

From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 11 September 2020 14:34
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Subject: RE: Planning Consultation on: F/21/20/DOC

Sorry, slightly updated version to supersede the previous one.

Paul Cann
Principal Engineer (Drainage)

Paul Cann | Principal Engineer (Drainage), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre,
Maltravers Road, Littlehampton, BN17 5LF

Internal: 37819 | External: +44 (0) 1903 737819 | Fax: +44 (0) 1903 716019 | E-mail: Paul.Cann@arun.gov.uk

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Save the environment - think before you print.

From: Paul Cann
Sent: 11 September 2020 14:28
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Sarah Burrow <Sarah.Burrow@arun.gov.uk>
Subject: RE: Planning Consultation on: F/21/20/DOC

In note the Civil Engineering Practice (CEP) response to my previous email dated 10th July 2020 with regards to the previous DOC application (F/6/20/DOC). The current DOC application seems to refer to condition no.3 only, however, my comments below also relate to the other outstanding pre commencement drainage conditions ie. nos. 4, 5 and 8, since they are inter related and will help speed up the process.

Please note that applications to discharge the other outstanding conditions will still be required but hopefully we can agree the technical details now for the reasons given above.

I have copied the previous comments below for ease of reference;

Response from CEP (in blue); My current comments in red.

Further to the submission on 13 July 2020 and receipt of your further comments, which I have listed below and responded to in blue below, the following link will allow a download of the details and drawings referred to in the responses below for your approval.

Reservoir Catchment;

1. The northern boundary ditch in vicinity of the proposed reservoir is currently located on the other side of the network rail fence and not within the redline boundary. As previously suggested a ditch will be required within the red line boundary and running parallel to the network rail ditch. Please adjust drawings and provide a typical profile cross section. Land drainage consent is also required for the new ditch and headwall outlet. There is an existing ditch on site at the northern boundary and a further ditch the other side of the Network Rail fence, the existing ditch is noted to be cleared of debris, vegetation and silt and regraded where required. This is indicated on drawings 21E, 22E and 24E. The comments on Land Drainage Consent are noted but are not a reason to refuse discharge of condition as they are covered by separate legislation. My last visit to site indicated that there was no obvious ditch in vicinity of the reservoir, apart from the one on the other side of the Network Rail fence, however, provided the ditch is installed as per the drawings then this is not an issue. On the cross sections ie. D-D and E-E, clearly indicate the ditch base width and the gradient of the side slopes. Land drainage consent is an integral part of the outstanding conditions ie. no.8, and in this instance, I am prepared to allow the consent to be just made for the headwall structure/discharge – please therefore submit as necessary.
2. The pipe outlet invert (1.500) from the reservoir is currently shown below ditch bed level. Noted, this was a typo and has been corrected to 2.1m AOD (100mm above bed level) and detailed on drawing 22E. ok
3. Adequate freeboard (ie. min 300mm) is required between the predicted top water levels in the reservoir and top of bank ie. may need to lower outlet level. Also, ensure the hydrobrake design head takes account of any adjustments to the design to achieve this. We propose a minor raising of the bank level, this has been updated to provide 300mm minimum freeboard. The hydrobrake design remains unchanged as the design head remains the same. Ok but update reservoir section drg. 51A with the new bank level and also the pipe invert level. This drawing should also show the reservoir lining ie. impermeable liner, assuming one is to be used. Adjust the crest level note on drg.23E ie. 4.86 not 4.60.
4. Provide hydraulic calculations (to include upstream network) for the 1 in 100 year storm event + 40% climate change allowance. Please note that the guttering on the greenhouse should not be a limiting

factor and the calculations need to allow for the full 100yr run off flows from the roof/s. These were provided on 13 July 2020 and are included in the link above. ok

