

Appendix: Wind Microclimate

Annex 1: Legislative Planning Policy Context

Annex 2: Wind Tunnel Photos

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8.60 In terms of wind effects, the use of architectural devices such as screens, terraces and awnings as well as façade set backs can be used to minimise the effects of high wind speed at the base of a tall building.”

KEY LEGISLATION, POLICY AND GUIDANCE CONSIDERATIONS

- 1.1 The wind microclimate assessment has been undertaken within the context of relevant planning policies, guidance documents and legislative instruments. These are summarised below.

Legislation, Regulation and Planning Policy

National Legislation and Policy

National Planning Policy Framework, 2012

- 1.2 The National Planning Policy Framework (NPPF) sets out the Government’s planning policies for England. The NPPF is a material consideration in planning decisions. It states that the purpose of the planning system is to contribute to the achievement of sustainable development; and that planning decisions on individual applications must reflect relevant EU obligations and statutory requirements. There are no policies or statements directly relating to wind microclimate issues; however, the benefits of a high quality built environment are emphasised in the NPPF. For example, paragraph 58 states the following:

“... using streetscapes and buildings to create attractive and comfortable places to live, work and visit...”

National Planning Practice Guidance (2015)

- 1.3 The National Planning Practice Guidance (NPPG) was launched in March 2014 and provides a web-based resource in support of the NPPF. Following public consultation on a ‘beta’ version ending on 9 October 2013, the NPPG has been amended to include greater emphasis on the importance of bringing brownfield land into use and issuing more robust guidance with regards to flood risk.
- 1.4 Following its launch, a number of previously published planning guidance documents have been cancelled and are detailed within the Written Ministerial Statement titled ‘Making the planning system work more efficiently and effectively’, also dated 6th March 2014.
- 1.5 The NPPG identifies the potential for a building’s size and shape (particularly in the case of tall and large buildings) to affect the wind microclimate. Under the section addressing ‘Design: How should buildings and the spaces between them be considered?’, the NPPG states in Paragraph 025 (‘Consider form’) that:

‘Some forms pose specific design challenges, for example how taller buildings meet the ground and how they affect local wind [...] patterns should be carefully considered.’ The NPPG goes on to state in Paragraph 026 (‘Consider scale’) that: *‘Account should be taken of local climatic condition, including [...] wind’.*

Local Policy

Reading Borough Local Development Framework Adopted Core Strategy, 2008 (Updated 2015)

- 1.6 The Core Strategy makes no reference to wind microclimate.
- Reading Borough Local Development Framework, Sites and Detailed Policies Document, Adopted 2012 (Updated 2015)*
- 1.7 The Core Strategy makes no reference to wind microclimate.
- Reading Borough Local Development Framework, Reading Central Area Action Plan, 2009*
- 1.8 The Reading Central Area Action Plan (RCAAP) defines ‘tall buildings’ as buildings with 10 storeys of commercial floorspace or 12 storeys of residential (equating to 36 meters tall) or above. Policy RC13 specifies that *“tall building proposals should be of excellent design and architectural quality, and should: [...] create safe, pleasant and attractive spaces around them, and avoid detrimental impacts on the existing public realm. [and] Mitigate any wind speed or turbulence or overshadowing effects through design and siting”.*
- 1.9 The RCAAP includes the following paragraphs discussing wind microclimate effects:
- “8.59 Tall buildings can adversely affect the environmental quality of surrounding areas, particularly through the diversion of high speed winds to ground level and through overshadowing of other areas. However, good design and siting can successfully mitigate these impacts. A building, or grouping of buildings, should be modelled and simulated within its surrounding context, to examine environmental performance at an early design stage to highlight any potential issues that need to be addressed.*

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APPENDIX 2: WIND TUNNEL PHOTOS

