

Mr. Mark Worringham
Reading Borough Council
Civic Offices
Bridge Street
Reading
Berkshire
RG1 2 LU

25 May 2021

Our ref: 330201860RBCL001

By email only

Dear Mark,

Re: Reading Golf Club Minerals Resource Assessment

Thank you for your time during our telephone discussion on 19 May 2021. The purpose of our call was to discuss the content of the letter provided to Reading Borough Council (RBC) by Hampshire Services dated 15 April 2021.

Hampshire Services' letter was written in response to the preliminary Minerals Resource Assessment (MRA) presented in Stantec Technical Note referenced 67516TN1 (June 2020). The preliminary MRA was prepared by Stantec in response to advice provided by RBC dated 8 January 2020 (Appendix A to the preliminary MRA).

We note that Hampshire Services' letter appears to reference both the Replacement Minerals Local Plan (RMLP) adopted in 2001 and the emerging Joint Central and Eastern Berkshire (JCEB) Mineral and Waste Plan. We would however question the letter's reference to the JCEB as at the time of writing this has yet to be subject to external examination and formal adoption. As such it is considered that the 2001 RMLP retains primacy.

Policy 2 of the RMLP for Berkshire states:

"The local planning authorities will oppose development proposals which would cause the sterilisation of mineral deposits on the proposed development site, or which would prejudice the future working of minerals on adjacent sites, except where it is demonstrated that

- i. the mineral deposit is of no commercial interest, and is unlikely to be so in the future; or*
- ii. having regard to all relevant planning considerations, there is an overriding case in favour of allowing the proposed development to proceed without the prior extraction of the mineral; or*
- iii. extraction of the mineral would be subject to such strong environmental or other objection that it would be highly unlikely that it would ever be permitted in any circumstances."*

This letter is presented to RBC, not to comment specifically on the matters raised in the letter of Hampshire Services dated 15 April 2021, although we would be happy to explore our position on technical matters with RBC separately if required, but to explain the factors which would need to be considered by RBC with respect to point (iii) to Policy 2 of the RMLP.

