

Application Correspondence "Previous Drainage Discussions"

From: Julia Davies [REDACTED]
Sent: 26 April 2021 12:58
To: Simon Davis <Simon.Davis@arun.gov.uk>
Subject: Fwd: North Barn, Hoe Lane- Drainage Strategy

This is the email contact that I referred to in my previous message.

With kind regards

Julia
Architectura Design

Begin forwarded message:

From: Ros Parker [REDACTED]
Subject: Re: North Barn, Hoe Lane- Drainage Strategy
Date: 15 August 2020 at 15:10:35 BST
To: John Albrecht [REDACTED]
[REDACTED]

Hi John,

Many thanks for this. It is sounding much more positive and hopefully with your revisions we should be able to move forward with the planning permission application.

Thanks again for your efforts and I note the need for the manhole cover.

Ros

Ros Parker – Principal

Southend Adult Community College, Ambleside Drive,
Southend-on-Sea, Essex, SS1 2UP
[REDACTED]

From: John Albrecht [REDACTED]
Sent: 04 August 2020 18:04:18
To: Ros Parker

Cc: 'Jason Davies'; 'Paul Turner'; 'Tony Bradbury'
Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi Ros

It appears that Paul Cann has accepted our drainage strategy without necessarily having to prove the outfall from MH1 because of the disputed access.
I will update the report and drawings accordingly.

As previously mentioned, even if you do not excavate the buried chamber, you will need to ensure that its cover is adequate to take vehicle loading. Unfortunately, the cover spans the site boundary.

Kind Regards

John Albrecht

Technical Director BSc CEng MICE FIHT
PTPlanners

From: John Albrecht [REDACTED]
Sent: 04 August 2020 17:41
To: 'Paul Cann' <Paul.Cann@arun.gov.uk>; 'Sarah Burrow' <Sarah.Burrow@arun.gov.uk>
[REDACTED]

Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi Paul

Thank you for your response.
We will proceed on this basis and amend the drawings and drainage strategy report.

Kind Regards

John Albrecht

Technical Director BSc CEng MICE FIHT
PTPlanners

From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 03 August 2020 11:02
To: John Albrecht [REDACTED] Sarah Burrow <Sarah.Burrow@arun.gov.uk>
[REDACTED]

Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi John

I note your comments and the difficulties with neighbours.

We have no objection for a standby submersible pump being employed as protection against flooding, we just didn't want the surface water drainage scheme to be reliant on pumping, which I

think you are now inferring is possible. Therefore, the 'flood protection' elements will need to be fully independent from the surface water drainage scheme.

Due to the groundwater concerns, I think a fully tanked system is the way to go, as stated.

Please provide us with fully detailed layout drawings (including overland flow routes) and construction details, with supporting hydraulic calculations.

Regards

Paul Cann
Principal Drainage Engineer
Engineering Services



T: 01903 737819

E: paul.cann@arun.gov.uk

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From: John Albrecht [REDACTED]
Sent: 13 July 2020 16:55
To: Sarah Burrow <Sarah.Burrow@arun.gov.uk>

[REDACTED]

Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi Sarah and Paul

Thank you for your response. I think we are close to reaching a solution.

To give Paul a bit more background information from our drainage strategy report I have attached the existing drainage plan for information. The survey does show the ditch outfall in the top left corner and local people have confirmed that MH2 is connected to the ditch. The owner of Dukes Meadow would not let our surveyor have access to MH2 nor would he let them try to CCTV survey back up from the ditch. I am not sure how much if any of the buried chamber near to MH1 he would allow my client to excavate. MH3 and MH5 are on the adopted foul sewer.

There are very strict planning conditions on the property which prohibit raising the existing slab level of 3.2mAOD or changing the existing roof level.

Coming back to Pauls comments in red, under para 1 we have included the small submersible pump as the last viable solution. If there is external surface water flooding and MH2 can not cope with it, the ultimate overland flow route to the ditch is along the access road north of Dukes Meadow with a maximum level of 3.18m AOD. This is similar to our slab level and why we have proposed the bunded threshold to give our house slab 150mm freeboard against flooding. This external flooding may never occur or occur very infrequently so the pump is a back up that would rarely be used. It is unlikely that the planners would allow the threshold to be roofed over.

Under Para 2, tanked storage will be the safest option.

Under Para three, we do know that the outfall to MH1 does drain for most of the time other than when there is external surface flooding. The option 2 high level weir and French drain would mimic the green field run off from our site under any conditions. As noted above, the adjacent land owner will not let my client CCTV the ditch outfall from MH2 but my client does have the right to use the existing outfall from MH1.

