Marrickville Valley Floodplain Risk Management Study and Plan

# APPENDIX

A

## FLOOD MODIFICATION OPTIONS





#### <u>FM 1.1</u>

#### Description

An existing 750mm diameter pipe collects runoff from Morton Ave and traverses through properties along Wardell Rd, Jarvie Ave and Bishop St to connect to an existing 1050mm diameter pipe that runs underneath Marrickville Oval. In this option a new 900mm diameter pipe with additional inlet pits will re-direct runoff from Morton Ave to Frazer St and continue down Frazer St to connect to a new 1800mm X 1200mm box culvert from the sag along Frazer St to a new surcharge pit in Marrickville Oval. This option aims to reduce flooding for properties along Wardell Rd, Jarvie Ave, Bishop St, and Lawson Ave where up to approximately 600mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

The results highlight that the proposed diversion provides water level reductions of up to 30mm in the 2 year ARI event along Wardell Rd and Jarvie Ave, up to 90mm along Bishop St and up to 150mm along Frazer St and Lawson Ave. For the 1% AEP event water level reductions of up to 50mm are observed along Wardell Rd, Jarvie Ave, Bishop St, Frazer St and Lawson Ave. For the 1% AEP event this option removed over floor flooding for 7 properties.

#### <u>FM 1.2</u>

#### Description

An existing 750mm diameter pipe collects runoff from Morton Ave and traverses through properties along Wardell Rd, Jarvie Ave and Bishop St to connect to an existing 1050mm diameter pipe that runs underneath Marrickville Oval. In this option, additional inlet pits will collect runoff from Wardell Rd at the intersection of Morgan St and direct flows to the low point in Frazer St via new 600mm and 900mm diameter pipes in Morgan St and Bishop St, respectively. A new 1800mm X 1200mm box culvert will connect from the sag along Frazer St to a new surcharge pit in Marrickville Oval. This option may result in reduced flooding for properties along Wardell Rd, Jarvie Ave, Bishop St, Frazer Ave and Lawson Ave where up to approximately 600mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

The results highlight that the proposed diversion provides water level reductions of up to 20mm in the 2 year ARI event along Wardell Rd and Jarvie Ave, up to 60mm along Bishop St and up to 150mm along Frazer St and Lawson Ave. Increases in flood levels of up to 40mm are observed along Wardell Rd but these are confined within the road corridor and within the Marrickville Oval. For the 1% AEP event water level reductions of up to 60mm are observed along Bishop St, Frazer St and Lawson Ave. Increases in flood levels of up to 60mm are observed along Bishop St, Frazer St and Lawson Ave. Increases in flood levels of up to 60mm are observed along Wardell Rd but these are confined within the road corridor.

The increases along Wardell Road are attributed to changes in catchment inflows, which for the option are applied to the new pit and pipe network along Morgan Street.

#### FM 2.1

#### Description

This option is to modify the basin outlet pit to install a 450mm outlet pit from the existing pit connected to a new pit with a high level inlet (approximately 500mm above the existing grate). In order to retain flows in a 20% AEP, the basin spillway to the north (approximately 9m wide) is raised to the existing 20% AEP flood level and modified to maintain the same spillway discharge for larger events. The objective of the proposed option is to throttle flows at the basin outlet to maximise basin flood attenuation up to the 20% AEP event. This option may result in reduced flooding for properties downstream of the basin in Livingstone Road and Petersham Road.

#### Modelling Results

The results highlight that the proposed option increases the detention depth in Marrickville oval by up to 160mm in the 2 year ARI event and hence water level reductions of up to 80mm are observed downstream for properties along Livingstone Rd, Brereton Ave, Petersham Rd, Sydenham Rd and Boland Ave. For the 1% AEP event increases in water levels of up to 50mm are observed within the basin and properties downstream along Livingstone Rd, Brereton Ave, Petersham Rd, Sydenham Rd and Boland Ave. This is due to overtopping of the basin which is resulting in increased flooding downstream. This is due to the limitations in the model grid



size to accurately fine tune the modified spillway to maintain the same flows. It is believed that refinements to the model setup would enable better results to be achieved for the 1% AEP with no increases in flood levels.

#### FM 2.3

#### Description

An existing 450mm diameter pipe runs along George St and connects to a 750mm diameter pipe along Livingstone Rd which then connects to a 750mm diameter pipe along Pile St. This option proposes a new 600mm diameter pipe with additional inlet pits along George St that will divert the runoff from George St and Livingstone Rd to the 1450mm X 2100mm box culvert underneath Centennial St via Hawkhurst St. This option may result in reduced flooding for properties along Livingstone Rd, Brereton Ave and Petersham Rd, which currently lie along an overland flow path from George St, Pile St and north of Marrickville Oval and experience approximately 30mm to 400mm depth of flooding in the 2 year ARI event.

#### Modelling Results

The results highlight that the proposed diversion provides water level reductions of up to 30mm in the 2 year ARI event along Livingstone Rd, Brereton Ave, and several adjoining properties. Minor increases in flood levels of up to 40mm are observed but these are confined within the open channel between Boland Ln and Centennial St. Minimal differences are observed in 1% AEP event.

#### <u>FM 3.1</u>

#### Description

An existing 1050mm diameter pipe carries stormwater flows from Petersham Rd to the open Western Channel near Northcote St via Jarvie Park. In this option, a new 1050mm diameter pipe will divert flows from Jarvie Park to the existing box culvert underneath Malakoff Street (Malakoff Tunnel). The proposed new connection to Malakoff Tunnel will be throttled with a 750mm diameter to eliminate afflux in the 1% AEP event. In addition, new inlet pits in Petersham Road (at sag), Northcote St and Carew Lane and a new 450mm pipe along Malakoff Street will be installed to pick up street flows and divert to the new connection to Malakoff Tunnel. These upgrades aim to alleviate flooding in Jarvie Park and for properties along Petersham Rd, Northcote St and Carew Ln, where approximately 10mm to 300mm depth of flooding is observed in the 2 year ARI event, by diverting flows to Malakoff Tunnel from Western Channel, which the downstream section is currently running at capacity in a 2 year ARI event.

#### Modelling Results

The results highlight that the proposed diversion and upgrades provide water level reductions of up to 100mm in the 2 year ARI event in Northcote St and Carew Ln. For the 1% AEP event water level reductions of up to 30mm are observed in Jarvie Park and for properties along Northcote St.

However, minor increases in water level of up to 10mm are observed along Convent Ln. These increases are caused due to the additional flows in the Malakoff Tunnel which is at capacity in the 1% AEP event. The addition of flows results in reduced capacity of the upper Malakoff Tunnel to accept flows from the Sydenham Rd area. This results in increases in water levels in the area thereby causing increased overland flow for properties along Convent Ln.

#### FM 3.2

#### Description

This option involves installation of a new 1200mm diameter pipe along Sydenham Rd starting at Petersham Rd and joining the existing box culvert underneath Malakoff Street (Malakoff Tunnel). Additional pits and pipes will connect Park Rd and Neville St drainage to this new pipe. This option will collect overland flows off Sydenham Rd and divert it from the Western Channel to Malakoff Tunnel aiming to have general water level reductions along the route of the pipe and adjacent areas.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 40mm are observed along Sydenham Rd, Northcote St, Carew Ln, Malakoff St, Warnam St, Despointes St and Peace Ln. Reductions in water levels of up to 130mm are observed in the Western Channel extending up to Garners Ln. For the 1% AEP event water level



reductions of up to 40mm are observed along Sydenham Rd, Northcote St, Carew Ln and Warnam St. For the 1% AEP event this option removed over floor flooding for 1 property.

#### FM 3.3

#### Description

This option includes a new 600mm diameter pipe along Sydenham Rd starting near Despointes St and connecting to the Western Channel box culvert underneath Illawarra Rd. This option will collect overland flows off Sydenham Rd and discharge to the Western Channel.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 20mm are observed at some locations along Sydenham Rd, Despointes St and Peace Ln. Increases of up to 40mm are observed in the Western Channel downstream of Peace Ln. For the 1% AEP event water level reductions of up to 30mm are observed along Illawarra Rd and increases of up to 50mm are observed in the Western Channel upstream and downstream of Peace Ln.

#### <u>FM 3.4</u>

#### Description

Existing 300mm and 450mm diameter pipes collect street runoff from Despointes St, Convent Ln, Peace Ln, Le Clos Ln, Illawarra Rd and Silver St. In this option, these pipes will be upgraded to 600mm diameter with additional inlet pits to help alleviate flooding along the streets where 200mm to 900mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event, water level reductions in an order of 100mm to 500mm are observed on Despointes St, Convent Ln, Peace Ln, Le Clos Ln, Illawarra Rd and Silver St. Increases unto 250mm are observed in the Western Channel because of the proposed works.

For the 1% AEP event, the reductions of up to 300mm are observed in vicinity of the proposed works. Decreases in water levels also extended up to Sydenham Rd with reduction of 20mm to 150mm observed. However, increases in water levels are observed in the Western Channel and downstream of the channel in Garners Ln of up to of 40mm to 600mm. This is attributed to the increases in water levels in the Western Channel.

#### FM3.6

#### Description

This option involves installation of a detention basin within the Wilkins School Oval. This will include lowering the oval by 600mm to provide approximately 2300m3 storage volume and throttling the outlet from the basin via a 300mm pipe to retain maximum flows in the basin.

#### Modelling Results

In a 2 year ARI flood event, retention of flows in the oval results in water levels reductions downstream in the channel by 150mm and minor decreases along Sydenham Rd, Carew Ln and Malakoff St. Slight increases of up to 40mm are observed on Sydenham Rd immediately downstream of the basin.

For the 1% AEP event, slight increases in water levels of up to 10mm are observed downstream of the basin along Petersham Rd, Sydenham Rd ad Boland Ln. Decreases in water of up to 20mm are observed on Northcote St, Carew Ln, Malakoff St, Convent Ln and Warham Ln.

#### FM4.2

#### Description

This option divert flows from Chester St and Oxford St to Audley St via new 450mm diameters pipes and new pits. In addition, new thresholds are proposed on Chester St and Oxford St and dish drains are proposed across Oxford St and Chester St at Audley St to direct flows down Audley St.

#### Modelling Results



The results highlight that in a 2 year ARI event the proposed diversion of flows into Audley Street from Oxford Street and Chester Street results in reduction in water levels of up to 10mm along Maria St, Napier St and within Marrickville Oval. Minor increases in flood levels of up to 20mm are observed along Audley St and Mcrae St.

For the 1% AEP event, the extent of water level reductions is widespread. The reduction in flood levels is observed along Maria St, Morgan St, Napier St, Milner Ln, streets south of Sydenham Rd and within Marrickville Oval. The reduction in levels are in the order of 20mm to 30mm. Increases in water levels of up to 30mm are observed along Audley Street and Mcrae Street.

#### <u>FM 5.2</u>

#### Description

This option involves demolition of existing brick walls and structures built over the existing drainage easement between 80-82 Neville Street and 34-36 Park Road and upgrade the existing 300mm diameter pipe along this easement to a 450mm diameter pipe. The option may result in reduced flooding along Park Rd and Neville St, however, may have small increases in flooding downstream of Neville St due to the additional flow coming through the drainage easement.

#### Modelling Results

The results highlight that the proposed upgrades provide localised water level reductions of up to 170mm in the 2 year ARI event for a few properties along Park Rd and Neville St. However, increases in water levels of up to 50mm are observed along Surrey St, Essex St, several adjoining properties and at the Addison Road Community Centre. For the 1% AEP event water level reductions of up to 50mm are observed for a few properties along Park Rd and Neville St and increases in water levels of up to 20mm along Surrey St, Essex St and at the Addison Road Community Centre.

#### FM 5.3 and FM 5.4

#### Description

The existing 750mm diameter pipes along Addison Rd between Park Rd and East St have capacity to take more flows based on the pipe capacity assessment (**Section 5.4**). In this option, new 600mm diameter pipes with additional inlet pits between Park Rd and Gordon Ln will divert the overland flows to the existing Addison Rd 750mm pipe network with additional capacity. In addition, the road levels (thresholds) at the intersections of Park St, Neville St and Essex St with Addison Rd will be raised by 100mm to prevent overtopping of overland flows from Addison Rd.

#### Modelling Results

The results highlight that the proposed raising of road thresholds and new pipes provide water level reductions of up to 50mm in the 2 year ARI event along Neville Ln, Surrey St, Essex St and at the Addison Road Community Centre. For the 1% AEP event water level reductions of up to 30mm are observed along Park Rd, Neville Ln, Surrey St, Essex St, Charles St and at the Addison Road Community Centre. For the 1% AEP event the Addison Road Community Centre. For the 1% AEP event water level reductions of up to 30mm are observed along Park Rd, Neville Ln, Surrey St, Essex St, Charles St and at the Addison Road Community Centre. For the 1% AEP event this option removed over floor flooding for 4 properties.

#### <u>FM 5.6</u>

#### Description

Existing 300mm to 375mm diameter pipes collect street runoff from Illawarra Rd, York St and Shepherd St and discharge into the Eastern Channel which traverse these streets. The pipes will be upgraded to 450mm diameter to help alleviate overland flooding from Addison Road.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 400mm are observed along York St, 150mm along Illawarra Rd and Meeks Ln, and 50mm along Shepherd St, Meeks Ln and Handley St. Increases of up to 260mm are observed in the Eastern Channel downstream of Meeks Ln. These are confined within the open channel. For the 1% AEP event water level reductions of up to 120mm are observed along York St, 60mm along Illawarra Rd, Shepherd St, Meeks Ln, Handley St, Jazeb St, Denby St, Brompton St, Cook Rd and Smith St. However, minor increases of up to 10mm are observed in the Eastern Channel downstream of Meeks Ln and also for properties along Fitzroy St, Lillian Fowler St, Saywell St and Sydenham pit. This is attributed to



the increases in flow in the Eastern Channel causing flows to breakout of the channel along Smith St. For the 1% AEP event this option removed over floor flooding for 14 properties.

A possible solution could be to raise the channel walls to prevent the breakout. This option can be optimised to resolve these issues during future investigation and design stages.

#### <u>FM5.9</u>

#### Description

This option includes a new 825mm diameter pipe along Essex St and through the backyards of eight (8) properties along Surrey St and Gordon Sq. The pipe will be connected to the existing downstream network via a surcharge pit. In addition, new inlet pits will be installed along Essex St and Surrey St.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 200mm are observed along Surrey St, Essex St and properties downstream of the proposed pipe. Minor increases in water levels of up to 10mm are observed along Agar Rd, Illawarra Rd York St, Shepherd St and Meeks Ln.

In the 1% AEP event, water level reductions of up to 50mm are observed along Surry St, Essex St and Charles St.

#### FM 6.1

#### Description

An existing 300mm diameter pipe on Newington Rd between Wemyss St and England Ave diverts runoff from Brown Ave and Wemyss St to a 1050mm diameter interallotment drainage pipe that runs between the rear of properties along England Ave and Agar St and connects to Addison Rd drainage. This pipe will be upgraded to a 600mm diameter pipe with additional inlet pits and a new 600mm diameter pipe along the other side of Newington Rd will collect and convey additional flows to the existing 1050mm diameter pipe. This option may help alleviate flooding for the properties along England Ave and Agar St where approximately 30mm to 230mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

The results demonstrate that the proposed upgrade and new pipe provides water level reductions of up to 40mm in the 2 year ARI event flor properties along England Ave and Agar St. Minor increases of up to 30mm are observed on Newington Rd but these are within the road reserve. For the 1% AEP event minor water level reductions of up to 20mm are observed along few properties along England Ave and Agar St.

#### <u>FM 6.4</u>

#### Description

This option involves new 600mm diameter pipes and inlet pits along England Ave, Agar St and Wemyss St. These pipes will divert overland flows to the drainage lines along Addison Rd which have additional capacity. This option may result in water level reductions for properties north and south of Addison Rd where approximately 20mm to 650mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 20mm are observed along Illawarra Rd, York St, Shepherd St, and Meeks Ln. For the 1% AEP event water level reductions of up to 20mm are observed along England Ave, Addison Rd, Shepherd St, Meeks Ln, Denby St, Brompton St, Cook Rd and Smith St. However minor increases of up to 20mm are observed in a 1% AEP event at some properties along England Ave and Agar St. Minor increases of up to 30mm are also observed in the Eastern Channel and Sydenham pit due to the increased flows upstream in the pipe network. This has attributed to the increase in flow in the Eastern Channel. For the 1% AEP event this option removed over floor flooding for 4 properties.

#### FM 7.1 and FM 7.5

#### Description

This option involves a new 600mm diameter pipe along Cook Rd and Enmore Rd to connect to a new 1800mm x 600mm box culvert along Smith St that will connect to the existing open channel (Eastern Channel) at the



back of the properties along Smith St. This may help alleviate flooding along Cook Rd, Enmore Rd, Smith St and Victoria Rd where approximately 100mm to 400mm depth of flooding is observed in the 2 year ARI event.

