



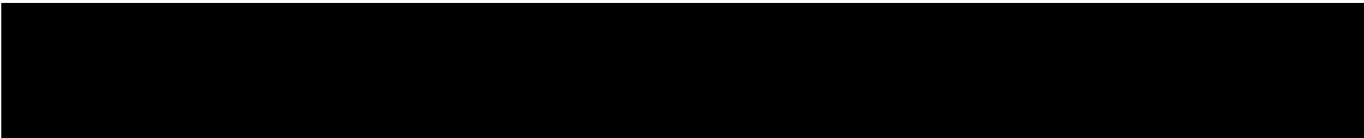
EMAIL 1 OF 2

Please upload the revised plans onto Ocella for BN/85/19/DOC.

The Action Sheet is attached to this email.

Thanks,

Michael



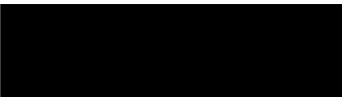
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Regards,
For & on behalf of Woods Hardwick Infrastructure LLP

John Freeman MEng (Hons) CEng MICE MCIHT MIOd
Partner



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John,

Unfortunately, I do not know what the maximum file size is.

I recall that Zsuzsa submitted the last tranche of revised plans in 2 separate emails.

Regards,

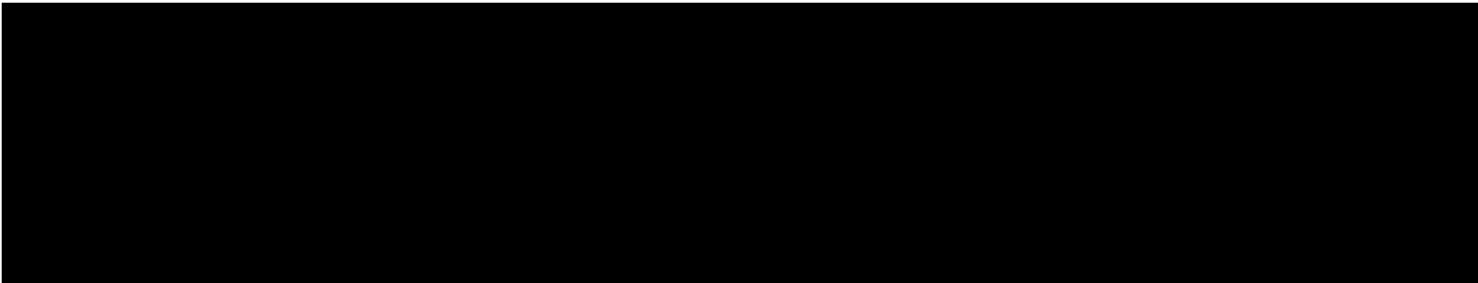
Michael

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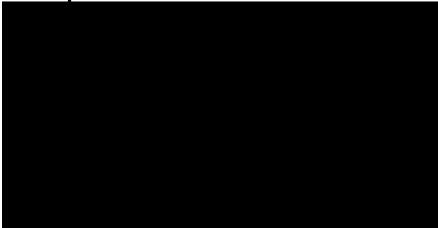


What's your max file size?

Regards,
For & on behalf of Woods Hardwick Infrastructure LLP

John Freeman MEng (Hons) CEng MICE MCIHT MIOd
Partner

M: 07787 391790



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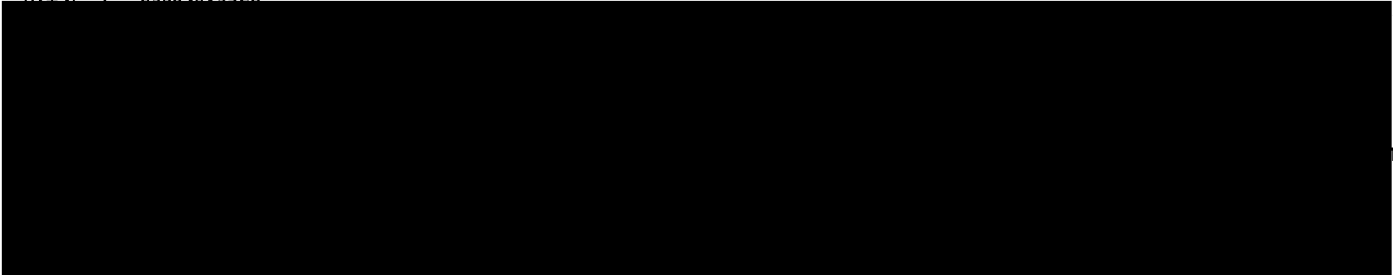
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John,

Please could you send me the revised plans in separate emails as we are having technical issues attempting to open drop boxes.

Kind regards,

Michael

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Michael,

Please see below responses in red and wetransfer link to revised drawings.