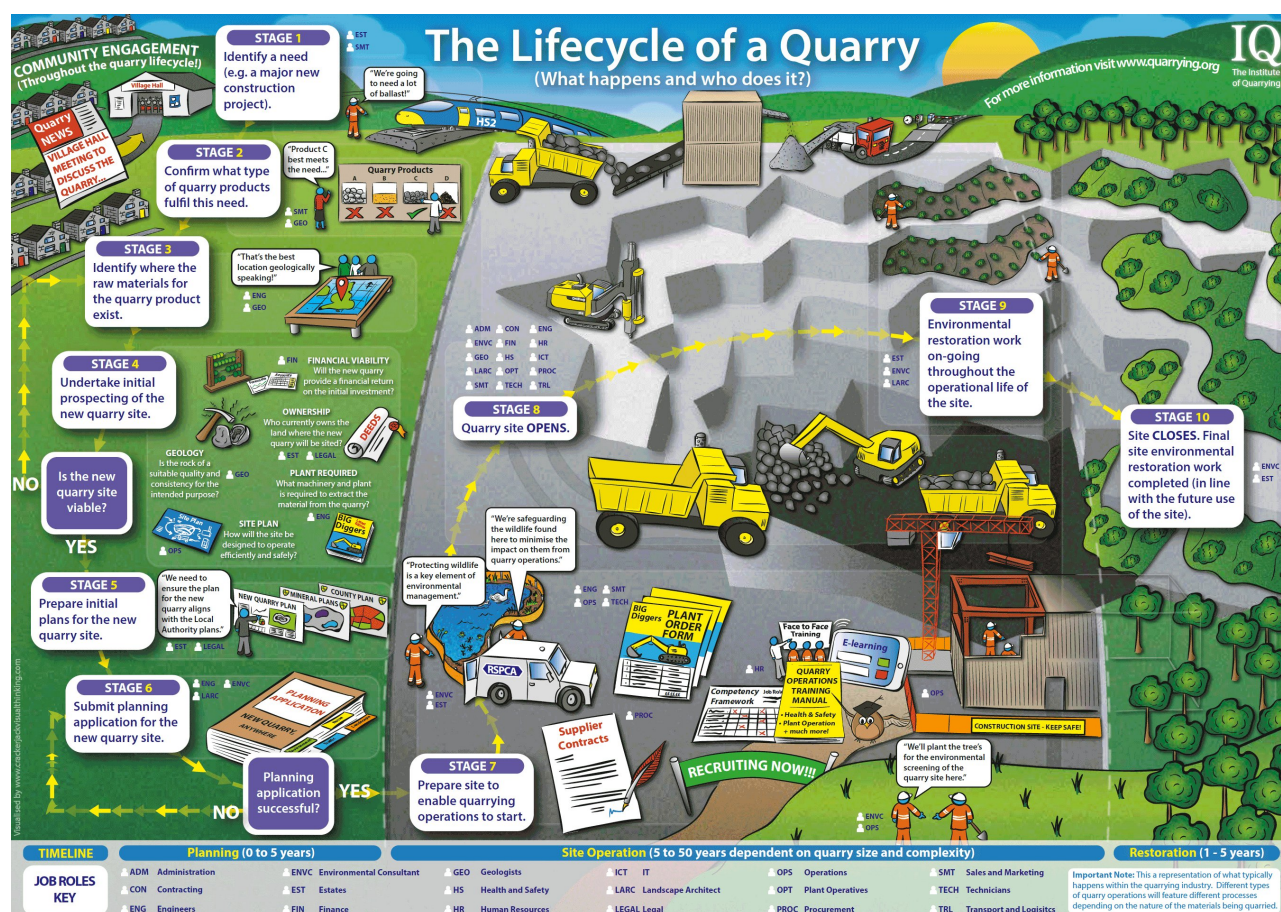
Mineral Extraction and Restoration

The mineral resource at the Site (if present) is considered to comprise superficial sands and gravels of the Black Park Gravel Member and possibly bedrock sands and clays of the Lambeth Group. The preliminary MRA estimated the theoretical mineral reserve at the site (Black Park Gravel Member only) to approximate 171,000 tonnes.

Whilst it is recognised that Hampshire Services' letter considers that strata of the Lambeth Group should be considered for safeguarding purposes, this opinion is not consistent with the extant adopted RMLP. It would be reasonable to agree that the total theoretical mineral reserve at the Site is likely to be in the same general order of magnitude of that presented in the preliminary MRA.

To aid understanding of the lifecycle of a quarry the schematic provided in Figure 1 is provided which has been produced and published by the Institute of Quarrying¹.

Figure 1: The Lifecycle of a Quarry (Institute of Quarrying)



Although the stages presented in Figure 1 are generic, the following would apply were RBC to require the working of the mineral reserve at the Site prior to or in parallel with the proposed development. This assumes that a suitably experienced mineral operator would take a commercial interest in the limited theoretical reserve at the Site.

Consents

The following regulatory consents would be required:

- Planning Permission for Mineral Extraction and Restoration from the Mineral Planning Authority (MPA);

¹ The Institute of Quarrying: <https://www.quarrying.org/>

- Abstraction Licence(s) from the Environment Agency (EA) to allow dewatering of the quarry void and water for mineral washing;
- Environmental Permit(s) from the EA for the backfilling of the quarry void using imported waste materials; and
- Environmental Permit(s) may also be required for the physical treatment of incoming wastes and water discharges.

Lifecycle Stages

Assuming the above consents are secured, the quarry lifecycle would typically comprise:

- **Vegetation clearance:** Removal of surface vegetation, trees etc.
- **Removal (stripping) of topsoils and subsoils:** These materials would typically be retained as temporary bunds around the Site perimeter and would be replaced as part of the final restored landform.
- **Construction of Infrastructure:** Including, but not limited to:
 - HGV access to public highway;
 - internal haul routes;
 - weighbridge;
 - wheel wash;
 - monitoring boreholes;
 - Site offices and welfare facilities;
 - Secure fencing and gates;
 - Mineral (and waste) processing plant; and
 - Stockpile (and waste quarantine) areas.
- **Extraction of mineral:** Typically a sand and gravel quarry is worked in progressive 'phases' to depths pre-determined through the planning process and based on geo-environmental constraints.
- **Processing of mineral:** Typically extracted sand and gravel requires physical processing to grade the sand/gravel to an appropriate standard. The mineral is also typically 'washed' to remove fine particles. This is typically achieved by processing plant within the Site.
- **Export of mineral:** Following on-Site processing, the mineral would then be exported (by road) to end users.
- **Import of restoration materials (waste):** For the Site to be returned to a suitable landform for the proposed development, the void resulting from mineral extraction would need to be backfilled. Restoration of the void would involve the importation of non-hazardous waste materials (typically comprising Construction, Demolition and Excavation wastes).

Although an industry protocol could be used to restore the Site (the CL:AIRE Definition of Waste Development Industry Code of Practice)² this is typically not appropriate for the restoration of mineral sites. As such, the restoration of the Site using imported waste would need to be regulated by the EA under an appropriate Environmental Permit. This may take one of two forms:

² CL:AIRE DoW CoP: <https://www.claire.co.uk/projects-and-initiatives/dow-cop>

- a) Landfill (disposal)³; or
- b) Waste Recovery⁴.

It is considered most likely that restoration of the Site post mineral extraction would be completed under a Waste Recovery Environmental Permit as this represents the most sustainable approach in terms of the waste hierarchy. Furthermore, it is likely that the legal recovery 'test' would be met through both obligation and financial evidential routes associated with the proposed development of the Site.