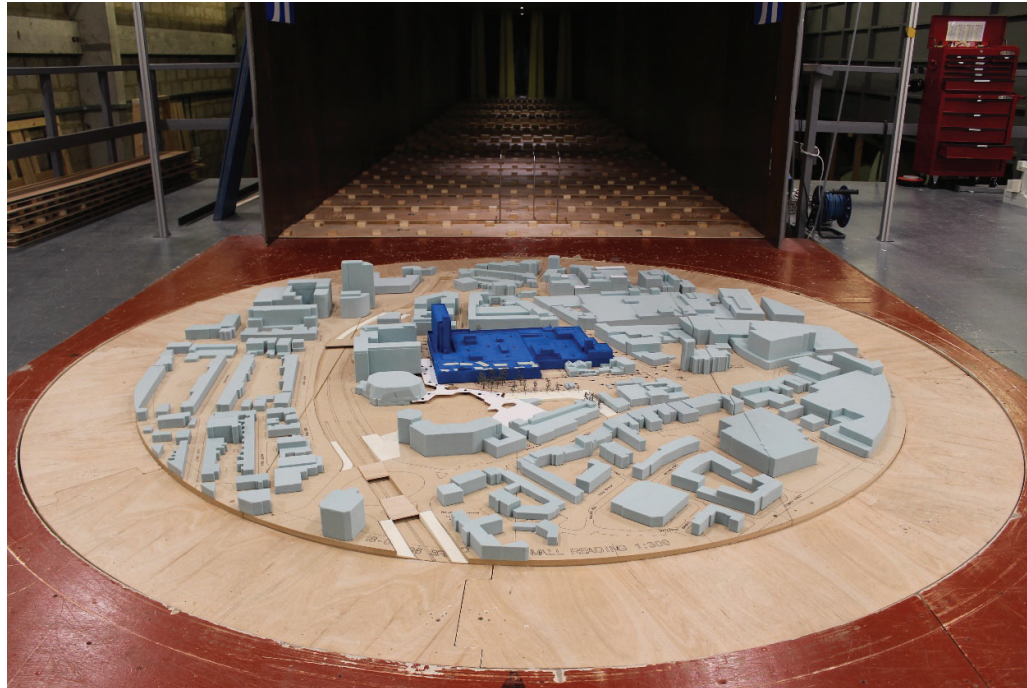


Figure 1: Existing Site and Surrounding Buildings (Configuration 1) – View in the Wind Tunnel (from the South)