<https://we.tl/t-CpDASOWBdy>

Regards,

For & on behalf of Woods Hardwick Infrastructure LLP

John Freeman MEng (Hons) CEng MICE MCIHT MloD
Partner

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Sorry, this is a slightly amended email. Please ignore the previous one.

Regards

Paul Cann
Principal Engineer (Drainage)

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Further comments in respect to the items below;

1. Please forward Southern Waters comments on the proposals in terms of adoption. We are still waiting for S104 comments.
2. Noted ok but add a 3 metre dimension line/note on the plan so it is clear to the contractor. This is unnecessary as we are providing the contractor with setting out. However, notwithstanding, dimension now added.

3. Note 11 added but include reference to this note, by the footpath on the plan. ie. See note 11, so the contractor is completely clear on this. This is unnecessary – the information is already on the drawings. Notwithstanding, further note added.
4. Ok
5. Ok
6. A compromise would be diffuser units on all pipe entries and fin drains on all outlets – see details 3 & 14 in interpave technical document. The current proposal for the use of perforated pipes on inlets increases the risk of the pipe becoming crushed due to vehicle loadings, whereas diffuser units are far more capable of accepting vehicle loadings. A catchpit manhole needs to be incorporated upstream of each inlet – I would suggest polypipe versions (but not on link pipes). Any bends to incorporate a manhole. Construction details to be provided for the diffuser units/fin drains and catchpit (polypipe) manholes. Specify pipe invert levels at the diffuser unit/fin drain and the manholes. Specify pipe diameters on all connections. These arrangements provide a robust method of dispersing/discharging water into and out of the permeable pavement, whilst reducing the risk of blockage. We do not agree with this. This is the only county that insists on this detail. As mentioned, NHBC and Premier both approve of the detail we current propose. Notwithstanding, diffusers not added to all inlets and new drawing 17748-BARN-5-921 set up.
7. See above.
8. Ok
9. Ok
10. All permeable paving link pipes need diameters and invert levels specified + see item 6 above. Refer to drawing 17748-BARN-5-921
11. Ok
12. Ok but specify width of construction. How is water able to pass through the permeable pavement either side ie. through the standard construction which is in effect causing a dam? Both the existing gravity foul sewer and rising main are below the bottom of the permeable stone, and therefore the normal backfill detail will apply.
13. Based upon the trial holes and levels taken for the rising main, and assuming a constant gradient between the two exposed locations, then the top of the rising main is going to extremely close to the underside of the surface water pipeline (could be 25mm?). If this is the case, then there is very little margin for error and we would also need confirmation that Southern Water are happy with this arrangement. We agree this is very tight. Details are included in the s104 application.
14. Ok
15. Type B manhole noted. Since these will be adopted, Southern Water confirmation will be required in respect to the use of this manhole type for shallower manholes ie. S3, S4, S5 for example. Please include a manhole schedule, alter key legend or add the manhole types to the long section, so it is clear which manholes this construction refer's too. This is totally unnecessary – the manhole schedule is part of the s104 submission which clearly denotes MH type in accordance with Sewers for Adoption.
16. Class Z detail not included but I note the concrete protection slab detail with is fine. Just specify granular bed and surround to the pipe and label as Class S[S] as referred to in notes on long sections, etc. Specify depth of cover for class S bedding use. Bedding details refer to rigid 'jointed' pipes although flexible 'jointed' pipes will be used. Totally unnecessary – however, drawing changed to suit. The longsections, and building regs, note the need for concrete surround. Class S to be used elsewhere. All competent groundworkers undertaking s104 drainage will be aware of this.
17. Ok
18. Ok
19. Depends on the ring diameter proposed. I assume you have looked at 1200mm. Try 1500mm? It may be tight for space between the manhole structure and gully locations, to try and install 4 no. oblique junctions if they cannot be connected to the manhole. As a compromise we have connected 2 of the gully leads to S5. However, these are not long gully leads and it really isn't essential for them to be connected to the manhole given their length.
20. Ok
21. Ok
22. Ok
23. Still not clear how this connects into the system. Drawing amended again. It drains private areas and therefore connects to the private sewer before the hydro-brake chamber. A further note also now added to drawings.

