



## Report to General Manager

Attachments:  
Nil.

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**SUBJECT:** Emergency Retaining Wall Works

**AUTHOR:** Ashraf Doureihi, Engineering Project Manager

**ENDORSED BY:** Duncan Mitchell, Director Engineering and Property Services

### EXECUTIVE SUMMARY:

Retaining walls at five locations have been identified as requiring urgent attention. The cost of the works is above what Council has allocated in its retaining wall budget – refer to confidential report for a cost break-up.

*In order for Councillors to discuss the content of this Commercial in Confidence report it will be necessary to close the Council meeting to the public.*

Funding for this project was not included in the current delivery program. However, funding is available from the Capital Works Reserve. This will reduce the overall funding available from the 2017/18 Capital Works Reserve.

### Local Government Act 1993: Section 23A Guidelines - Council Decision Making During Merger

#### Proposal Period

The Guidelines have been considered in the preparation of this report and are not applicable.

#### Comment by Responsible Accounting Officer:

Funding for the project is appropriate.

### RECOMMENDATION:

**1. THAT** Council resolves to fund the emergency works from the Capital Works Reserve.

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## **LINK TO DELIVERY PROGRAM**

The relationship with the Delivery Program is as follows:

Direction: 2. Our Built Environment

Outcome: 2.1 Infrastructure, assets and facilities that meet community needs

## **BACKGROUND**

After recent extreme storm events in Sydney, five retaining walls have been brought to Council's attention as requiring emergency repair works. Some of these walls have already collapsed due to recent flash floods.

This report outlines the nature of the walls at each site and the funding requirements. In order of priority, the walls include:

- 102 Macpherson St, Cremorne
- 40-46 Milsons Rd, Cremorne Point
- Shellcove Rd, Neutral Bay
- Kurraba Rd, Neutral Bay
- Milray Av, Wollstonecraft

## **CONSULTATION REQUIREMENTS**

Community consultation will be required at Milson Rd and Shellcove Rd sites because there will be a loss of privacy due to the removal of some trees which will be required to facilitate the necessary works.

## **SUSTAINABILITY STATEMENT**

The sustainability implications are of a minor nature and did not warrant a detailed assessment.

## **DETAIL**

Five retaining walls have been identified as having collapsed or partially collapsed due to recent extreme weather events and require emergency repair works to make them safe. A photographic representation of each site is outlined in this report.

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**Site 1 - 102 Macpherson Rd, Cremorne**

This section of wall is located at the boundary with property no. 102. The wall is below the roadway level and property and has collapsed into the front garden. SES attended the site after the collapsed and placed emergency tape to prevent residents from using the suspended footbridge – residents have alternative access to their property. Emergency repair works is required to make the wall safe and to prevent further destabilization of the footbridge structure.



*Collapsed wall under footbridge*



*Collapsed wall at 102 Macpherson St*

### **Site 2 - Milson Rd, Cremorne Point**

This section of embankment is located on the lower side of Milson Rd between properties 38-46 and is approximately 60m long. The embankment retains the upper section of Milsons Rd and the footpath due to the partial collapsed of the wall. There are signs of subsidence in the footpath and roadway. Milson Rd is a bus route to Cremorne Wharf. Immediate action is required to prevent further subsidence. If no action is undertaken then the interim solution is to close the footpath and parking lane to move traffic away from the wall to minimize the stress on the embankment.

The proposed design is to install a series of vertical anchors and shotcrete the face which is retaining the roadway. It is also proposed to rebuild the lower section of wall due to its partial collapsed – refer to diagram below.

The residents on the lower side of Milson Rd will be immediately affected by the works – the laneway on the lower side is the only access to their driveways. All affected residents will be consulted prior to undertaking the works.