As part of restoration activities, the incoming waste materials may either be placed directly in the quarry void or subject to physical pre-treatment to remove material for subsequent off-site reuse as a secondary aggregate. If this were to be required, additional plant would be needed for the pre-treatment of incoming wastes (e.g. crushing, screening and washing plant).

Upon completion of restoration works, the Site would need to be subject to appropriate assessment and monitoring to allow the EA to approve the surrender of the Environmental Permit. If, following restoration, the EA considered the restored Site to present a continued risk to local environmental receptors, it may not allow the Environmental Permit to be surrendered. This may mean that development cannot progress until the Environmental Permit can be satisfactorily surrendered which may require a programme of medium to long term 'aftercare' monitoring and assessment.

Timescales and Viability

It is the experience of Stantec that sand and gravel quarries in the south-east of England are typically 'worked' at rates between 100,000 and 300,000 tonnes per year, subject to demand and provisions of planning permission. As a local example, Tarmac's Sonning Quarry (2.7 km south east of the Site) is permitted to extract sand and gravel at a rate of approximately 150,000 tonnes per annum.

The theoretical mineral reserve at the Site may therefore provide, at best, one to two years of extraction. Given the significant expense for an operator to secure planning and other regulatory consents, install fixed and temporary plant and infrastructure (see above) it is Stantec's professional judgement that the relatively limited theoretical mineral reserve at the Site would not be considered commercially viable to extract.

Constraints

A range of constraints have previously been introduced in the preliminary MRA, however it may be useful to highlight the following:

- **Arboriculture and Habitat loss:** To extract the theoretical mineral reserve at the Site and restore the resulting void with imported wastes, the Site would have to be worked in its entirety, no alternative would be possible given the limited reserve and footprint of the Site.

High value trees and established natural habitats which are currently present at the Site and are to be retained as part of the currently proposed development scheme would have to be removed to facilitate mineral working and restoration.

Although a scheme of replanting and biodiversity enhancement could be undertaken as part of pre-development restoration following mineral extraction (as is a key component

³ Environmental permitting: landfill sector technical guidance: <https://www.gov.uk/government/collections/environmental-permitting-landfill-sector-technical-guidance>

⁴ How to apply for an environmental permit to permanently deposit waste on land as a recovery activity: <https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits>

of quarrying in the UK), the biodiversity loss would likely not be proportionate to the limited mineral reserve at the Site.

- **Transport:** A typical 'tipper' HGV vehicle is able to carry a load of 20 tonnes. For 171,000 tonnes of processed mineral to be exported from the Site this would require an additional c.17,000 HGV vehicle movements to or from the Site.

If a two year programme is assumed for mineral extraction, this equates to 32 additional HGV vehicle movements to/from the Site each day (assuming a five day working week).

This figure does not account for HGV movements associated with the importation of restoration materials. Although such materials could be brought to the site on the empty leg of the above journeys, in reality such importation would likely be undertaken through separate contracts and fleets to the mineral export. As such, HGV movements may average 64 per day assuming restoration is progressed in parallel with extraction over a two year period and the volume of restoration material is equal to the volume of mineral extracted to ensure the Site is returned to original levels.

Incidental Extraction

Hampshire Services' letter dated 15 April 2021 makes brief assumptions relating to 'incidental extraction' (Section 6) and the removal of overburden from the Site (Section 4.4).

Although the concept of 'incidental extraction' is based on well meaning principles, it is not a commercial and project programme reality in the context of this scheme. Hampshire Services suggest that mineral may be won during normal development excavations. However, given the nature of the proposed development it is difficult to see that such excavations would be sufficient to yield mineral of any economic viability if the mineral resource is in fact encountered at all (typical foundations and utilities are unlikely to extend to sufficient depth to encounter mineral deposits).

There are any number of reasons why a developer would not consider 'incidental extraction' beyond the above; fundamentally they are not a mineral operator and would still require Site won materials to meet specific engineering specifications which would be extremely unlikely unless suitable processing plant were also installed at significant cost. The working of the full theoretical mineral reserve at the Site is already considered to be commercially unattractive and it is difficult to see how very limited mineral working during incidental extraction would be practicable, let alone commercially viable.

Concluding

The rationale for production of a *preliminary* MRA was discussed with RBC in early 2020. Our professional judgement was, and remains, that it is disproportionate to require the applicant to undertake full intrusive investigation of the Site and interpretive MRA reporting given the nature and extent of any mineral reserve which could be determined from desk-based assessment alone. Furthermore, in view of point (iii) to Policy 2 of the RMLP, it is considered that there are overwhelming environmental and local objection factors which make it incredibly unlikely that RBC would authorise the extraction of any mineral reserve at the Site and its subsequent restoration prior to the proposed development which is the subject of Outline Planning 210018.

Yours sincerely,

Chris Berryman
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Principal Consultant
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