

*"...Any change to or extension of development of a description listed in paragraphs 1 to 12 of column 1 of this table, where that development is already authorised, executed or in the process of being executed. Either (i) The development as changed or extended may have significant adverse effects on the environment; or (ii) in relation to the development of a description mentioned in column 1 of this table, the thresholds and criteria in the corresponding part of column 2 of this table applied to the change or extension are met or exceeded."*

It is therefore not just the environmental effects of the 'changes' that need to be considered, it is the environmental effects of the 'changes' as part of the entire World Conservation and Exhibition Centre that needs to be considered.

In accordance with legal requirements and EIA best practice, Waterman EED has reviewed each section of the Environmental Statement (ES) to assess whether these alterations result in any changes to the impact assessments presented in the October 2009 ES, or the required mitigation measures. The aim of this exercise is to conclude whether or not additional EIA is required to assess the amendments. The results of this review are set out below.

#### **Chapter 4 – Alternatives**

The heights and location of the flues were modified in order to ensure that any chemicals being discharged through the flues from Conservation and Scientific Research areas would be discharged at an optimum height and speed to ensure correct dilution and dispersion. Due to the height and complexity of the adjacent Museum roofs as well as some of the gaps between buildings on the Site there was concern that the discharge plumes could be affected by obstacles downwind which could result in the plumes being deflected downwards into the Site and the surrounding areas. This is particularly relevant in this case due to the fact that there are narrow restricted areas between the existing building and the proposed World Conservation and Exhibition Centre development as well as a number of openable windows from adjacent properties. It is essential that the plumes can be dispersed effectively by the prevailing winds. The results from wind tunnel tests helped to determine the optimum height and location of the flues and the modified locations and increased heights outlined above reflect the data collected as part of the wind tunnel analysis. The modification of the flues is essential to ensure the safe dilution and dispersion of the fumes from all laboratories and studios located in the World Conservation and Exhibitions Centre.

During the detailed development of the building a number of technical issues arose which affected the setting out of the consented scheme. The gap between the core and the main pavilions had to be increased by approximately 200mm to enable adequate fire fighting access. During the detailed design of the cladding system the gap between the inner and the outer skins of the cladding system had to be increased to provide sufficient room in the cavity to allow safe access for cleaning and maintenance of the façade.

The consented scheme includes the stair towers clad in Portland stone, and lift towers clad in glass. It was subsequently felt that the consistent use of stone on the lift shaft walls as well as the stair walls would help to unify these vertical elements with the same architectural expression. This change in design approach uses a consistent series of plated steel structures clad in Portland stone to form the walls of the stair tower and the lift tower. This increases the amount of stone used on the project and reduced the quantity of glazing. This adds to the contribution of the form to energy efficiency by shading the lift shafts and reducing the load on the lift car conditioning systems.

Since the British Museum received planning permission for the project it has been carrying out a detailed review of its visitor operational procedures for the new exhibition space in the World Conservation and Exhibitions Centre. This identified the need for a second exit from the new Exhibitions Gallery to the North Range. The submitted design for the exhibition space has two glass entrance links to the exhibition space and a single exit glass link that takes visitor from the exhibition space into the exhibition shop. However, the Museum has established the need for the new exhibition



space to be flexible and must be capable of allowing multiple exhibition layouts and configurations depending on the type of exhibition the Museum is hosting. The space also needs to cope with a wide range of visitor capacities which will be dependent on the popularity of each exhibition. The Museum's exhibitions team has been carrying out detailed studies into how past exhibitions would be laid out in the new exhibition space. Further to this, the team has also looked at how these exhibitions have been restricted in the Museum's existing venues and how this can be avoided in the new space. This study has concluded that some exhibition layouts would be severely restricted with a single exit and would reduce the visitor experience. The Museum has therefore developed a proposal for a second exit from the exhibition space which would allow visitors to exit the gallery further west than the original proposal. The second exit has an additional benefit of allowing the Museum to host two smaller exhibitions simultaneously, if it wishes. The design of the second exit is in keeping with the design of the first exist and this approach of a 'light touch' does not require alterations to the existing building. A simple self-supporting 20 metre long glazed box connects the second exit to the originally consented exit. This glazed box is held away from the existing building to avoid any requirement to create waterproof details with the existing façade. The height of the glazed box is determined by the height of the windows on the north of the Arched Library to ensure that the box does not have any visual impact on the Arched Library.

#### **Chapter 8 - Waste**

The proposed changes do not result in any changes to the proposed quantum of floor space and therefore the predicted waste generation will not alter from that reported in the October 2009 ES. Further, waste management procedures will not be altered by the proposed changes. The alterations to the scheme will therefore not affect the findings of the waste assessment contained within the October 2009 ES.

#### **Chapter 9 - Archaeology**

The proposed changes, including the minor changes to the setting out of the building, do not result in any alterations to the previously proposed below ground works. The alterations to the scheme will therefore not affect the findings of the archaeological impact assessment contained within the October 2009 ES.

#### **Chapter 10 - Transportation and Access**

The proposed changes do not result in any changes to the proposed quantum of floor space or car parking and access arrangements. Consequently the forecast trip generation and modelled traffic flows on the local road network will not alter. The changes will therefore not affect the findings of the transport and access assessment contained within the October 2009 ES.