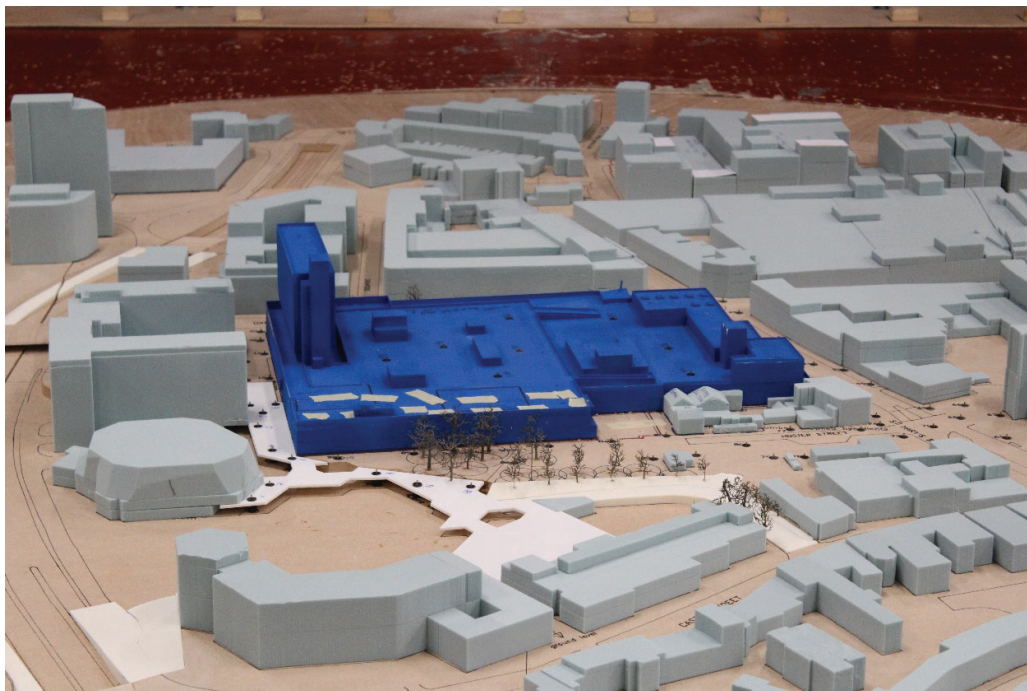


Figure 2: Existing Site and Surrounding Buildings (Configuration 1) – View in the Wind Tunnel (from the South)

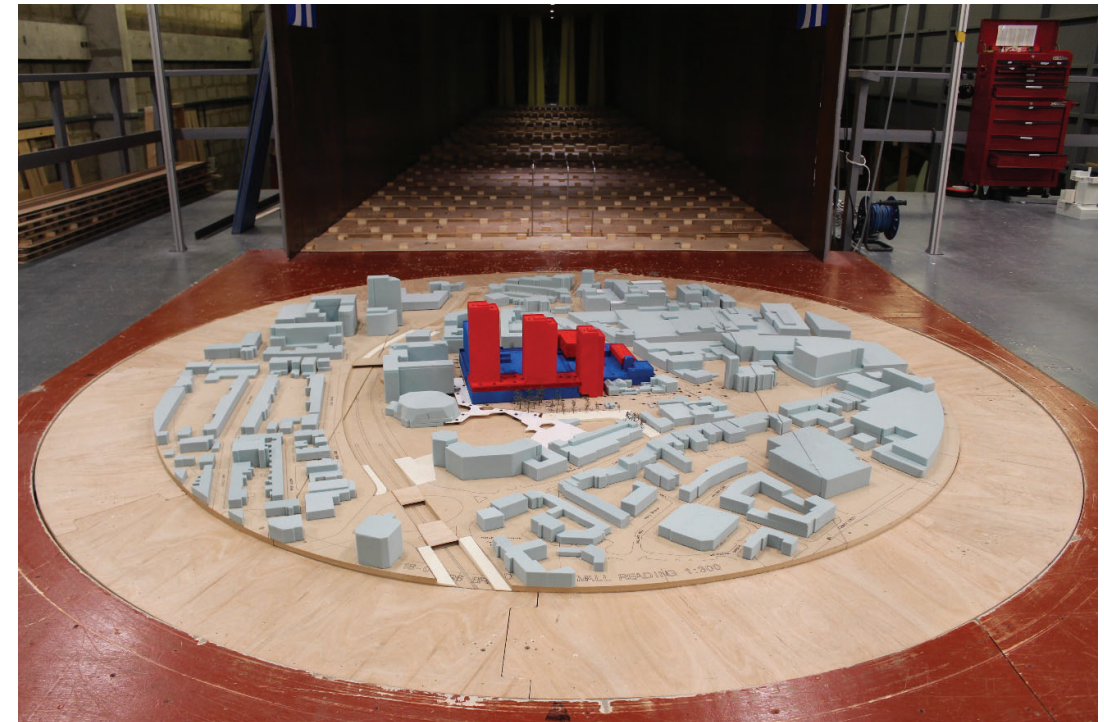


Figure 3: Proposed Development and Existing Surrounding Buildings (Configuration 2) – View in the Wind Tunnel (from the South)

