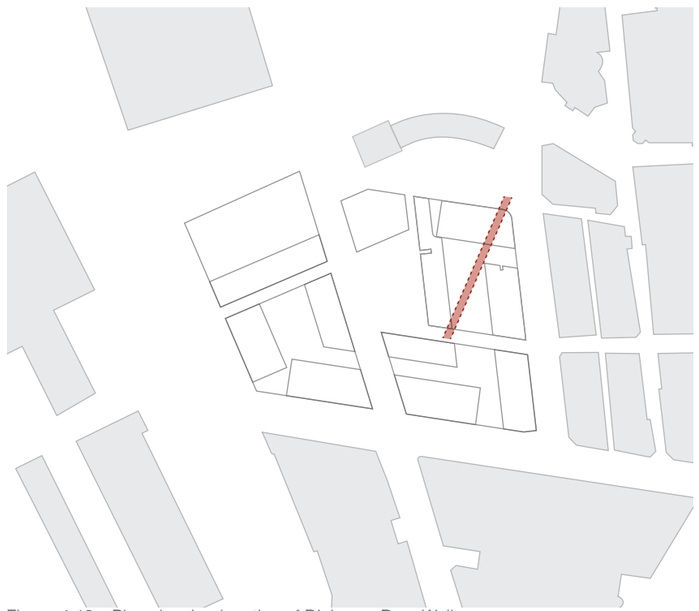

Figure 4.10 – Plan showing location of Dicksons Dam Wall

4..2 Physical Constraints

Constraints

The existing site and proposed context generates some constraints that impact the current design proposal. These have been considered to ensure a robust solution is provided which achieves a quality urban design and built form experience.

In ground conditions

There are a number of in-ground conditions around the site that are a legacy of its location on the edge of the city, and its former maritime and industrial past and of reclaimed land and historic waterline. Specifically for the NE Plot these issues include, but are not limited to:

- Significant in-ground stormwater infrastructure along the western plot boundaries;
- Significant in-ground civil and utility infrastructure and easements across the site;
- Contamination strategy;
- In-ground archaeology from Dickson's Dam (southeast corner of site boundary)
- Historic waterline

These constraints have driven a limited basement approach to the development. This approach was detailed in the Stage 1 Concept Proposal.

Figure 4.11 – Flood Level Plan - grade separation required to hatched areas

Overland flow paths

The site is located within a significant flood catchment and basin. An overland flow path passes through the existing site. As an inactive fringe of city space these flow paths have been managed around and between the existing buildings. Maintaining these corridors to avoid exacerbating the existing condition has been carefully considered and has been the subject of extensive investigation within the Stage 1 Concept Proposal and the subject SSDA7.

The cumulative impacts of climate change and increased forecast flood levels and the allowance for freeboard have significantly influenced the ground plane solution.

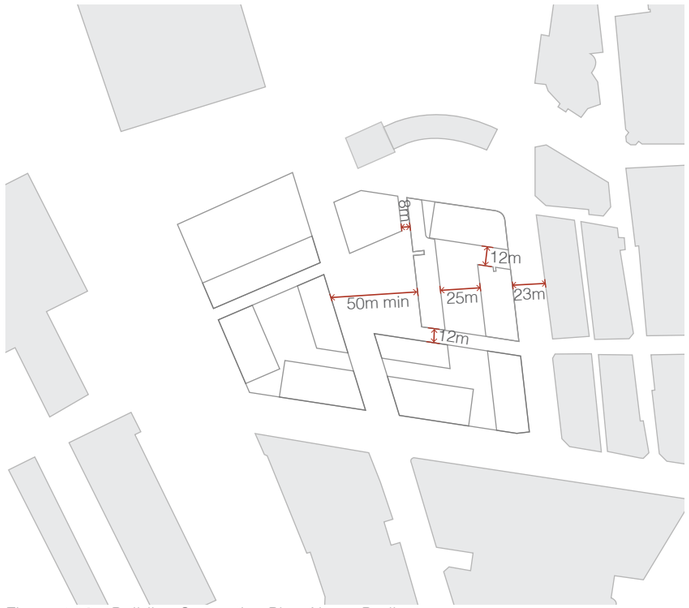

Figure 4.12 – Building Separation Plan Above Podium

Building separation

Key building separation requirements within the development are established by the Parameter Plans (approved as part of the Stage 1 Concept Proposal), particularly between the NE Plot and the adjacent plots including the SE Plot and the N Plot. Little Hay Street is a continuation of the existing street alignment and pedestrian link, to establish an intimate lane and connection to the square between the NE plot and the SE plot.

