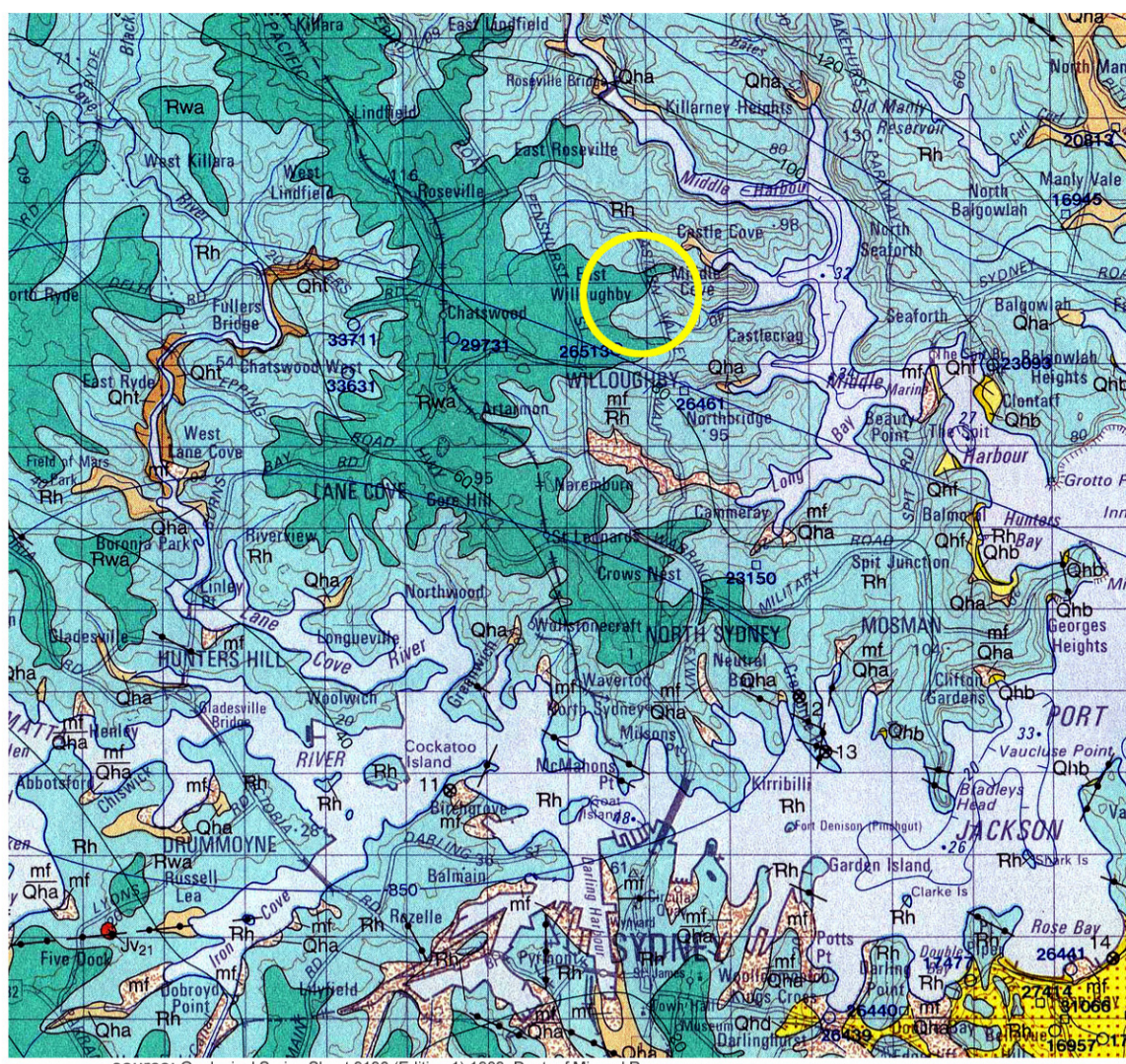