5. **Overflow pipe from reservoir provide headwall with cranked grille with bar spacings to suit 150mm diameter pipe. Include construction detail.** Detail of Althon Headwall R10CA with cranked grill and installation instructions provided on 13 July 2020 and are included in the link above on drawing 53. ok
6. **Specify gradient between overflow pipe and hydrobrake chamber.** The gradient is 1 in 44 and is included on drawing 22E. ok
7. **Provide hydrobrake chamber construction detail.** Noted and included in the link above on drawing 52B. Cover level and invert level are to be relevant to SW-07 -- I would suggest just adding a note -- ie. refer to the relevant layout drawing. Whilst the chamber construction details make reference to the details shown on 'manhole construction no.12 drawing', please specifically mention a granolithic finish to the benching
8. **Outlet headwall at ditch Scour protection IS required. Provide construction detail (no grille required).** Headwall with scour protection was provided on 13 July 2020 and is included in the link above on drawing 51 A. ok but add note to indicate a 100mm drop between pipe invert and ditch bed. Also, indicate extent of paving slab scour protection ie. to 7metres downstream of outlet pipe.
9. **RWP inlets Headwalls required. Specify diameters/gradients/invert levels. Provide construction details for headwalls. Fully detail pipework/manholes upstream between guttering and connection/s to reservoir. Silt traps required prior to entry to reservoir (provide construction details).** This is design preference, the RWPs convey clean roof water to a reservoir for recycling, settlement in the reservoir will remove any silt present, the reservoir is not the receiving watercourse. RWPs will be below ground and discharge to the Reservoir, headwalls will be provided as headwall detail in the above link on drawing 22E, 23E and 51 A. There is no requirement for catchpits, silt traps prior to entering reservoir, this is a private facility maintained by the operator and this is not a reason for refusal of the submitted details. This is an integral part of the surface water drainage system. The idea is to intercept any potential silt from the roofs before it can enter the reservoir -- this makes maintenance easier and minimises the loss of capacity in the reservoir, which are important considerations in our appraisal. Also, these are large scale RWP's and need to be fully detailed as requested. Manholes are required on significant bends. The headwall details need to be specific to the arrangement here ie. paving slabs not required (scour protection not required if discharging onto an impermeable liner). Raise the connection levels into the reservoir to reduce the frequency of surcharged outfalls. This matter had previously been given some consideration by Jackson Purdue Lever (drg 4004).
10. **The layout drawings indicates the structure to be drained as a polytunnel rather than a glass greenhouse. Please confirm if this is the case.** It is a Glass House drawings have been updated to remove the polytunnel note. ok

Western Ditch

11. **Provide longitudinal section showing existing and proposed bed levels.** This is an existing ditch, we have provided the existing levels on the submitted drawings, long section is included in the above link on drawing 70. ok
12. **Show the infilled section to be reinstated, including the trees to be removed to facilitate this.** We have noted on the submitted drawings that the existing ditch is to be cleared of vegetation, silt and debris and to be regraded where necessary to provide continuous fall from the headwall. ok
13. **If the ditch is being significantly deepened in places then the banks may need reprofiling to avoid them being too steep. Please advise and provide cross sections if necessary. Please also confirm that the regrading/profiling proposals will not have a negative impact on existing trees and their root systems.** The ditch is proposed to be lowered locally at the inflow headwall by up to 500mm the gradient of the

banks remains consistent with other sections of the ditch. Cross sections are included in the link above on drawing 70. ok. Your client needs to give due consideration to any potential impact on existing trees and should seek specialist advice.

