

**From:** Amanda Scholes on behalf of Planning.Responses  
**Sent:** 18 August 2020 08:08  
**To:** Planning Scanning  
**Subject:** FW: FW: 22995 - Manor Nursery A/86/20/DOC - Designer Response  
**Attachments:** image001.jpg; image003.jpg; image005.jpg; image007.jpg

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.

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**From:** Michael Eastham <[Michael.Eastham@arun.gov.uk](mailto:Michael.Eastham@arun.gov.uk)>  
**Sent:** 18 August 2020 07:53  
**To:** Planning.Responses <[Planning.Responses@arun.gov.uk](mailto:Planning.Responses@arun.gov.uk)>  
**Subject:** FW: FW: 22995 - Manor Nursery A/86/20/DOC - Designer Response

Please upload onto Ocella the email trail below from **ADC Drainage Engineers** to discharge of condition application **A/86/20/DOC** for Manor Nursery, High Street, Angmering.

Thanks,

Michael

**Michael Eastham**  
Principal Planning Officer,  
Planning Department

**T:** 01903 737772  
**E:** [michael.eastham@arun.gov.uk](mailto:michael.eastham@arun.gov.uk)

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**From:** Laura Gibbons [REDACTED]  
**Sent:** 18 August 2020 07:25  
**To:** Michael Eastham <[Michael.Eastham@arun.gov.uk](mailto:Michael.Eastham@arun.gov.uk)>

**Cc:** Paul Cann <[Paul.Cann@arun.gov.uk](mailto:Paul.Cann@arun.gov.uk)>

**Subject:** Fwd: FW: 22995 - Manor Nursery A/86/20/DOC - Designer Response

Michael,

We have the following comments as shown in *red*.

Thanks,

----- Forwarded message -----

From: **Michael Eastham** <[Michael.Eastham@arun.gov.uk](mailto:Michael.Eastham@arun.gov.uk)>

Date: Fri, 7 Aug 2020 at 12:59

Subject: FW: 22995 - Manor Nursery A/86/20/DOC - Designer Response

To: Laura Gibbons [REDACTED] Paul Cann <[Paul.Cann@arun.gov.uk](mailto:Paul.Cann@arun.gov.uk)>

Dear Laura and Paul,

Please see the email below and the attachments from the applicant's drainage engineer to discharge of condition application **A/86/20/DOC** regarding Manor Nursery in Angmering.

I look forward to receiving your reply.

Regards,

Michael

**Michael Eastham**

Principal Planning Officer,

Planning Department



**T:** 01903 737772

**E:** [michael.eastham@arun.gov.uk](mailto:michael.eastham@arun.gov.uk)

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**From:** Steve Burgess [REDACTED]  
**Sent:** 07 August 2020 12:26  
**To:** Michael Eastham <[Michael.Eastham@arun.gov.uk](mailto:Michael.Eastham@arun.gov.uk)>  
**Cc:** Laura Gibbons <[Laura.Gibbons@arun.gov.uk](mailto:Laura.Gibbons@arun.gov.uk)>; CEP | Reception [REDACTED]; Stuart Magowan [REDACTED]  
[REDACTED] Rebecca Hoad [REDACTED]; Chris Barker [REDACTED]  
**Subject:** 22995 - Manor Nursery A/86/20/DOC - Designer Response

Good afternoon Michael

Further to the letter from Neil Crowther, dated 5 August 2020 (copy attached) and the email from Laura Gibbons to the Arun Drainage Officer, Michael Eastham, dated 30 June 2020. We are disappointed by the decision to refuse clearance of the conditions and respond to the comments made by Laura Gibbons and Neil Crowther in blue as follows:

Condition 21- surface water drainage design

1. Groundwater monitoring was undertaken at only two locations on site, and not the entire winter period as outlined in the Condition. It is deemed that the level of data presented is insufficient.

Groundwater monitoring was carried out between 5th December 2018 and 15th May 2019, which includes the wettest period of winter (data attached).

The Planning Condition does not state the number of testing locations required and as the site is relatively small and has consistent geology throughout then two locations are appropriate.

Groundwater was not encountered throughout the testing period within either borehole both of which were monitored by data loggers and did not record any groundwater above 4.63m and 4.93m below ground level. This gives a robust window of analysis to determine if there will be any effect on the drainage system from groundwater and if high any groundwater is likely to be encountered. We therefore request this objection is removed based on the information meeting the requirements of the Planning Condition and being robust and 'fit for purpose' in this instance.

We have attached the Groundwater monitoring data log results and location plan.

Two locations is small for a development of this size, however fortunately the geology is fairly consistent. GW 4 to 5m bgl is what I would expect in that area, and is consistent with other developments in the area. After consideration and further examination we have decided that we will accept this on this occasion. However, in the future the applicant needs to agree the location and number of boreholes required.