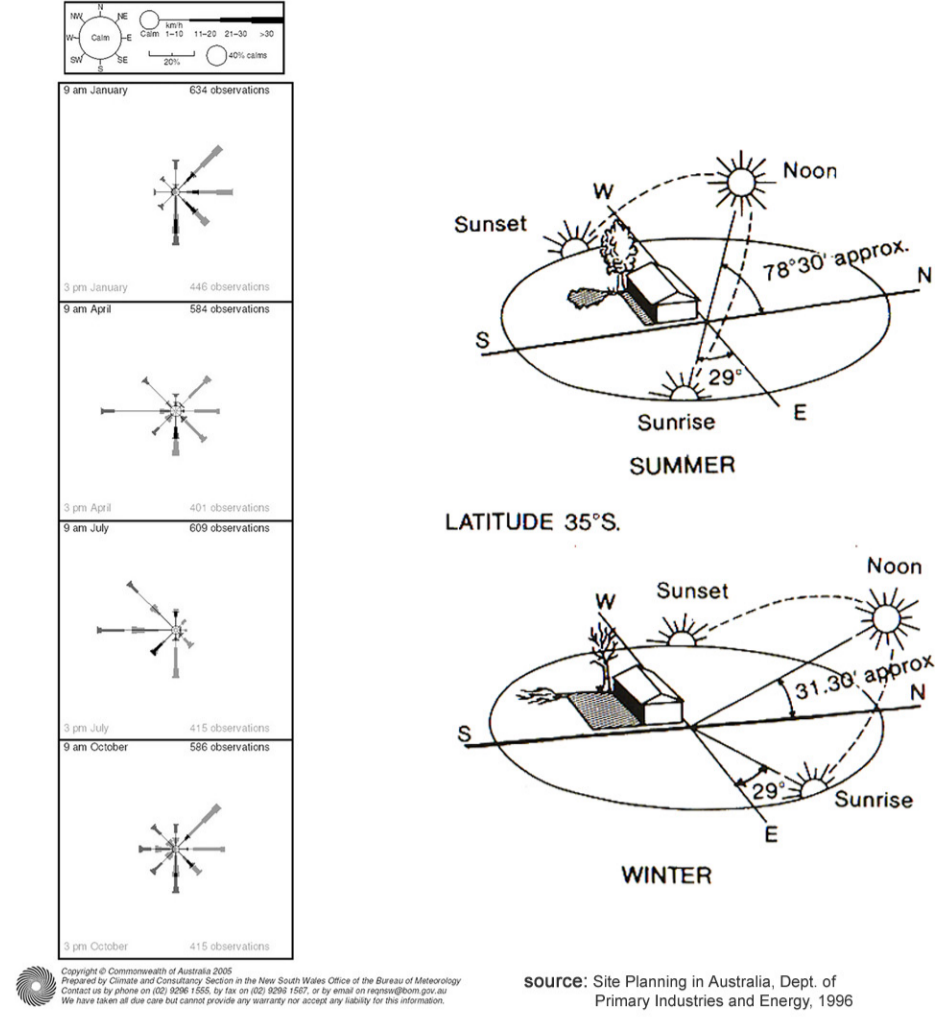