*View of embankment adjacent to property no. 44. Note very poor condition of stone retaining wall at base.*

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*View of embankment adjacent to property no. 42. Note the partial collapsed of the wall just below the timber fencing.*



*View of western edge of footpath opposite property no. 42 from the high side of Milsons Rd. Note settlement of fill and movement of stone walls.*



*Aspiration diagram – proposed stabilization works on lower Milson Rd looking towards Cremorne Wharf.*

### **Site 3 - Shellcove Rd, Neutral Bay**

This section of embankment is located between properties 64-68. Erosion of the embankment has continuously caused debris to fall on to the footpath to create a public safety hazard. Council's OSES department has regularly been sweeping the footpath over a number of years however this practice is no longer sustainable because large rocks are now falling onto the footpath which warrants a permanent solution and urgent action by Council – refer to photos below.

The proposed emergency works includes stabilizing the embankment by applying shotcrete to various sections and installing rock bolts. The existing vegetation and some trees will require removal which will entail a loss of privacy for some residents. Affected residents will be consulted prior to the commencement of the works.



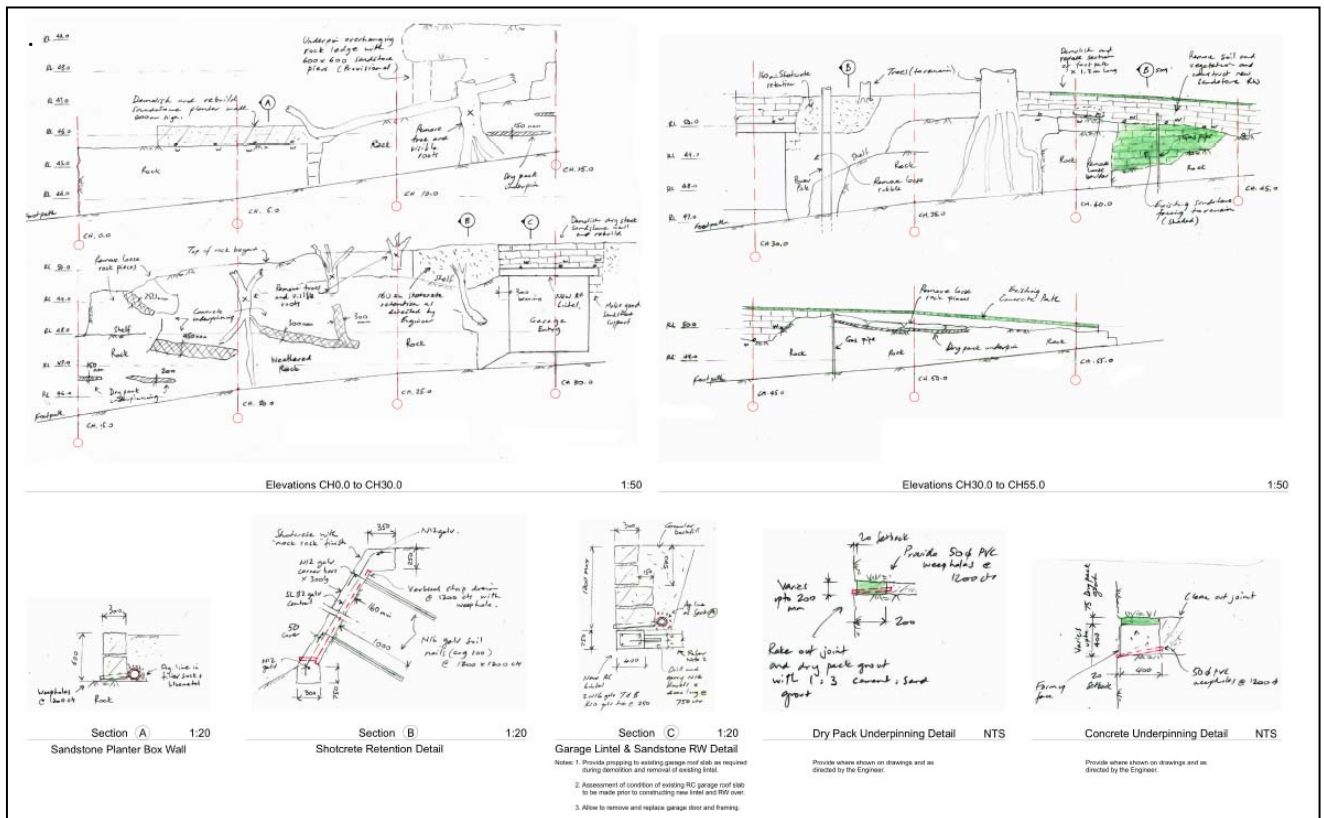
*View of unstable earth embankment and disconnected stormwater line on east side of garage entry to property no. 66*