The proximity of buildings to the east and west has some impact on the solar access available to the southern, eastern and western parts of the site. This City context is reflected in SEPP 65 benchmarks established in the Stage 1 Concept Proposal.

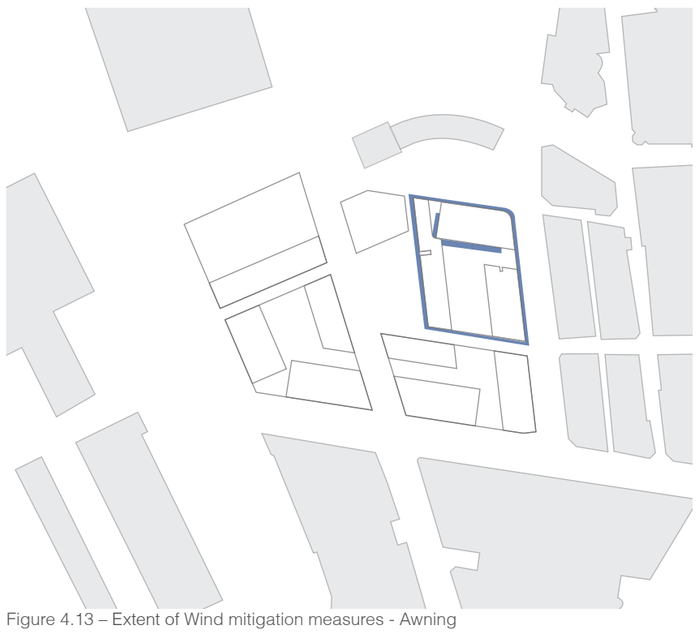

Figure 4.13 – Extent of Wind mitigation measures - Awning

Wind

Preliminary wind test analysis has determined that the anticipated development under the Stage 1 Concept Proposal does not generate significant wind microclimate issues at the ground plane. The wind conditions are typically comfortable for walking or standing around the NE Plot perimeter. Provisions of fixed canopies and retail tenant awnings will ensure viable dining and retailing opportunities. At the podium level, some amenities have been located within the building tower footprint to avoid placement between NE1 and NE3 towers where the strongest wind conditions are expected. Landscaping has been strategiccaly located along the south of the podium, and centrally between NE1 and NE2 towers to further mitigate the wind effects to the communal open space. Solid blades integral to the building design have been incorporated to the corners of NE 3 towers to provide additional comfort on balconies.

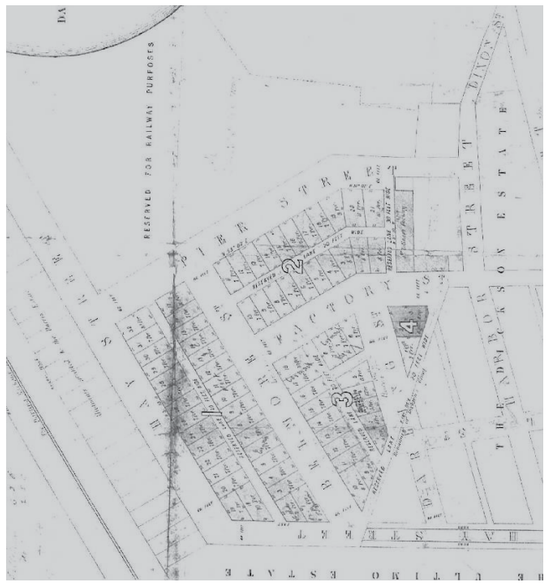

Figure 4.14 – Portion of a drawing describing the subdivision of reclaimed land at the head of Darling Harbour, 1870. Land is reserved for railway purposes. The reclaimed land is presently the site of the Entertainment Centre and adjacent carpark.
Source: State Library of NSW, ZM2 811/1870/1A.