## 2. Infiltration testing was undertaken in June. Winter infiltration testing must be undertaken.

Planning Condition 21 states 'Percolation testing to BRE 365, or similar approved, will be required to support the design of any Infiltration drainage.'

The Planning Condition makes no mention of winter infiltration testing, only Percolation testing to BRE 365. Infiltration testing was undertaken in June 2019 and has been undertaken in accordance with BRE 365 requirements. Seven locations were monitored by Oakland Site Investigation and three tests in each location have been recorded and presented. We therefore request this objection is removed based on the testing meeting the requirements set out in Planning Condition 21. The condition states "Winter groundwater monitoring to establish highest annual ground water levels and Percolation testing to BRE 365, or similar approved, will be required to support the design of any Infiltration drainage." This is one sentence which should be read as winter percolation testing. We suggest that you Michael give a view on the interpretation of this condition. It is worth noting that in 2014 our drainage consultation response noted the requirement for winter infiltration testing.

If it is deemed that the condition was too vague on this site the applicant will have to apply a factor of safety to design. We know that permeability does vary considerably seasonally. If we are to proceed we will need to see factors of safety applied to design in accordance with table in our checklist, recommend treat garden soakaways as having a consequence of failure of minor inconvenience. The applicant must note that this would be for this application only, and a lack of winter infiltration tests will not be entertained on any future applications.

| Size of Area to be Drained              | Factor of Safety Table     |         |                                                     |         |                                             |         |
|-----------------------------------------|----------------------------|---------|-----------------------------------------------------|---------|---------------------------------------------|---------|
|                                         | Consequences of failure    |         |                                                     |         |                                             |         |
|                                         | No damage or inconvenience |         | Minor inconvenience, e.g. surface water on car park |         | Damage to buildings or structures or roads. |         |
|                                         | Cv=1.0                     | Cv=0.75 | Cv=1.0                                              | Cv=0.75 | Cv=1.0                                      | Cv=0.75 |
| <100m <sup>2</sup>                      | 1.5                        | 2       | 2                                                   | 3       | 10                                          | 13      |
| 100m <sup>2</sup> to 1000m <sup>2</sup> | 1.5                        | 2       | 3                                                   | 4       | 10                                          | 13      |
| >1000m <sup>2</sup>                     | 1.5                        | 2       | 5                                                   | 6.5     | 10                                          | 13      |

## 3. All infiltration tests were undertaken at circa 2.5m depth, yet some of the soakaways are considerably shallower than this.

The design notes only two soakaway designs with the base shallower than 2.5m bgl. These are SA8 and SA9 and both are located within the gardens of the properties along the southern boundary of the site. Soakage testing was undertaken at a depth of 2.5m within the gravel strata below the site. The trial pit logs within this area, TP1, TP2 and TP3, confirm the gravel strata is located at between 2.1 and 2.2m below ground and extends to the base of the trial pits. SA8 and SA9 soakaways are situated within this gravel strata. We therefore request this objection is removed based on the designed soakaways' depth extending into the tested soil strata where they will have the same performance as the tests. We have attached the Trial Pit data and location plan. Acknowledged that the same strata does just about extend to base, however ring soakaways are proposed which rely upon sides for infiltration only therefore they will not be utilising this

*gravel strata. We would recommend that these soakaways are made deeper to extend further into the gravel strata, but the base must be kept above peak groundwater levels/ base of monitoring wells.*

*We will require further information on how adequate treatment of surface water is occurring prior to discharge to ground in accordance with chapter 26 of CIRIA C753. There is no evidence of any pollution mitigation prior to discharge to soakaways. This is a particular concern regarding water from highways where pollution hazard indices are higher.*

#### **Condition 22- maintenance of SuDS**

It is not appropriate to review this condition until the drainage design is agreed.

Given the response to the Conditions above we request the SuDS Maintenance Plan be reviewed and approved. *This will be reviewed once the surface water drainage strategy and design for the site has been agreed.*

#### **Condition 6- Discharge of Surface Water to the Public Highway**

We have provided information to support the surface water design as required by the Planning Conditions. The design includes gullies to intercept surface water at the highway boundary as is standard for a bell mouth entrance. The surface water design submitted included all calculations and the backup data is attached to this response. We request that this is reviewed and assessed against the Planning Conditions imposed. *W5CC issue*

I trust our response is clear, however please give me a call on [REDACTED] if you have any comments or questions and I will be happy to help.

Best regards,

**Steve Burgess**





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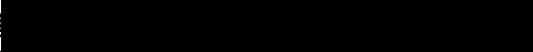
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## Laura Gibbons

Engineer, Adur & Worthing Councils

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## Laura Gibbons

Engineer, Adur & Worthing Councils

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