In the circumstances this might be the best we can do to protect the property from surface water flooding.

Kind Regards

John Albrecht

Technical Director BSc CEng MICE FIHT
PTPlanners

From: Sarah Burrow <Sarah.Burrow@arun.gov.uk>

Sent: 10 July 2020 13:16

To: John Albrecht

Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi John,

I have had to pass this on to Paul Cann our Principle Drainage Engineer. His comments in red below:

It is quite a complicated drainage system so I apologise that I must go into a bit more detail to explain what might be possible.

Our main concern was to protect the house slab from possible surface flooding. This is achieved with a bunded threshold along the house frontage. In normal circumstances the threshold will drain to the formpave storage but in the case of external flooding the float valve at S3 will close and any rainwater falling on the threshold will be pumped to the outfall with a small submersible pump. Pumping is not sustainable and alternative options need to be explored. Can proposed ground levels be remodelled to take flows away from the building and keep to the existing overland flow routes i.e. towards MH2? Is there scope to raise floor level? Alternatively, can the 1m walkway be covered/enclosed to prevent rainfall entering the area and therefore omit the gullies?

With reference to your item 1, the recorded maximum groundwater level is an arbitrary figure which may or may not be exceeded. If storage is to be reduced because of this we will keep the storage tanked.

It will not be possible to keep inlet and outlet pipes above groundwater level which is only about 300mm below ground level. We are assuming that pipes and chambers are watertight. Perhaps, we will accept a fully tanked system to reduce the risk of groundwater issues.

With reference to your item 3, I have attached the survey drawing. SUMO surveys went back to site to CCTV survey the pipework and my Drainage strategy plan had not been updated to show the position of the buried chamber. If you zoom in to MH1 you will see the estimated chamber position recorded by Sumo. Most of the chamber is shown to be on third party land and it might not be possible for my client to break out this chamber to investigate outfalls. Yes this needs to be investigated ASAP. It is noted that the pipe diameter reduces to 100mm downstream of the buried chamber before it eventually returns to a 150mm somewhere between MH3 and MH5. At the time of survey the pipe from MH1 into the chamber was part flooded and it might be that the chamber has a higher level outfall to MH2. The outfall from MH1 appears to drain for most rainfall events. We are reducing discharge to a greenfield rate of 0.7l/s for a reduced site impermeable area. We have a right to reuse the existing outfall pipe and If we are not able to access the chamber outfall I would propose the following.

1. We reuse the existing outfall at MH1 with tanked discharge as designed. Ok
2. To protect against outfall surcharge, we install an overflow weir from MH1 to a narrow French drain with porous pipe. If you do this then it needs to be shallow (above peak gwl). Omit pipe due to lack of cover -- instead just use a gravel filled trench (wrapped). This needs to be 5m from buildings. Not sure it's going to achieve much. This would be within our boundary but just outside the edge of the tanked formpave. This will only cater for the 0.7 l/s allowable discharge and mimic the existing green field run off along the low edge of the site. Any overland flow off site would make its way to the open topped MH2 at the external low point and to the stream.

We will need to see the CCTV footage to ensure that the system is in good order between the site and the ditch - assuming it was all surveyed. The ditch was not picked up on the topographical survey.

I hope this makes sense.

Kind Regards

Sarah Burrow

Engineering Assistant, Engineers



T: 01903 737815

E: sarah.burrow@arun.gov.uk



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From: John Albrecht

Sent: 01 July 2020 11:46

To: Sarah Burrow <Sarah.Burrow@arun.gov.uk>

Cc: 'Ros Parker' [redacted] 'Jason Davies'

Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi Sarah

Thank you for your response.

It is quite a complicated drainage system so I apologise that I must go into a bit more detail to explain what might be possible.

Our main concern was to protect the house slab from possible surface flooding. This is achieved with a bunded threshold along the house frontage. In normal circumstances the threshold will drain to the formpave storage but in the case of external flooding the float valve at S3 will close and any rainwater falling on the threshold will be pumped to the outfall with a small submersible pump.

With reference to your item 1, the recorded maximum groundwater level is an arbitrary figure which may or may not be exceeded. If storage is to be reduced because of this we will keep the storage tanked.

It will not be possible to keep inlet and outlet pipes above groundwater level which is only about 300mm below ground level. We are assuming that pipes and chambers are watertight.

