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## **15.1 INTRODUCTION**

- 15.1.1 Environmental effects can result from incremental changes caused by the interactions between effects resulting from a project both during the construction and operational phases. For the purpose of this assessment, the interactions between effects associated with the proposed development are defined as 'cumulative effects'.
- 15.1.2 The direct and indirect effects of the proposed development of the application site have been assessed within the relevant topic chapters of the ES prepared by suitable technical specialists. Environmental effects are assessed relative to the subject area under consideration. This approach can lead to the interaction of effects being reported in separate chapters but the cumulative effect on the same environmental resource(s) not being considered.
- 15.1.3 In response to these aspects this Chapter, prepared by CgMs, summarises the principal findings of each topic chapter of the ES to enable assessment of the potential for impact interactions. This chapter also provides a brief summary of the environmental effects identified throughout the ES and allows a judgement to be made of the overall effect of the proposed development during construction and operation.

## **15.2 METHODOLOGY**

- 15.2.1 The assessment methodology for cumulative effects involves the identification of impact interactions associated with both the construction and operational phases of the proposed development upon one or more environmental resources. This is undertaken using a qualitative appraisal process.
- 15.2.2 The assessment of the significance of effects has been based on the generic significance criteria provided elsewhere in the relevant parts of this document.
- 15.2.3 In addition where appropriate we have considered the cumulative operational impact of the proposal with that for the Ham Hydro scheme.

### **15.3 CONSTRUCTION EFFECTS**

- 15.3.1 The majority of the environmental effects identified during the construction phase are not significant as they are minor.
- 15.3.2 There is expected to be to be some minor beneficial impact in the creation of construction jobs over a two year period; any contamination will be addressed through appropriate remediation measures as necessary; and new service infrastructure will be provided throughout the site at the construction phase.
- 15.3.3 During the construction phase there will be a short term low beneficial impact on any surface water flooding through the exposure of permeable material under the existing hard surfacing and structures. Subject to an appropriate mitigation strategy there would be no adverse impact on archaeology resources.
- 15.3.4 In respect of ecology, again with the recommended mitigation this should ensure avoidance of possible minor adverse impacts on resources. On built heritage there will be some minor adverse impacts on those assets that have direct intervisibility with the site with direct and indirect effect on Weir Cottage as it forms part of the application site.
- 15.3.5 There will no adverse impact arising from noise subject to appropriate mitigation. With appropriate mitigation there should be no adverse impacts on air quality arising from dust emissions. In respect of landscaping and visual quality other than the erection of site hoarding and best practice working procedure no additional mitigation is required.
- 15.3.6 In respect of transport there will be a short term adverse impact arising from increased HGV movements on the worst case that demolition arising are removed by road. There are no wind related construction impacts. There are no daylight/sunlight impacts at demolition stage.
- 15.3.7 Overall therefore there is considered to be a minor adverse cumulative effect on local communities as a result of the construction of the proposed development. This will be a temporary effect and mainly arising from the

physical works of demolition, noise and dust and the removal of the demolition arisings from the site.

#### **15.4 OPERATIONAL EFFECTS**

15.4.1 The most significant effects during the operational phase of the proposed development relates to socio-economics. The provision of the new public realm and access to the riverside for the first time is considered to be a moderate beneficial effect for the proposed residents and the local community.

15.4.2 Indirect employment opportunities during the operation of the development are considered to be a minor beneficial effect. Increased demand for local services (health, education, etc.) is generally a minor adverse effect but can be compensated by financial contributions towards improved and new provision.

15.4.3 There will be no adverse impact in respect of contamination; any identified having been dealt with a construction phase. All new services of adequate capacity will have been installed at the construction phase so there are no residual impacts at the operation stage.

15.4.4 In respect of flooding there will be long term beneficial impact on surface water flooding at the site, that will also be beneficial for the wider area. Although it is worthy of note that during the flooding in December 2013 - February 2014 the site was not breached.

15.4.5 There are no operational impacts on archaeology. In respect of ecology with lighting mitigation and appropriate management of the new landscape there will be no significant adverse effects with a benefit to the River Thames Corridor. In respect of built heritage the proposal will have a beneficial effect on heritage assets. In respect of noise and air quality there will be no adverse effect.

15.4.6 With regard to landscape and visual quality the completed development will provide a positive benefit. In respect of transport it is considered that the proposal will have a beneficial impact on the surrounding highway network.

There will be no adverse impacts on wind or daylight/sunlight. There will be beneficial impact on sustainability through a reduction on CO<sup>2</sup> emissions.

15.4.7 As a result therefore the proposed development is considered to have a moderate beneficial cumulative effect on local communities with less traffic, more attractive buildings and settings and access to the riverside.

## **15.5 CUMULATIVE EFFECT WITH HAM HYDRO**

15.5.1 There is a proposal to install turbines at Teddington Weir on the River Thames known as Ham Hydro. Where appropriate the cumulative impact on certain aspects has been considered in the ES Chapters. This assessment does not identify any cumulative impact of these proposals in conjunction with the application proposal in respect of any impact on ecology, built heritage, noise, landscape and townscape.