
From: Curley, Jane
Sent: 10 May 2023 14:22
To: Planning Comments (SMDC)
Subject: FW: Contaminated silts and ground water flows in quarry 3 at Moneystone Quarry ref SMD/2019/0646 and SMD/2022/0014

Categories:

Jane Curley (Mrs)
Senior Planning Officer (Majors &
Commercial) Mobile

From: SheilaWalters
Sent: 04 May 2023 14:39
To: Curley, Jane
Subject: Contaminated silts and ground water flows in quarry 3 at Moneystone Quarry ref SMD/2019/0646 and SMD/2022/0014

Dear Mrs Curley,

Contaminated silts and ground water flows in quarry 3 at Moneystone Quarry ref SMD/2019/0646 and SMD/2022/0014

Further to the email last week concerning the reduced levels in the lagoon in quarry 3 I am redirecting you to the comments made by the EA to you on the 13th July 2016 in respect of the outline permission as set out below and to the need for further investigation into historic contamination of watercourses and sediments.

This has particular resonance with regard to the current conditions operating at the quarry from which visible evidence of the problems of pollution can be observed as I will elaborate later.

In his report Mr Dingley from the EA said at the time (inter alia)

Land Contamination:

The information submitted identifies that the site has been subject to mineral extraction. A production facility was partially located within the application boundary and processed quarried sandstone using acid. The production facility included bulk acid and diesel storage tanks. The desk study submitted relates to the entire area of Moneystone Quarry rather than the redline boundary of the Planning Application and consequently the specific production activities which took place within the application boundary are unclear. Acidic tailings from the production process were deposited in the mineral excavations.

Such land uses have the potential to have caused contamination which may currently be impacting 'Controlled Waters' receptors of the groundwater in the underlying Secondary Aquifers and the local watercourse. Furthermore there is potential for re- mobilisation of any contaminants during site development.

An investigation of the production area will be required to determine the presence of any residual contamination in the soils and groundwater. This should take into account the findings of the investigation required for those parts of the production area lying within the boundary of Planning Application SMD/2014/0432 (solar farm).

Monitoring of surface and groundwater quality has highlighted acidic conditions which are currently impacting on the River Churnet from various streams and seepages. A full investigation of the site is required to determine the source of the contamination followed by an assessment of the risk to 'Controlled Waters' receptors and the need for any remedial / mitigation actions. This investigation should consider groundwater movement through the sides of any capped tips in addition to surface water infiltration.

Government Policy, as detailed in the National Planning Policy Framework (paragraph 120), states that 'where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner'. Therefore we recommend that the following planning conditions be attached to any Planning Permission granted to require the applicant to investigate the presence of contamination. The work undertaken to fulfil these (or any similar planning conditions that may be used) should focus on the potential impact on 'Controlled Waters' receptors. Without these conditions, the proposed development on this site poses an unacceptable risk to the environment and we would object to the application.

CONDITION:

No development approved by this planning permission shall take place until a remediation strategy that includes the following components to deal with the risks associated with contamination of the site shall each be submitted to and approved, in writing, by the local planning authority:

- 1. A preliminary risk assessment which has identified:*
 - • all previous uses*
 - • potential contaminants associated with those uses*
 - • a conceptual model of the site indicating sources, pathways and receptors*
 - • potentially unacceptable risks arising from contamination at the site.*
- 2. 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.*

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- 3. 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.*
- 4. 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.*

Any changes to these components require the express written consent of the local planning authority. The scheme shall be implemented as approved.

REASONS:

The request for this condition is based on the need to fully delineate source and significance of the acidic conditions present in the watercourses, the River Churnet and groundwater as highlighted by the Moneystone Park – Environmental Statement (June 2016). Furthermore there is a need to investigate the former production area to determine the presence of any contamination which could also impact these 'Controlled Waters' receptors. The significance of any contamination should be assessed to determine the need for remedial actions.

National Planning Policy Framework (NPPF) paragraph 109 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution. Government policy also states that planning policies and decisions should also ensure that adequate site investigation information, prepared by a competent person, is presented (NPPF, paragraph 121).

ADVICE TO LPA:

This condition has been recommended as we are satisfied that there are generic remedial options available to deal with the risks to controlled waters posed by contamination at this site. However, further details will be required in order to ensure that risks are appropriately addressed prior to development commencing.

The Local Planning Authority must decide whether to obtain such information prior to determining the application or as a condition of the permission. Should the local planning authority decide to obtain the necessary information under condition we would request that this condition is applied.

ADVICE TO APPLICANT:

We recommend that developers should:

- 1. Follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination.*
- 2. Refer to the Environment Agency document 'Guiding principles for land contamination' for the type of information that we required in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, such as human health.*
- 3. Refer to our website at www.gov.uk/environment-agency for more information.*

CONDITION:

No occupation of any part of the permitted development shall take place until a verification report demonstrating completion of works set out in the approved

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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. It shall also include any plan (a "long-term monitoring and maintenance plan") for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan. The long-term monitoring and maintenance plan shall be implemented as approved.