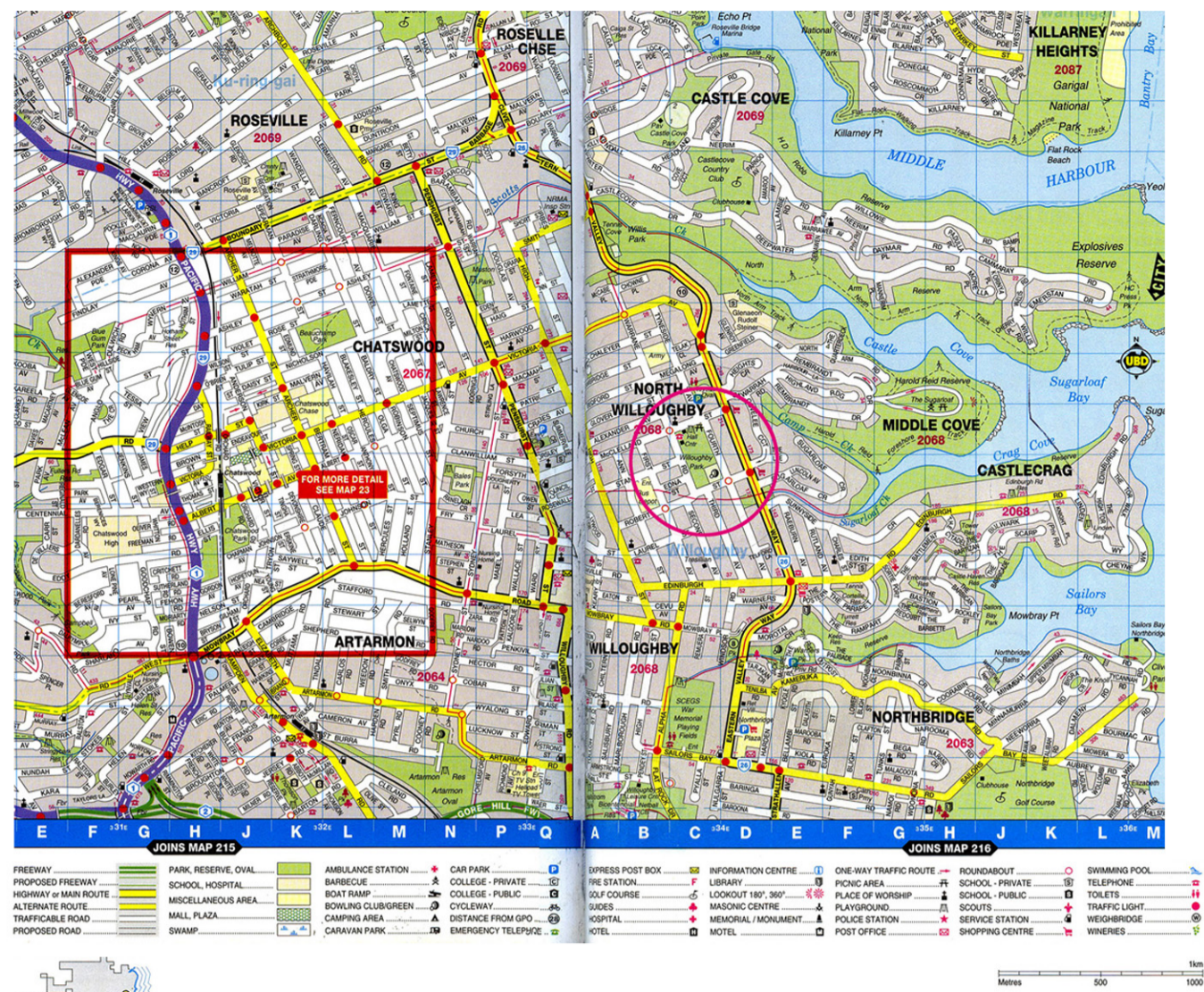