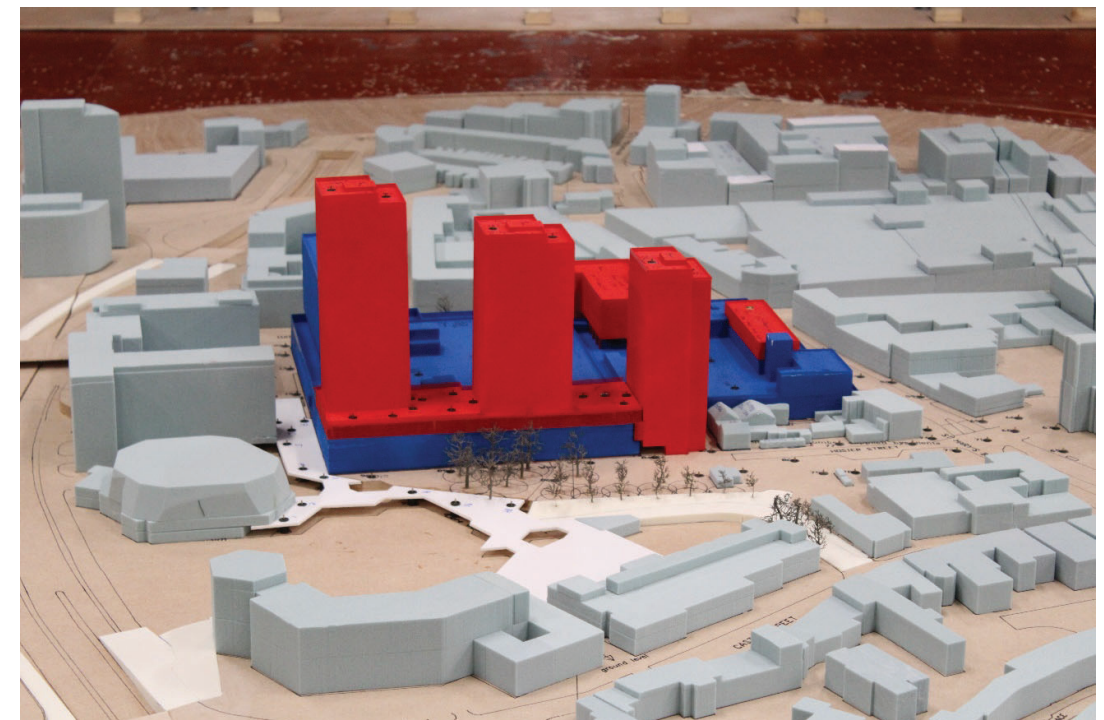


Figure 4: Proposed Development and Existing Surrounding Buildings (Configuration 2) – View in the Wind Tunnel (from the South)