24. Groundwater seepage does not denote peak groundwater levels. Groundwater should have been monitored over the whole of a winter (October to March) in order to ascertain peak 'standing' groundwater levels. In the absence of this data you will need to assume groundwater to be at ground level for design purposes. Please advise. The SI undertaken in November 2015 noted groundwater seepage between 1.8 and 2.0m below ground level. This ties in with further testing in May 2017 where ground water seepage was noted between 1.7 and 2.2m deep. Furthermore it was agreed that Winter groundwater monitoring was not deemed necessary.
25. The construction detail will need to be fully detailed ie. bedded and surrounded in concrete and specify a sloping invert to provide a fall. Silt trap also needs specifying at end. This is a proprietary product and therefore the contractor is free to use alternatives to be installed and constructed to the manufacturers specification/requirements.
26. Ok
27. Ok
28. Note added about cranked grille on the pond inlet/outlet but drawing still shows a flat grille. Please adjust. Noted Remove the grille from the ditch headwall drawing – not required. Couldn't see the note' Banks in vicinity of headwall to be profiled to suit wing walls' Note now added – sorry this is also applicable to both headwalls - please advise.
29. Ok
30. Note added to plan, however, add note to the construction detail that this construction refer to manhole S8A only. Unnecessary but done
31. Ok
32. Ok
33. We need to achieve at least 200mm – adjust note. Your previous comment was a much as possible and now this requirement has changed to 200mm. Notwithstanding, drawing changed.
34. Ok
35. I would suggest that your client sets up a meeting with the adjacent landowners, which we will also attend (when the virus issue has passed). Unfortunately, we have very limited resources, so if your client can start the ball rolling then it would be beneficial to everyone. For planning purposes, I suggest adding a suitable note to your drawing. It is imperative that this is resolved to avoid any detrimental impact on your drainage system. This requirement will form part of the land drainage consent discussed below and will be a condition there of. Noted.
36. Agree for the 450mm diameter connections to be invert to invert but not for the 150mm diameter connection which could become obstructed due to the flows coming down the main lines and therefore making a soffit to soffit connection ie. 150mm pipe invert will be 300mm above the 450mm pipe invert, gives suitable freeboard for allowing unrestricted flows to discharge from the 150mm pipe on most occasions. If you do not propose to change this, please provide confirmation from Southern Water that they are happy with the arrangement. In nearly 20 years of detail design of drainage systems, have done anything other than level inverts for a flow control chamber. We will not be changing this. It is, of course, a fundamental part of the s104 application.
37. Requested pipe protrusions not shown? This is a Southern Water s104 manhole. If they request this change then it will be amended.
38. Overland flows (including drainage through retaining walls) need to be accounted for, irrespective of whether they are hard paved. I would suggest a cut off drain down the eastern boundary connecting independently to the ditch via a headwall. We have had numerous similar sites where ground levels have been raised and run off from the developments gardens has resulted in causing issues for neighbouring lower properties. Construction details are required to support any proposal. We simply do not agree with this but given the nature of the comments and the insistence of the council if every tiny detail of this scheme it is now included and a construction detail added.
39. Please provide a copy of the most recent calculations, ensuring that they replicate the current design. Noted.
40. a) Are Southern Water adopting the pipeline between the pond and hydrobrake chamber and the grille/headwall at the pond? If not, the management company will need to maintain. Please make this clear in the manual. Yes – this will be adopted.
b) Include any infrastructure as a result of point 38. Noted
c) Grille/s to be inspected on more regular basis. Noted

- d) Include maintenance responsibility for all manholes/pipes/catchpits/channel drains, etc not in areas to be maintained by southern water or the management company. Noted
- e) Include hydrobrake manufacturers technical drawings in the manual. Noted
- f) Orifice/blockage protection maintenance measures also need to be included. Noted
- g) Approved drawings will need to be included when available. Noted
- h) Specify in the manual, what will happen if the developer ceases to exist and therefore unable to fund the management company. Who will fund it, residents? Noted

41. Some domestic manholes on the plan have a cross within ie. orifice control manholes. Add these to the drawing key/legend noted. I note the orifice control manhole construction detail. This needs to be fully detailed ie. similar detailing to Type B manhole, ie. concrete surround to rings, brickwork courses under frame, etc. You will need to check that this construction is suitable based upon the proposed depths. Orifice diameters appear to range between 50 and 100mm diameter? Make this very clear on the layout plan/construction details. Any orifices less than 100mm diameter require protection against blockage (if they are receiving direct flows from anything other than the outlet from permeable paving). I note that you propose a trash screen . This will need to be fully detailed, however, I would suggest a perforated filter arrangement instead. If just receiving flows direct from permeable paving, then there is no need for blockage protection as technically material should not be able to pass through the paving structure. Please adjust the details as necessary. We are now proposing that the orifice plates are housed within a polypipe orifice plate flow control chamber. It is essentially a standard PPIC with a flush mounting place for the orifice plate to be attached. As you rightly note, these are only used immediately downstream of permeable paving and therefore the litter screens are not required.
42. Land drainage consent will be required for the ditch headwall/discharge. This can be dealt with outside of the planning process. Application form and guidance notes attached. Please submit your application and supporting information direct to myself. Noted.

Regards

Paul Cann
Principal Engineer (Drainage)



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Dear Michael

Please see below a link containing the adjusted drawings and documents along with responses highlighted in pink from our client's engineers. The link will expire after 5 days, therefore please download as soon as you can.

