Ben Burgess
Broadland District Council
Development Control
Thorpe Lodge (1) Yarmouth Road
Norwich
Norfolk
NR7 0DU

Our ref: AE/2017/121301/06-L01
Your ref: 20170095
Date: 26 September 2017

Dear Mr Burgess

FULL PLANNING APPLICATION FOR THE PROPOSED DEVELOPMENT OF 1 NO. PETROL FILLING STATION, 2 NO. DRIVE THROUGH RESTAURANTS & 24 SPACE HGV PARKING, TOGETHER WITH VARIOUS INFRASTRUCTURE AND LANDSCAPING WORKS. LAND SOUTH OF BROADLAND GATE, ADJACENT TO POSTWICK INTERCHANGE, POSTWICK, NR13 5NP

Thank you for your consultation received on 14 September 2017. We have reviewed the EPS Strategies Design, Implementation & Operational Method Statement of 12 September 2017 (ref: UK17.2609B). Overall we accept this document but have the following comments that are pertinent and require consideration and alterations in due course.

One of the most fundamental sentences in section 2.1 of the document states “It is acknowledged that the Environment Agency have subsequently raised a preference for a conventional concrete vault over the above-described form of tertiary containment. However, EuroGarages and EPS would be keen demonstrate that the proposed design (once finalised) is at least equal to such a vault in terms of the level of environmental protection it would offer and would demonstrate that position as part of the process of complying with conditions attached to the decision notice.”

It is key that the standard of tertiary containment should be demonstrated in the form of quality design and detail, followed up with validation. In our recent meeting we discussed the use of landfill standard containment systems with associated quality assurance of validation testing of the containment membrane due to the very high sensitivity of the site location.

The Drainage Strategy Option 2 plan of September 2017 (ref: 16325 C-55) still states that the site is within a Source Protection Zone 3 - this should be altered to Future Source Protection Zone 1 or similar wording to reflect the high sensitivity of the site location. The plan also shows “soakaways” which may be a typographic error, as the Drainage Strategy text states this should be lined attenuation crates for storage and not infiltration. This attenuation must be constructed to allow for welding membrane joints to...
ensure that the system acts to only attenuate storm flows, and not act as an infiltration device in any way.

Please note that we have no issue with the roof water from the buildings discharging to a soakaway provided it is via a sealed system and in land demonstrated to be free of leachable contamination or made ground. This system should be entirely separate from any other surface water systems on site.

It is essential that the viability of connecting to a foul and surface water sewer should be determined by the applicant prior to committing to the development, and should understand the associated risks and costs with this option.

Please note the Drainage Strategy states that a Septic Tank may be required. This is not a preferred option and will require an environmental permit, which has no guarantees of being granted based on the risk of the site. Please see details on our website here: https://www.gov.uk/guidance/general-binding-rules-small-sewage-discharge-to-the-ground#rules-for-discharges-in-a-groundwater-source-protection-zone-1-spz1. We still support a preference of a foul sewer discharge, which must be robust enough to ensure that the risk of sewage entering the site be reduced.

We trust this advice is useful.

Yours sincerely,

Miss Eleanor Stewart
Sustainable Places - Planning Advisor

Direct dial 020 8474 8097
Email planning.ipswich@environment-agency.gov.uk

cc PWA Planning
From: Stewart, Eleanor <Eleanor.Stewart@environment-agency.gov.uk>
Sent: 26 September 2017 10:53
To: Planning Administration
Cc: Ben Burgess; Christopher Rickman; emily.robinson@pwaplanning.co.uk
Subject: 20170095 Environment Agency response
Attachments: 20170095 06.pdf

FAO Ben Burgess

Please find attached our response to the above planning application for Land South of Broadland gate, Postwick.

In accordance with the Planning Practice Guidance, please notify us by email within 2 weeks of a decision being made or application withdrawn. Please provide us with a URL of the decision notice, or an electronic copy of the decision notice or outcome.

If the application is to be determined by Planning Committee and your report has already been finalised, we ask that our response is provided to the Committee members, either verbally or as supplementary report.

Kind regards

Eleanor

Eleanor Stewart
Sustainable Places - Planning Advisor
East Anglia area (East)

020 3474 8097 (internal: 48097)
eleanor.stewart@environment-agency.gov.uk

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Dear Mr Rickman

FULL PLANNING APPLICATION FOR THE PROPOSED DEVELOPMENT OF 1 NO. PETROL FILLING STATION, 2 NO. DRIVE THROUGH RESTAURANTS & 24 SPACE HGV PARKING, TOGETHER WITH VARIOUS INFRASTRUCTURE AND LANDSCAPING WORKS - LAND SOUTH OF BROADLAND GATE, ADJACENT TO POSTWICK INTERCHANGE, POSTWICK, NR13 5NP

Thank you for your consultation received on 12 October 2017. We have reviewed the Topping Engineers Drainage Strategy Option 2 plan of September 2017 (referenced 16325 C-55, Revision A). This version has made acceptable amendments relating to the preclusion of soakaways. The following advice from our previous letter still applies:

Please note that we have no issue with the roof water from the buildings discharging to a soakaway provided it is via a sealed system and in land demonstrated to be free of leachable contamination or made ground. This system should be entirely separate from any other surface water systems on site.

