

The Berkshire Unitary Authorities  
Joint Strategic Planning Unit  
Town Hall  
St. Ives Road  
Maidenhead  
Berkshire  
SL6 1RF

**Our ref:** WA/2017/123840/SL-  
01/PO1-L01

**Your ref:**

**Date:** 16 August 2019

Dear Sir/Madam

**Central and Eastern Berkshire Authorities – Joint Minerals and Waste Plan  
Additional Regulation 18 Consultation on the Potential Allocation of the Bray  
Quarry Extension Site.**

Thank you for your consultation on the proposed site allocation for Bray Quarry site allocation.

Please also refer to our response dated 19 October 2018 for the consultation on the Regulation 18 Central and Eastern Joint Minerals and Waste draft Plan Consultation Paper dated June 2018. The comments we made in that response apply to this site allocation.

**Summary of Constraints for Bray Quarry**

The site lies within Flood Zones 2 and 3a in accordance with our flood map for planning. Flood Zone 3 is defined as having high probability of flooding in accordance with Table 1 'Flood Risk' of the Planning Practice Guidance. The Cut main river lies adjacent to the along the south western boundary. The site also lies within source protection zones 1 and 2. The site lies on top of a secondary and principal aquifer.

**Soundness points**

We have soundness points to make for the site allocation at Bray Quarry. These soundness points cover the impacts on groundwater quality, water resources and the sequential test. I have covered these points in detail below.

**Groundwater quality and water resources**

The Bray Quarry site allocation is unsound as there is not enough evidence for us to be satisfied that the groundwater quality and supply at this site will not be impacted upon. Therefore the proposed site allocation is not consistent with national policy (NPPF paragraphs 20 and 170), justified or effective. This quarry extension is mainly within the outer Source Protection Zone (SPZ2) but a significant portion of the site (north-east) is

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within the Inner Source Protection Zone (SPZ1) for Bray public water supply that abstracts from the gravel aquifer (Shepperton Gravel Member). Two dimensional maps show that the quarry extension site is underlain by Alluvium (Secondary A Aquifer) but this overlays the Shepperton Gravel (Principal Aquifer) and it is this mineral that will be extracted. From a groundwater quality perspective this quarry extension will potentially impact on the quality of the groundwater in terms of fine sediments and therefore the nearby drinking water supply. To ensure development is sustainable, applicants must provide adequate information to demonstrate that the risks posed by development to groundwater quality and resources can be managed.

Therefore we need to see a satisfactory hydrogeological risk assessment (HRA) as part of your evidence base for this site allocation addressing our concerns about the risks to groundwater and mitigation measures to manage such risks.

## **Fluvial flood risk management**

### Sequential Test

We have reviewed the paper for the site allocation at Bray Quarry and the application of the sequential test needs to be included for this site. In accordance with paragraphs 157 and 158 of the National Planning Policy Framework (NPPF) the sequential test will need to be applied for all development in Flood Zones 2 and 3 regardless of its use. We have made this comment in our response dated 19 October 2018 to the Regulation 18 consultation. If the sequential test is not applied to the minerals and waste sites then the proposed site allocation at Bray Quarry is unsound as it is not consistent with national policy, justified or effective.

The sequential test, sequential approach and exception test need to be included in the 'Development Considerations' section on page 11 of the Bray Quarry Consultation Paper under the Flood Risk heading. They also need to be added to Appendix C: Sustainability Appraisal Extract.

On page 28 it states:

"From a flood risk perspective, this site is **considered suitable** for development but would require a Hydrological Risk Assessment as it is in a Source Protection Zone."

You will need to justify this statement about flood risk and the site suitability with a sequential test of this site allocation and other site allocations in Flood Zones 2 and 3.

### Fluvial flood risk

This site lies within Flood Zone 3a. In the Site Description Criteria and Site Constraints table on pages 7, 8 and 9 the Water Resources & Flooding section says that the site is at a 'medium' risk of flooding from rivers. This is incorrect and needs changing to say there is a 'high' risk of flooding from rivers. This error is repeated on page 28 in the comments under the heading 'Strategic Flood Risk Summary.' This also needs changing from 'medium' to 'high.' In table 1 'Flood Risk' of the Planning Practice Guidance Flood Zone 3 is defined as having a high probability of flooding.

In the Development Considerations table on page 11 the requirement for a Hydrogeological Risk assessment (HRA) has been included under the heading for Flood Risk. This needs separate heading from flood risk as the HRA is an assessment of water quality and water resources.