<https://we.tl/TcpqgTYRc23>

Comments on proposals;

1. I note that the surface water sewers are being offered for adoption to Southern Water. As a result, they will also need to agree the proposals. Noted
2. The top of bank of the proposed pond needs to be kept at least 3 metres away from the top of the bank of the ditch to allow maintenance access and comply with our land drainage byelaws. Pond position adjusted to suit comments
3. The path (assumed to be unfenced) for plot 17 appears to be within 3m of the top of the bank of the ditch. Since this encroaches into 3m working width for machinery required for ditch clearance, please confirm that the path will be designed to accept loadings from suitable machinery and that it will not be fenced off. Add notes to drawing. Noted.
4. The ground slope adjacent to plot 17 will prevent safe access for maintenance – please rectify. Adjusted to suit.
5. Southern Water requires the pond to be located at least 5m away from the proposed pumping station. It is unclear as to whether this has been achieved. Adjusted to suit.
6. All discharges into permeable pavement structures will need to be connected via a diffuser unit and a catchpit manhole incorporated upstream of each unit. Any bends to incorporate a manhole. Construction details to be provided for the diffuser units and catchpit manholes. Specify pipe invert levels at the diffuser unit and the manholes. Specify pipe diameters on all connections. Having looked into this following your comments, the interpave document only requires diffusers for large areas. The areas we are designing are not large and the detail we have proposed has been accepted by countless counties and associated building control, including sign off from NHBC and Premier.
7. All outlets from the permeable paving to be discharged via a diffuser unit. Specify pipe outlet invert levels and ensure all pipes have a diameter. As per the above.
8. Manhole adjacent plot 38 – invert level missing. Adjusted.
9. Permeable pavement between plot 36 and 37 – outlet arrangement is not clear. Adjusted.
10. Link pipes between permeable pavements – specify diffuser units at each end, pipe inverts and diameters. As per comment on point 6.
11. Make sure all RWP's are shown clearly ie. thicken lines. Line style adjusted.
12. Where the existing public foul sewer gravity sewer and rising main passes beneath the permeable pavements, are you proposing the service corridor construction arrangement – If so, detail how water can flow between the separate sub bases. Detail added.
13. Has the level of the existing rising main been established to confirm that there is no clash with pipe length S5 to S6? We can confirm there is no clash. ok
14. Add note 'All pipes to be connected at soffit to soffit level'. Added
15. Provide manhole construction details for all manholes in the highway. Drawing included
16. Provide pipe bedding details ie. class S and class Z. Drawing included
17. Provide road gully construction details. Drawing included
18. Specify pipe materials. Drawing included
19. Gullies near S5 should connect directly into S5. Having run a CAD sketch of the manhole, the laterals, plus double gully connections, all within one half of the manhole, made it unfeasible
20. Manhole downstream of permeable paving adjacent plot 12 – specify invert level. Added
21. All connections not made to manholes to connect via oblique 45 degree junctions – add note. Note added
22. ACO drain adjacent plot 38 – indicate purpose/connectivity. Line style adjusted
23. ACO drain near hydrobrake chamber – show connectivity. Line style adjusted

24. Specify base level/s of pond and provide fully detailed construction detail. This needs to be designed against floatation, so supporting calculations will be required. Indicate top of bank levels. Additional levels have been added to and around the pond. The SI noted only slight seepage at 2m below ground level, therefore floatation calcs are not required.
25. Provide ACO drain construction detail. Detail added
26. Permeable paving immediately north of pond – the inlet from the block of flats appears to be discharging into the pavement below sub base level. Adjusted
27. Headwall SFA10A incorrectly specified for the pond headwall – this should be SFA10C and SFA10A specified for the discharge to the ditch. Adjusted
28. Pond headwall – specify a ‘cranked’ grille to suite a 450mm pipe. Banks in vicinity of headwall to be profiled to suit wing walls – add note. Added
29. Ditch headwall – add note ‘No part of structure to encroach into the ditch profile’. Added
30. Specify manhole S8A as a catchpit and provide construction detail. Adjusted and detail added
31. Headwalls – add note ‘To be bedded as per manufacturers recommendations’. Note added
32. Provide manufacturers technical data sheet for the hydrobrake. Included
33. Specify invert level on drawing where discharging to the ditch. We need to achieve as much freeboard as possible between ditch bed and pipe invert – at present this is insufficient. Please investigate lifting the pipe invert and/or re-grading the ditch. Note added to drawing
34. Add note ‘ditch to be cleaned out to the satisfaction of ADC engineer’. Note added
35. It has been previously noted that ditch bed/silt levels immediately east of the site are high compared to the ditch bed levels adjacent your site, which could therefore impact your design. Please investigate/advise and provide levels, etc. This is outside of my clients ownership and is a matter for the adjoining landowner/IDB. Yes but it could have a detrimental effect on your design and the functioning of the system so needs to be investigated. We are willing to assist in discussions with the landowners concerned to ensure the free flow of water. Could you please assist in this case with discussing the matter with the landowners. Please let me know if there’s anything your require to assist with the discussion, beyond the drawings provided.
36. Incoming 150mm pipe into the hydrobrake chamber has been made invert to invert as opposed soffit to soffit. Please alter plan and hydrobrake manhole detail. The correct detail for a hydrobrake is level inverts on all incoming pipes. Otherwise you create a waterfall in the chamber which does not give safe access into the chamber for maintenance.
37. Hydrobrake chamber – add suitable notes regarding benching construction. Pipes to protrude 100mm into chamber from inside face of rings. Note added
38. Please confirm whether you are ground raising any parts of the site, as retaining walls, slopes and gravel boards have been noted on the eastern boundary. No run off should be shed onto the adjoining land to the east. Whilst some measures have been put in place, there appears to be some areas needing looking at, for example the rear of plots 12 and 13. Provide a construction detail of the ACO drain/retaining wall arrangement south east of plot 13. These are vegetated gardens that drain into a vegetated boundary feature. It is considered unnecessary to provide positive drainage for these areas. All hard paved surfaces are positively drained.
39. Microdrainage calculations;
 - a. The catchment area needs to include the pond area ie. to allow for rain falling onto that area. Pond included
 - b. Provide a full pipe network plan to include the numbered porous car park structures. Details added to Drainage Plan
 - c. Numerous orifice controls are detailed. Please specify their locations on the plans and provide suitable construction details. Added to plan and details added
40. Maintenance manual; Updated
 - a. A maintenance regime for permeable pavements needs to be included. This will be in maintenance plan and included in the deeds.
 - b. Pond side slopes notes as 1 in 4 as opposed to 1 in 3.
 - c. Maintenance of boundary ditch to be included.
 - d. Grille maintenance to be included.
 - e. Updated/approved drawings (full set) will ultimately need to be attached to the manual.

