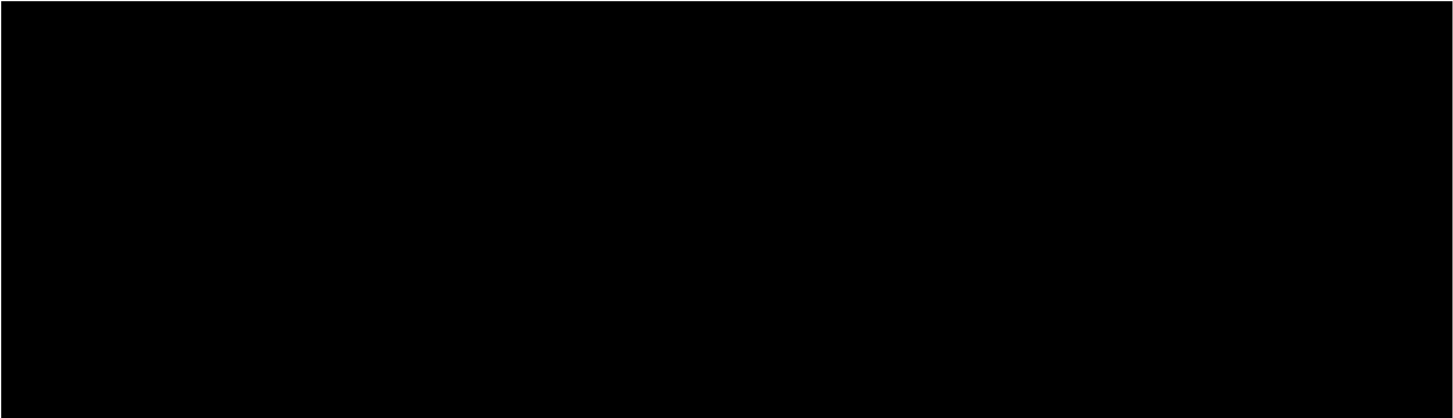
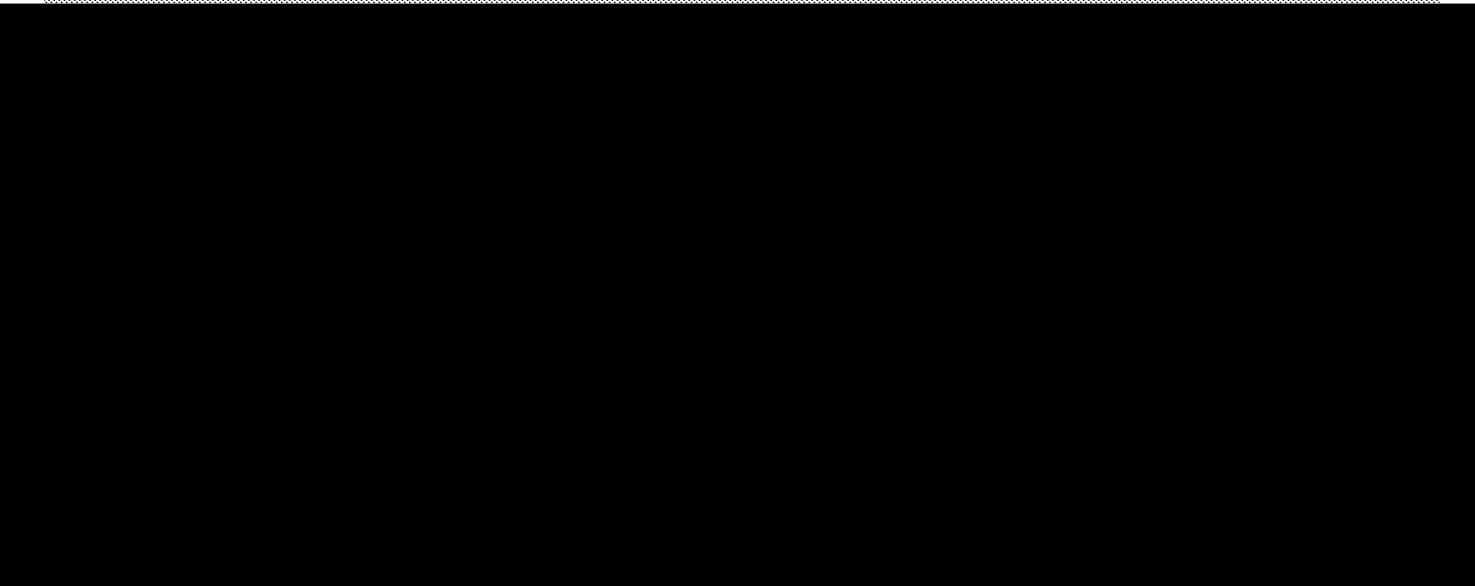






From: Sarah Sutcliffe [REDACTED]
Sent: 01 February 2019 13:05
To: Anita Gardner
Cc: Mark Wild
Subject: Land South of Cornfields Close, Littlehampton, BN17 6LD (REF: HA/2018/120921/01-L01)
Importance: High

Hi Anita,

In addition to our previous query in regard to the EA response, our consultants have reviewed in detail and have attempted to contact Suz Greenwood directly to discuss a number of additional queries, as per their e-mail below.