With reference to your item 3, I have attached the survey drawing. SUMO surveys went back to site to CCTV survey the pipework and my Drainage strategy plan had not been updated to show the position of the buried chamber. If you zoom in to MH1 you will see the estimated chamber position recorded by Sumo. Most of the chamber is shown to be on third party land and it might not be possible for my client to break out this chamber to investigate outfalls. At the time of survey the pipe from MH1 into the chamber was part flooded and it might be that the chamber has a higher level outfall to MH2. The outfall from MH1 appears to drain for most rainfall events. We are reducing discharge to a greenfield rate of 0.7l/s for a reduced site impermeable area.

We have a right to reuse the existing outfall pipe and If we are not able to access the chamber outfall I would propose the following.

1. We reuse the existing outfall at MH1 with tanked discharge as designed.
2. To protect against outfall surcharge, we install an overflow weir form MH1 to a narrow french drain with porous pipe. This would be within our boundary but just outside the edge of the tanked formpave. This will only cater for the 0.7 l/s allowable discharge and mimic the existing green field run off along the low edge of the site. Any overland flow off site would make its way to the open topped MH2 at the external low point and to the stream.

I would be grateful for your approval of this approach.

Kind Regards

John Albrecht

Technical Director BSc CEng MICE FIHT
PTPlanners

From: Sarah Burrow <Sarah.Burrow@arun.gov.uk>

Sent: 30 June 2020 08:29

To: John Albrecht

Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi John,

Following our discussion yesterday I spoke to Paul again about your proposal. I can confirm our current stance is as follows:

1. We have no objection to the formpave being lined with a permeable liner. However, as this will allow an ingress of groundwater the volume lost to this must not be included in the storage volume calculations (55mm from the base). In addition, the inlet and outlet pipes must be set at this level (inverts minimum 55mm above the base of the formpave) so that you are not draining groundwater.
2. Having reconsidered the levels on your layout it is still not considered to be necessary to pump the surface water. Please ensure that all surface water is drained by gravity.
3. Further investigation is required into the brick chamber and where it drains to. It will not be possible to discharge the condition on this application without an understanding of the network that you are draining to. It is noted that the invert level of MH2 is higher than the invert level of the brick chamber.
4. Once the general strategy is agreed construction detail drawings will be required for all components. There will also likely be further detail required on the drainage layout itself.

Kind Regards

Sarah Burrow

Engineering Assistant, Engineers



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E: sarah.burrow@arun.gov.uk



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From: John Albrecht 

Sent: 19 June 2020 09:47

To: Sarah Burrow <Sarah.Burrow@arun.gov.uk>



Subject: RE: North Barn, Hoe Lane- Drainage Strategy

Hi Sarah

My client is intending to resubmit her planning application and Jason has copied me your email below.

Now that the ground water monitoring has been completed I would like to agree with you in principle the drainage strategy before we update the report and drawings. I have attached our strategy plan and water monitoring results for your information.

The groundwater monitoring covered a period with some quite exceptional rainfall. The maximum level recorded was 495mm below slab level and no surface flooding was recorded.

We propose to provide shallow surface water flood storage for a 100year storm plus 40% climate change in Formpave with green field allowable discharge to MH1. The formpave construction depth

is 360mm and the base of the formpave will be 550mm below slab level. Therefore if the formpave were not tanked there would have been 55mm of flooding in the base of the formpave for a short period of time on 10th March.

If you are agreeable I would prefer to leave the formpave untanked so that any available infiltration is utilised for most of the year reducing the discharge to the watercourse. If you are not happy with this we will keep the tanked storage.

There is a dispute with the neighbour who will not allow access to his land but MH 2 at the area low point connects to the sewer leading to the water course. It has an open top and will drain any surface flooding to the watercourse. MH 1 discharges to a buried brick chamber which is believed to overflow to the adjacent sewer. There is a right to reuse this connection.

I would be grateful if you can confirm acceptance of the principle of our drainage proposal.

Kind Regards

John Albrecht

Technical Director BSc CEng MICE FIHT
PTPlanners

From: Jason Davies [REDACTED]

Sent: 17 June 2020 17:47

[REDACTED]
Subject: North Barn, Hoe Lane

Copy of Sarah Burrow's email.

Kind regards

Jason

Jason Davies
Architectura Design

Hi Jason,

Yes I agree that infiltration will not be possible on this site. The rates are poor and just as importantly, the groundwater level of 495mm bgl would make it impossible to provide freeboard between an infiltration structure and the groundwater. You will have to design an attenuation scheme with discharge to a watercourse if possible.

Kind Regards

Sarah Burrow
Engineering Assistant, Engineers



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