Please let us know should you require anything further.

Kind regards
Zsuzsa Chynoweth

Covid-19 Working Procedures

In line with Government advice, Thrive have been transitioning to working from home for most of the team. We have access to all our systems remotely and we continue to provide our clients with the support they need without interruption. We have a small core team in the office (working in segregated areas), to manage day to day essentials such as IT support, plotting and scanning large format drawings.

We are currently utilising Microsoft Teams, Zoom or Skype for remote video conferencing and meetings.

Our main landline number remains active and is diverted to our remote reception where messages can be taken and passed on. Emails remain the most efficient means of communication or calls directly to mobile numbers.



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[REDACTED]

Dear Zsuzsa,

Could you ensure that all of the requisite drainage information is submitted to me by 5.00pm on Friday 3rd April 2020.

Kind regards,

Michael

[REDACTED]



Visit Arun's web site at www.arun.gov.uk



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[REDACTED]

Dear Michael

Our engineers will endeavour to respond to most of the comments, however due to the timescale it won't be possible to address all points. They have suggested that some of the information will follow asap.

I hope that this will be acceptable.

Kind regards



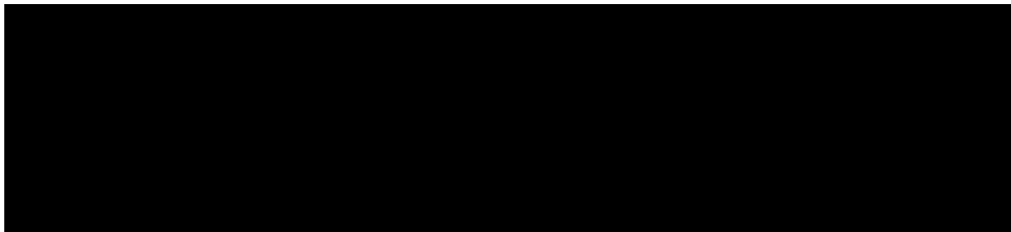
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Dear Zsuzsa,

Please see the email from ADC Drainage Engineers below and their comments in **green**.

I look forward to receiving your reply as a matter of urgency.

Could you reply to this email by 5.00pm on Monday 30th March 2020.

Kind regards,

Michael



st Floor,



Visit Arun's web site at www.arun.gov.uk



Save the environment - think before you print.

Hi Michael

Comments in green below;

Firstly we the local planning authority (LPA) and not the Lead Local flood Authority (LLFA). This is detailed design stage whereby all the details are to be agreed to ensure a robust system with adequate consideration for ease of future maintenance and operation. The contractor also has to build the system from these drawings and therefore they need to be fully detailed to enable this.

Requirements in terms of S104 sewer adoptions via Southern Water and S38 Highway adoptions via West Sussex County Council will follow on from what is agreed with the LPA in terms of drainage design but will need to take account of what we have agreed or else a new DOC will need to be submitted if there are significant changes.

If the drainage is not constructed in accordance with the plans approved by the LPA, then this will be a contravention of planning approval.