In addition, a new 600mm diameter pipe along Denby St together with raised road threshold levels at the intersection of Denby St with Addison Rd may prevent overtopping of overland flows from Addison Rd and reduce flooding along Denby St where approximately 100mm to 800mm depth of flooding observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 110mm on Brompton St, 50mm on Cook Rd and Enmore Rd, 100mm on Victoria and 300mm on Smith St are observed. Increases of up to 90mm are observed in the open channel. No impacts are observed near Denby St.

For the 1% AEP event water level reductions of up to 50mm are observed along Enmore Rd and Smith St, up to 40mm along Victoria Rd between Enmore Rd and Central Ln, and for properties on the eastern side of Victoria Rd. Increases of up to 30mm are observed in the open channel, properties along Fitzroy St and the Sydenham pit. Water level reductions of up to 50mm are observed along Addison Rd and Philpott St. For the 1% AEP event this option removed over floor flooding for 6 properties.

#### <u>FM7.6</u>

#### Description

This option includes installation of new 600mm, 750mm, 900mm and 1050mm diameter pipes on Addison Rd and Philpott St. In addition, new inlet pits will be stalled at the sag of Addison Road to convey more flows into the existing drainage network underneath Addison Road.

#### Modelling Results

For the 2 year ARI event, water level reductions of up to 200mm are observed along Denby St, Addison St, Cook St and Brompton St due to the diversion of flows into the existing drainage network which has additional capacity. For the 1% AEP event, the extent of reduction is widespread with water level reductions of up to 50mm observed along Addison Rd and Cook Rd.

#### FM 8.1 and FM 8.2

#### Description

An existing 600mm diameter pipe along Arthur St connects to a 1050mm diameter pipe underneath the railway corridor which then connects into the Malakoff Tunnel underneath McNeilly Park. It is proposed that a new 900mm diameter pipe will connect the existing 600mm diameter pipe to the Malakoff Tunnel underneath Arthur St. In addition, a new 600mm diameter pipe along Robert St will connect to the existing 600mm diameter pipe along Arthur St.

This option could help alleviate flooding along Livingstone St, Arthur St, Warburton St, Jersey St, Illawarra Rd and the railway corridor where approximately up to a 1m depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event water level reductions of up to 50mm are observed along Livingstone St, Arthur St, Illawarra Rd, the railway corridor and Western Channel. For the 1% AEP event widespread reductions of up to 50mm are observed at McNeilly Park and along Illawarra Rd, Byrnes St, O'Hara St, Myrtle St, Carrington Rd and at Mackey Park. However, widespread increases in water levels of up to 70mm are observed along properties south of Sydenham Rd between Northcote St and Garners Ave and in the Marrickville Industrial Area (MIA) including the Sydenham Pit.

In the 1% AEP event Malakoff Tunnel is running at capacity between Malakoff St and McNeilly Park, hence the addition of flows at Arthur St results in reduced capacity of the upper Malakoff Tunnel to accept flows from the Sydenham Rd area. This results in increases in water levels in the area thereby causing increased overland flow along properties south of Sydenham Rd and diverting flows down Sydenham Rd to the MIA which increases loads on the Sydenham Rd and MIA drainage networks.



A possible solution could be to connect the new 900mm diameter pipe to Malakoff Tunnel downstream of McNeilly Park where it has capacity for PMF flows as shown in the pipe capacity assessment (**Section 5.4**). This option can be optimised to resolve these issues during future investigation and design stages.

For the 1% AEP event this option removed over floor flooding for 22 properties.

#### FM8.3

#### Description

This option includes a new 1050mm pipe to divert flow from Marrickville Road to Livingston Road via Harney St, Pine St and Hollands Ave. A 1200mm pipe will be installed from bottom of Hollands Ave via the rail corridor to a 8000m3 storage under McNeily Park. The underground storage will connect to Malakoff Tunnel via a new 450mm pipe. In addition, new inlet pits will be installed along Marrickville Rd, Pine St and Hollands Ave to utilise the additional capacity.

#### Modelling Results

The 2 year ARI event results highlight reductions in water levels along the flowpath of up to 200mm. Slight increases of up to 70mm are seen at McNeily Park but these increases are confined to the park reserve and rail corridor. For the 1% AEP event, the reduction in water levels along the flowpath are up to 150mm.

#### <u>FM 9.1</u>

#### Description

This option includes installation of new 450mm and 600mm diameter pipes with inlet pits at the intersection of Livingstone Road and Marrickville Road. A new 900mm pipe will convey all the upstream flows along Marrickville Road up to Petersham Road. From bottom of Petersham Rd a new 1500mm pipe will connect to a 100m3 underground storage which will connect to the existing 2.9m X 2.9m box culvert underneath Malakoff St (Malakoff Tunnel). This option may help alleviate flooding for the properties along Illawarra Road and Central Avenue. This option may also help alleviate flooding for the properties along Lilydale St, Marrickville Rd, Petersham Rd and Malakoff St where approximately 20mm to 300mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

The 2 Year ARI event results highlight that the proposed drainage works eliminate flooding on Marrickville Rd between Livingstone Rd and Fletcher St and between Malakoff St and Illawarra Rd. Water level reductions of up to 100mm are observed for properties along Cecilia St, Carew Ln and Malakoff St. The results show that approximately 1.8m3/s of flows are diverted into the Malakoff Tunnel.

For the 1% AEP event water level reductions of up to 100mm are observed at a few properties along Depot Ln and at the intersection of Livingstone Rd and Marrickville Rd. Due to the proposed works flooding is removed on Marrickville Rd between Malakoff St and Illawarra Rd. However increases of up to 60mm are observed along Western Channel at Malakoff St, Convent Ln, Despointes St and Peace Ln. Increases up to 20mm are seen along Sydenham Road and areas downstream. These increases at the upstream end of Malakoff Tunnel are caused due to the additional flows in the Malakoff Tunnel which is at capacity in the 1% AEP event.

This option may also be more effective in combination with another option which reduces flows entering Malakoff Tunnel at the upstream end near Sydenham Road

#### <u>FM 10.1</u>

#### Description

An existing 450mm diameter pipe along Marrickville Rd connects to a 750mm diameter pipe underneath Fraser Park. A new 600mm diameter pipe with inlet pits will re-direct flows from Marrickville Rd to Sydenham Rd via Barclay St.

#### Modelling Results

For the 2 year ARI event the proposed diversion provides water level reductions of up to 140mm along Barclay St, 60mm along Marrickville Rd and 20mm at Fraser Park. No differences are observed in the 1% AEP.



#### FM10.2

#### Description

This option involves diversion of flows from Carrington Rd to pump station (SPS271). A new 600mm diameter pipe will be installed between Harriet St and Myrtle St and new 750mm and 900mm diameter pipes will be installed from Myrtle St to the pump station (SPS271).

#### **Modelling Results**

Diverting the flows from Carrington Rd to the pump station results in reduction in water levels of up to 300mm on Carrington Rd in a 2 year ARI event. For the 1% AEP event, the modelling results show up to 30mm reduction in water levels on Carrington Rd. Minor increases are observed along the open channel next to the pump station but these increases are confined to the rail corridor.

#### FM 10.4

#### Description

This option involves a new 900mm diameter pipe with inlet pits along Myrtle St which will divert flows from Charlotte Ave to the Western Channel. This option may help alleviate flooding for properties along Charlotte Ave and Myrtle St where up to 700mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event the proposed new pipe provides water level reductions of up to 160mm along Victoria Rd at the rail bridge, 700mm for the property along Myrtle St and 30mm along Carrington Rd. Increases of up to 50mm are observed in the Western Channel. For the 1% AEP water level reductions of up to 50mm are observed along Victoria Rd at the rail bridge and Myrtle St.

#### FM 11.1 and FM 11.2

#### Description

This option involves construction of an overland flowpath along the north-eastern boundary of Tillman Park from Unwins Bridge Rd to the railway culvert and along the south-western boundary of Tillman Park from the Early Learning Centre to the railway culvert. This option may alleviate flooding along Unwins Bridge Rd where up to 900mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

The modelling results highlight that this option provides water level reductions of up to 150mm along Unwins Bridge Rd and up to 220mm at the Early Learning Centre for the 2 year ARI event. Increases of up to 900mm are observed downstream but these are mainly along the constructed overland flowpaths and are confined to the Park. For the 1% AEP event water level reductions of up to 230mm are observed at several locations along Unwins Bridge Rd, Terry Street, Belmore St and Railway Rd. For the 1% AEP event this option removed over floor flooding for 12 properties.

#### FM 11.3

#### Description

An existing 525mm diameter and 600mm diameter pipe on Unwins Bridge Rd connects to twin 900mm diameter pipes underneath Tillman Park. In this option, new 600mm diameters pipes along Unwins Bridge Rd and Terry St will connect to the existing twin pipes to divert additional overland flows. This option may result in decreases in flood levels along Unwins Bridge Rd and surrounding areas where up to 900mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event up to 80mm decreases in water levels are observed along Unwins Bridge Rd and Belmore St. Increases of up to 600mm are observed downstream but these are mainly confined to the Park. For the 1% AEP event water level reductions of up to 20mm only are observed at several locations along Unwins Bridge Rd, Terry Street, Belmore St, Railway Rd and Tillman Park. For the 1% AEP event this option removed over floor flooding for 3 properties.

#### FM 11.4



#### Description

An existing 675mm diameter pipe along Unwins Bridge Rd connects into a 900m diameter and 750mm diameter pipe along Bridge St. A new 450mm diameter pipe and additional inlet pits along Unwins Bridge Rd near Bridge St will divert additional runoff to the existing pipes along Bridge St. This option may result in decreases in flood levels along Unwins Bridge Rd where up to 900mm depth of flooding is observed in the 2 year ARI event.

#### Modelling Results

For the 2 year ARI event up to 80mm decreases in water levels are observed along Unwins Bridge Rd and up to 20mm along Belmore St. For the 1% AEP event minor water level reductions of up to 50mm are observed along Unwins Bridge Rd. For the 1% AEP event this option removed over floor flooding for 2 properties.

#### FM 12.1 and FM 12.2

#### Description

Existing 450mm diameter pipes along Renwick St, Cary St and Premier St and discharge into the Western Channel. New 750mm diameter pipes and inlet pits will collect additional overland flows from these streets and discharge into the Western Channel. This option aims to reduce flooding along the streets and intercept runoff from bypassing the Western Channel and entering Central Channel along Carrington Rd thereby reducing flooding along Carrington Rd.

#### Modelling Results

For the 2 year ARI event decreases in water levels in the order of 20mm to 60mm are observed along Renwick St and Carrington Road. Increases in flood levels are seen in the Western Channel between Renwick St and Cary St due to additional flows. For the 1% AEP event decreases in water levels up to 80mm are observed along Renwick St. Increases in flood levels are seen in the Western Channel between Renwick St and Cary St due to additional flows and also up to 40mm for some properties along Renwick St. For the 1% AEP event this option removed over floor flooding for 3 properties.

#### <u>FM 12.4</u>

#### Description

During set-up this option was optimised to include installation of a weir to 1.1m AHD in the central channel to divert the flows into the Mackey Park pump station (DPS2). The proposed option is to prevent the backflow from the Cooks River in the Central Channel entering the pump station and thereby optimising the pump station operations at Mackey Park to pump more catchment flows away from the area. The aim is to reduce flood levels on Carrington Road and surrounding industrial area.

#### Modelling Results

The modelling results show that the reduction in flood levels in a 2 year ARI event are in the order of 20mm to 120mm in vicinity of Carrington Road, Renwick St east of Carrington Rd and along the Central Channel alignment. Maximum reductions up to 120mm are observed at a low point on Renwick Street. In a 1% AEP event the impacts are negligible due to the large volume of water stored in the area.

Further optimisation of this option could be to explore increasing the capacity of pumps to achieve further reductions in flood levels.

#### <u>FM 12.5</u>

#### Description

The proposed option is to raise the Western Channel wall between Renwick St and Cary St to prevent overflows into adjacent properties and in Cary Street. Reduction in flood levels are expected in Cary Street and Renwick Street

#### Modelling Results

Raising the channel wall prevents the over flow entering the properties on the eastern side of the channel between Renwick Street and Cary Street in a 2 year ARI event. In a 1% AEP event the impacts are minor. This option does not provide major benefits as expected for properties along Renwick St and Cary St near the



channel due to the topography grading back towards the channel. The raised wall traps some water behind it preventing it from entering back into the channel.

#### FM 13.1, FM 13.2 and FM 13.5

#### Description

This option involves duplicate the existing 1500mm x 700mm box culvert underneath the railway corridor. This option may help alleviate flooding on Unwins Bridge Rd and Gannon St where up to 700m depth of flooding is observed in the 2 year ARI event. In addition, new large inlet pits will be installed at the intersection of Gannon St, Griffiths St and Unwins Bridge Rd (at sag).

#### Modelling Results

The modelling results highlight that the proposed new pits and box culvert reduces water levels up to 500mm at the intersection of Gannon St, Griffiths St and Unwins Bridge Road in a 2 year ARI event. For the 1% AEP event, the reduction in water levels are up to 150mm. Minor increases in water levels of up to 10mm are observed along the Eastern Channel due to the additional flows from the new box culvert.

#### FM13.4

#### Description

This option involves diverting part of the catchment that drains to Tramway St to a new 1050mm pipe along Edgar St. This option would not be effected by backwater from the Eastern Channel due to higher elevation enabling pressurisation of the system under the railway corridor. In addition, new inlet pits and pipes will be installed at the intersection of Unwins Bridge Rd and Tramway St.

#### Modelling Results

The modelling results highlight that the proposed diversion of flows would result in reduction of water levels up to 50mm at the intersection of Gannon St, Griffiths St and Unwins Bridge Rd. For the 1% AEP event reductions of up to 10mm are observed. Minor increases in water levels of up to 10mm are observed along the Eastern Channel due to the additional flows from the new pipe.

#### <u>FM 14.1</u>

#### Description

Existing 600mm diameter pipes connect inlet pits at the intersection of Unwins Bridge Rd and Sutherland St to a 675mm diameter pipe that passes underneath the railway line and connects to the Eastern Channel. These pipes will be upgraded to 1200mm diameter pipes. This option may result in decreases in flood levels along Unwins Bridge Rd and surrounding areas by discharging additional flows into the Eastern Channel. Greater than 1m flood depth is observed in some of these areas for the 2 year ARI event.

#### Modelling Results

The modelling results highlight that the proposed upgrades provide water level reductions of up to 150mm along the railway corridor and for a few properties along Bolton St and up to 30mm along Unwins Bridge Rd. For the 1% AEP event additional reductions of up to 80mm are observed along George St, Hogan Ave, Sutherland St and Briar Ln.

For the 1% AEP event this option removed over floor flooding for 1 property.

#### FM 15.1 and FM 15.2

#### Description

For Victoria Rd north of Sydenham Rd up to 300mm depth of flooding is observed in the 2 year ARI event. Two 450mm diameter pipes on either side of the road discharge runoff into an existing box culvert underneath the Victoria Rd and Sydenham Rd intersection which connects to the Sydenham pit. The pipe along the eastern side of the road will be extended and upgraded to a 600mm diameter pipe to help alleviate flooding in the area.

For Victoria Rd south of Sydenham Rd up to 500mm depth of flooding is observed in the 2 year ARI event. Two 375mm diameter pipes on either side of the road discharge runoff into an existing box culvert underneath the Victoria Rd and Sydenham Rd intersection which connects to the Sydenham pit. The pipe



along the eastern side of the road will be extended and upgraded to 600mm diameter pipe to help alleviate flooding in the area.

In addition, new 600mm diameter pipes along Victoria Ln and Meeks Ln will collect additional flows and convey them to the Sydenham pit.

#### **Modelling Results**

For the 2 year ARI event less than 20mm reductions in water levels are observed along Victoria Rd north of Sydenham Rd, no reductions along Victoria Rd south of Sydenham Rd and up to 20mm reductions along Victoria Ln, Meeks Ln and Vincent St. For the 1% AEP event no impact on flood behaviour is observed.

While this option does not provide any benefit in the 1% AEP event, this option combined with FM 15.3 could provide water level reductions in the area as FM 15.3 provides increased capacity in the network along Sydenham Rd, Sloane St and Saywell St.

#### FM 15.3

#### Description

This proposed option is to divert flows from Buckley St and Wilkinson Ln into Shirlow St via a new 1500mm diameter pipe to the Sydenham pit. This option may alleviate flooding in the vicinity of the proposed works.

#### Modelling Results

The modelling results show there are negligible benefits for the 2 year ARI event but for the 1% AEP event the extent of reduction in flood levels is significant with reductions of up to 200mm observed along Shirlow St and Garden St. The reductions on Buckley St and Sydenham Rd are up to 80mm. The increases in levels in the Sydenham pit is due to the additional flows. This option provides increased capacity in the network along Sydenham Rd, Sloane St and Saywell St, which could provide opportunity for upgrades in the western industrial area catchments to improve flooding in those areas.