Wind Roses using available data between 1962 and 2005 for Riverview Observatory

Source: Site Planning in Australia, Dept. of Primary Industries and Energy, 1995



Source: Geological Series Sheet 9130 (Edition 1) 1983 Dept. of Mineral Resources



Source: Council of the City of Willoughby, 2005

wind

- predominant winds from the Riverview Observatory
- wind is significant due to the park's elevated position
- summer: (cool)
 - NE, E, SE in afternoons
- autumn: (hot)
 - W and NW in mornings
- winter: (cold)
 - W, and NW in mornings
- spring: (cool)
 - NE in afternoons

sun

- the park slopes S-SE
- North sun is currently blocked by large trees to the upper (northern) region of the park

geology

- the upper (northern) slopes of Willoughby Park consist of Wianamatta Shale mantle that weathers to a clay-rich, relatively fertile soil
- the lower (southern) slopes of Willoughby Park consist of Hawkesbury Sandstone underlying the shale, exposed on hillsides

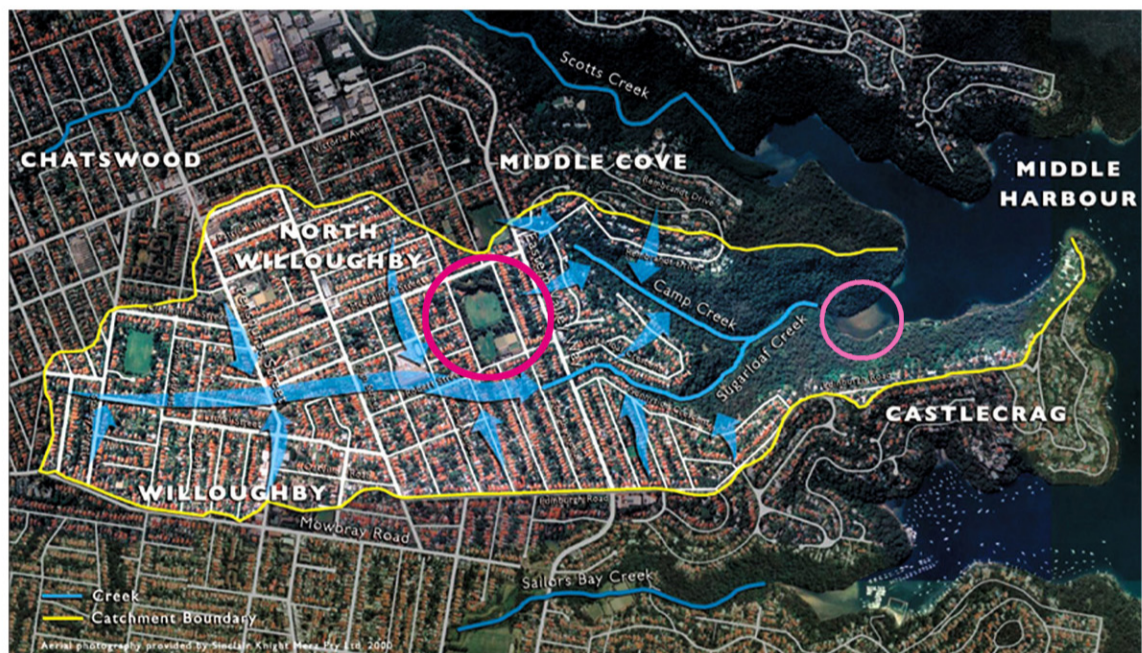
location

- Willoughby Park is located one block west of Eastern Valley Way
- it seems hidden away and local in character because of its location