*Fig tree with roots “wedging” into rock joints and loose rocks on embankment requiring treatment.*



Footpath above embankment shows signs of lifting outside entry to no. 66



Proposed remedial works

**Site 4 - Kurraba Rd, Neutral Bay**

This section of sandstone wall is located between Rawson Rd and Holdsworth St. It retaining Holdsworth St.

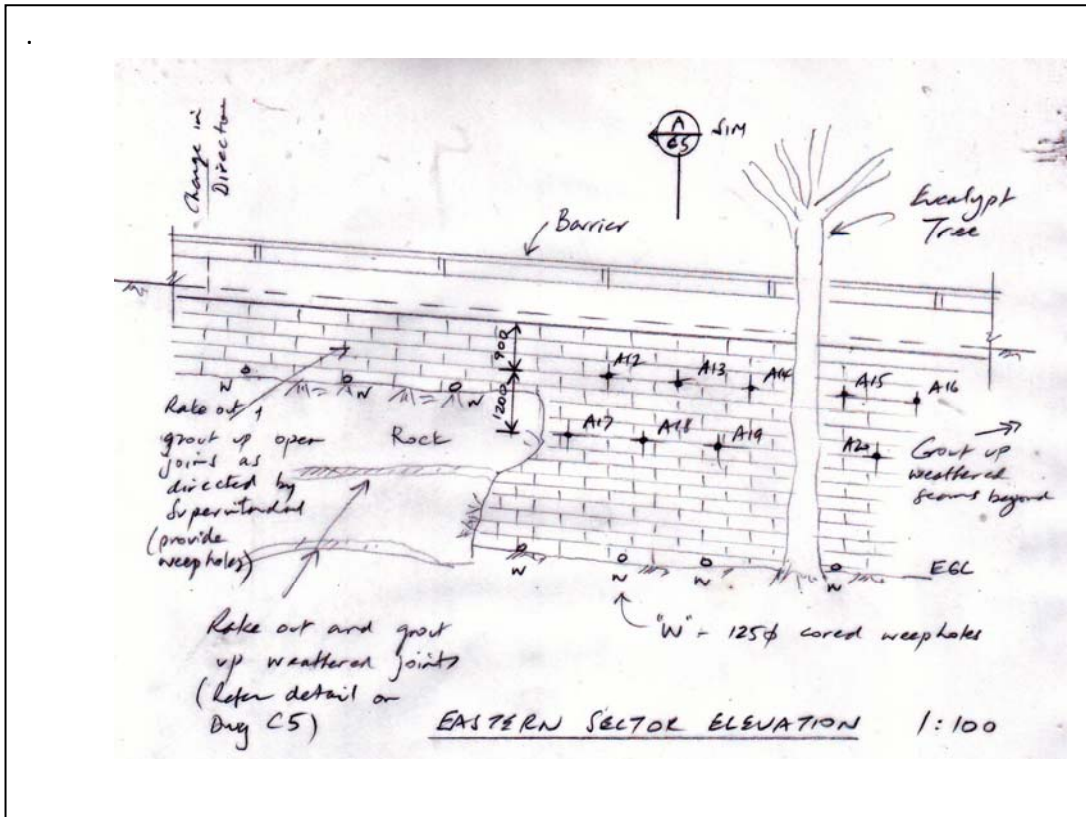
There are signs of bowing in the wall and it is proposed to install a series of rock anchors to stabilize the wall. This section of Kurraba Rd is a regional road and the option of closing the road is not feasible. Based on the consultant’s report, the bowing wall will inevitably lead to its collapsed. Council’s retaining wall consultant has recommended that the wall will be required to be fixed within the next six months.