#### **Chapter 11 - Noise and Vibration**

The proposed changes do not introduce any new significant sources of noise or vibration to the Site, or significantly alter the distance of previously identified noise and vibration sources from nearby sensitive receptors. As detailed above, the modelled traffic flows on the local road network will not alter. The changes will therefore not affect the findings of the noise and vibration assessment contained within the October 2009 ES.

#### **Chapter 12 - Air Quality**

The proposed changes do not introduce any new significant sources of air pollution to the Site, or significantly alter the distance of previously identified pollution sources from nearby sensitive receptors. As detailed above, the modelled traffic flows on the local road network will not alter. The flues are at a higher height than previously proposed which would further assist in dispersing



emissions. The changes will therefore not affect the findings of the air quality assessment contained within the October 2009 ES.

#### **Chapter 13 - Ground Conditions and Contamination**

The proposed changes, including the minor changes to the setting out of the building, do not result in any alterations to the previously proposed below ground works or introduce any new potentially polluting sources to the Site. The alterations to the scheme will therefore not affect the findings of the ground conditions and contamination assessment contained within the October 2009 ES.

#### **Chapter 14 - Water Resources**

The proposed changes do not result in any change in finished floor levels, the area of impermeable surfaces or introduce any new potentially polluting sources to the Site. There is no change to the overall area of green roofs. The alterations to the scheme will therefore not affect the findings of the water resources assessment provided in the October 2009 ES.

#### **Chapter 15 - Sunlight, Daylight and Overshadowing**

The change in the building footprint is very minor and does not result in the proposed buildings being any closer to the sensitive receptors modelled in the sunlight, daylight and overshadowing assessment. The flues are so small in massing that they would have no impact on sunlight, daylight and overshadowing at surrounding properties. The alterations to the scheme will therefore not affect the findings of the sunlight, daylight and overshadowing assessment provided in the October 2009 ES.

#### **Chapter 16 - Ecology**

The Site is deemed to be of negligible ecological value and the proposed changes do not alter the scope of the ecological enhancements previously proposed and assessed. The alterations to the scheme will therefore not affect the findings of the ecological impact assessment provided within the October 2009 ES.

#### **Volume 2 - Townscape and Visual Impact**

The proposed changes to the setting out of the buildings is unlikely to significantly affect any of the views assessed in the October 2009 ES and therefore it is not considered this change would change the findings presented in the October 2009 ES.

Revised visually verified montaged (VVMs) have been prepared to assess whether or not the change in height and position of the flues is visible in the assessed views from Bedford Square. The original and revised VVMs are appended to this letter. The revised VVMs show that the flues are not visible above the roofline of the properties on Bedford Square and consequently the changes to the flues will not affect the findings of the Townscape and Visual Impact Assessment provided in the October 2009 ES.

The lift towers that are subject to changes in proposed materials are not visible in any of the assessed views and would not be easily visible from the street. Consequently the amendments to the materials to the lift tower flank walls will not affect the findings of the Townscape and Visual Impact Assessment presented October 2009 ES.

### **Volume 3 - Built Heritage**

Purcell Miller Tritton prepared the Built Heritage assessment for the October 2009 ES and has concluded that despite the proposed amendments, the conclusions of the Built Heritage assessment remain valid.

The existing Listed Building Consent gives approval for the existing Level 2 string course/window cill (which was introduced in the 1930's when the North Wing of the British Museum was adapted to accommodate the mezzanine windows to the East and West Supplementary Rooms) to remain in situ, but its height would be cut down between the windows at the new connecting bridges in order to bring it down to the level of the proposed internal Level 2 floor.

Detailed surveys have shown that to accommodate the second exit from the Exhibition Gallery the cills at the windows will have to be cut down considerably more than was previously envisaged in order to accommodate to the existing floor level. By reducing the cills in height their integrity as stone cills would be lost, and it is now proposed that they should be removed entirely from each opening between the window reveals (there is an existing straight joint on the line of the inside of the window reveals in each case, making their removal straightforward).

The brickwork beneath the string course is of original Smirke construction, and so it is intended that this will not be disturbed. The new bridges and Level 2 external walkway will be supported onto this brickwork in a way which keeps it intact, resulting in no change to the impacts on built heritage.

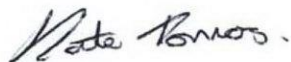
In conclusion, the conclusions of the 2009 Built Heritage assessment remain valid.

### **Chapter 17 - Cumulative Impacts**

As there are no amendments to the above technical studies there are no alterations required to the cumulative impact assessment.

In light of the above conclusions it is considered that the amendments are unlikely to give rise to significantly different environmental effects than previously identified, and that consequently EIA would not be required for the proposed amendments. No further mitigation is required and the October 2009 ES still provides an accurate assessment of the potential environmental impacts associated with the latest proposals for the World Conservation and Exhibition Centre.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Kate Tomos'.

Kate Tomos  
Principal Consultant  
For and On Behalf of Waterman Energy, Environment & Design

Encl: Drawings 5370-FD-SE-CC-0272, OX 4504-9-001, 5370-FD-PL-0126, 5370-FD-PL-0131  
VVMs (consented and proposed) of views from Bedford Square