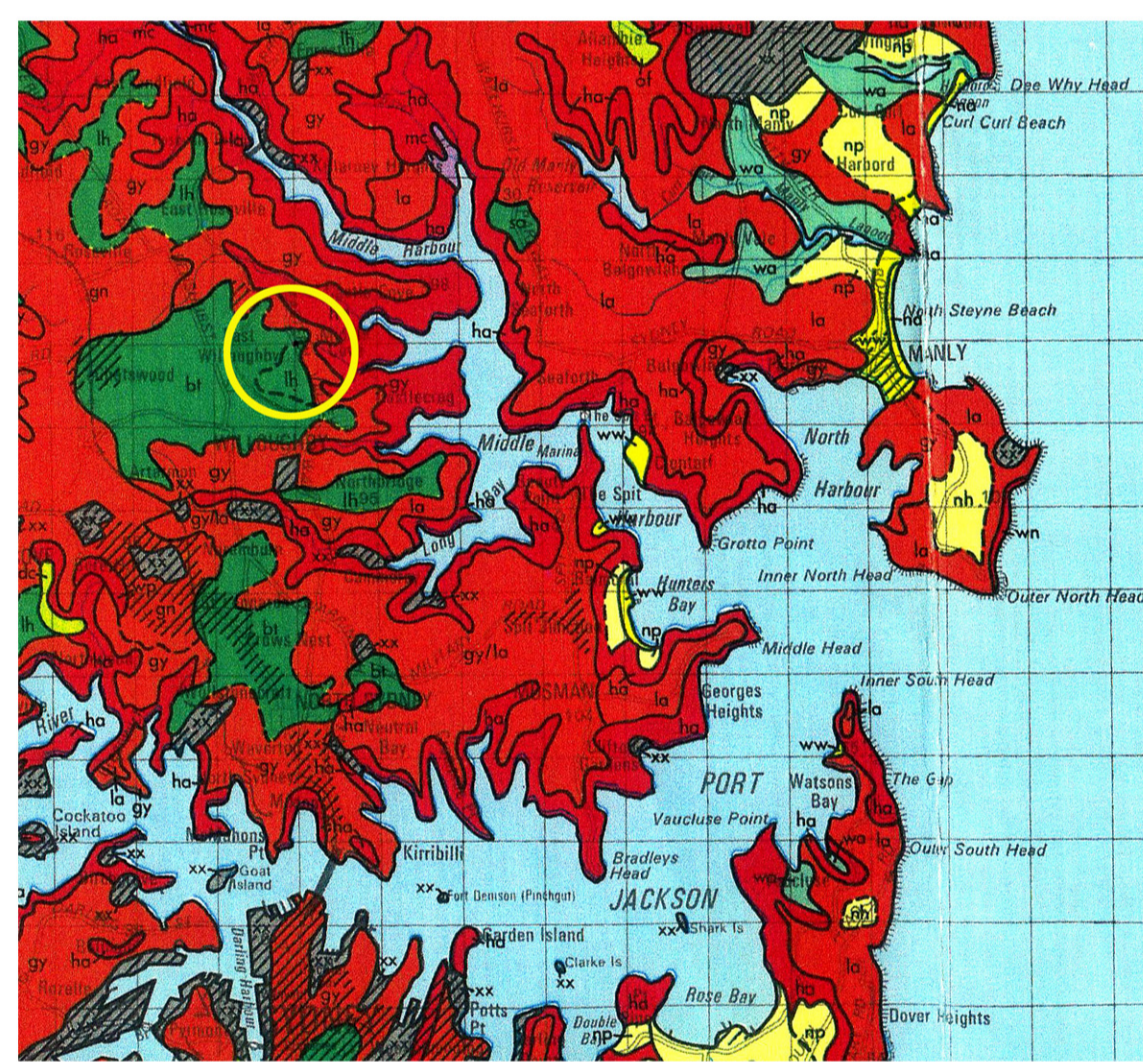
topography

- Willoughby Park is located on an elevated ridgeline
- wind is significant because of the park's elevated position
- a creek once passed through the current site of the Bowling Club