For the 1% AEP event this option removed over floor flooding for 7 properties.

#### <u>FM 15.5</u>

#### Description

An existing 450mm diameter pipe along Faversham St will be upgraded to a 600mm diameter pipe. This option will provide additional capacity and collect overland flows off Faversham St.

#### Modelling Results

The modelling results highlight that this option has no impact on flood behaviour in the 2 year ARI and 1% AEP event. While this option has resulted in increased flows through the upgraded pipe, these are minor and hence do not provide any benefits to flooding.

#### FM 15.7

#### Description

An existing 600mm diameter pipe along Vincent St and Sydney St connects to a 1050mm diameter pipe along Sydenham Rd. A new 600mm dimeter pipe along Sydney St and 900mm diameter pipe along Vincent St will collect the overland flows and discharge downstream to the existing 1050mm diameter pipe that eventually discharges into the Sydenham Pit. This option may alleviate some of the flooding identified in the surrounding area.

#### Modelling Results

The results highlight that while although up to 100mm reduction in water levels are observed along Sydney St, there is an increase in flood levels up to 10mm along Vincent St for the 2 year ARI event. The increases are a result of the additional flows in the downstream 1050mm diameter pipe from the new 600mm diameter pipe along Sydney St. This pipe is currently at capacity in a 2 year ARI event and the additional flows have surcharged onto Vincent St causing increased flooding. Similarly, for the 1% AEP event increases in water level are observed along Sydenham Rd and Barclay St.



While this option does not provide much benefit and causes increases in flood depths along Vincent St and Barclay St, this option combined with FM 15.3 could provide water level reductions in the area as FM 15.3 provides increased capacity in the network along Sydenham Rd, Sloane St and Saywell St.

#### FM 15.9

#### Description

The proposed option is to duplicate the existing 2000mm x 1200mm box culvert underneath Saywell St between Cadogan Lane and Sloane St and duplicate the existing 3000mm x 1200mm box culvert underneath Saywell St between Sloane St and the Sydenham pit. A new junction chamber will be installed to connect existing and new culverts. A number of new large inlet pits are proposed to take more flows into the proposed pipe network. This option is expected to reduce flood levels in the industrial area between Saywell St and Sydenham Rd.

#### Modelling Results

The modelling results show there are negligible benefits for the 2 year ARI event as this area only has small depths of flooding in the 2 year ARI event. For the 1% AEP event decreases in flood levels of up to 500mm are observed within the industrial area. The reduction of flood levels between Sydenham Rd and Marrickville Rd are in an order of 100mm to 150mm. Maximum reduction of flood levels are seen on Saywell St, Sydenham Rd, Shirlow St, Sloane Ln, Sloane St, Cadogan Ln and Cadogan St. The increases in water levels in the Sydenham pit are due to the additional flows. For the 1% AEP event this option removed over floor flooding for 17 properties.

It is likely that this option could be optimised for the 2 year ARI event by providing additional inlet pits in flooded areas such as between Sydenham Rd and Marrickville Rd as the underground network now has additional capacity to accept more flows from these areas.

#### FM 15.10

#### Description

This option is a combination of FM15.3 and FM15.9. The proposed works are to divert flows from Buckley St and Wilkinson Ln into Shirlow St via a 1500mm diameter pipe to Sydenham pit along with duplication of the existing drainage network in Saywell Street. This upgrade includes duplication of the existing 2000mm x 1200mm box culvert between Cadogan Lane and Sloane St and duplication of the existing 3000mm x 1200mm box culvert between Sloane St and Sydenham Pit.

#### Modelling Results

The modelling results show there are negligible benefits for the 2 year ARI event as this area only has small depths of flooding in the 2 year ARI event. For the 1% AEP event decreases in flood levels of up to 600mm are observed within the industrial area. The reduction of flood levels are seen in the industrial area between Marrickville Rd and Saywell St. Maximum reduction of flood levels in the order of 200mm to 600mm are seen on Marrickville Rd, Barclay St, Buckley St, Sydenham Rd, Shirlow St, Sloane Ln, Sloane St, Cadogan Ln, Cadogan St and Saywell St. The increases in water levels in the Sydenham pit are due to the additional flows. For the 1% AEP event this option removed over floor flooding for 23 properties.

As per FM 15.9, it is likely that this option could be optimised for the 2 year ARI event by providing additional inlet pits in flooded areas such as between Sydenham Rd and Marrickville Rd as the underground network now has additional capacity to accept more flows from these areas.

Marrickville Valley Floodplain Risk Management Study and Plan

# APPENDIX

## OPTIONS WATER LEVEL DIFFERENCES



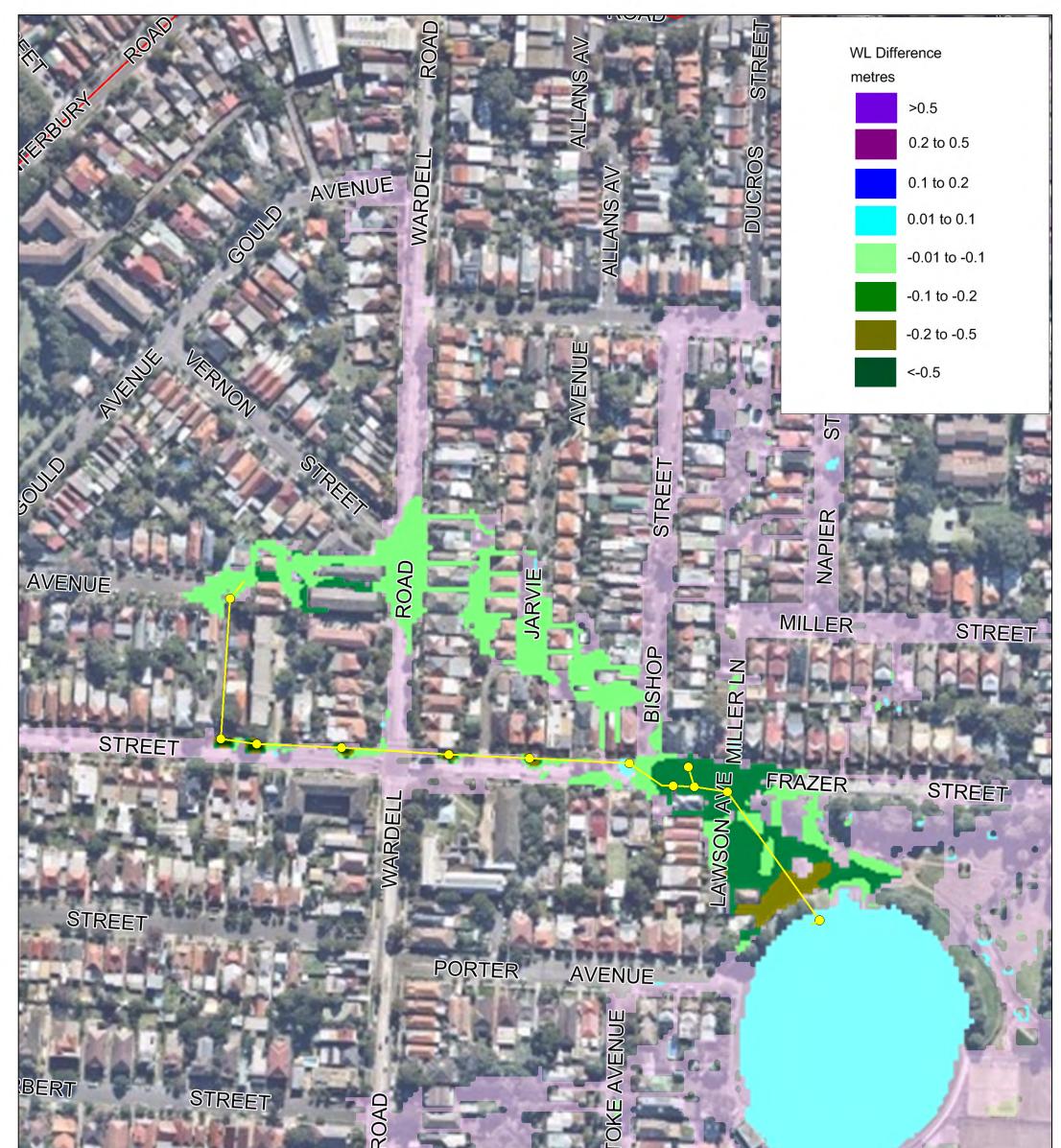
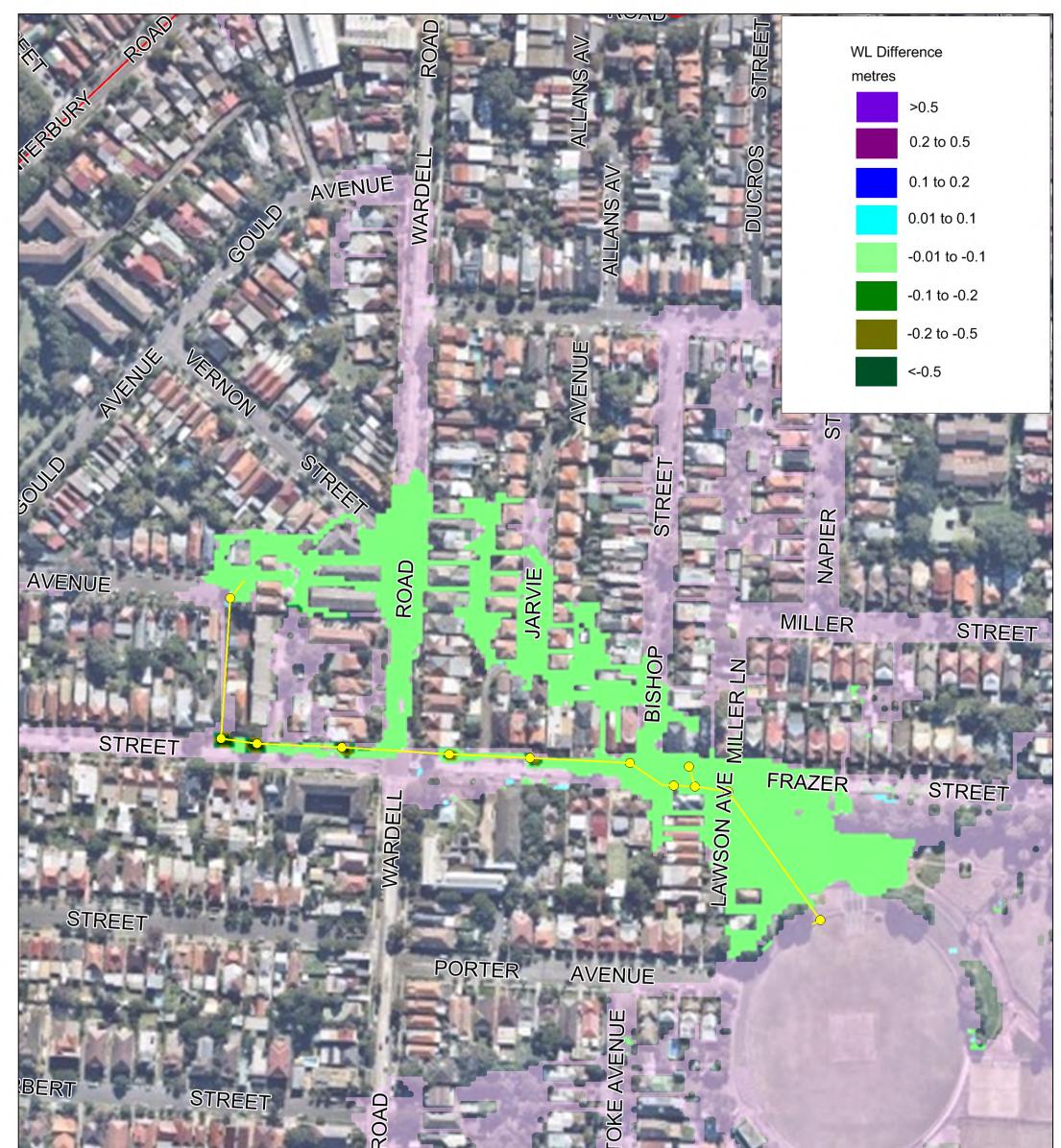