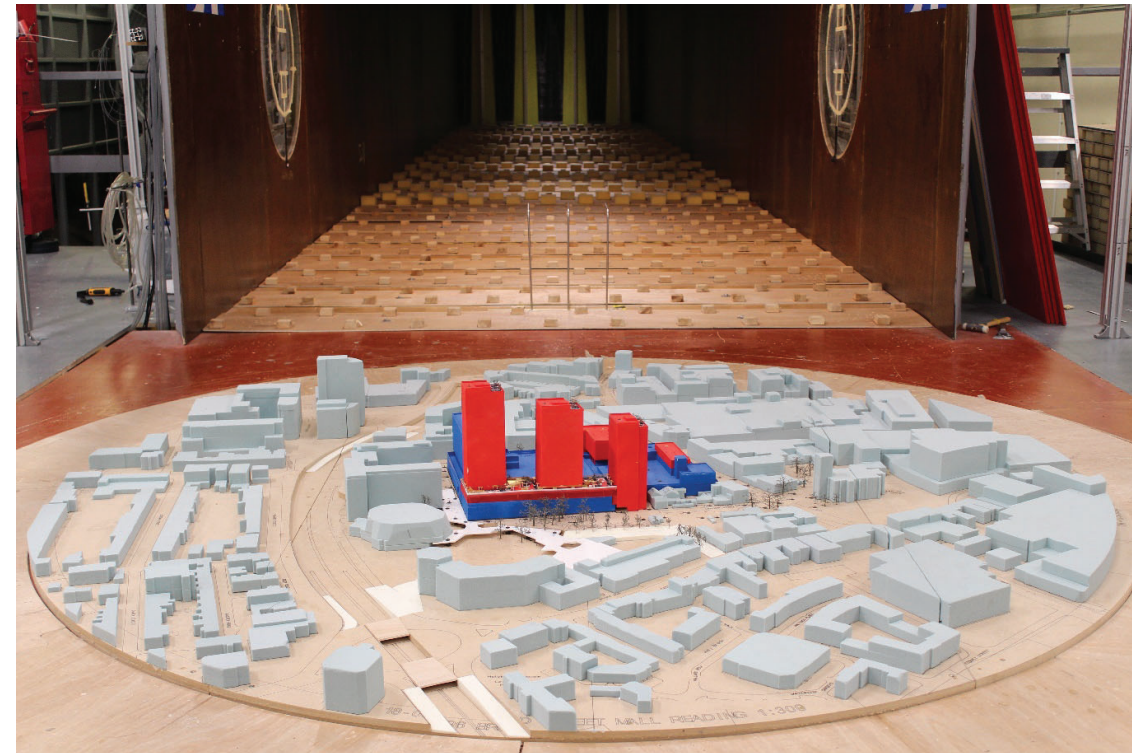


Figure 5: Proposed Development with Mitigation and Existing Surrounding Buildings (Configuration 