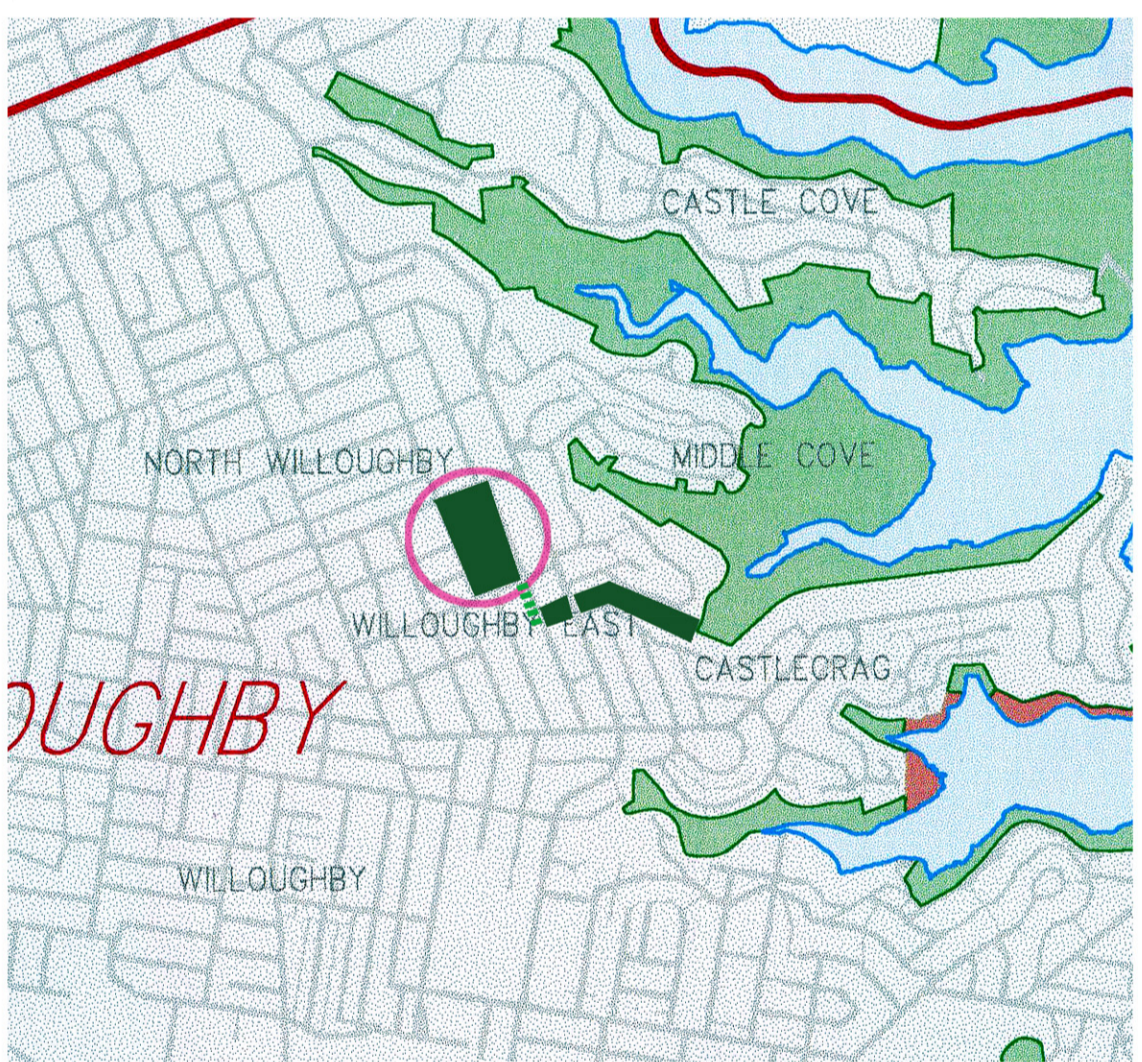
water catchment

- compacted soils and sheet runoff combined with the lack of groundcover vegetation in Willoughby Park creates soil erosion
- this contributes to sedimentation plumes in Sugarloaf Creek and Crag Cove in Middle Harbour
- these plumes are detrimental to the aquatic environment