They are however struggling to receive any response, and I wondered if you could assist in chasing the EA for a response on the queries below? Do you know of any other useful contacts at the EA they could direct their queries too?

I would be grateful if you could let me know this is in hand.

Kind Regards,

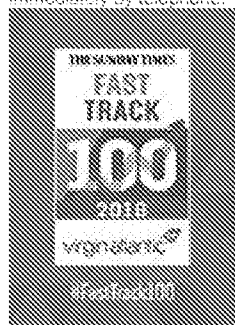
Sarah

Sarah Sutcliffe BA (Hons) MSc MRTPI
Senior Planner



THAKEHAM

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From: Jonathan Tingley [REDACTED]

Sent: 24 January 2019 14:52

Cc: Mark Wild [REDACTED]

Anthony Potter [REDACTED]

Glyn Evans [REDACTED]

Subject: FW: Land South of Cornfields Close, Littlehampton, BN17 6LD (REF: HA/2018/120921/01-L01)

Dear Sirs,

We are writing in connection with the Environment Agency's planning response regarding the above named site. The EA has recommended a number of conditions (see below). We are seeking clarification on a few points, as detailed in green below.

No development approved by this planning permission shall commence until a remediation strategy to deal with the risks associated with contamination of the site in respect of the development hereby permitted, has been submitted to, and approved in writing by, the local planning authority. This strategy will include the following components:

1. A preliminary risk assessment which has identified:

a conceptual model of the site indicating sources, pathways and receptors potentially unacceptable risks arising from contamination at the site

- 1. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off-site.**
- 2. The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.**
- 3. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.**

Reason(s)

The sites previous use as a Brick Kiln and a landfill represent a high risk to human and environmental receptors via a number of pathways.

We support the investigations already conducted by the applicant. They recommend further investigation and monitoring and do indicate the presence of land contamination in addition to indicating the potential of groundwater contamination.

The applicant's site investigation (key doc 1) recommends further, site wide investigation which we support. We would expect to see an updated risk assessment and remediation strategy upon completion of the extended site investigation.

The site rests on River Terrace Deposits (Secondary A Aquifer) which have a highly seasonal groundwater influence and have good aquifer characteristics. These deposits are underlain by the undifferentiated Lower Chalk Group (Principal Aquifer). The potential transmissivity of the River Terrace Deposits is a significant pathway for contaminants reaching the Principal Aquifer and constitutes a significant risk to groundwater.

Site wide investigations should be able to clearly delineate the footprint of legacy industrial buildings. Additionally, further groundwater monitoring will be able to improve conceptual understanding of the impact of the landfill upon controlled waters.

Further site wide investigation was recommended following the initial baseline ground investigation. The scope of works for the full site investigation was subsequently forwarded to Simon Deacon of the Environment Agency for comment (see attached). Simon had no comments or requests regarding the additional scope proposed which was subsequently undertaken and reported on in November 18 (our ref: 17106 - GAR/AP01/231018). The GIR does not recommend further investigation and monitoring, so we question whether the correct report has been reviewed? In addition, a remedial strategy has been requested above, but it should be noted a remedial strategy has previously been submitted to the planning officer. See attached.

Prior to each phase of development a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to, and approved in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

Reason(s)

To ensure that the site does not pose any further risk to human health or the water environment by demonstrating that the requirements of the approved verification plan have been met and that remediation of the site is complete. This is in line with paragraph 170 of the National Planning Policy Framework.

The applicant's site investigation (key doc 1) recommends further, site wide investigation, which we would support. The sites previous use as a Brick Kiln and a landfill represent a high risk to human and environmental receptors via a number of pathways.

As above, GIR does not recommend further investigation and monitoring, so we question whether the correct report has been reviewed? However, it is accepted that verification report(s) will be required.

The development hereby permitted shall not commence until a monitoring and maintenance plan in respect of contamination, including a timetable of monitoring and submission of reports to the local planning authority, has been submitted to, and approved in writing by, the local planning authority. Reports as specified in the approved plan, including details of any necessary contingency action arising from the monitoring, shall be submitted to, and approved in writing by, the local planning authority.