3) – View in the Wind Tunnel (from the South)

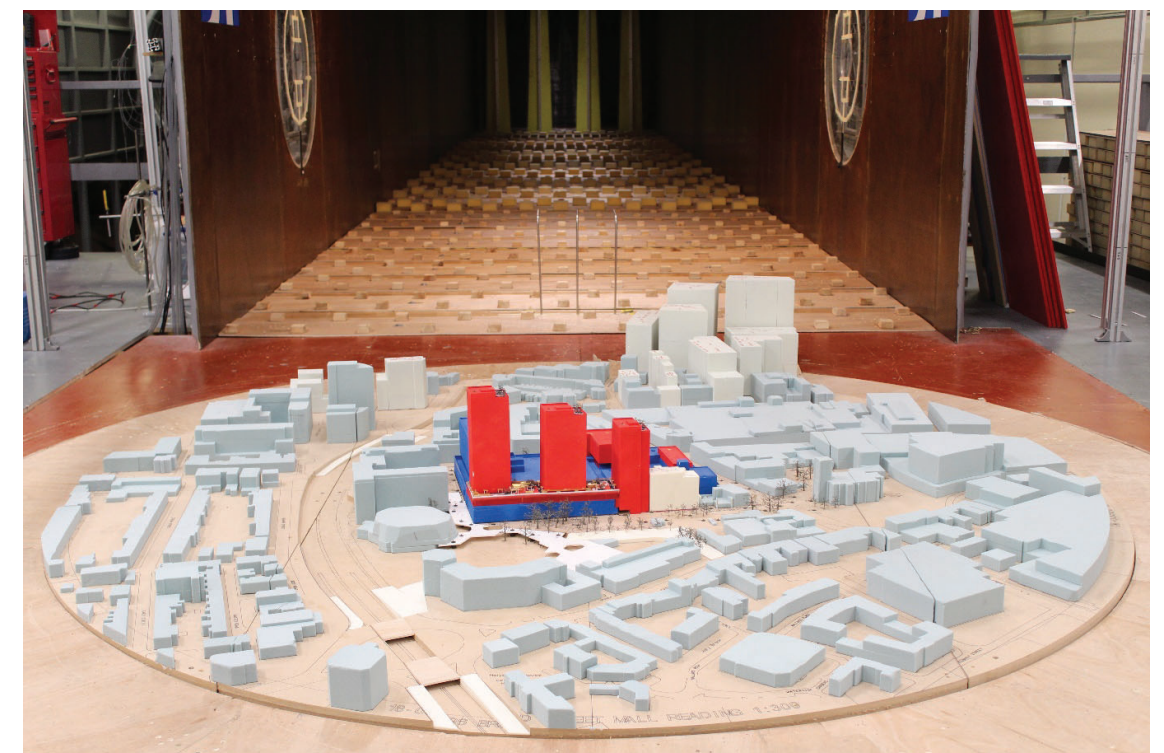
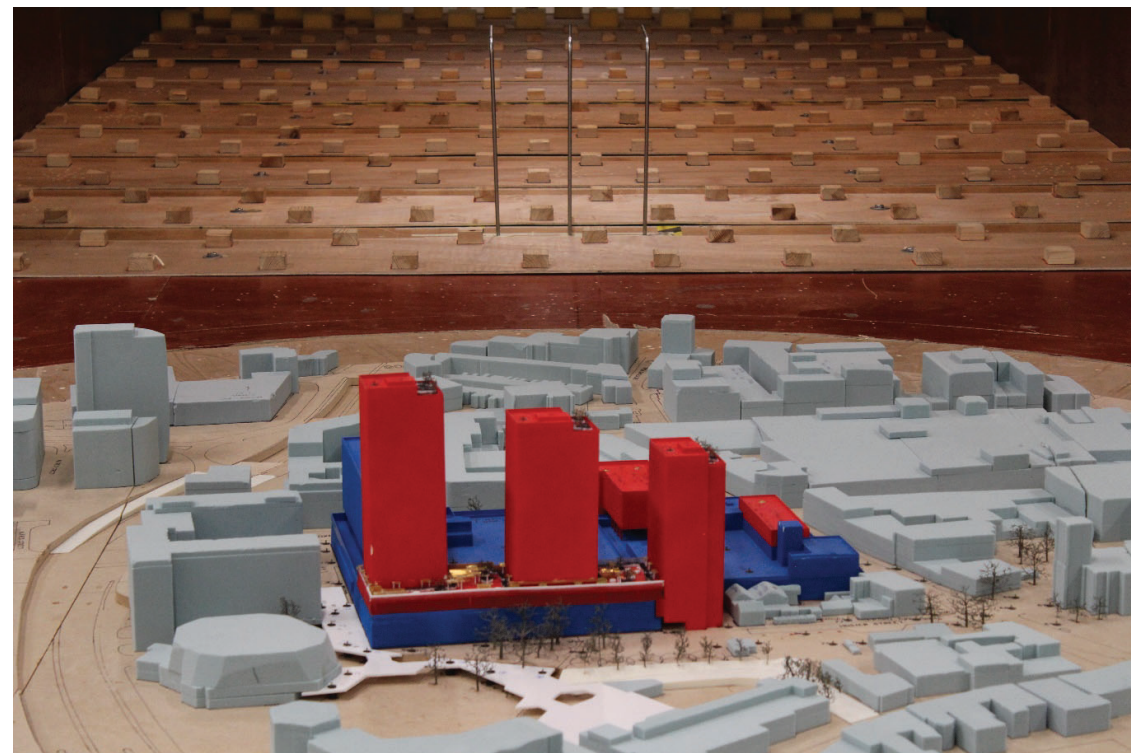