It is essential that the viability of connecting to a foul and surface water sewer should be determined by the applicant prior to committing to the development. The applicant should understand the associated risks and costs with this option.

Please note the Drainage Strategy states that a Septic Tank may be required. This is not a preferred option and will require an environmental permit, which has no guarantees of being granted based on the risk of the site. Please see details on our website here: https://www.gov.uk/guidance/general-binding-rules-small-sewage-discharge-to-the-ground#rules-for-discharges-in-a-groundwater-source-protection-zone-1-spz1. We still support a preference of a foul sewer discharge, which must be robust enough to ensure that the risk of sewage entering the site be reduced.

We trust this advice is useful.
Yours sincerely,

[Signature]

Miss Eleanor Stewart
Sustainable Places - Planning Advisor

Direct dial 020 8474 8097
Email planning.ipswich@environment-agency.gov.uk

cc PWA Planning
Dear Mr Rickman

FULL PLANNING APPLICATION FOR THE PROPOSED DEVELOPMENT OF 1 NO. PETROL FILLING STATION, 2 NO. DRIVE THROUGH RESTAURANTS & 24 SPACE HGV PARKING, TOGETHER WITH VARIOUS INFRASTRUCTURE AND LANDSCAPING WORKS LAND SOUTH OF BROADLAND GATE, ADJACENT TO POSTWICK INTERCHANGE, POSTWICK, NR13 5NP

Thank you for your consultation received on 8 November 2017. We have reviewed the Topping Engineers Drainage Strategy Option 2 plan of September 2017 (ref: 16325 C-55, Revision B). This version has made acceptable amendments relating to the preclusion of soakaways, except for two soakaways receiving only roof water.

Provided the roof water discharges to soakaway via a sealed system and in land demonstrated to be free of leakable contamination or made ground, this should be acceptable – however the confirmation of the above will be required in due course. This system should be entirely separate from any other surface water systems on site.

We note the communication from Anglian Water accepting a discharge to sewer.

As stated in our previous response, please note the Drainage Strategy states that a Septic Tank may be required. This is not a preferred option and will require an environmental permit, which has no guarantees of being granted based on the risk of the site. Please see details on our website here: https://www.gov.uk/guidance/general-binding-rules-small-sewage-discharge-to-the-ground#rules-for-discharges-in-a-groundwater-source-protection-zone-1-spz1. We still support a preference of a foul sewer discharge, which must be robust enough to ensure that the risk of sewage entering the site be reduced.

We trust this advice is useful.
Yours sincerely,

[Signature]

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cc PWA Planning
Chris Rickman  
Broadland District Council  
Development Control  
Thorpe Lodge (1) Yarmouth Road  
Norwich  
Norfolk  
NR7 0DU

Our ref: AE2017/121301/09-L01  
Your ref: 20170095  
Date: 15 December 2017

Dear Mr Rickman

FULL PLANNING APPLICATION FOR THE PROPOSED DEVELOPMENT OF 1 NO. PETROL FILLING STATION, 2 NO. DRIVE THROUGH RESTAURANTS & 24 SPACE HGV PARKING, TOGETHER WITH VARIOUS INFRASTRUCTURE AND LANDSCAPING WORKS LAND SOUTH OF BROADLAND GATE, ADJACENT TO POSTWICK INTERCHANGE, POSTWICK, NR13 5NP

We have reviewed the EPS Strategies Design, Implementation & Operational Method Statement of 1 December 2017 (referenced UK17.2609B, Issue 4). Overall we accept this document and much of the detail provided so far. Our additional comments are as follows:

- Test certificates are provided with the tank manufacturers. Would need to review tank specific certificates for the tanks on site (evidenced that the certificated tank matches that on site). We would also need to see test certificates for membranes used on site.

- The joints between sheets of the membrane require welding as shown in the detail provided. Further detail is required as to what method of welding is proposed (e.g. extrusion welding, fusion welding or other – the best method feasible is required due to the sensitivity of the site). The welds will require testing, please specify the test method proposed (seam pressure test, spark test, etc, or multiple test methods). Tests would be required at appropriate points (for example, after initial lay before concrete base pour, before tanks are placed and backfilled with gravel, and after they are lapped over the top of the tanks). This testing will require documentation and evidence.

- We require detailed calculations for demonstrating that the geotextile fleece is not required. The material specification has to be compared (on a site specific basis) to materials being used, specification must be able to tolerate long-term repeated loading and unloading of tanks given site specific ground conditions (life span of tanks is shown to be 35 years). The method of installation and materials used are also an important factor - damage to the liner would render all work useless, and remedial work will be exceedingly difficult and expensive.
• The Method Statement for Tank Installation at the end of Appendix C does not mention the use of the membrane, monitoring wells or testing – this will require amendment in due course.