 Image: Water Level Difference
 Image: Water Level Difference

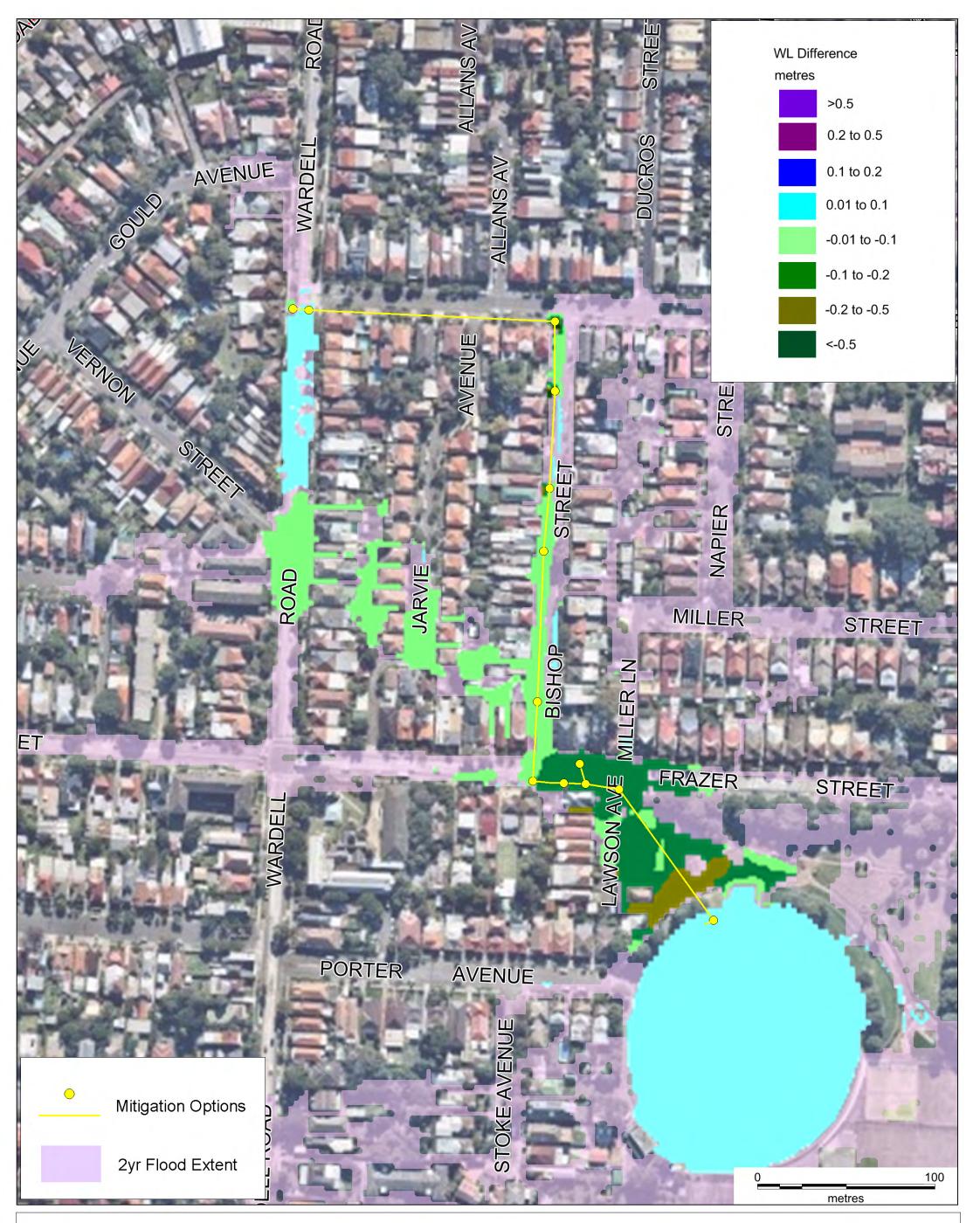




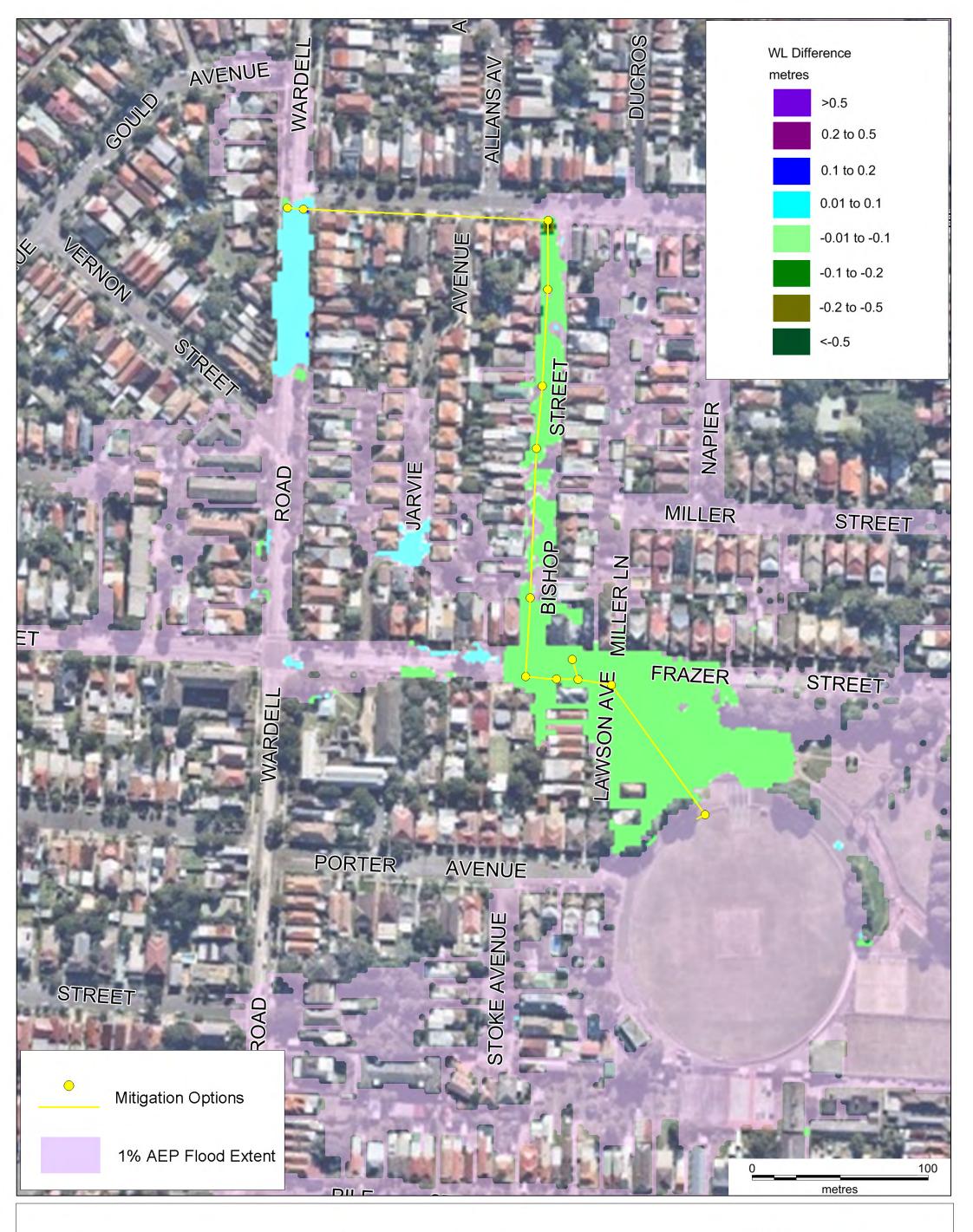
Water Level Difference 1% AEP Option FM1.1