Figure 6: Proposed Development with Mitigation and Existing Surrounding Buildings (Configuration 3) – View in the Wind Tunnel (from the South)

Figure 7: Proposed Development with Mitigation and Cumulative Surrounding Buildings (Configuration 4) – View in the Wind Tunnel (from the South)

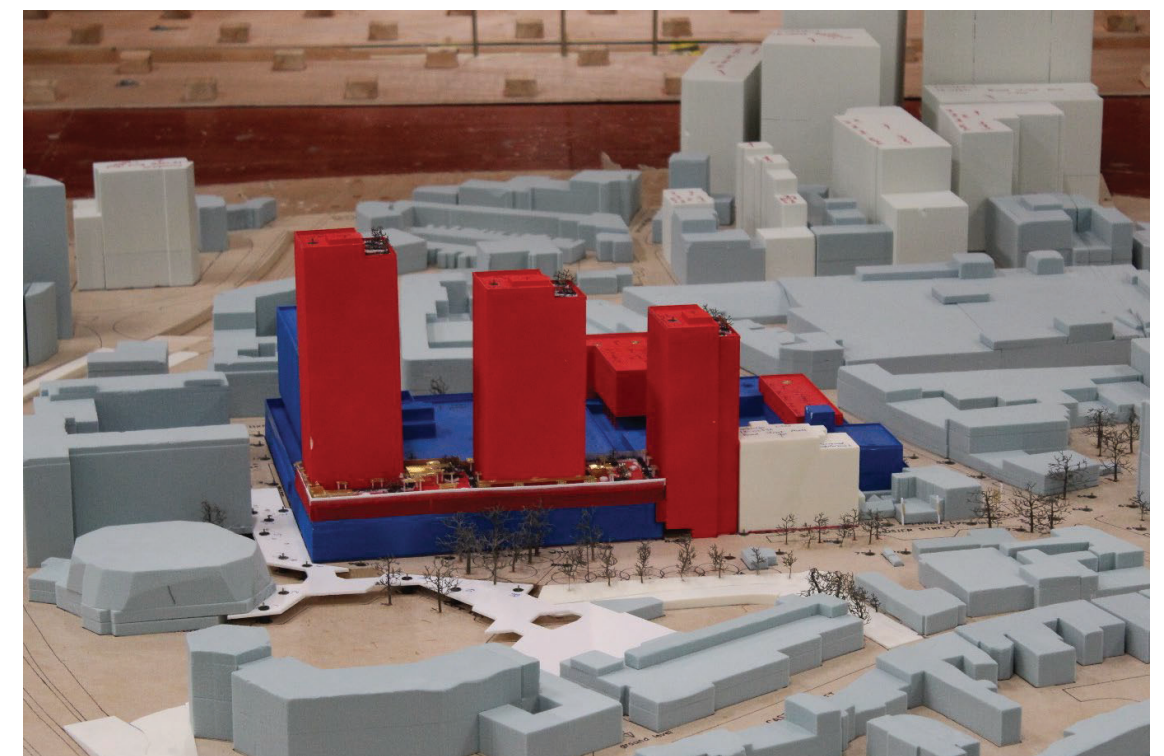


Figure 8: Proposed Development with Mitigation and Cumulative Surrounding Buildings (Configuration 4) – View in the Wind Tunnel (from the South)