Southern Catchment

14. **Provide headwall construction details for headwall discharge to western ditch. This will need to include scour protection measures.** Noted, included in the link above on drawings 24E and 51A ok but specify length of paving slab protection area. Land drainage consent is also required.
15. **Provide hydraulic calculations for the 1 in 100 year storm event + 40% climate change allowance.** These were submitted on 13 and 14 July 2020 and are included in the link above. The calculations need updating to reflect the current drawings.
16. **Provide french drain construction details, hydraulic calculations and full details of the percolation rates used.** The French drain has been provided to a landscaped area to prevent surface ponding but is not formally part of the drainage scheme for the building or hard landscaping, it is purely to collect and allow to drain any rainwater running off the south elevation detail is indicated in drawing 51A. If it just drains the land falling to that area and any rain that runs off the vertical elevation of the greenhouse, then we can accept the arrangement on the proviso that the pipe diameter/permeable geotextile wrapping/fully perforated pipe is specified. If it drains any part of the roof of the greenhouse, then it will be a totally different consideration. Landscaping should also consider minimising as much as possible, the land runoff to this area.
17. **Provide hydrobrake chamber construction detail.** Noted, included in the link above on drawing 52B. See item 7 above -- similar comment applies.
18. **The pond/swale needs a slight gradient east to west (as has been employed on the upstream swales) to improve the hydraulics and ensure water movement. Please note the base level at the eastern end is currently lower than the base level at the western end. Adjust pipe inverts to suit.** The submitted drawings have a 1:400 gradient and pipework has been designed accordingly included in the link above on drawing 24E. ok
19. **Short swale 225mm pipe connection raise invert to increase freeboard ie. to say 4.270. Provide headwall construction details.** Invert levels have been raised as requested and headwall details are included in the link above on drawing 25B ok but specify length of paving slab scour protection for all connections to swales.
20. **Pipeline 1.001 provide 100mm freeboard between pipe invert and swale bed.** This pipe has been raised to 4.875m AOD on the updated drawing 26B included in the link above. ok

General

21. **Provide construction details for all manholes, pipe bedding, channel drains, etc.** These details were provided on 13 July 2020 and are included in the link above on drawing 51A. Channel drain -- specify concrete surround thickness. Add PCC ring diameter table to type 2 manhole.
22. **Provide revised management and maintenance manual.** This was submitted on 13 July 2020 and is included in the link above. The drainage maintenance schedule produced by CEP needs to be incorporated into the main manual produced by Jackson Purdue Lever or vice versa, so that there is one document. A paragraph giving an overview of how the system (each catchment) is designed to work is required and how the individual components interact with one another. The drawings in the main manual are now irrelevant and will need to be updated with CEP drawings once approved. Ponds are not relevant to this site so that section needs removal, however specific sections on reservoir maintenance and the perimeter ditches maintenance need to be included. Trash screen maintenance should also be highlighted. Hydrobrake technical detail sheets and the manufacturers maintenance

recommendations should also be included as an appendix. Once the documents have been amalgamated/amended I can then provide more detailed comments if required.

I look forward to receiving revised details, etc.

Regards

Paul Cann
Principal Engineer (Drainage)

Paul Cann | Principal Engineer (Drainage), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

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From: Land Drainage [REDACTED]
Sent: 04 September 2020 11:49
To: Paul Cann <Paul.Cann@arun.gov.uk>
Subject: FW: Planning Consultation on: F/21/20/DOC

From: Planning.Responses
Sent: Friday, September 4, 2020 10:48:51 AM (UTC+00:00) Monrovia, Reykjavik
To: Land Drainage
Subject: Planning Consultation on: F/21/20/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: F/21/20/DOC
Registered: 26th August 2020
Site Address: Wicks Farm Ford Lane Ford BN18 0DF
Description of Works: Approval of details reserved by condition imposed under ref F/30/18/PL relating to Condition No 3 - surface water drainage.

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditions relating to your field of expertise.

[Click here to view the Discharge of Condition application](#)

Should you wish to make any comments click on the link www.arun.gov.uk/planning and click into ?Enter Comment? or if this is not possible email your response to planning.responses@arun.gov.uk by **18th September 2020**.

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

Yours sincerely

Mrs A Gardner

Planning Case Officer- Arun District Council

Telephone: 01903 737529

Email: Anita.Gardner@arun.gov.uk

PLCOND00 (CDE) 2020