MARRICKVILLE VALLEY FRMS&P





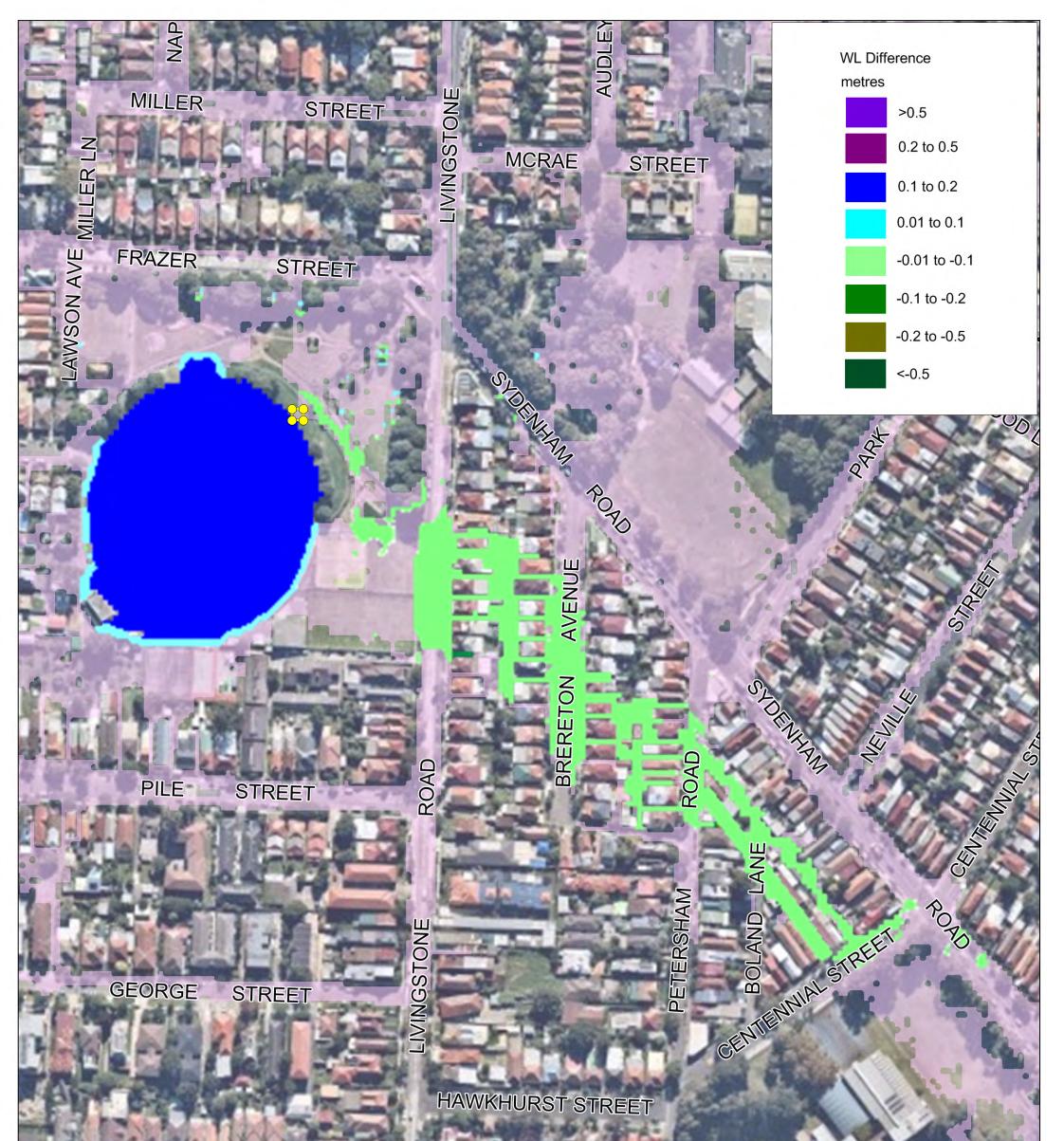






MARRICKVILLE VALLEY FRMS&P



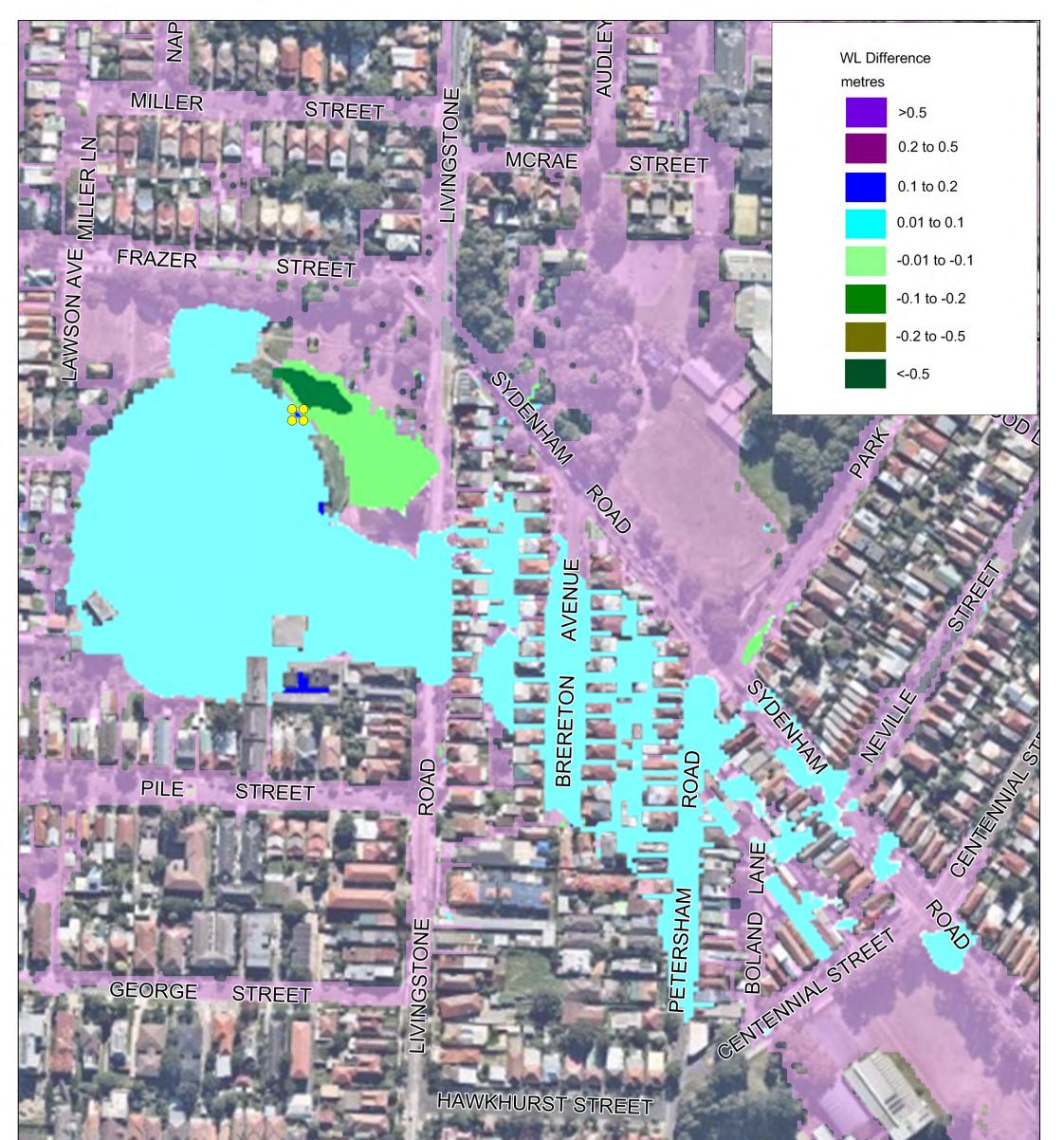




Water Level Difference 2 Yr Option FM 2.1

MARRICKVILLE VALLEY FRMS&P

Cardno

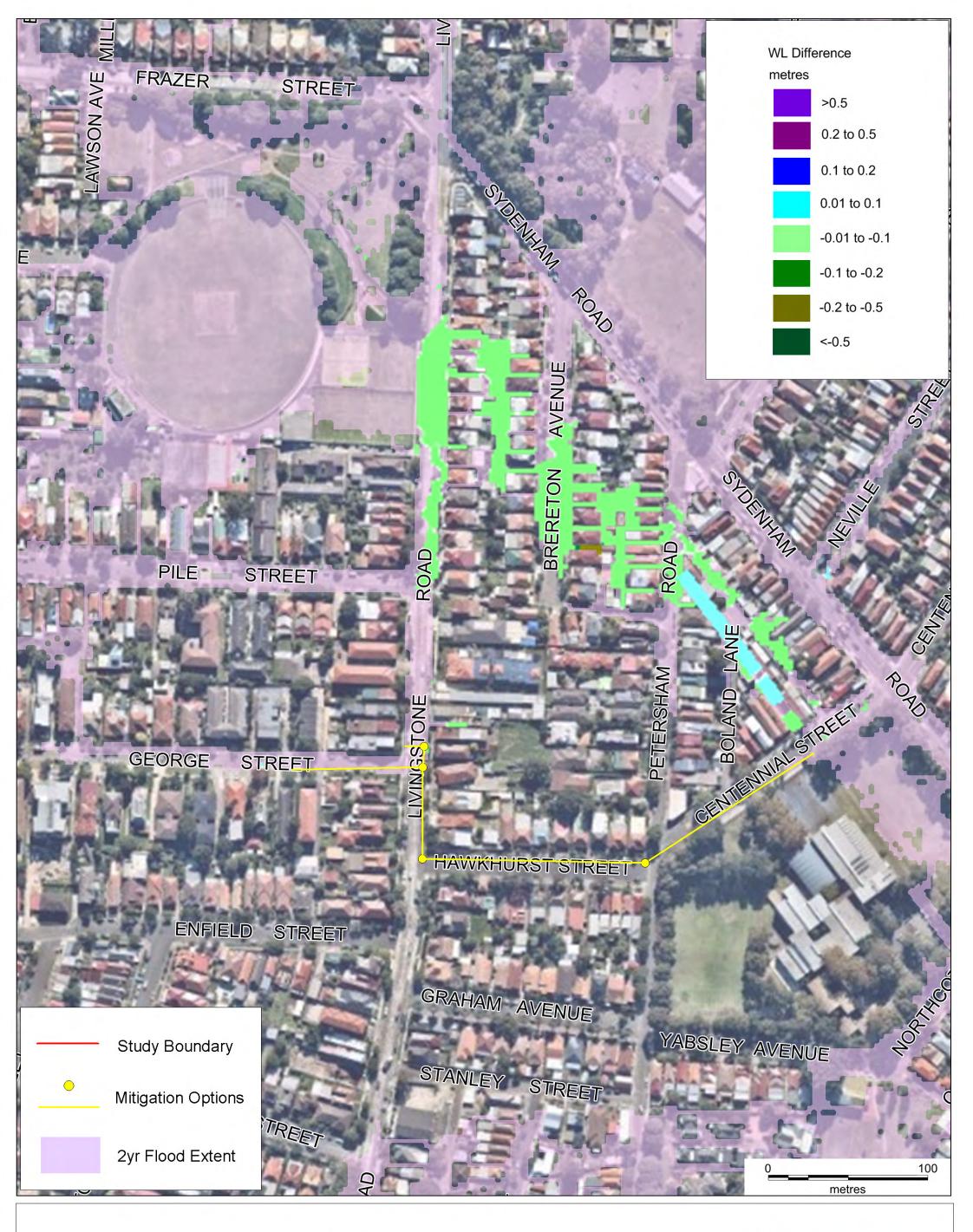




Water Level Difference 1% AEP Option FM 2.1

MARRICKVILLE VALLEY FRMS&P

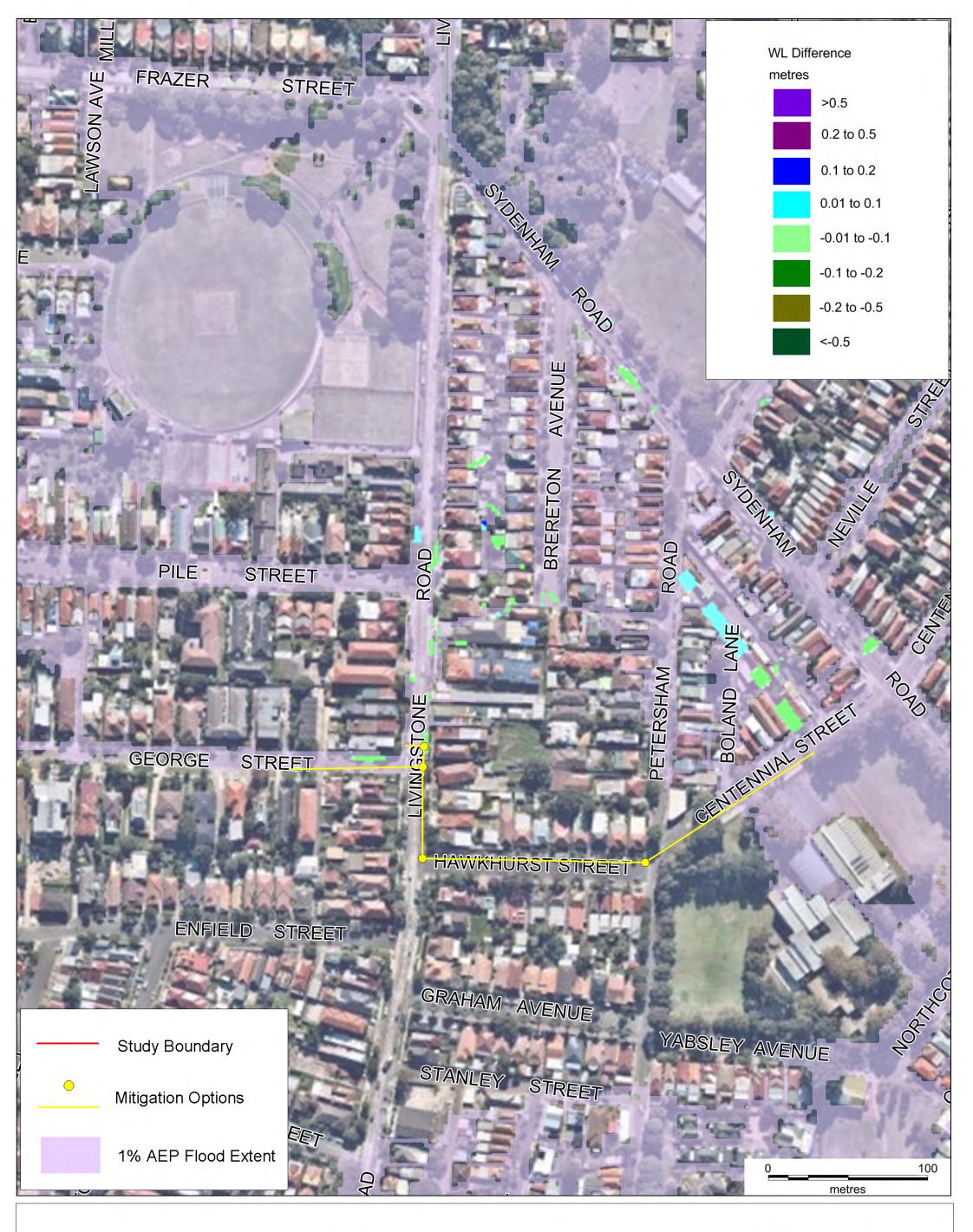




Water Level Difference 2 Yr Option FM2.3

MARRICKVILLE VALLEY FRMS&P

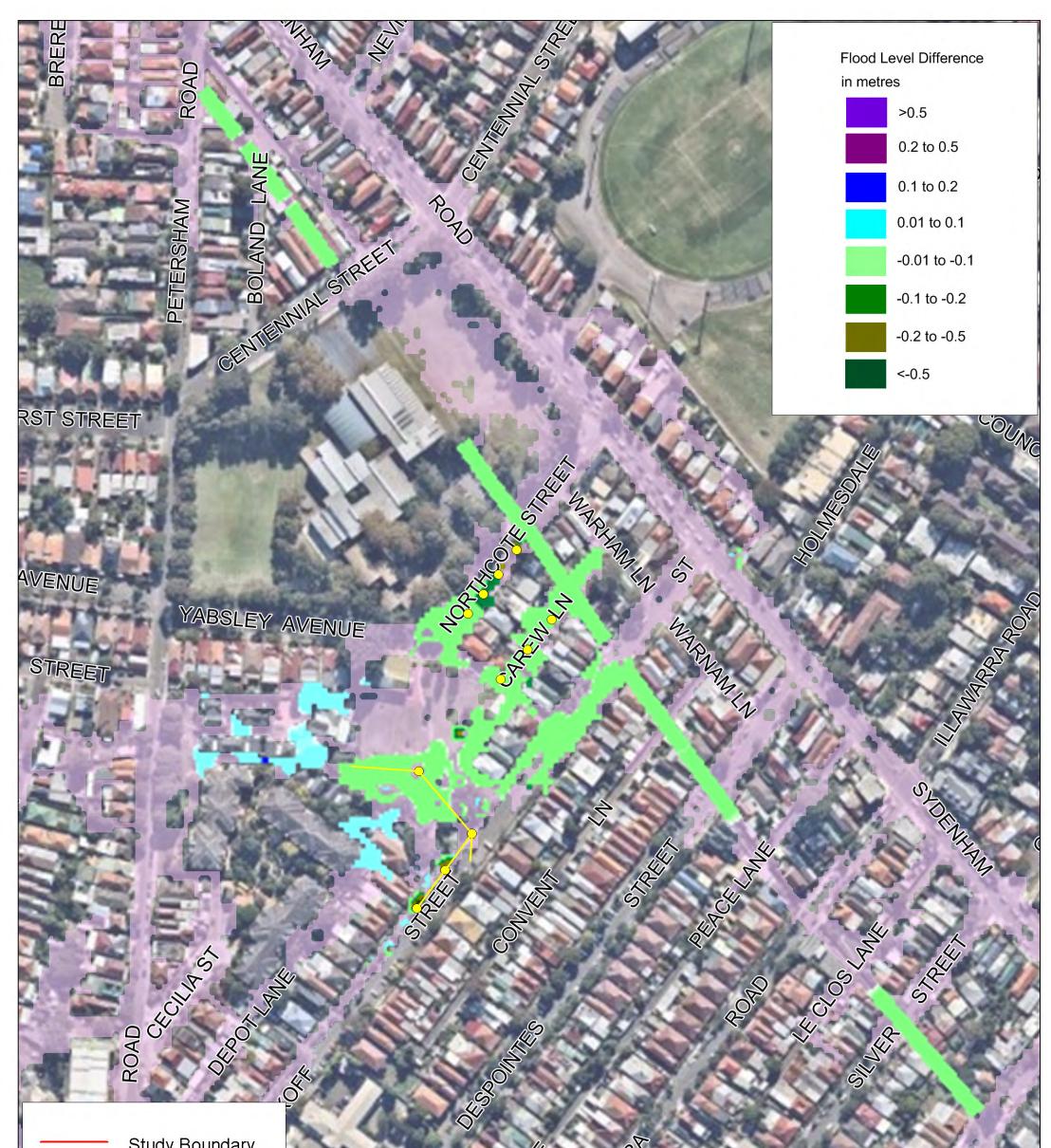




Water Level Difference 1% AEP Option FM2.3

MARRICKVILLE VALLEY FRMS&P



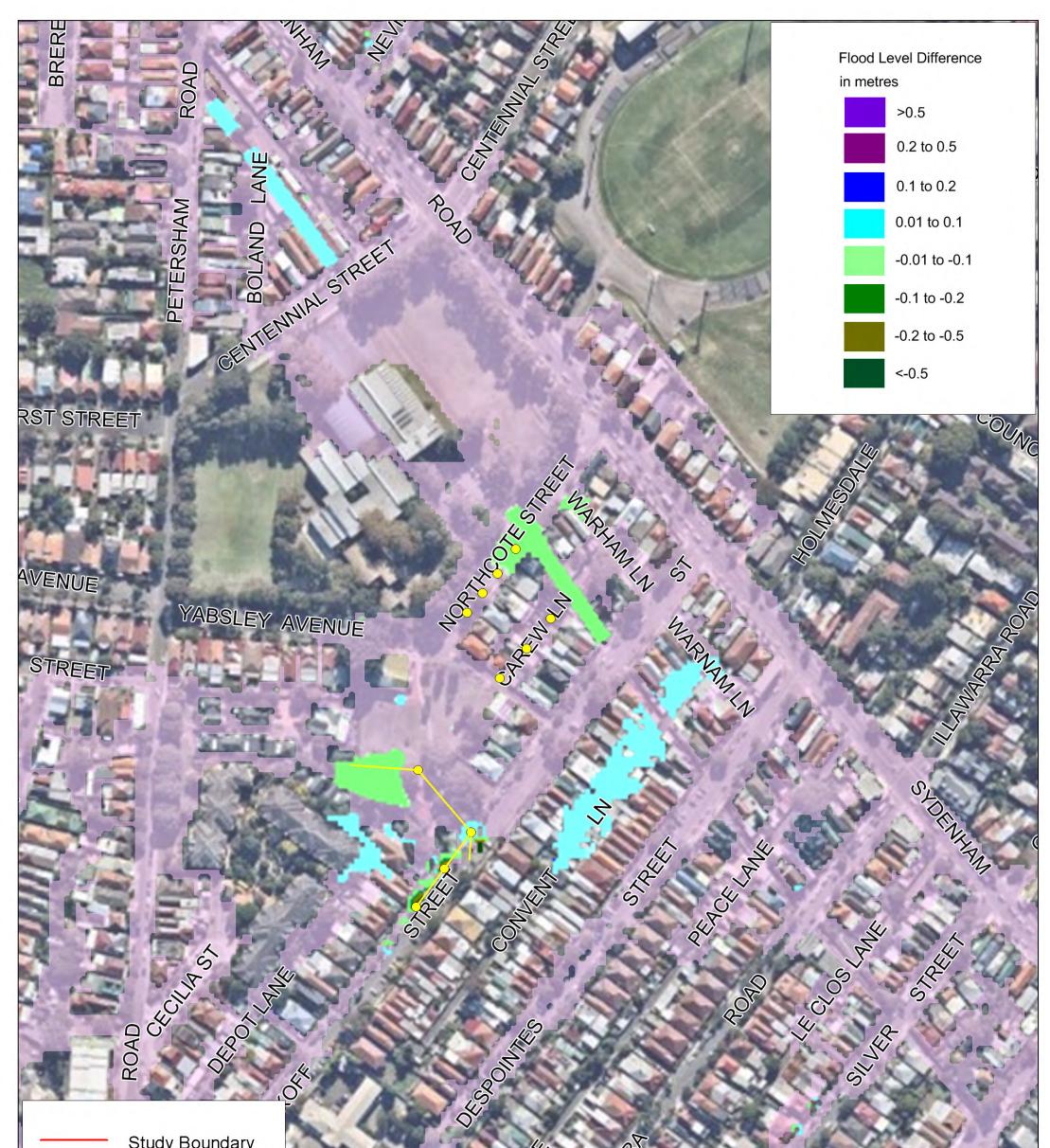




Water Level Difference 2 Yr Option FM3.1

MARRICKVILLE VALLEY FRMS&P

Cardno

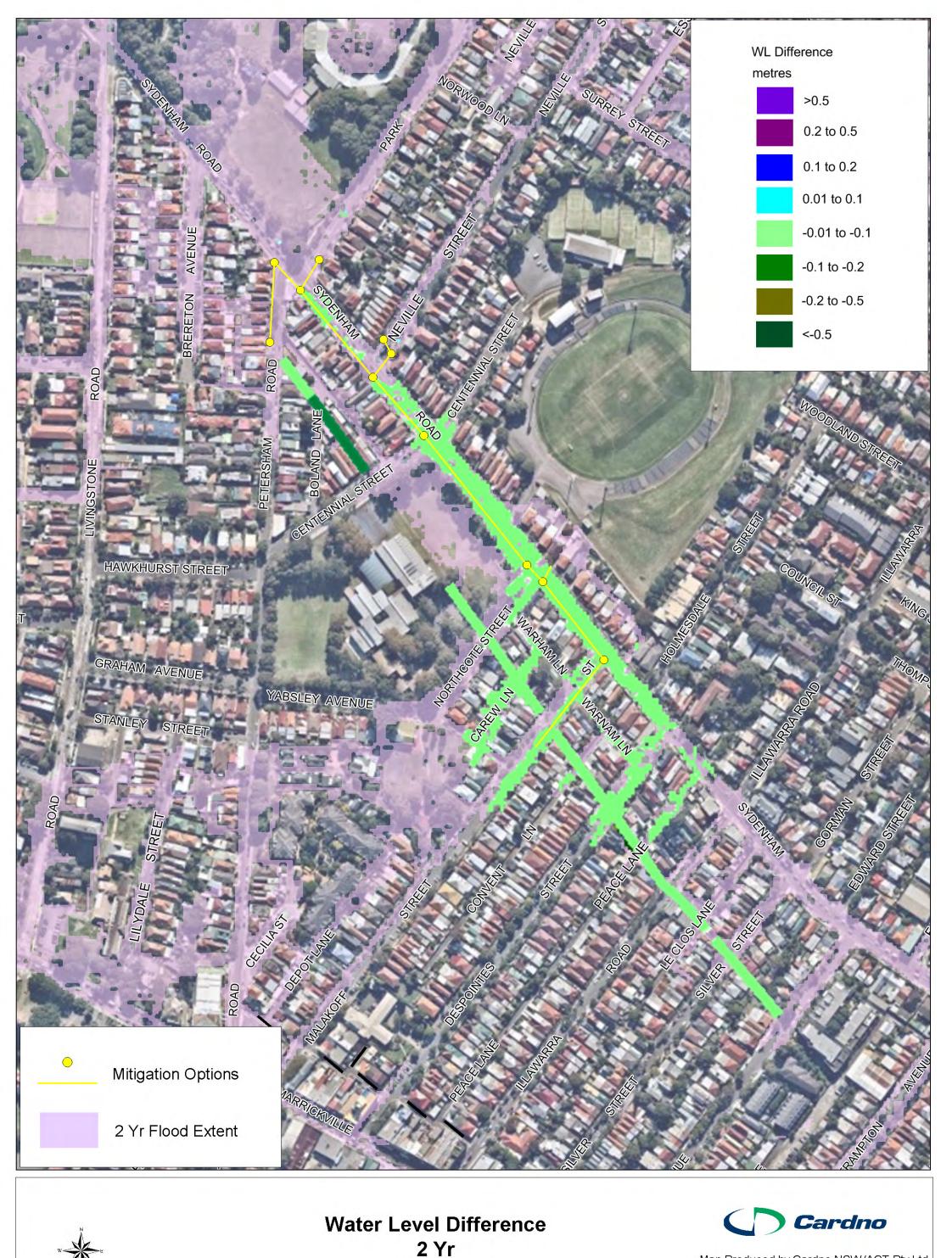




Water Level Difference 100 Yr Option FM3.1

MARRICKVILLE VALLEY FRMS&P

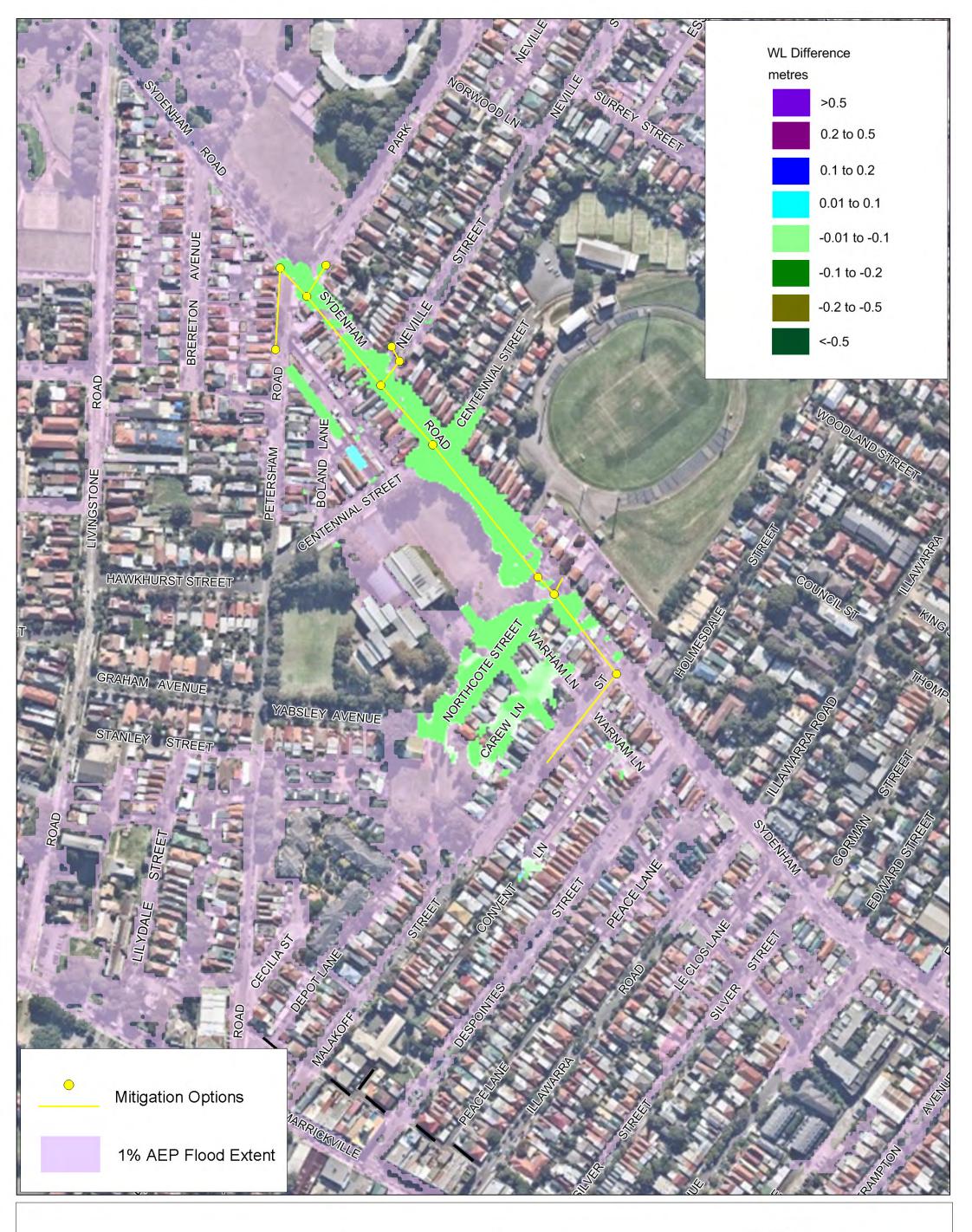
Cardno



Map Produced by Cardno NSW/ACT Pty Ltd Date: February 2017 Project:59915195 Coordinate System: MGA Zone 56

