CampbellReith
consulting engineers

Hoxton Holborn
Surface Water Management

The development proposal is to extend the existing rear wing along Newton Street by 1 storey, and provide a new part 4, part 6 storey extension over and infilling the rear service yard.

Currently, the area which would be affected by the proposed extension is hard covered, either by building footprint or the service yard.

Within the service yard and external to the building the foul and surface water networks from the existing hotel facility which discharges to the public sewer in Green Dragon lane. These networks will need to remain operational during the development works.

The extension will be built over the service yard and at ground level the area will be maintained for vehicular access in the redeveloped scheme, with the first floor supported by exposed columns from ground level to first floor level. The site is also affected by the Crossrail alignment which has a tunnel running beneath the site, and there are restrictions/constraints around the tunnel in terms of how close foundations can be located to the tunnel. The proposed foundation solution for the extension has therefore had to adopt a mix of piled and raft foundations, as illustrated on the attached sketch, 10795-CRH-X1-00-DR-S-2000P4. As a result, there is limited available area to install any below ground attenuation measures and this has not been pursued further. The impact of the Crossrail tunnel is indicated on 10795-CRH-X1-B1-DR-S-SK100.

In order to provide some betterment of the existing situation it is proposed to install a 'green roof' over the new extension which will reduce the overall volume of run-off from the extension due to depression storage and attenuation within the green roof construction matrix. Details of the green roof proposals are shown on EPR Architects drawing 10475-EPR-00-RP-DR-A-0236 4. Green roofs can reduce run–off by a significant factor with Ciria C644 ' Building GREENer: guidance on the use of green roofs, green walls and complementary features on buildings ' suggesting in Table 10.1 that a reduction of 30-40% on run-off can be achieved by a relatively thin (50 – 70 mm) green roof. This would virtually achieve the 50% reduction requirement noted on the response from Camden (the existing site discharges approximately 9 l/s) and is the most practical measure to incorporate into the design.