Regards

Paul Cann
Principal Engineer (Drainage)

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[REDACTED]

Hi Paul,

I have received the email below from the applicant for BN/85/19/DOC at the Lillies, Yapton Road in Barnham.

In addition, the applicant has responded to your email, by providing text in red alongside your original list of requirements.

I look forward to receiving your reply.

Regards,

Michael



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[REDACTED]

Dear Michael

In response to the comments received please see below the responses from our engineer.

Please note that many of the requests are not allowable, the LLFA are out of their jurisdiction to state them.

The client is currently pursuing a section 104 agreement, and although this will not be submitted as part of this application, it would cover many of the elements which are being asked by the LLFA but not needed to satisfy the conditions to be approved as part of this application.

Given the nature of the comments below no drawings have been adjusted.

We would greatly appreciate if you could review the information below and let us have your feedback as soon as you can.

Kind regards

Zsuzsa Chynoweth



Zsuzsa Chynoweth BA (Hons) Arch
Senior Architectural Technician
t: 01794 367703
f: 01794 367276
m:
e: Zsuzsa.Chynoweth@thrivearchitects.co.uk
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From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 06 February 2020 15:41
To: Michael Eastham <Michael.Eastham@arun.gov.uk>
Cc: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Subject: RE: BN/85/19/DOC - The Lillies

Hi Michael

Comments on proposals;

1. I note that the surface water sewers are being offered for adoption to Southern Water. As a result, they will also need to agree the proposals. Noted.
2. The top of bank of the proposed pond needs to be kept at least 3 metres away from the top of the bank of the ditch to allow maintenance access and comply with our land drainage byelaws. As we have always stated. That the ditch can be maintained from the basin. Disagree. The top of the basin banks needs to be 3m away from the top of the ditch bank to ensure ease of future maintenance.
3. The path (assumed to be unfenced) for plot 17 appears to be within 3m of the top of the bank of the ditch. Since this encroaches into 3m working width for machinery required for ditch clearance, please confirm that the path will be designed to accept loadings from suitable machinery and that it will not be fenced off. Add notes to drawing. Noted.
4. The ground slope adjacent to plot 17 will prevent safe access for maintenance – please rectify. I assume this will be dealt with.
5. Southern Water requires the pond to be located at least 5m away from the proposed pumping station. It is unclear as to whether this has been achieved. We are awaiting a formal response from Southern Water in relation to this. However, as the attenuation basin is largely dry and also lined there is no interaction between these two features. This is purely a matter for southern water.
6. All discharges into permeable pavement structures will need to be connected via a diffuser unit and a catchpit manhole incorporated upstream of each unit. Any bends to incorporate a manhole. Construction details to be provided for the diffuser units and catchpit manholes. Specify pipe invert levels at the diffuser unit and the manholes. Specify pipe diameters on all connections. I don't believe it is within the remit of the LLFA to dictate site level details. Our proposed details are shown on our private construction details. Disagree
7. All outlets from the permeable paving to be discharged via a diffuser unit. Specify pipe outlet invert levels and ensure all pipes have a diameter. As per the above. Notwithstanding I fail to see the need for a diffuser unit for a 150mm dia outlet. Disagree. The diffuser unit provides an efficient means for water to disperse.
8. Manhole adjacent plot 38 – invert level missing. This is a private manhole – this is not a reason to hold discharge of the condition. Disagree, this part of the design.
9. Permeable pavement between plot 36 and 37 – outlet arrangement is not clear. The drawings show a connecting pipe, Make it clearer.
10. Link pipes between permeable pavements – specify diffuser units at each end, pipe inverts and diameters. These are 150dia pipes – a diffuser unit is not necessary and not within the remit of the LLFA. Disagree
11. Make sure all RWP's are shown clearly ie. thicken lines. This is not within the remit of the LLFA. Disagree
12. Where the existing public foul sewer gravity sewer and rising main passes beneath the permeable pavements, are you proposing the service corridor construction arrangement – If so, detail how water can flow between the separate sub bases. No. These features pass beneath the permeable paving construction. Yes the sewer below is appreciated but is the backfill above the sewer permeable construction? Provide a detail.
13. Has the level of the existing rising main been established to confirm that there is no clash with pipe length S5 to S6? We can confirm there is no clash. ok
14. Add note' All pipes to be connected at soffit to soffit level'. This is not within the remit of the LLFA. Notwithstanding see note 8. Disagree
15. Provide manhole construction details for all manholes in the highway. This is not within the remit of the LLFA. Details have been submitted as part of a s38 application. Disagree
16. Provide pipe bedding details ie. class S and class Z. This is not within the remit of the LLFA. Disagree
17. Provide road gully construction details. This is not within the remit of the LLFA. Details have been submitted as part of a s38 application. Disagree
18. Specify pipe materials. This is not within the remit of the LLFA. Notwithstanding see note 8. Disagree
19. Gullies near S5 should connect directly into S5. This is not within the remit of the LLFA. Details have been submitted as part of a s38 application. Disagree
20. Manhole downstream of permeable paving adjacent plot 12 – specify invert level. This is to be removed. ?
21. All connections not made to manholes to connect via oblique 45 degree junctions – add note. This is not within the remit of the LLFA. Notwithstanding see note 8. Disagree

