CV of 1 or use FEH. I take it from the Southern Water comment that you are proposing that the system will be adopted by Southern Water? Please confirm.

3. Impermeable areas will be reviewed in greater detail at DOC when we will require areas draining to key nodes to be supplied on a drawing.
4. Again, you have not provided complete calculations for the 10% urban creep allowance, you have provided results only. This means that we cannot independently review the application of urban creep. Please supply full calculation details and results. Please see below (Page 1). The results is all you require to see as the additional flow is 10% additional flow on every area as described in our text in the technical notes. This is the only place in Micro Drainage to add a global factor to areas and as such the remaining sheets are as per the other calculations. Again a robust analysis that is overdesigned as the Urban Creep should be based on density "up to" 10% and applied to dwellings only. We have applied a general 10% increase to all areas to provide you comfort of the integrity of the design. *Again, please supply full calculation printouts, I appreciate that additional flow has been included, but we cannot see the original area on this, and it could have been changed.*
5. We still are not satisfied that water will not flood off site or flood proposed dwellings. Large flood volumes are observed within results. S1.007, with upstream manhole of S25 shows water levels of 13.687, which is greater than the cover and gully level. There are two manholes in the northern network with reference S25, and a layout with pipe numbers has not been provided, making review more difficult and time consuming than it should be. Highway gradients indicate that the access falls to water lane. Without an mdx file and better layout drawings which show cover levels, invert levels, surface levels and FFLs we have serious concerns about the degree of flooding predicted. Insufficient evidence has been submitted to allay these concerns. Please see below. Firstly we apologise as there is an obvious mistake in that the first S25 should be S23, to follow the obvious manhole numbering, which follows numerical sequence. However, as stated in the technical note "The cover level of S25 (upstream of 1.008) is 13.561m AOD with the gullies at 13.380m AOD. The water level in MH S25, in the 1 in 100 year storm event plus 40% climate change, is 13.214m. Therefore, even in this extreme storm event water does not spill from the gullies downstream of S25." There are also no "large" volumes of flood water on any of the northern print outs, even in the tested Urban Creep design which as stated is highly sensitivity tested, with the only flooding in that area being 0.106m³, basically a basin full. Please can we clarify. The drainage system should only be designed to cater for the 1:30 year storm with any storms in excess of this being allowed to flood and controlled within the site boundaries by either keeping it within highways, and/or directing it to greenspaces or ditches/watercourses. We have provided 1:100 year storm events with 40% climate change included with minimal flooding throughout the development even within the sensitivity tested overly designed Urban Creep scenario. The results show no flood risk to properties on or off site. *To confirm water from events exceeding the 1 in 30 year event must not exit your site without being attenuated, to allow spill into watercourses would increase flood risk off site. Policy requirements are clear that any exceedance water must be safely contained in site, the information you have provided to date has not demonstrated this. Some nodes in the site do show flooding in excess of 5m³ with some near to 15m³.*

Kind regards,

Laura Gibbons
Engineer, Adur & Worthing Councils

[REDACTED]
Address: Facilities & Technical Services, Worthing Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA

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