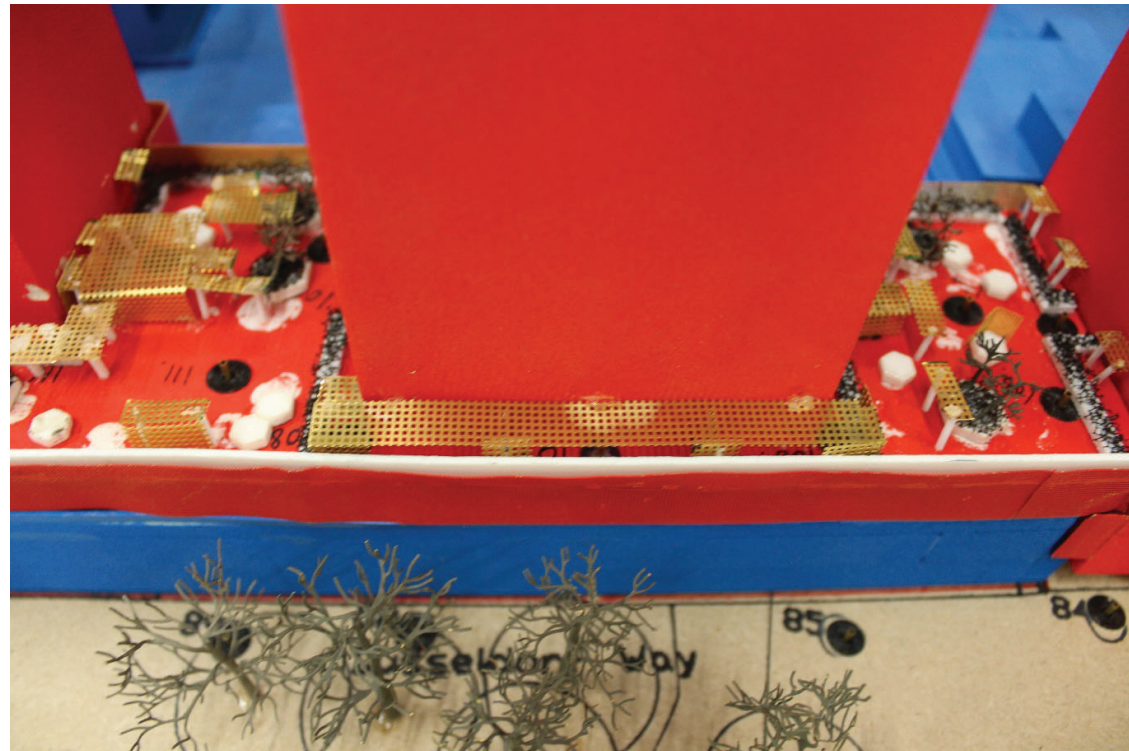


Figure 9: Proposed Development with Mitigation – Podium Mitigation (Configuration 3 and 4)

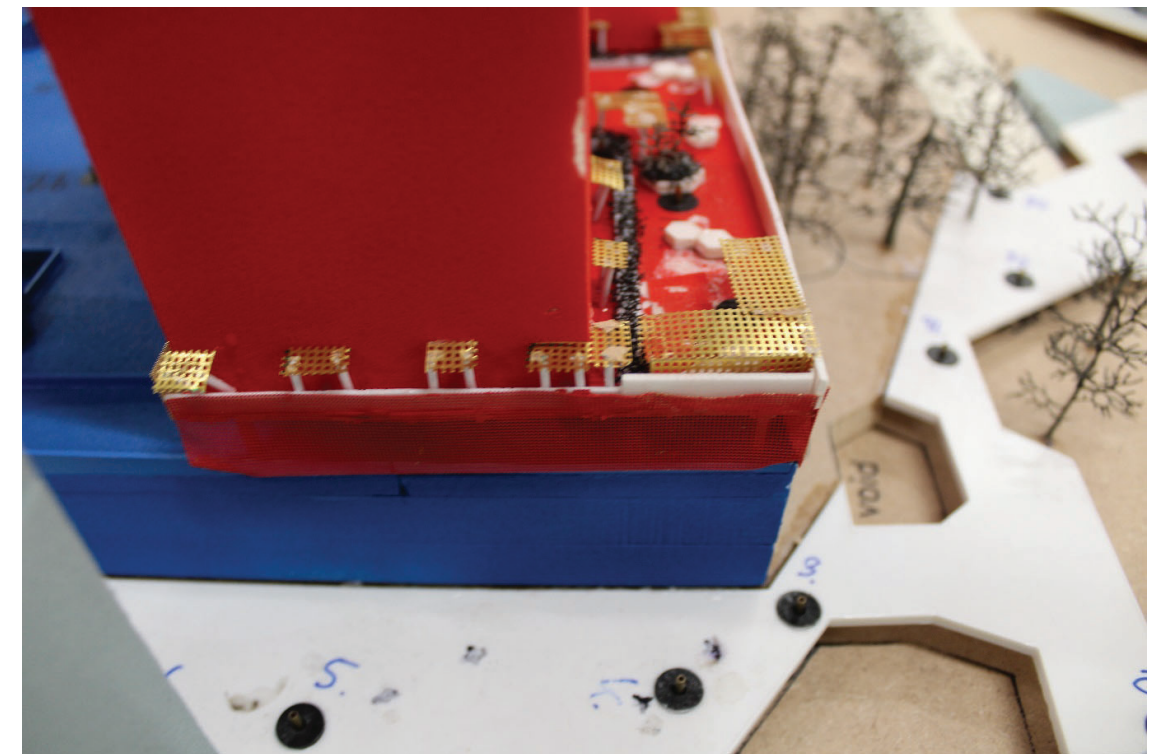


Figure 10: Proposed Development with Mitigation – Podium Mitigation (Configuration 3 and 4)



Figure 11: Proposed Development with Mitigation – Terrace Mitigation (Configuration 3 and 4)



Figure 12: Proposed Development with Mitigation and Cumulative and Cumulative Surrounding Buildings – Offsite mitigation on Hosier Street (Configuration 4 only)