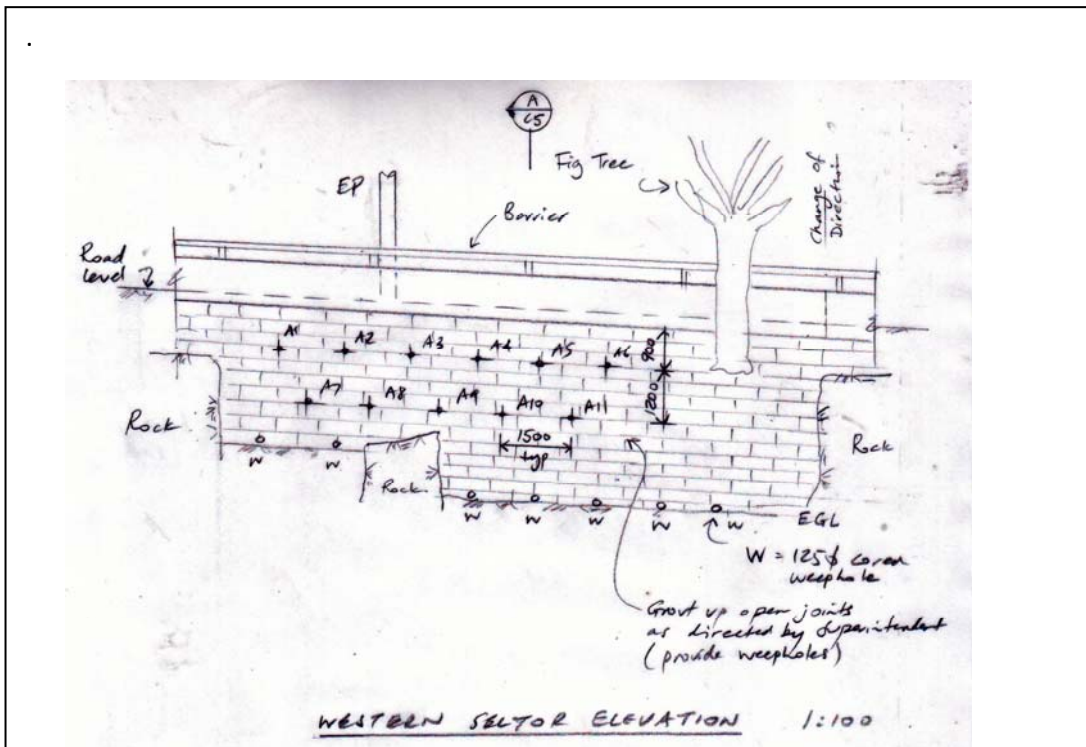
*Western sector: View of bulging section with opening of perpends*