MARRICKVILLE VALLEY FRMS&P

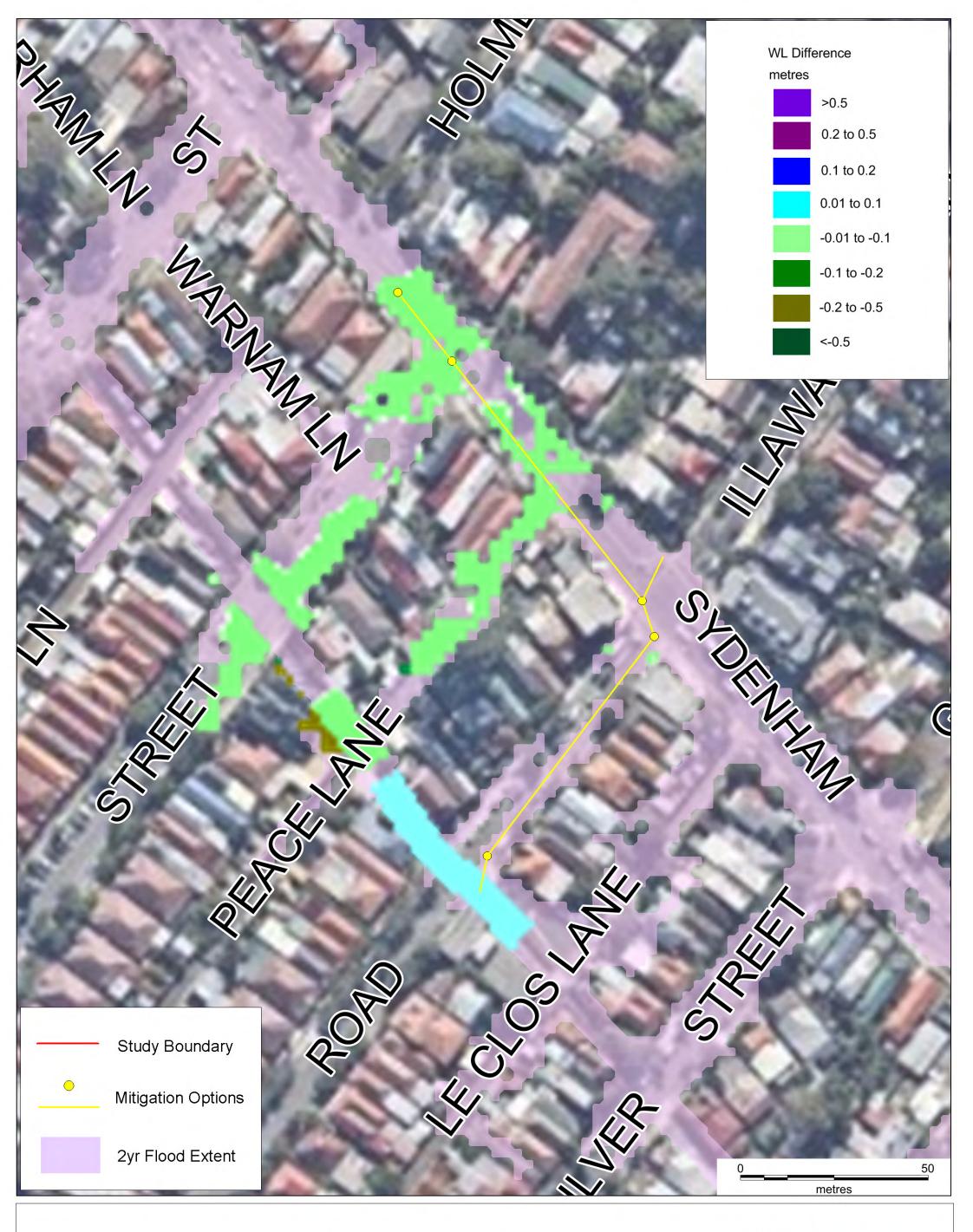
**Option FM3.2** 



Water Level Difference 1% AEP Option FM3.2

MARRICKVILLE VALLEY FRMS&P

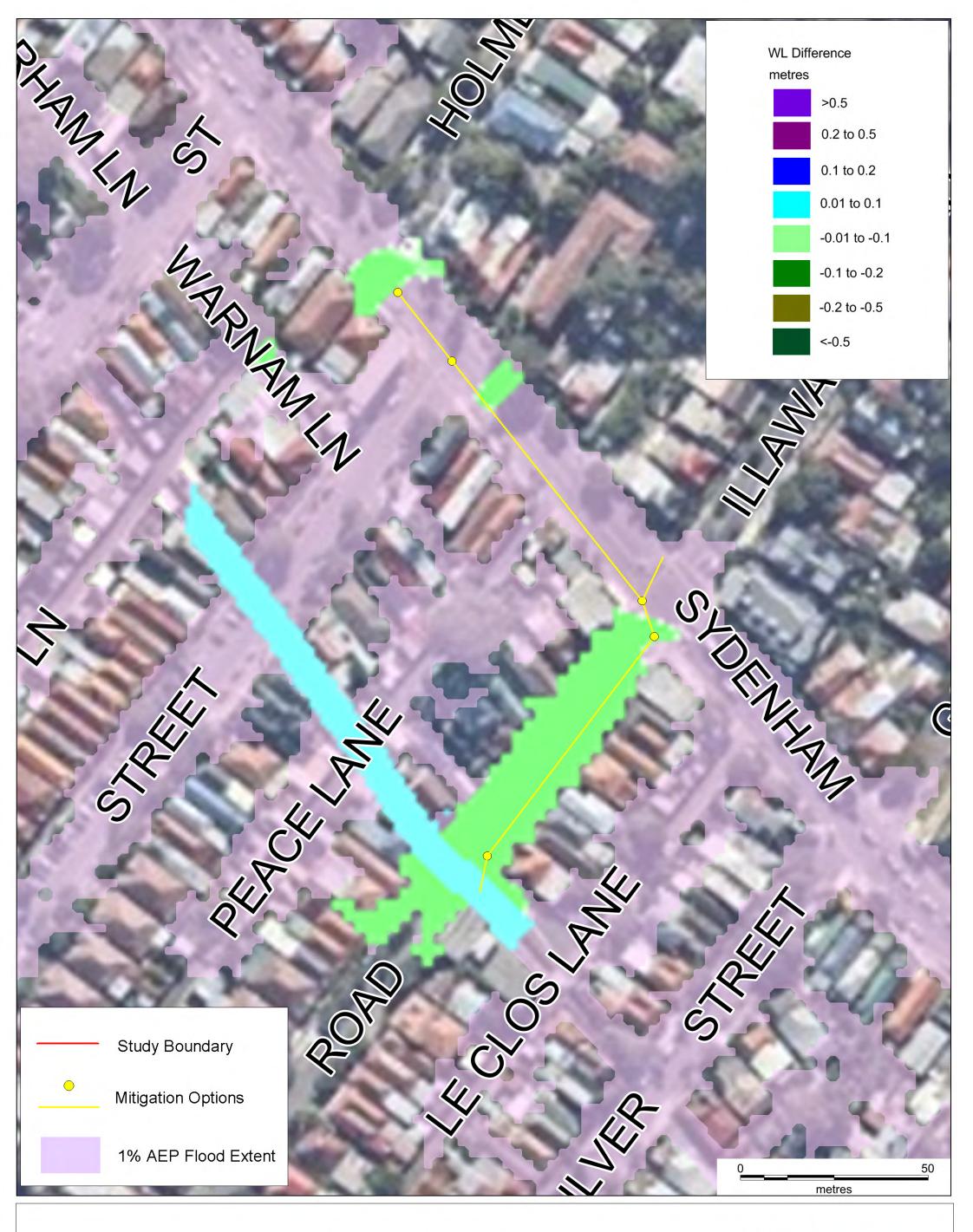




Water Level Difference 2 Yr Option FM3.3

MARRICKVILLE VALLEY FRMS&P

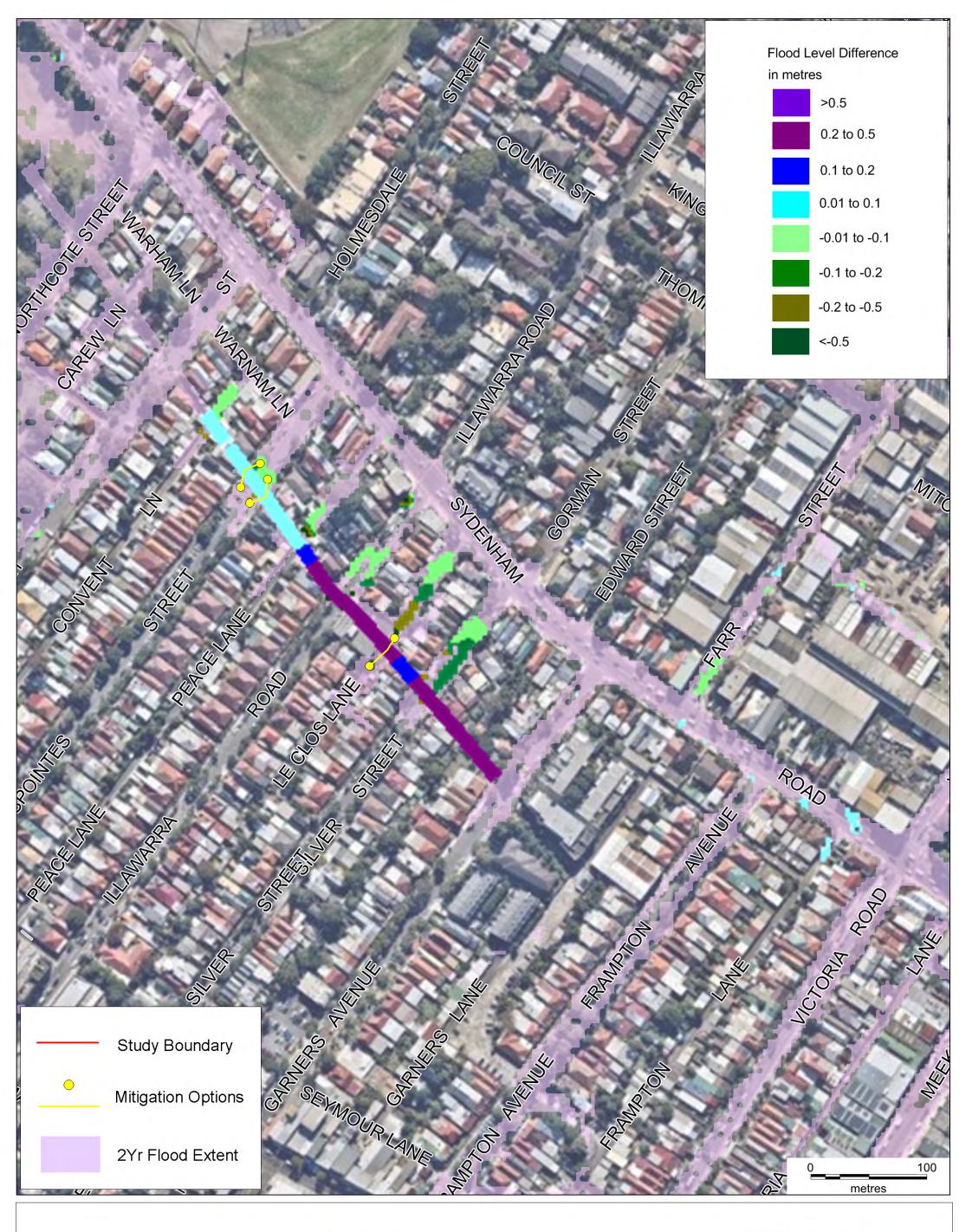
Cardno



Water Level Difference 1% AEP Option FM3.3

MARRICKVILLE VALLEY FRMS&P

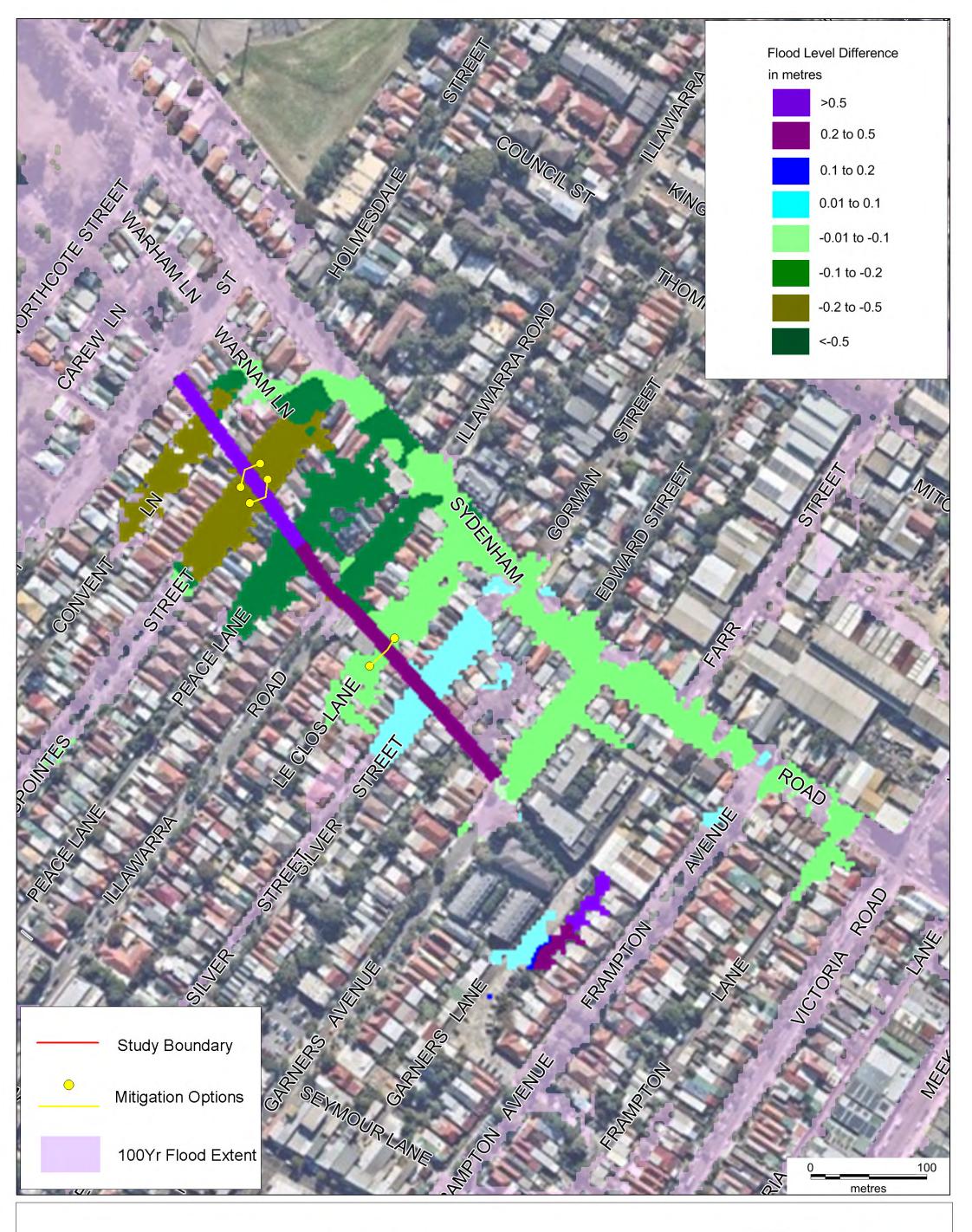




# Water Level Difference 2 Yr Option FM3.4

MARRICKVILLE VALLEY FRMS&P

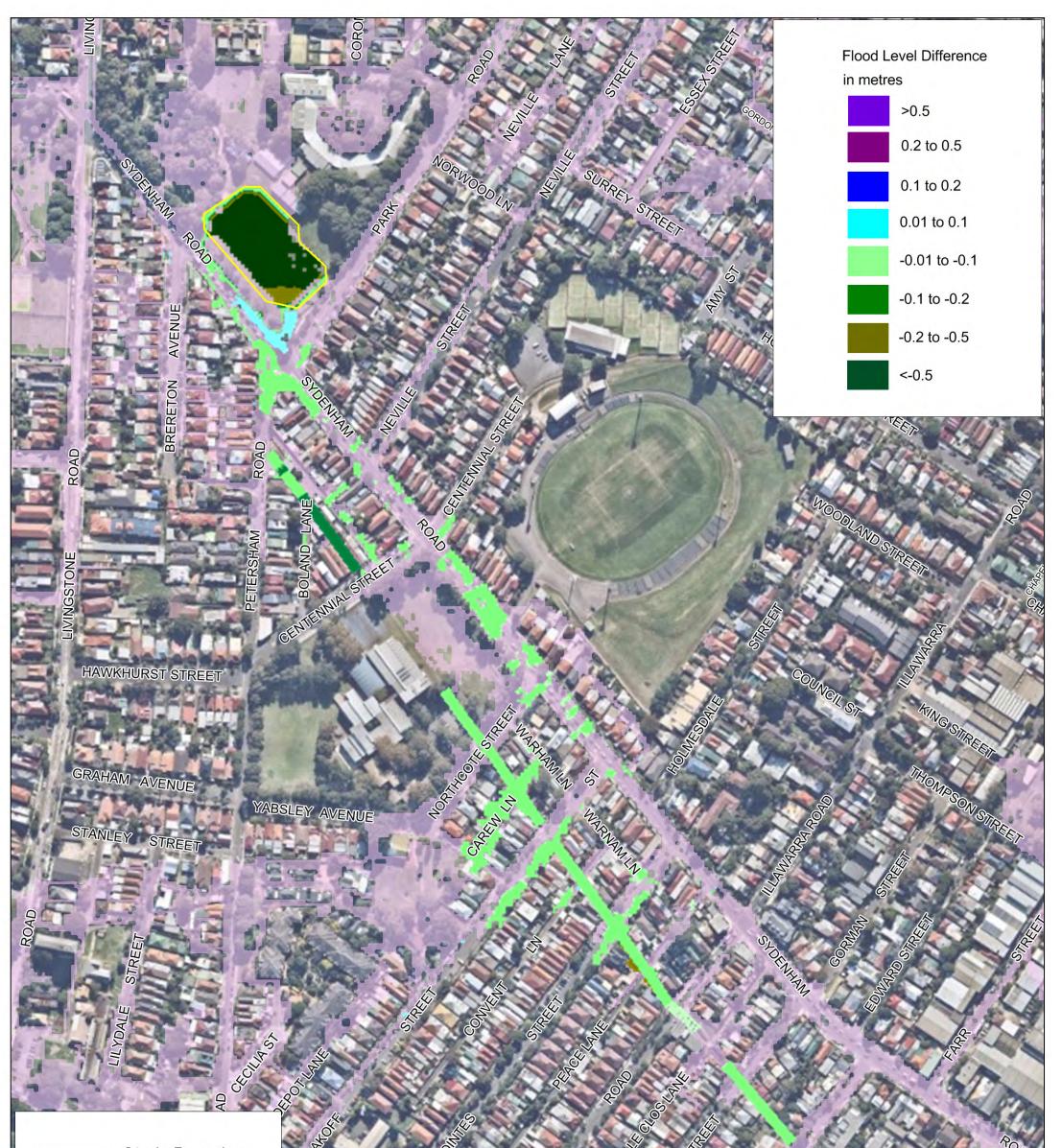