REASONS:

To ensure that any remedial works required as an outcome of the site investigation and risk assessment are completed to a satisfactory standard.

That was the expert advice upon which you as case officer accepted and considered when weighing the planning balance and as a result SMDC imposed specific conditions when it granted outline planning.

However despite these issues being flagged up at the time, it seems that over the past seven years nothing has taken place to address the problems.

I cannot find conclusive evidence within both the documents / reports submitted by the applicant or its agents in support of applications SMD/2019/0646 and SMD/2022/0014 respectively, or in the cursory responses by Dr McCrory to date, that the necessary remedial work and monitoring of the site as directed by the EA above has been satisfactorily carried out.

Despite this shortcoming the reserved matter applications have been submitted and given the degree of significance of the water in the lagoon and the site's controlled receptors, it would be a serious omission to proceed further without the certainty of evidence that should be required.

Instead there has been a presumption or impression within the documentation that the applicants and their agents were fully aware of and in control of the situation.

For example you may recall that in his email to you of the 8th April 2018, Mr Lloyd of Abbeydale BEC was somewhat disparaging in his remarks about the lack of knowledge of hydrology and stability that critics of the scheme had raised in their objections and concerns. However of course in June 2022 the Wardle Armstrong report in its turn vindicated much of what had been suspected and confirmed the validity of those objections.

Now with the lake levels so low at the moment, from whatever cause, the images below have raised further concerns as far as investigating evidence of contamination by ground water sources. This was required to determine the presence of any residual contamination in the soils themselves from earlier production areas, tailings etc and the monitoring of groundwater quality in 2016 according to the EA. It also highlighted acidic conditions which were currently impacting on the River Churnet from various streams and seepages according to the EA.

You will recall too that what was needed was a full investigation of the site to determine the source of the contamination followed by an assessment of the risk to 'Controlled Waters' receptors and the need for any remedial / mitigation actions. The recommendation in 2016 called for this investigation to consider groundwater movement through the sides of any capped tips in addition to surface water infiltration.

However since then, no further evidence of those investigations are on the record as instead the applicant continues to rely heavily on its earlier documentation/ reports used to support the granting of the outline permission in order to satisfy itself that sufficient work has been carried out in this regard, as stated in the Environmental impact Assessment Conformity report sections 11.4 and 11.5 for SMD/2019/0646 and again in the Environmental Statement Addendum of Dec 2021 for SMD/2022/0014.

It seems opportune now therefore to review and be reminded of the need for a more topical or up to date investigation by comparing the following images below and the observations made in that context.

Times have changed and with the onset of climate change we need to know whether ground conditions have altered as a result for better or worse. A comparison of known historic evidence with the current site conditions is therefore important in the assessment of these applications. A reliance solely on old documentation from an ES re-used in 2016 with data collected pre 2014 to support the earlier application SMD/2014/0682 seems insufficient as a base for evidence of ground conditions operating currently.

The first image below from circa 2006 shows the early stages of construction of the bund in quarry 3 that would eventually form the dam (shown by the orange line) that stretches across the south west corner of the quarry 3 extraction pit. You can see that it made up of shales and other redeposited materials that have been scraped up from the surface levels as the excavation pit has deepened and have been landscaped accordingly.



However on closer examination of the image in this second shot below, you can detect the flow paths of groundwaters emanating from the north east corner of quarry 3 which are emerging from under Whiston Eaves lane from quarry 2 to the north. You can follow the blue arrows that show how the groundwater channels fed down to the south west corner of quarry 3 and fed through to stream A.

However what is more significantly revealing are the conditions prevailing on quarry 2 (top right) where the waterlogged tailings of the former production areas show flow lines and sediments being washed through to emerge in the corner of quarry 3 as indicated by the green coloured pool and channel marked as the inflow.



As quarry 2 has still not been restored properly as agreed in the County Council's 2014 restoration plan and in 2016 was the subject of dumping of toxic waste by Genesis an agency employed by Laver Leisure, that had to be curtailed, but which was never cleaned up, the likelihood of continued contamination of the ground water flows from quarry 2 into quarry 3 as evident here was flagged up by the EA during its field investigations of the whole quarry site.

By then of course the quarry 3 pit had continued to receive groundwater flows from quarry 2 for several years after the cessation of extraction and had filled up as a lagoon. The eventual deep flooding of the quarry of course masked the groundwater flows which were still filling it from quarry 2 at a consistent rate as shown in this third image below from 2009 taken from the point of entry into quarry 3 at that north east corner.

The surge of the flow and the discolouration of the water serve to illustrate the way in which sediments containing the elements of the tailings were consistently entering quarry 3 and forming contaminated silts on the quarry floor of the lagoon.