On page 28 under the 'Strategic Flood Risk Summary' heading the requirement for a HRA needs to be separated from flood risk as a topic. You need to say that this site will be assessed in your Strategic Flood Risk Assessment (SFRA) as part of your evidence for your local plan.

You need to say that a flood risk assessment (FRA) is required at the planning application stage. The FRA will need to be compliant with NPPF paragraph 163. The SFRA and FRA will need to be satisfactory before you can know that the site is suitable for development from a flood risk perspective. The requirement for a HRA needs to be under a separate heading about water quality and water resources.

## **Floodplain storage**

In order to meet the requirements of paragraph 163 of the NPPF you will need to consider the following points about floodplain storage. You need to consider these points as it could affect the deliverability of the proposed use on this site.

### Bunds

We note that noise and screen bunds will be provided during the works to create year-round visual barriers. The delineation and alignment of bunds should be made clear on plans submitted as part of a planning application for this site. Developers must demonstrate with calculations in their flood risk assessment the effect of bunding upon the normal operation of the floodplain. The developer may need to use computer modelling to assess the likely impact of bunds on flood flows in order to understand potential impact for the site and off site receptors. The applicant may want to consider mitigation including having openings in the bunds. Developers must address the phasing of work and the need to relocate bunds in their working plan. As the lifetime of the site passes, and the developer needs to make changes to the layout of the site, they must ensure that flood risk is not increased as a result of each major change.

### Impact on the floodplain

The most important aspect of the active working period regarding floodplains is the way spoil and topsoil are stored and moved around the site. There are few sites where excavation can be undertaken without some loss of floodplain storage. We can usually support ways of working that reduce this loss to an acceptable level during the site's active life. We note that excavated material will be transported via conveyor off site for processing at Monkey Island processing plant. This suggests that stockpiling will be minimised. However the developer will need to provide details of the proposed location of any stockpiles and provide an indications of the likely volumes and duration of stockpiled materials. The materials need to be stored more than 8 metres from The Cut main river. Materials shall be deposited adjacent to the works being carried out and only material stored in connection with the works shall be carried out by the site operator.

The impact on flood flows across the floodplain should also be considered in respect of stockpiled materials. The operator should detail measures to mitigate for potential impendence of flood flow routes. For example, the materials shall be stored parallel to the alignment of the river bank, and every 10 metres there shall be a break of 1 metre between heaps.

Ancillary buildings, batching plants, settlement lagoons, conveyors and other features associated with mineral extraction can cause problems on sites within floodplains. The applicant should demonstrate that the capacity of the floodplain shall not be reduced by the activity. Where possible we recommend that such features are located on higher

ground outside of the floodplain. The developer should provide appropriate floodplain compensatory storage where it is not possible to locate ancillary activities outside of the floodplain. The use of the higher central climate change allowance to calculate flood storage compensation would be appropriate in most cases. Developers will need to include such mitigation works in their initial planning application and working plan. We will need a level survey to Ordnance Datum before the topsoil is stripped and plan of proposed finished ground levels.

### **Restoration plan**

It is essential that developers include a restoration plan in their application. We note that the proposed restoration plan in section 3.2 includes landscaping including water features (small lakes) with nature conservation habitats. Details on the location, area and volume of the lake(s) should be provided. The wetland excavation shall not be carried out within 16 metres from the watercourse. All spoil excavated in creating the wetland or pond shall be removed to outside of the flood plain. Ground levels shall not be raised as part of the final restoration unless mitigated for to ensure no loss of floodplain storage.

### **Stand-off distances and permitting for The Cut main river**

The standoff (non-working area) from the nearest residential road has been included but the proposal does not consider stand off from The Cut main river.

Within 16 metres of a main river site operators must demonstrate that any working in the vicinity of rivers can be carried out without adversely affecting the geomorphology and structure of the river channel. An environmental permit will also be required for this activity.

A permit for any proposed works or structures, in, under, over or within 8 metres of the top of the bank of designated 'main rivers' will be required.

Other associated works affecting watercourses (whether temporary or permanent), such as route crossings for vehicles or conveyors, outfalls for site drainage or dewatering, diversions or temporary culverts should be subject to Environmental permitting considerations and procedures.

These requirements could affect the deliverability of this site allocation and will need careful consideration.

### **The Cut main river and the ecological buffer zone**

The following comments are supported by paragraphs 170 and 175 of the National Planning Policy Framework (NPPF) which recognise that the planning system should conserve and enhance the environment by minimising impacts on and providing net gains for biodiversity.