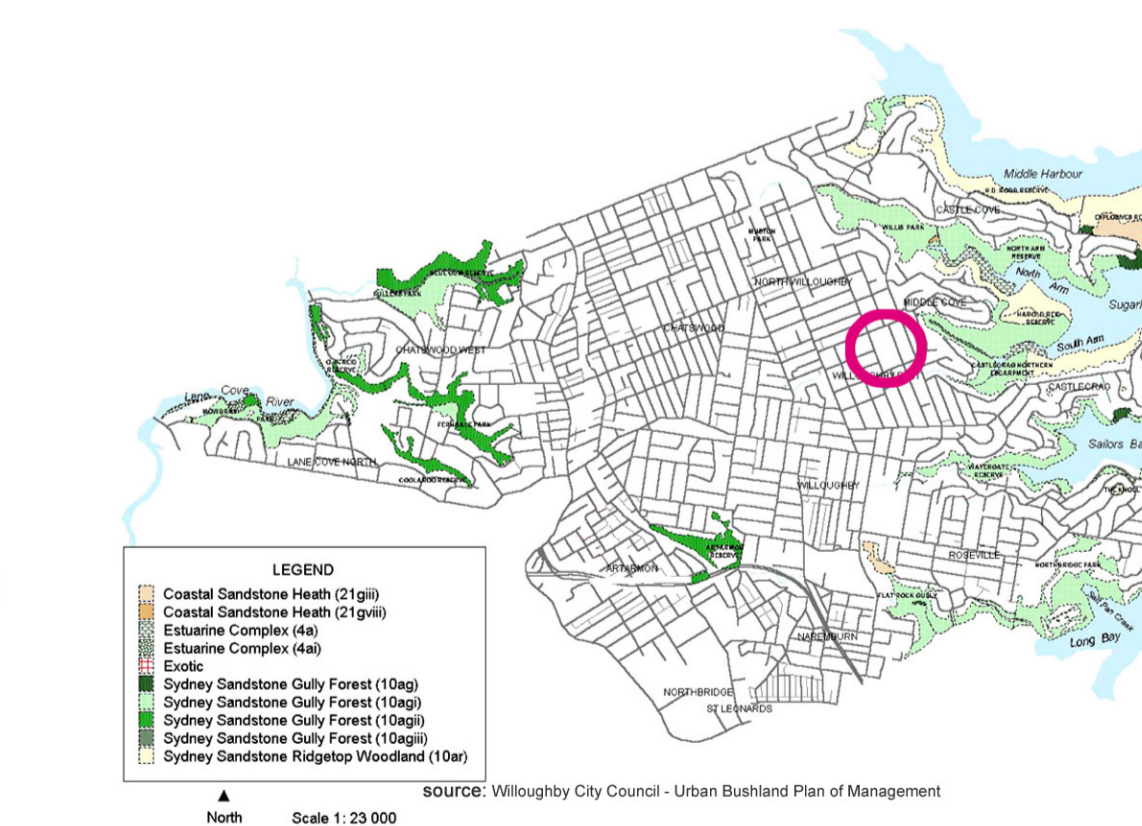
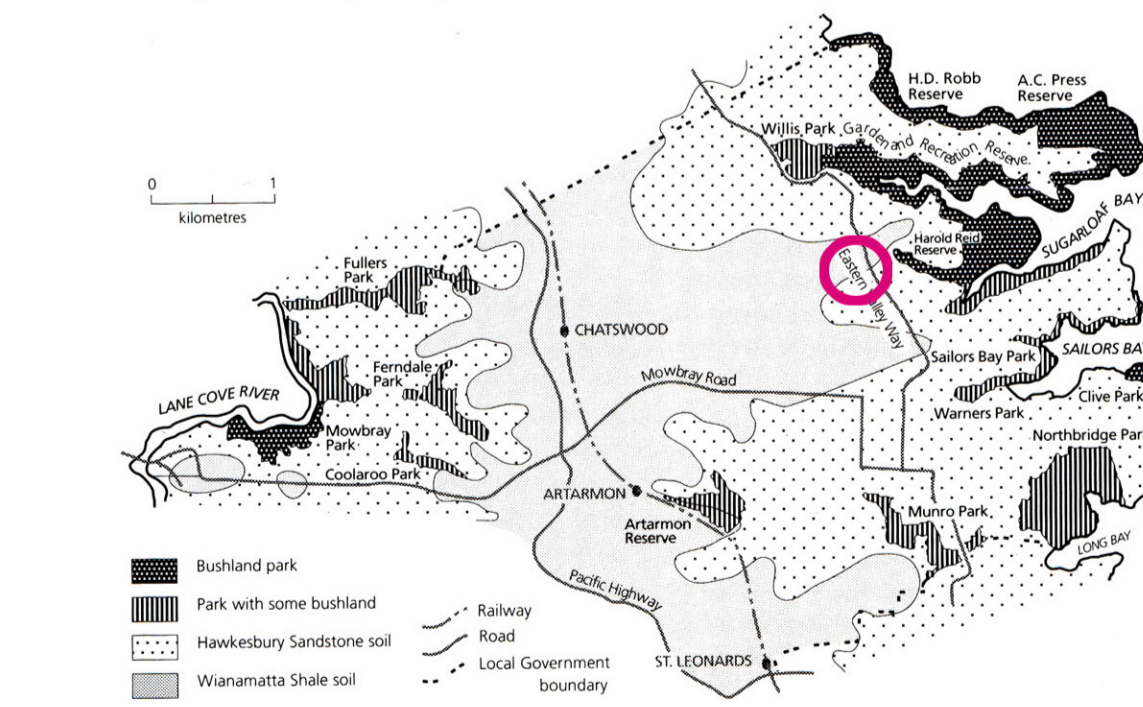
soils

- Willoughby Park's soils have been eroded and the topsoil washed away due to clearance of the original vegetation
- the park originally had transitional soils:
 - on the upper slopes were relatively rich clay soils of Wianamatta Shale mantle
 - on the lower slopes were sandier soils of Hawkesbury Sandstone
- extensive cut and fill on the site has altered the original soils to a large extent
- (also see map below)