MARRICKVILLE VALLEY FRMS&P



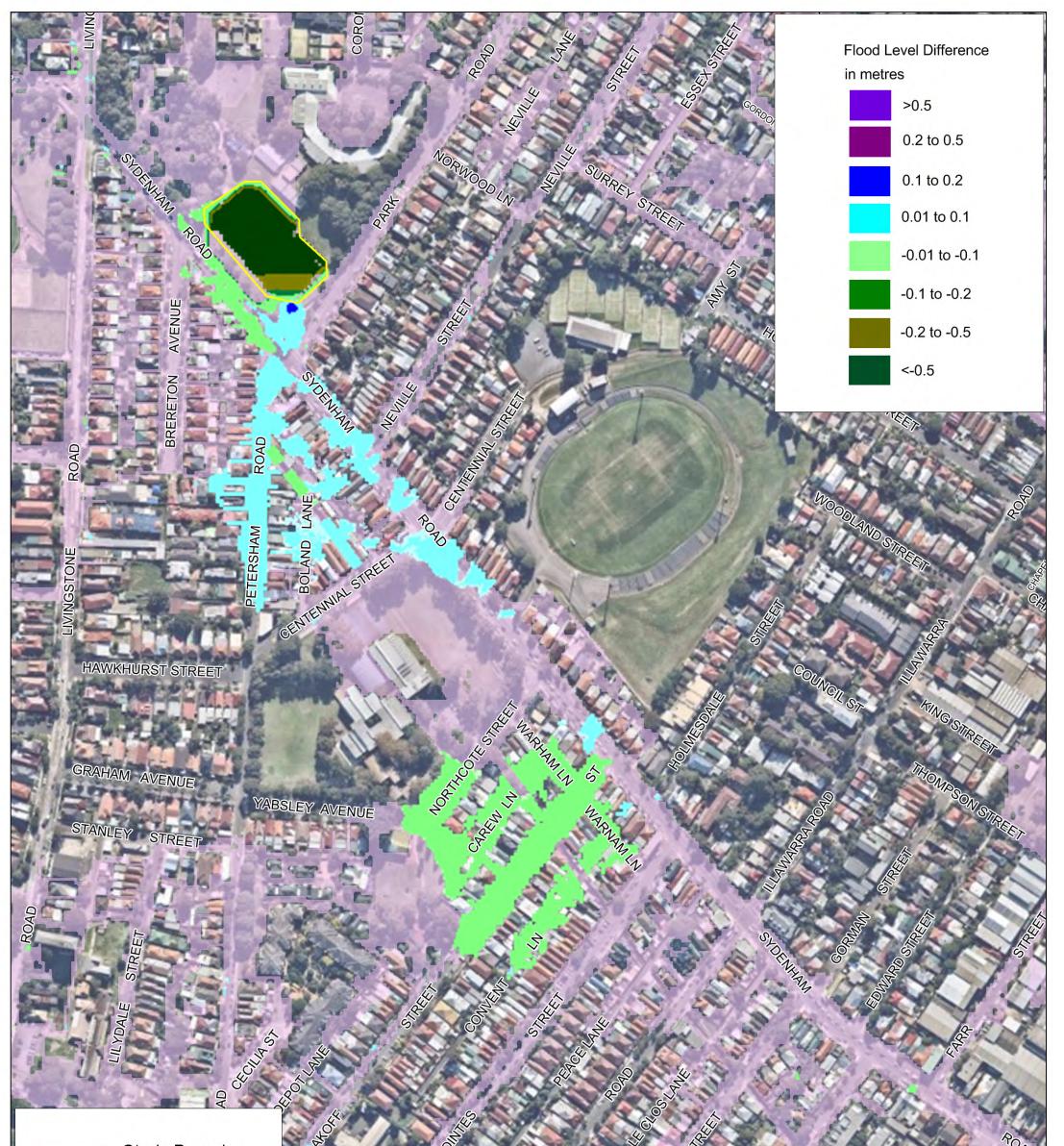




Water Level Difference 2 Yr Option FM3.6

MARRICKVILLE VALLEY FRMS&P

Cardno

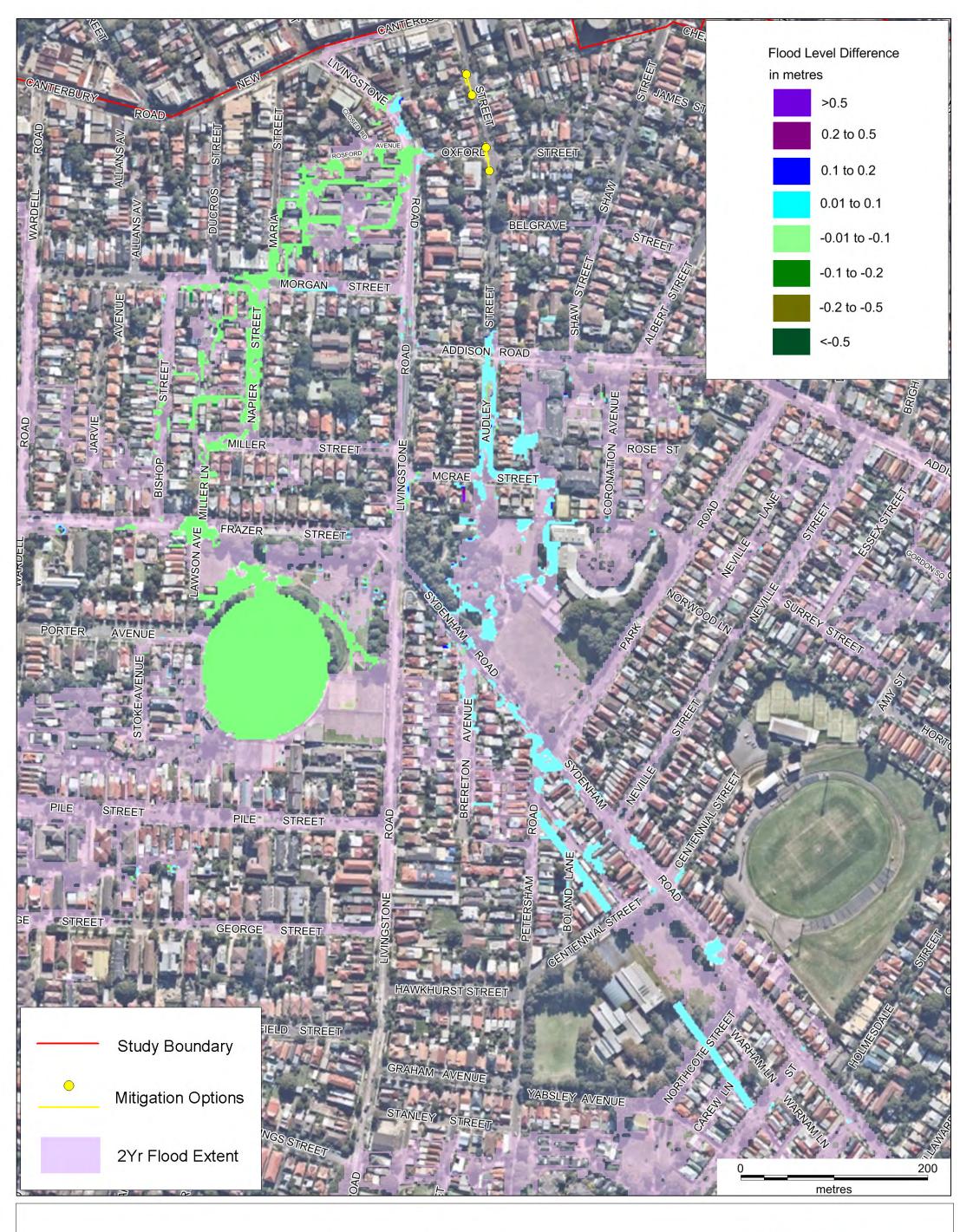




Water Level Difference 100 Yr Option FM3.6

MARRICKVILLE VALLEY FRMS&P

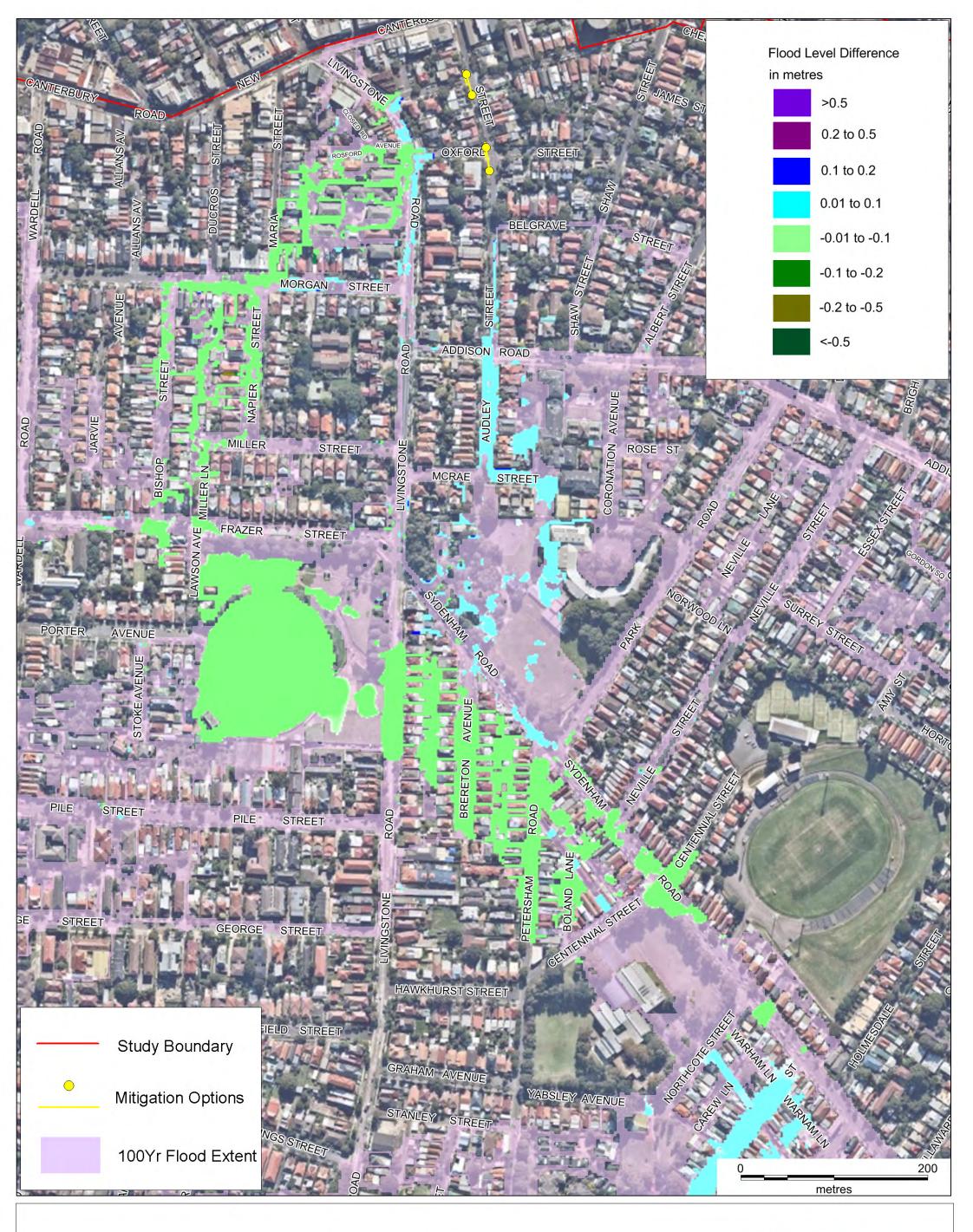
Cardno



Water Level Difference 2 Yr Option FM4.2

MARRICKVILLE VALLEY FRMS&P

Cardno



Water Level Difference 100 Yr Option FM4.2

MARRICKVILLE VALLEY FRMS&P

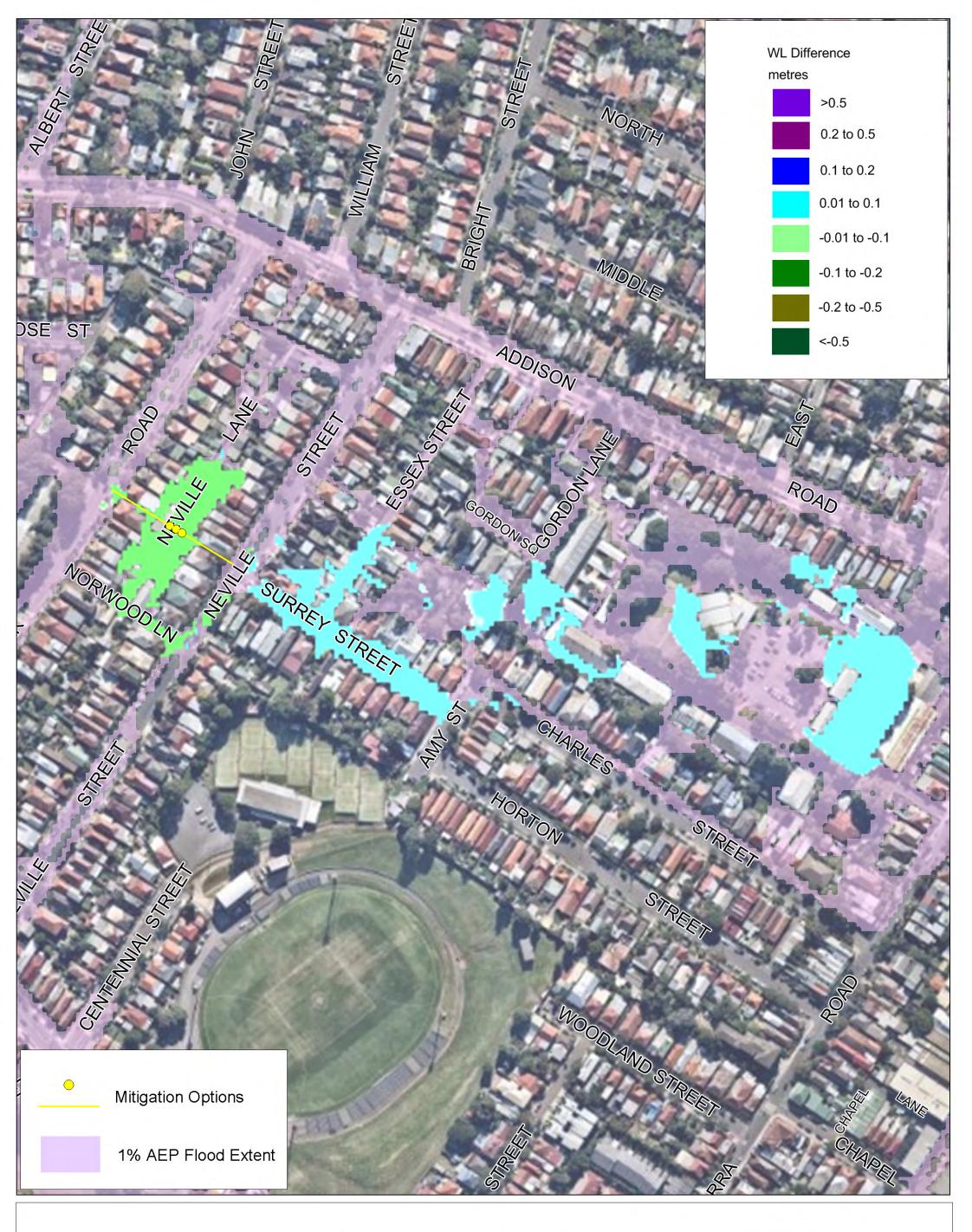
Cardno