22. ACO drain adjacent plot 38 – indicate purpose/connectivity. To drain parking bays. The connection is shown on the drawings. Show more clearly
23. ACO drain near hydrobrake chamber – show connectivity. This is not within the remit of the LLFA. The connection is shown on the drawings. Disagree
24. Specify base level/s of pond and provide fully detailed construction detail. This needs to be designed against floatation, so supporting calculations will be required. Indicate top of bank levels. This is not within the remit of the LLFA. Disagree
25. Provide ACO drain construction detail. This is not within the remit of the LLFA. Disagree
26. Permeable paving immediately north of pond – the inlet from the block of flats appears to be discharging into the pavement below sub base level. This is not within the remit of the LLFA. Disagree Notwithstanding there is a typo and the IL should read 7.755
27. Headwall SFA10A incorrectly specified for the pond headwall – this should be SFA10C and SFA10A specified for the discharge to the ditch. This is not within the remit of the LLFA. This is a s104 matter It also considered part of the remit of the LPA.
28. Pond headwall – specify a ‘cranked’ grille to suite a 450mm pipe. Banks in vicinity of headwall to be profiled to suit wing walls – add note. This is not within the remit of the LLFA. This is a s104 matter It also considered part of the remit of the LPA.
29. Ditch headwall – add note ‘No part of structure to encroach into the ditch profile’. Noted
30. Specify manhole S8A as a catchpit and provide construction detail. This is not within the remit of the LLFA. This is a s104 matter It also considered part of the remit of the LPA.
31. Headwalls – add note ‘To be bedded as per manufacturers recommendations’. This is not within the remit of the LLFA. This is a s104 matter It also considered part of the remit of the LPA.
32. Provide manufacturers technical data sheet for the hydrobrake. This is not within the remit of the LLFA. This is a s104 matter It also considered part of the remit of the LPA.
33. Specify invert level on drawing where discharging to the ditch. We need to achieve as much freeboard as possible between ditch bed and pipe invert – at present this is insufficient. Please investigate lifting the pipe invert and/or regrading the ditch. The ditch ILs shown are the silted bed. Once cleared of silt these levels are expected to be circa 100mm lower. Specify the desilted levels on the drawing.
34. Add note ‘ditch to be cleaned out to the satisfaction of ADC engineer’. Noted
35. It has been previously noted that ditch bed/silt levels immediately east of the site are high compared to the ditch bed levels adjacent your site, which could therefore impact your design. Please investigate/advise and provide levels, etc. This is outside of my clients ownership and is a matter for the adjoining landowner/IDB. Yes but it could have a detrimental effect on your design and the functioning of the system so needs to be investigated. We are willing to assist in discussions with the landowners concerned to ensure the free flow of water.
36. Incoming 150mm pipe into the hydrobrake chamber has been made invert to invert as opposed soffit to soffit. Please alter plan and hydrobrake manhole detail. This is not within the remit of the LLFA. This is a s104 matter. Also ALL hydrobrake incoming pipes should be IL to IL. Not necessary
37. Hydrobrake chamber – add suitable notes regarding benching construction. Pipes to protrude 100mm into chamber from inside face of rings. This is not within the remit of the LLFA. This is a s104 matter It also considered part of the remit of the LPA.
38. Please confirm whether you are ground raising any parts of the site, as retaining walls, slopes and gravel boards have been noted on the eastern boundary. No run off should be shed onto the adjoining land to the east. Whilst some measures have been put in place, there appears to be some areas needing looking at, for example the rear of plots 12 and 13. Provide a construction detail of the ACO drain/retaining wall arrangement south east of plot 13. This is not within the remit of the LLFA. Disagree
39. Microdrainage calculations;
 - a. The catchment area needs to include the pond area ie. to allow for rain falling onto that area.
 - b. Provide a full pipe network plan to include the numbered porous car park structures.
 - c. Numerous orifice controls are detailed. Please specify their locations on the plans and provide suitable construction details.
40. Maintenance manual;
 - a. A maintenance regime for permeable pavements needs to be included.
 - b. Pond side slopes notes as 1 in 4 as opposed to 1 in 3.
 - c. Maintenance of boundary ditch to be included.
 - d. Grille maintenance to be included.

- e. Updated/approved drawings (full set) will ultimately need to be attached to the manual.