Plate 6.3 Quarry 3 – Tailings Inlet in north east corner

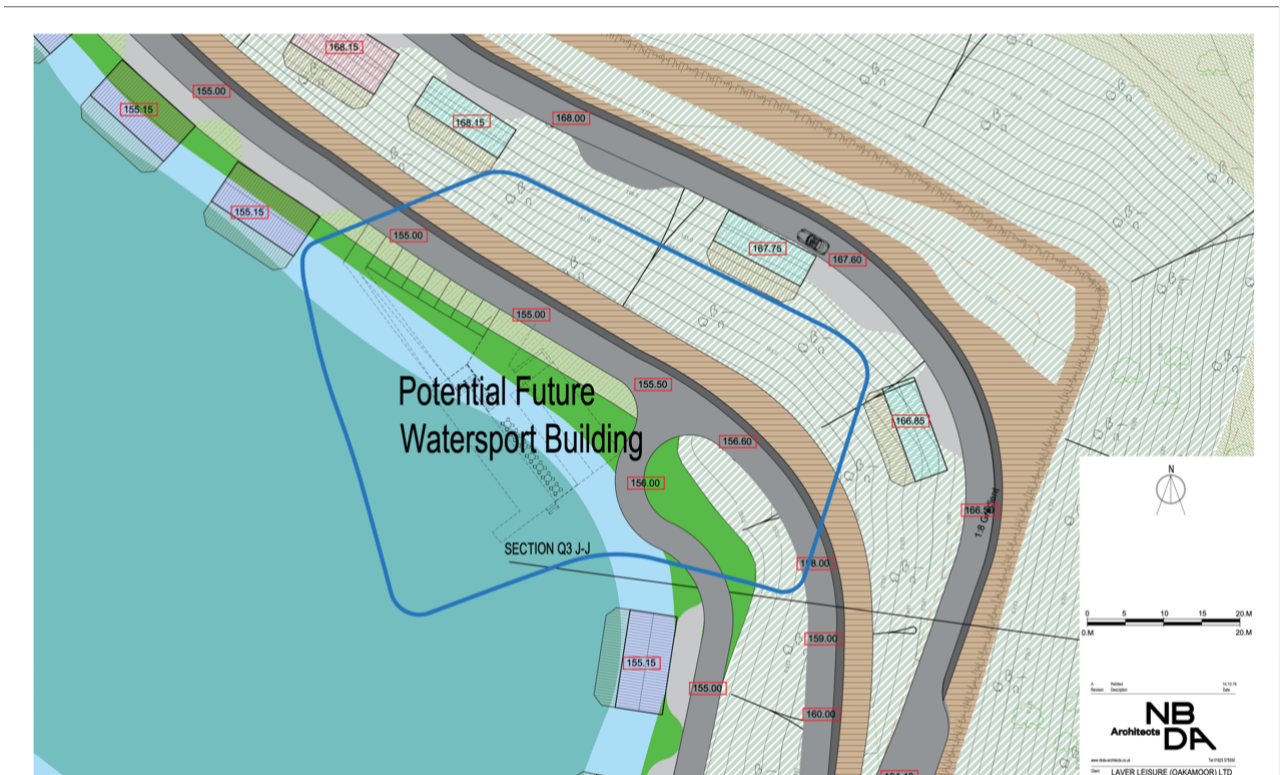
When lagoon levels peaked and the volume of water was stabilised, the inflows that were feeding the contaminants from quarry 2 below, slowed under the weight of the water and eventually redeposited the heavier silts across the site but hidden from view.

However, as now the levels have been allowed to drop dramatically, possibly by the over use of the several siphons operating in the sw corner where the bund and its safety system were damaged by the unauthorised activities of Abbeydale in 2021, the flow patterns within the redeposited silts from quarry 2 tailings are once again visible as seen in this recent drone image of the eastern end of quarry 3 .



The evidence suggests therefore that those problems identified by the EA in 2016 and which need to be remediated, should be now investigated at least by SMDC 's expert or an independent third party to verify exactly what has been going on and what residues still lurk in the bottom of the lagoon.

Given the thixotropic propensity of silica sand to form quicksands, it is also important to establish the depth of these deposits as according to the reserved matters plans leisure activities on the lagoon verges are envisaged and in the water itself. Such shallow water levels currently operating would make the future plans for the proposed watersports centre a non starter as the location, according to the 0646 master plan below, is exactly where the current sediments have accumulated and for all we know will continue to do so .



I should be grateful if you would therefore investigate this matter urgently as a matter of course in your assessment of the reserved matters and associated applications for the new outfall.

Needless to say too I should be grateful if you would lodge this email as a further objection by the Churnet Valley Conservation Society on both planning development files.

Yours sincerely,

David Walters
Secretary
Churnet Valley Conservation Society
CVCS

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