Reason(s)

To ensure that the site does not pose any further risk to human health or the water environment by managing any on-going contamination issues and completing all necessary long-term remediation measures. This is in line with paragraph 170 of the National Planning Policy Framework.

Initial investigations indicate a potential contaminant plume within groundwater under the site, this risk needs to be evaluated. Additionally, long term monitoring of the landfill (gas and leachate) needs to be evaluated. Post remediation, monitoring should be continued assess any positive or negative impact.

We note that BH105 detected evidence of hydrocarbon contamination directly above the River Terrace contact with the Chalk. The EA would expect the applicant to further assess these readings as part of a larger groundwater investigation.

Noted, a plan will be drafted and submitted for review.

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to, and approved in writing by, the local planning authority. The remediation strategy shall be implemented as approved.

Reason(s)

To ensure that the development does not contribute to, is not put at unacceptable risk from, or adversely affected by, unacceptable levels of water pollution from previously unidentified contamination sources at the development site. This is in line with paragraph 170 of the National Planning Policy Framework.

Noted. A discovery strategy forms part of the Remedial Strategy and Verification Plan.

No drainage systems for the infiltration of surface water to the ground are permitted other than with the written consent of the local planning authority. Any proposals for such systems must be supported by an assessment of the risks to controlled waters. The development shall be carried out in accordance with the approved details.

Previous correspondence with Simon Deacon at the Environment Agency (see attached), detailed a soakaway construction methodology for the site that entailed storm water being dispersed via a chamber/crate system which would be designed so that the discharge would be vertical only into the superficial natural uncontaminated soils. Full details are presented in the FRA submitted by Glanville referenced: CV8171223/SMcN/023, with an extract below:

All surface water run-off generated by hardstanding areas within the site will be conveyed to a soakaway, consisting of geocellular crates. The soakaway will be located close to the centre of the site, in the open public space. In accordance with EA recommendations, made ground will be removed from the area surrounding the soakaway before the installation. The base of the geocellular crates will be located at approximately 4.5m bgl, below levels where made ground is currently found. The sides and top of the soakaway will be lined, in order to prevent the mobilisation of any potential residual contamination from horizontal discharge from the soakaway. The design of the soakaway is therefore in accordance with EA guidance and site-specific recommendations and will not mobilise any residual contaminants within the site soils which may adversely affect groundwater.

A sketch of the proposed design principle is attached. As stated above, the infiltration will only be vertically into the natural uncontaminated soils to mitigate the risk to controlled water.

Reason(s)

The sites previous use as a Brick Kiln and a landfill represent a high risk to human and environmental receptors via a number of pathways.

The previous use of the proposed development site as Brick Kiln and Landfill presents a high risk of contamination that could be mobilised by surface water infiltration from the proposed sustainable drainage system (SuDS). This could pollute controlled waters. Controlled waters are particularly sensitive in this location because the proposed development site is located upon a principal aquifer. In light of the above, we do not believe that the use of infiltration SuDS is appropriate in this location. We therefore request that the above planning condition is included as part of any permission granted. Without this condition we would object to the proposal in line with paragraph 170 of the National Planning Policy Framework because it cannot be guaranteed that the development will not be put at unacceptable risk from, or be adversely affected by, unacceptable levels of water pollution.

Piling & investigation boreholes using penetrative methods shall not be carried out other than with the written consent of the local planning authority. The development shall be carried out in accordance with the approved details.

Noted. As per the recommendations in the GIR the site will be piled. CFA piles are proposed for use on this site and it is understood that CFA piles are the Environment Agency's preferred method of piled foundation within geology designated as an aquifer, as this method prevents the formation of contamination pathways into protected water resources due to the pile shaft being supported by the flight auger throughout formation and the pile concrete being pumped in from the base of the pile bore as the flight auger is retracted, thereby forming an intimate interface between the pile shaft and surrounding ground.

Reason

The sites previous use as a Brick Kiln and a landfill represent a high risk to human and environmental receptors via a number of pathways.

Kind regards

For and on behalf of Geo-Environmental Services Ltd

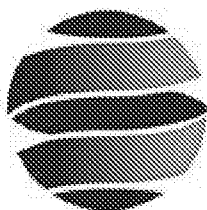
Jonathan Tingley

CEnv, BEng (Hons), MSc, FGS, MIEEnvSc

Technical Director

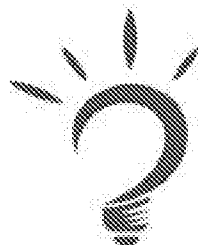
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From: Mark Wild
To: Jonathan Tingley
Subject: FW: Cornfield Close, Littlehampton.
Date: 22 January 2019 15:32:55

From: Deacon, Simon [REDACTED]
Sent: 22 March 2018 09:10
To: 'Glyn Evans' [REDACTED]
Cc: Mark Wild [REDACTED] John Birch [REDACTED]
Subject: RE: Cornfield Close, Littlehampton.

