

Date: 21 May 2018
Your Ref:
Our Ref: DMJ/SMW/8459-21



Serena Whedbee
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51 Old Steine
Brighton
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Email: sfw@gsp.uk.com

Dear Serena

**VAN ALEN BUILDING, 24-30 MARINE PARADE, BRIGHTON
Loading of Car Park Roof Deck**

Further to John Spearman's email to you dated 11th May 2018 and your response on the 14th May 2018, we have now recovered our archive boxes for this 2000 development from offsite storage and reviewed our original calculations and drawings for the design of the car park roof deck.

The car park roof deck has to perform a number of support functions which includes the roadway and car parking, the ground floor slabs of the residential houses together with their gardens and planters, other landscaped areas, and for providing access for dustcarts and potential emergency vehicles.

In the original development we evaluated a number of different loading scenarios for the various situations outlined above and, to simplify the design process, decided to make an allowance for additional permanent dead load on the roof deck (eg screeds, tarmac, fill etc), together with a live load allowance of 7kN/m² to take account of other superimposed loadings that could arise, such as planters, furniture, vehicles, people etc.

This loading allowance is sufficient to provide access on to the roof deck area by normal single axle vehicles up to and including dustcarts, removal vans, fire engines and scaffolders or skip lorries. It is also suitable for supporting normal access and maintenance repair scaffolding to the rear elevation of the main apartment block or to the houses.

The roof deck has not been designed for multi-axle vehicles, such as concrete trucks, articulated lorries or mobile cranes with outriggers. However, this does not mean these cannot ever be driven onto the car park deck, but an assessment would need to be taken before doing so. It is unlikely that such vehicles would overload the structure in general, but there is a risk that concentrated local wheel or outrigger loads could punch through or damage the thinner parts of the roof slab.

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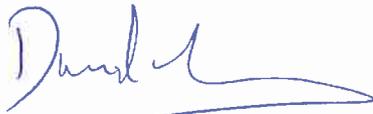


In such cases an assessment would therefore need to consider the vehicle loading and travel path when transiting and, in particular in the case of mobile cranes, its operational position and maximum wheel or outrigger load in operation.

Such an assessment can also take into consideration possible mitigating measures such as additional spreaders over the road surface in potentially vulnerable areas and/or localised propping to the underside of the slab.

We trust this brief review and summary information is sufficient for your current needs, but if you require any clarification or further assistance please contact us in the Hove office. If future requirements are likely to include multi-axle vehicles or mobile cranes travelling over or being positioned on the roof, then we could retain a selection of original drawings and structural calculations in our office to assist with any particular vehicle loading assessment in future if required.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'David Jones', with a long horizontal flourish extending to the right.

David Jones MA CEng MStructE MICE
For HOP Consulting Limited
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