

CASE STUDY

### Project Description

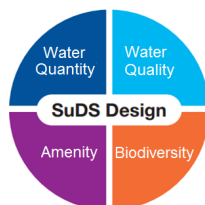
Comprising 120 build to rent homes, 211 for sale apartments and 31 apartments for affordable rent and discount market sale, the Alto development has been designed as part of Quintain’s masterplan for the 85 acre site in Wembley, which will also provide 42 acres of public realm. The masterplan is set to see Wembley Park become the UK’s largest build to rent development, with over 5,000 homes.

The blocks overlook a central courtyard, and each is clad with stone, glass and aluminium, designed to have a ‘distinctive, considered order’. A 300m<sup>2</sup> community centre, ‘The Yellow’, has also been provided, along with a gym and eight affordable artist studios.

The park conceals an associated car park for residents below ground level with a structural roof to support outside amenity gardens, dog walking facilities and a trafficked area for pedestrians and light maintenance vehicles.

### The Challenge

All new planning consents require a comprehensive SuDS plan as defined by CIRIA guidelines, ideally including the 4 main design criteria for SuDS Design. Rain water run off has to be attenuated, and in a densely populated and high amenity site there is little room to provide the commonly used deep buried tanks. These often clash with utilities, and the challenge is to utilise the amenity area and overlay the underground car park podium deck with a shallow attenuation system which can withstand the loading of light maintenance vehicle traffic.



### Project Information

<b>Client</b>	Quintain Estates
<b>Contractor</b>	Wates Construction
<b>Consultant</b>	Flanagan Lawrence Architects
<b>Products</b>	ABG bluroof Podium Deck
<b>Quantity</b>	3,000m <sup>2</sup>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Shallow attenuation avoiding deep tank solution</li> <li>• Structurally sound for light vehicle access</li> </ul>



ABG bluroof Podium Deck



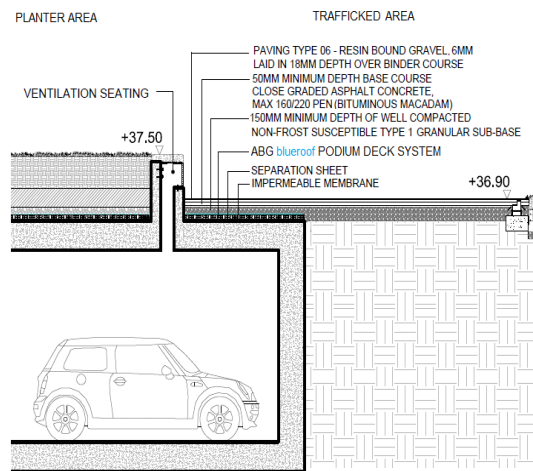


### The Solution

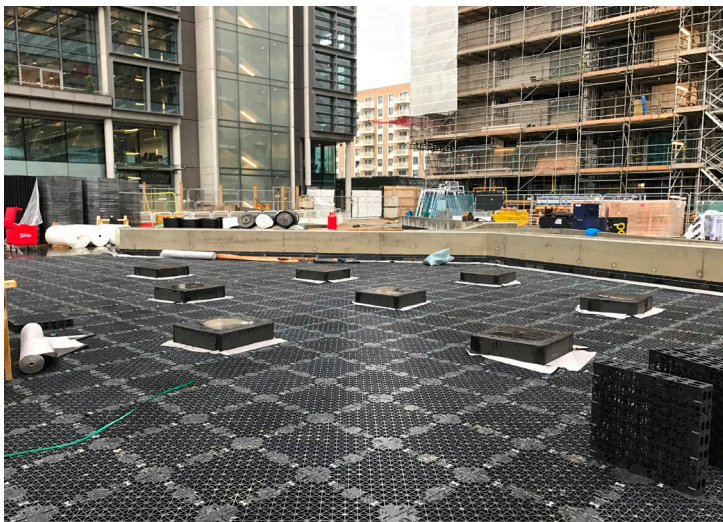
The ABG Podium Deck attenuation system was selected and designed to receive the maximum storm event and withstand loadings from light vehicles. The system incorporates ABG Restrictor chambers at the outlets which are set to outflow to allowable discharge rates. Each chamber filters the water and fits into the landscape to facilitate a pleasant attractive environment for the public. The final solution elegantly meets each of key SuDS Design recommendations of adequate attenuation quantity, improving the water quality, blending with the landscaping to form a high functioning amenity area and supporting biodiversity via stored water under planted areas.

### The ABG Service

The design team offered a design solution based on the predicted design rainfall event to minimize the necessary depth of construction and to withstand the specified loading. Advice was given on detailing along with onsite supervision.



Typical cross section showing raised planter area incorporating car park smoke venting shafts and trafficked area designed to take light maintenance vehicles. The bluroof attenuation is placed just above the waterproofing membrane



Placing void formers around upstands



Finished planter and trafficked areas