In the Site Description and Site Considerations boxes you need to refer to The Cut main river as an important ecological asset. The River Cut runs along the south west boundary of the site. The impact of the proposed development for minerals extraction on this river needs to be assessed in Objective 1: Conserve and enhance biodiversity and included in the 'Examples of mitigation measures' table on page 22.

The ecological buffer zone for the River Cut needs to be at least 8 metres away from the top of bank of the main river. For quarrying including minerals extraction there

needs to be an offset of 16 metres to protect the river while quarrying. The buffer zone needs to be protected during construction, operation and in the restoration phase of this development. We expect the ecological buffer zone to be free from any fencing, walls or footpaths. The buffer zone requirements could have an impact on the deliverability of the proposed use of this site.

The River Cut Water Framework Directive (WFD) waterbody is currently failing to meet its objective of Good Ecological Status. This is in part due to mitigation measures such as bank rehabilitation and increasing in-channel morphological diversity not being in place. The proposed development in its current form will further prevent the achievement of this objective by preventing restoration of the river corridor and failing to restore its ecological value. Therefore it is essential that any potential loss of habitat or deterioration of the water bodies is mitigated for. Furthermore, the watercourses should be enhanced to improve their physical habitat quality.

Opportunities to delivery WFD improvements need to be considered as part of the development. Opportunities to re-naturalise any existing hard/reinforced banks or degraded habitat, improve surface water drainage/treatment and to establish naturalised vegetated buffer zones along the rivers must be explored. Such improvements are a key delivery mechanism to improve the ecological status of the River Cut catchment.

Land alongside watercourses is particularly valuable for wildlife and it is essential this is protected for the following reasons:

- i. to provide for the terrestrial life stages of aquatic insects, for nesting of water-related bird species, and for bank dwelling mammals;
- ii. to provide a "wildlife corridor" bringing more general benefits by linking a number of habitats and affording species a wider and therefore more robust and sustainable range of linked habitats;
- iii. to allow for the maintenance of a zone of natural character with vegetation that gives rise to a range of conditions of light and shade in the river itself. This mix of conditions encourages proliferation of a wide range of aquatic species;
- iv. to prevent overshadowing of river margins by buildings;
- v. to reduce the risk of accidental pollution from run-off; and
- vi. to help wildlife adapt to climate change

## **Pollution prevention of waterbodies and water resources**

The following comments cover pollution prevention and water supply. We strongly recommend you cover these topics for this site allocation in order to be consistent with NPPF paragraphs 20 and 170.

### Pollution Prevention

The topics of pollution prevention of the River Cut and groundwater aquifers and water resources need to be included in the Development Considerations box and the Site Description and Site Considerations table.

The submitted document highlights that there is a risk to water quality Appendix C, Table 3.8 but under Policies DM9 and DM10 would prevent emissions from the operations impacting on water quality. This is good to see and we would want to see more detail on how this would be achieved.

Water quality is a separate issue to water resources. Water quality includes the prevention of pollution to the River Cut and the groundwater aquifers from the development. A buffer zone for the River Cut will help to prevent the sediment from the construction of the quarry from entering the river.

The site lies very close to the River Cut and there is potential for water containing high suspended solids to reach the river either directly via over ground pathway or through the gravel deposits where it is determined to be in direct hydrological connectivity to the river. Water with high suspended solids could have an impact on the ecology of the river, this could cause a deterioration in ecological status of the river under WFD.

Operational concerns would need to be addressed. It is vital that all on site operational standards are complied with regarding pollution prevention and management, and any trade effluent discharges are appropriately permitted through the Environment Agency. At the planning application stage we would expect to see a site drainage strategy to highlight what is proposed for disposal of trade, foul, surface waters. This will ensure that all water leaving the site is considered and potential impacts identified and mitigated.

#### Water resources licensing

It is likely that dewatering will be licensable. In order for us to issue a license we would need to ensure that any water dependent features impacted by the minerals extraction were protected. This could mean we would apply restrictions to the license which would impact the deliverability of the scheme. Without knowing the extent of dewatering required, the volumes abstracted and whether water will be returned, the timings of the operation etc it is difficult to advise further at this stage.

#### **Final comments**

We look forward to working with you to produce a sound and robust plan for the Central and Eastern Berkshire Joint Minerals and Waste plan.

Once again, thank you for contacting us. Please quote our reference number in any future correspondence.

Yours faithfully

**Miss Michelle Kidd**  
**Planning Advisor**

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