Hi Glyn, thanks for summarising our conversation. Yes we would agree to the outline proposal set out below. In addition, appropriate pollution control must be included so that the discharge quality of surface water does not impact groundwater as well.

Regards, Simon

Simon Deacon BSc MSc CGeol FGS
Technical Specialist
Groundwater, Hydrology & Contaminated Land
Solent South Downs Area



Environment Agency | Chichester Office | Portfield Depot | Oving Road | Chichester | West Sussex
| PO20 2AG

[REDACTED]



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From: Glyn Evans [REDACTED]
Sent: 21 March 2018 14:26
To: Deacon, Simon [REDACTED]
Cc: Mark Wild [REDACTED] John Birch [REDACTED]
Subject: Cornfield Close, Littlehampton.

Hi Simon, it was good to catch up with you again.

Thanks for taking the time to chat with me yesterday regarding options for storm water disposal at the above site.

Just to confirm:-

It was agreed that borehole soakaways were not appropriate given the depth to the groundwater which, as a consequence, results in insufficient depth of unsaturated zone required for the protection of the aquifer.

It is understood that you would give your consideration to a proposal to disperse storm water via a chamber/crate system within the area of infilled ground, provided the construction can demonstrate that discharge will be vertical only into the superficial natural uncontaminated soils. This is to ensure that any potential leachable contaminants within the Made Ground are not mobilised by inundation from the soakaway chambers/crates.

It is likely that further investigation will be commissioned, purely to target areas on the site where there may be a potential to locate soakaways remote from the infilled ground.

I will get back to you in due course with any further relevant information.

Regards

Glyn

Kind regards

For and on behalf of Geo-Environmental Services Ltd

Glyn Evans

MSc BSc PGDip FGS MEnvSci

Managing Director

W: www.gesl.net

Address: Unit 7, Danworth Farm, Cuckfield Rd, Hurstpierpoint,
West Sussex, BN6 9GL, UK



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From: Mark Wild
To: Jonathan Tingley
Subject: FW: Cornfields
Date: 22 January 2019 15:33:01

From: Deacon, Simon [REDACTED]
Sent: 19 July 2018 10:26
To: 'Glyn Evans' [REDACTED]
Cc: Mark Wild [REDACTED]
Subject: RE: Cornfields

Hi Glyn, thanks for the proposals. No comments at this stage. Look forward to reviewing the results in due course.

Regards, Simon

Simon Deacon BSc MSc CGeol FGS
Technical Specialist
Groundwater, Hydrology & Contaminated Land
Solent South Downs Area



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PO20 2AG

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From: Glyn Evans [REDACTED]
Sent: 18 July 2018 14:29
To: Deacon, Simon [REDACTED]
Cc: Mark Wild [REDACTED]
Subject: Cornfields

Hi Simon, trust you are well.

I just wanted to run past the spec with you for the full intrusive investigation at Cornfield Close. The general spec is indicated on the attached. As part of the geochemical testing we have allowed for 10 groundwater samples and 10 leachate tests.

I am in the office tomorrow, if you have time to discuss.

Regards

Glyn

Kind regards

For and on behalf of Geo-Environmental Services Ltd

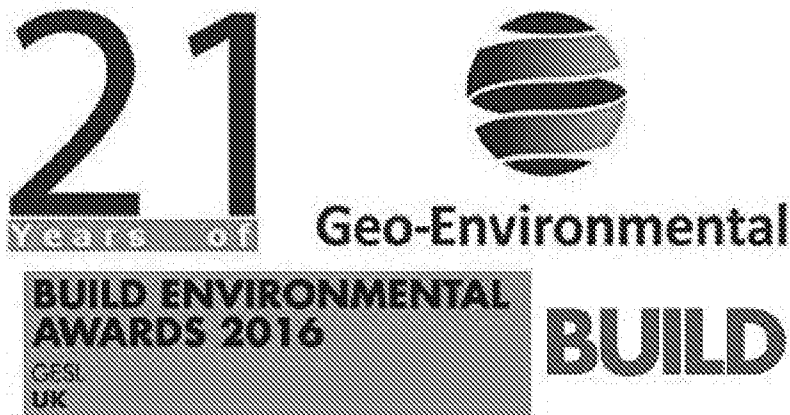
Glyn Evans

MSc BSc PGDip FGS MEnvSci

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