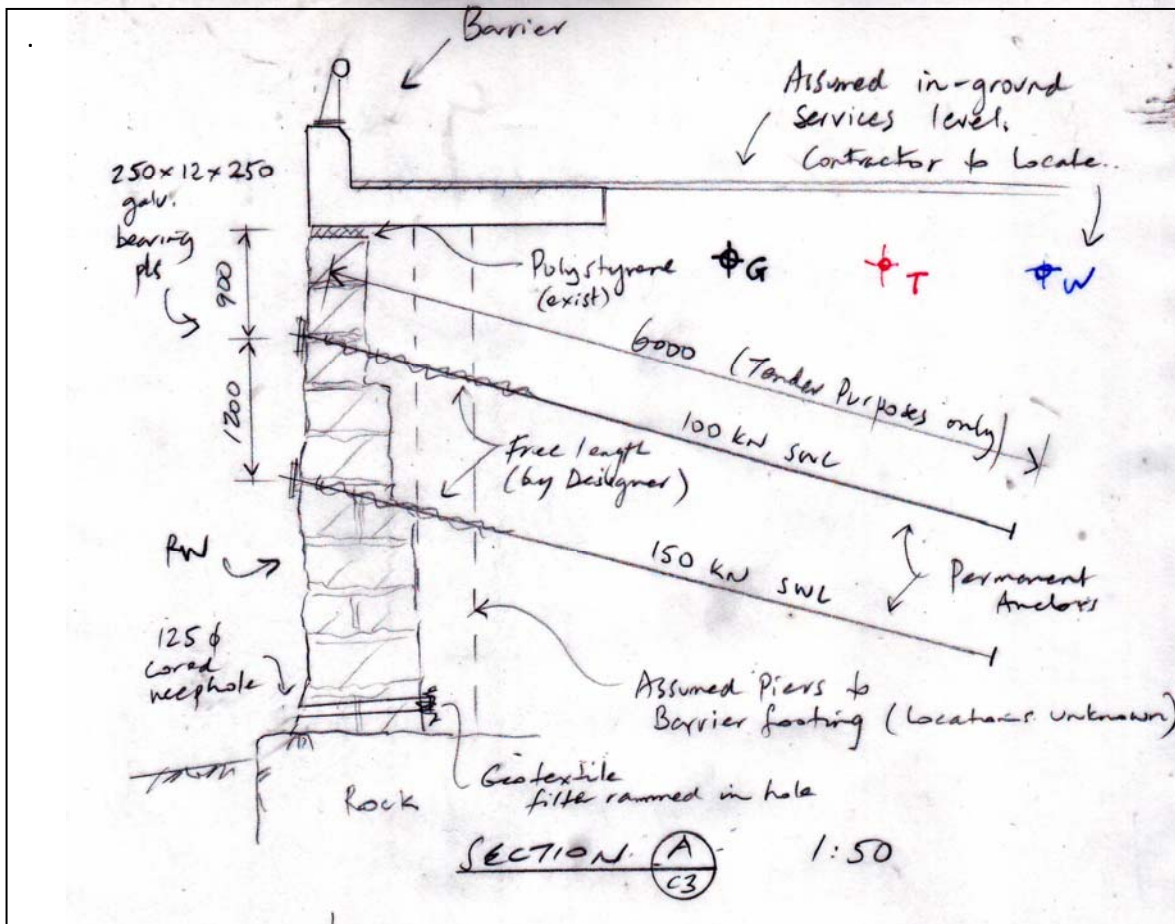
*View of the retaining wall from Kurraba Road showing the road barrier on top of the sandstone retaining wall founded on sandstone*



Proposed remedial works – Kurraba Rd



Proposed remedial works – Kurraba Rd



Proposed remedial works – Kurraba Rd

### Site 5 – Milray Av, Wollstonecraft

This section of embankment is located between properties 80-84 on Milray Ave and has severely eroded. It is proposed to stabilize the embankment by shotcreting the face at various location and then applying a layer of mock rock which is an environmental finish designed to blend the shotcrete into the natural terrain.



*View of the eroded embankment*



*Additional erosion of the embankment destabilizing the rock outcrop*

The above photos of the five sites depict the state of the retaining walls as requiring urgent attention and constitute emergency repairs.

**Note:** The Emergency work to repair the retaining walls at this stage will be procured through Councils Standard procurement processes (The calling of Public Tenders) unless there is further deterioration of the walls which would require immediate repairs and stabilisation. If there is further deterioration and immediate emergency works are required, Councils Engineers will prepare an Extenuating Circumstances Memorandum for the Acting General Manager to sign off.

The Extenuating Circumstances Memorandum will be prepared in accordance with Councils Procurement Policy – section 4.2.9.

**Project Program**

Anticipated Start:	July 2016
Anticipated Completion:	December 2016
Responsible Officer:	Ashraf Doureihi, Engineering Project Manager