• Clarification will be required as to whether the steel sheet piling is left in place or removed. It could be useful for certain testing methods (e.g. spark test). If the steel is corrugated then has the mechanical damage to the liner been considered for laying against this surface, or during removal?

Please be reminded that a monitoring schedule relating to the monitoring wells needs to be provided in due course. Once the method and specification is completely finalised and following completion of work, we expect a validation report to be produced.

We trust this advice is useful.

Yours sincerely,

[Signature]

Miss Eleanor Stewart  
Sustainable Places - Planning Advisor

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cc PWA Planning
Dear Mr Rickman

FULL PLANNING APPLICATION FOR THE PROPOSED DEVELOPMENT OF 1 NO. PETROL FILLING STATION, 2 NO. DRIVE THROUGH RESTAURANTS & 24 SPACE HGV PARKING, TOGETHER WITH VARIOUS INFRASTRUCTURE AND LANDSCAPING WORKS LAND SOUTH OF BROADLAND GATE, ADJACENT TO POSTWICK INTERCHANGE, POSTWICK, NR13 5NP

Thank you for your consultation received on 16 January 2018. We continue to have no objection to this application, and still recommend the planning conditions we recommended as part of our letter of 8 May 2017 (referenced AE/2017/121301/04-L01). We have reviewed the EPS Strategies Design, Implementation and Operational Method Statement of 16 January 2017 (referenced UK17.2609B, Issue 5), and have made further comments below to guide the applicant, but are satisfied that these can be addressed at the discharge of conditions stage.

Overall we accept the Design, Implementation and Operational Method Statement and much of the detail provided so far. We recognise that this document is evolving with each issue. The tank installation method statement is improved but still requires more detail in due course. Our additional comments are as follows:

Thank you for confirming further detail as to the tank construction. We understand that the tank tertiary containment system comprises (in sequence order):

1. Sheet pile cofferdam construction to remain in situ during and post construction
2. 200mm concrete slab to which tank straps are tied into.
3. Terram RG6 geotextile lined around entire tank hole.
4. Juta GP Titan membrane lining entire tank hole
5. Terram RG14 geotextile overlying the membrane
6. 150mm pea shingle
7. Double skinned tank with positive pressure leak detection system to be installed then lapped with geotextiles and membranes, overlaid by a surface concrete slab.
8. The tertiary containment for fuel feed lines is understood to comprise
double skinned, leak detected lines encased in pea shingle (150mm above, side and below), Terram RG14 geotextile, Juta GP Titan membrane and a further Terram RG6 geotextile.

We have spoken to the material manufacturer and discussed product suitability. We suggest that further discussion around why this product is most suitable for tertiary containment for hydrocarbons is provided. We understand that this product can be used as a containment feature for hydrocarbons but will require a specific discussion. This includes the suitability for containing a catastrophic tank failure and completely containing the spill to ensure this is not released into the environment.

We also believe that there is insufficient discussion around welding of the membrane. For example, it is stated that joints will be welded, but the method(s) is/are not stated – we suggest that the product manufacturer is contacted to discuss the most appropriate welding method and design. Welders must be appropriate accredited and we expect to see this certification.

Materials will need to be handled in accordance with the material manufacturers specification – specialist contractors will be required to install this material and experience of competency will need to be demonstrated prior to commencement of works.

Verification of seams should be provided, again the method of which should be noted. Please consider the best method to test the material after membrane installation, after tank installation is complete and whether any method can be provided to test tertiary containment in future as part of on-going maintenance and risk assurance.

The geotextiles stated (Terram RG6 and RG14) have no reasoning behind why these materials were selected – please provide calculations supporting this assessment. The geotextile must be able to provide protection from loading and unloading of 75,000 litre tank(s) contents plus the tank(s) themselves. Loading will be localised around certain loading points, making this zone vulnerable to damage. Long term-performance of repeated loading and unloading should be considered. Our guidance Cylinder testing geomembranes and their protective materials: LFE2 may provide further insight, and the cylinder test may be most appropriate for a given material. This guidance is aimed at landfill engineering but the principles are still applicable to this design. In-situ materials (the formation soils) or specified materials (such as pea shingle or concrete) testing may be required.

We understand that the tank straps are attached to the slab which is located beneath the geotextiles and membrane. Please detail how the straps will penetrate the membrane, if at all. This could be an area of weakness and prove extremely difficult to seal. Please discuss this issue. Why is the concrete slab not located above the geotextiles and geomembrane rather than below?

The detail regarding monitoring wells has not been included in much detail as stated at the end of page 2 of the document. The precise design of these wells can be determined at a later stage but must be fit for purpose.

We wish to be informed ahead of works commencing (we suggest 1 month in advance of planned works).

Please be reminded that a monitoring schedule relating to the monitoring wells needs to be provided in due course. Once the method and specification is completely finalised

Cont’d..
and following completion of work, we expect a validation report to be produced.

We trust this advice is useful.

Yours sincerely,

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