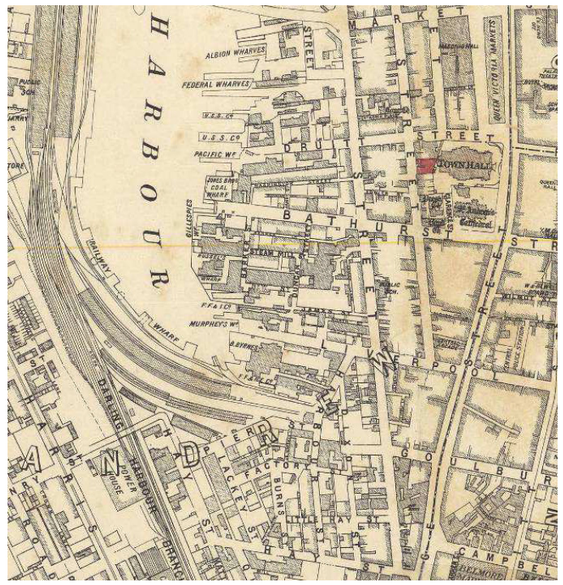

Figure 4.15 – Development at Darling Harbour is recorded on this 1903 map of the City of Sydney.
Source: City of Sydney Archives

Figure 4.16 – Dickson's dam Cockle Bay looking toward City
Photograph from 01 January 1920
Copyright: State Library of NSW

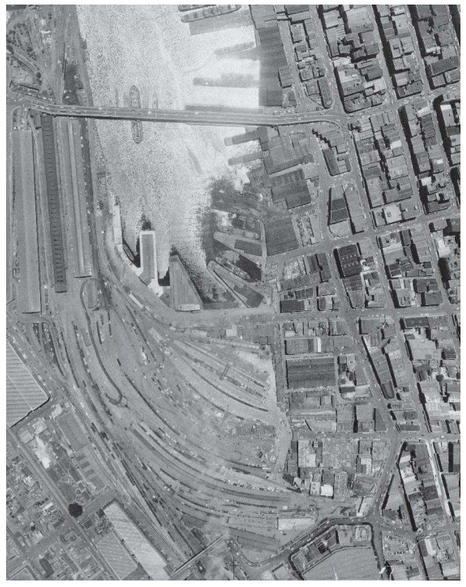

Figure 4.17 – Aerial photograph of Darling Harbour Goods Yard, 1949
Source: City of Sydney Archives.

Figure 4.18 – Aerial photo from South 1983.
Source: City of Sydney Archives, SRC 2236.

4.3 Heritage

A rich natural and man-made heritage has played an important part in the evolution of Sydney's development history. Pre-European history is not evident within the current context as the site has been cleared of natural formations and the former shoreline reclaimed. Essentially, the European history of the site begins with the formation of John Harris' Ultimo Estate in the early 1800s along the western edge of the site.

John Dickson brought a rotative beam engine in 1813 and built a mill to the east of the site, commencing a long period of industrial growth in the area. Dickson built a pier (the site of Pier Street) and a dam wall to capture the local creek run-off into the harbour, evidence of which remains today below the existing buildings. His legacy informs many of the street names in the area.

Through the mid-late 1800s the eastern edge of the harbour was reclaimed and development grew from the south-east. Warehouses and market buildings emerged to redevelop the site wiping out the finer grain of city streets.

There are three significant industrial heritage buildings around the site that create site context for the design:
- The Pumphouse dates back to 1891 – the first major public hydraulic power provider;
- The Market City building dates back to 1834 – established as a market for farmers selling food and grain, quickly becoming a thriving market for second hand goods; and
- The John Mills wool store dates back to 1883.

The industrial and market historical phase produced a rich variety of Victorian industrial brickwork buildings. Chinatown inhabits this building stock and Paddy's Market (Market City) remains as the last market building. The facade of an adjacent market building was retained along Quay Street when the UTS developed its Business Faculty. Many of the surrounding buildings and neighbourhoods have historical significance.

More recently, with the arrival of the previous and proposed Darling Harbour Live, Harbourside Shopping Centre, the expansion of UTS and its associated student housing, the Goods Line and the residential development to the west (Ultimo), the character of the immediate area is transforming significantly.

A Statement of Heritage Impact prepared by TKD Architects accompanies SSDA7 and provides a full description of heritage impacts.

An Archaeological Assessment and Impact Statement has been prepared by Casey & Lowe which accompanies SSDA7. The statement confirms that 'the study area is fully within reclaimed land within what was once Darling Harbour and therefore has no potential for Aboriginal archaeology. All testing and salvage for Aboriginal archaeology within Darling Square has been completed'.

Figure 4.19 – Aerial context plan of local transport connections