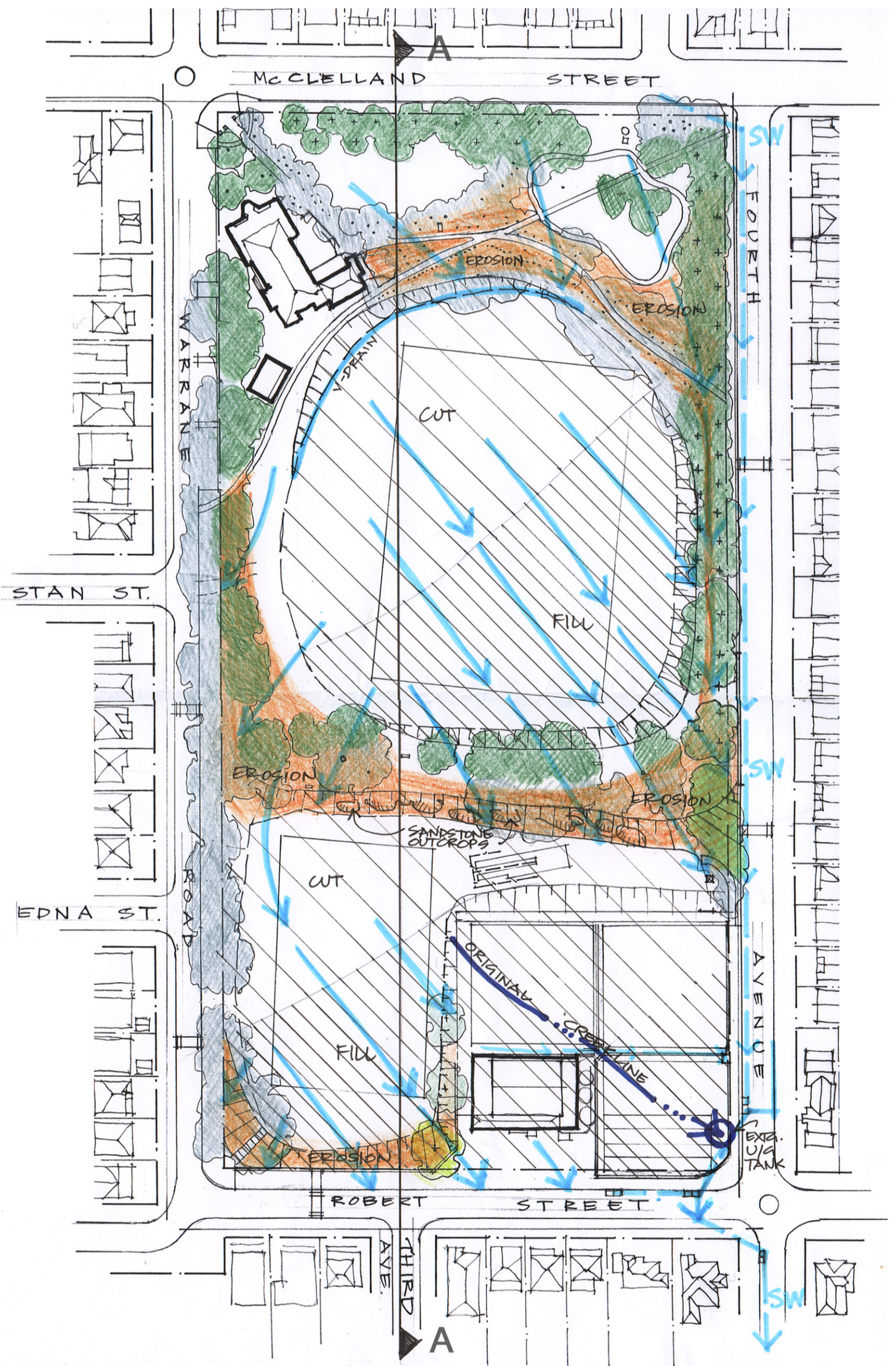
greenweb

- shows the proximity and desired link of Willoughby Park to Green Web-Sydney



vegetation

- the upper (northern) slopes of Willoughby Park once supported Blue Gum High Forest with *Eucalyptus saligna*, and Blackbutt *Eucalyptus pilularis*
- the lower (southern) slopes of Willoughby Park once supported Hawkesbury Sandstone open forest/woodland with *Eucalyptus piperita*, *Angophora costata* and *Eucalyptus pilularis*



ecology

- during rainfall, excess water sheets across the park to the south-eastern corner
- original remnant indigenous vegetation (almost non-existent)
- Brush Box/Turpentine plantings 1926
- Spotted Gums (*Eucalyptus maculata*) planted by Rex Hazelwood in 1952, and more recent plantings of eucalypts

Willoughby Park

Site Analysis 1



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