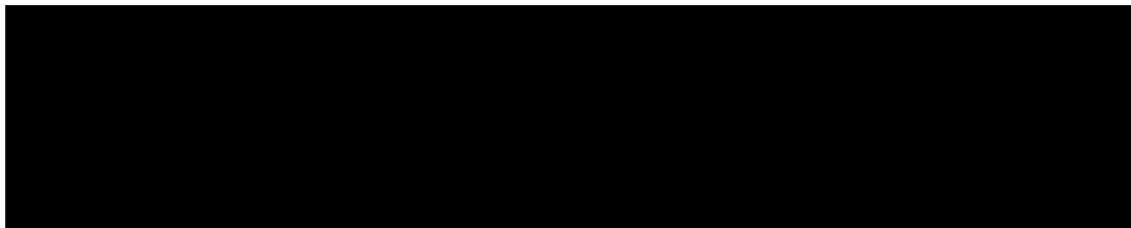
Look forward to receiving revised details, etc.

Regards

Paul Carrn
Principal Engineer (Drainage)



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Hi Sarah and Paul,

Please find attached 2 revised drawings for BN/85/19/DOC at the Lillies, Yapton Road, Barnham.

I look forward to receiving your consultation response.

Thanks,

Michael

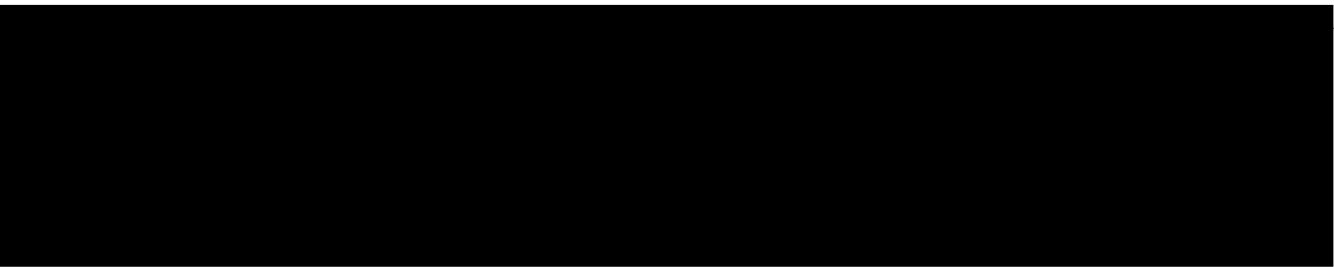
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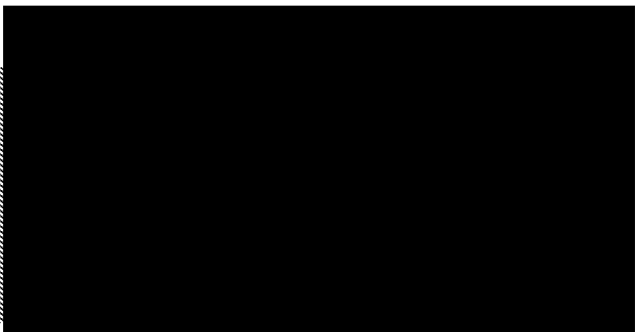
Dear Michael

Further to my email earlier, please see attached our revised drainage proposals.

All driveways have been shown as permeable paving, as requested during discussions with the local authority.

Please advise if this will be acceptable for the conditions contained within this application to be discharged.

Kind regards



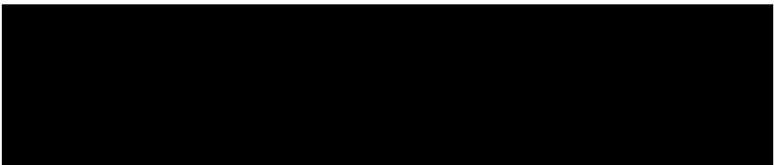
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[REDACTED]

Dear Zsuzsa,

Is there any news on the submission of the drainage plans/scheme for the Lillies, Yapton Road, Barnham?

Kind regards,

Michael



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[REDACTED]

Subject: FW: Lillies, responses required for the following emails

Dear Michael

I hope you are well.

We recently received the three emails attached from you, for which our client has summarised the responses below. The two pdf attachments are part of the response also.

- Condition 22 CMP - 80DB (Lower exposure action value) is an LA_{max} measurement to show the most obtrusive facet of the noise, this will be taken 1 to 3 metres from source (not directly at the source).
- Construction Access and Site Compound plan included within the attached Traffic Management Plan
- Vehicle routing included within the attached Traffic Management Plan, further information regarding limitations/restrictions of/on routes throughout the course of construction for specific vehicles now included within revised CMP attached.
- Out-of-hours contact details now included within revised CMP attached including confirmation it will be displayed prominently on any site hoarding viewable to the general public.

Details of all relevant people managing the site and their contact details now included within the plan

With regards to the drainage, we are just finalising the scheme and will forward over by the end of the week.

I trust that the attached will be satisfactory , however please let me know should you require anything further.

Kind regards



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