Water Level Difference 2 Yr Option FM5.2

MARRICKVILLE VALLEY FRMS&P

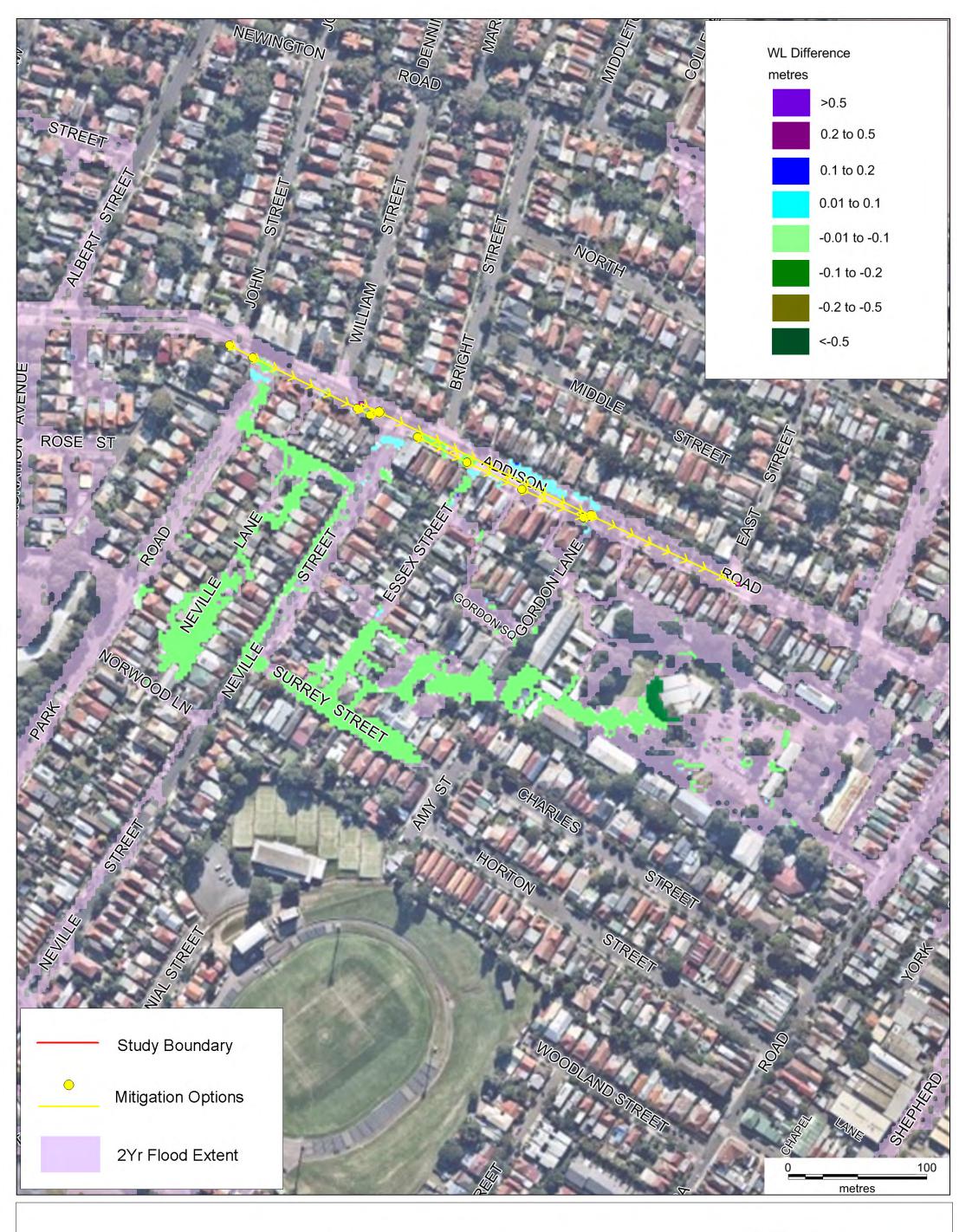




Water Level Difference 1% AEP Option FM5.2

MARRICKVILLE VALLEY FRMS&P

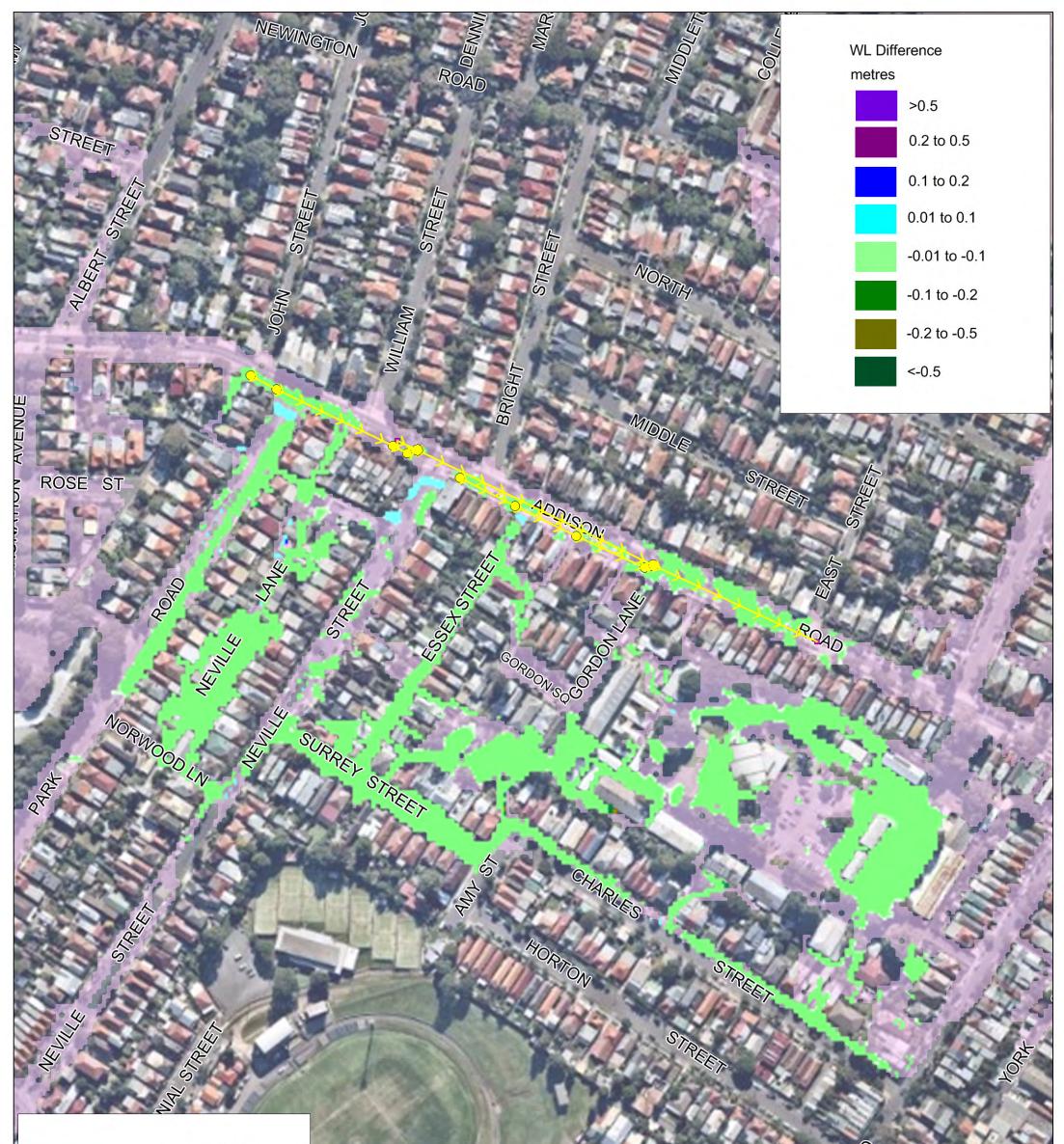




Water Level Difference 2 Yr Option FM5.3 & FM5.4

MARRICKVILLE VALLEY FRMS&P

Cardno

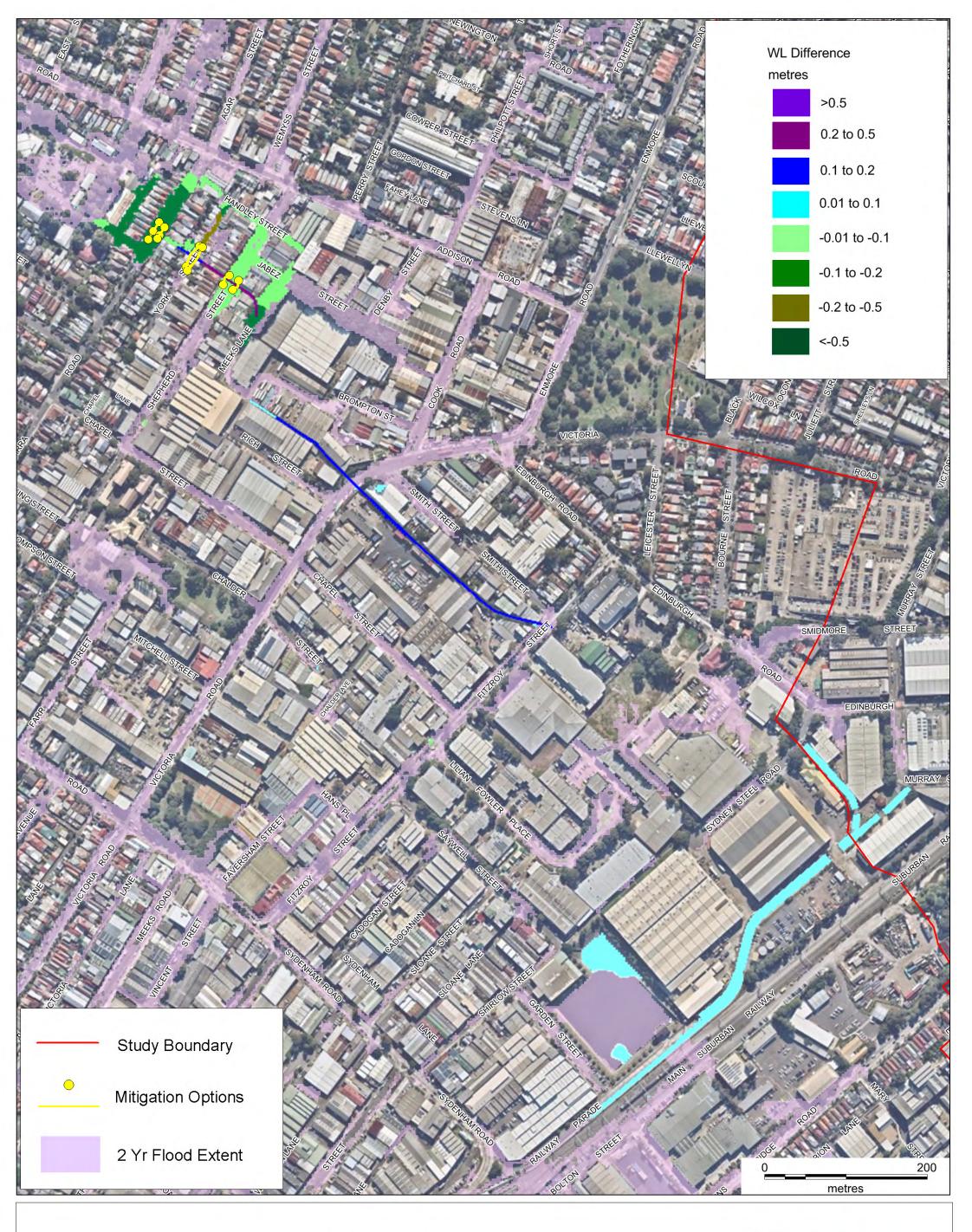




Water Level Difference **1% AEP** Option FM5.3 & FM5.4

MARRICKVILLE VALLEY FRMS&P

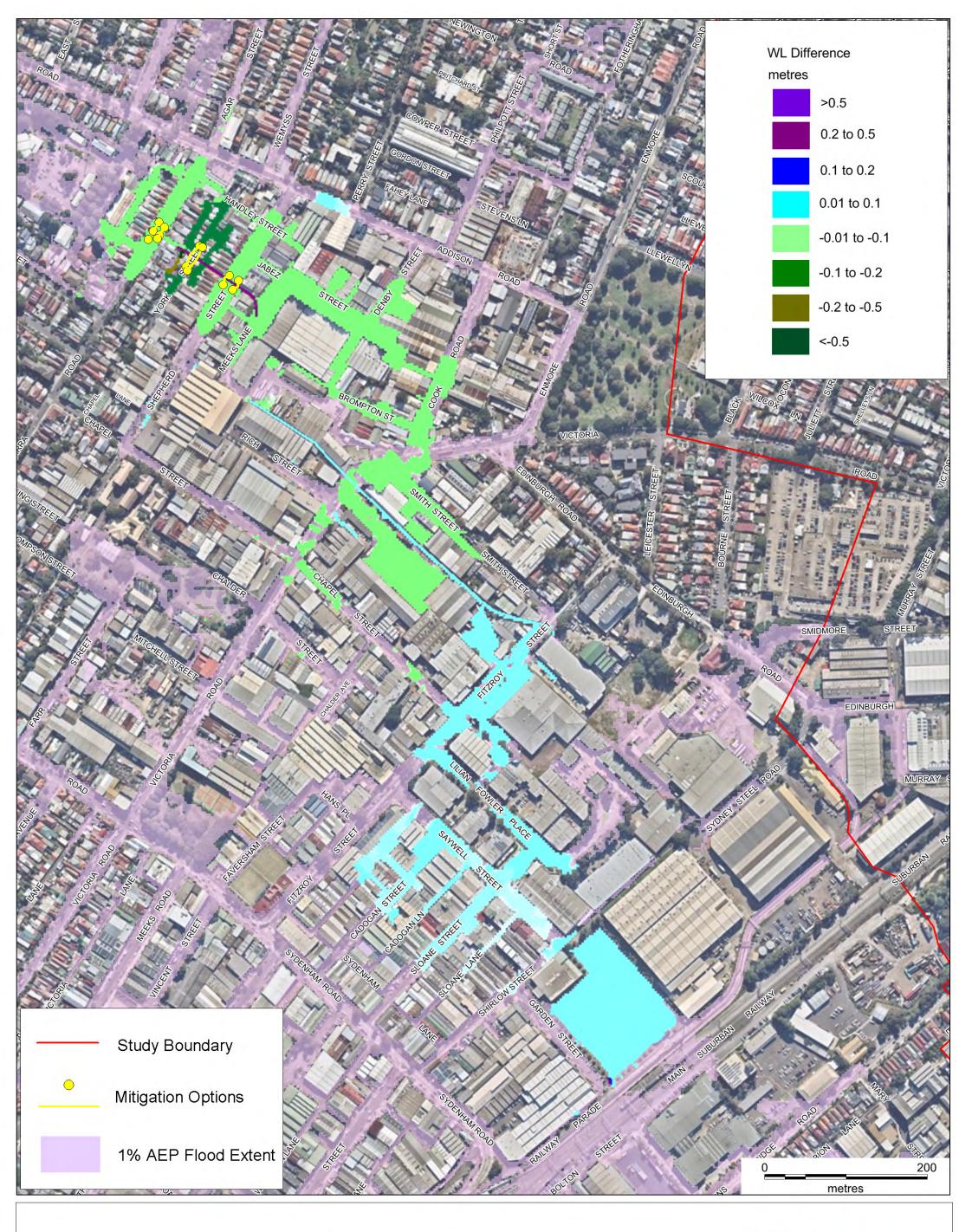
Cardno



Water Level Difference 2 Yr Option FM5.6

MARRICKVILLE VALLEY FRMS&P

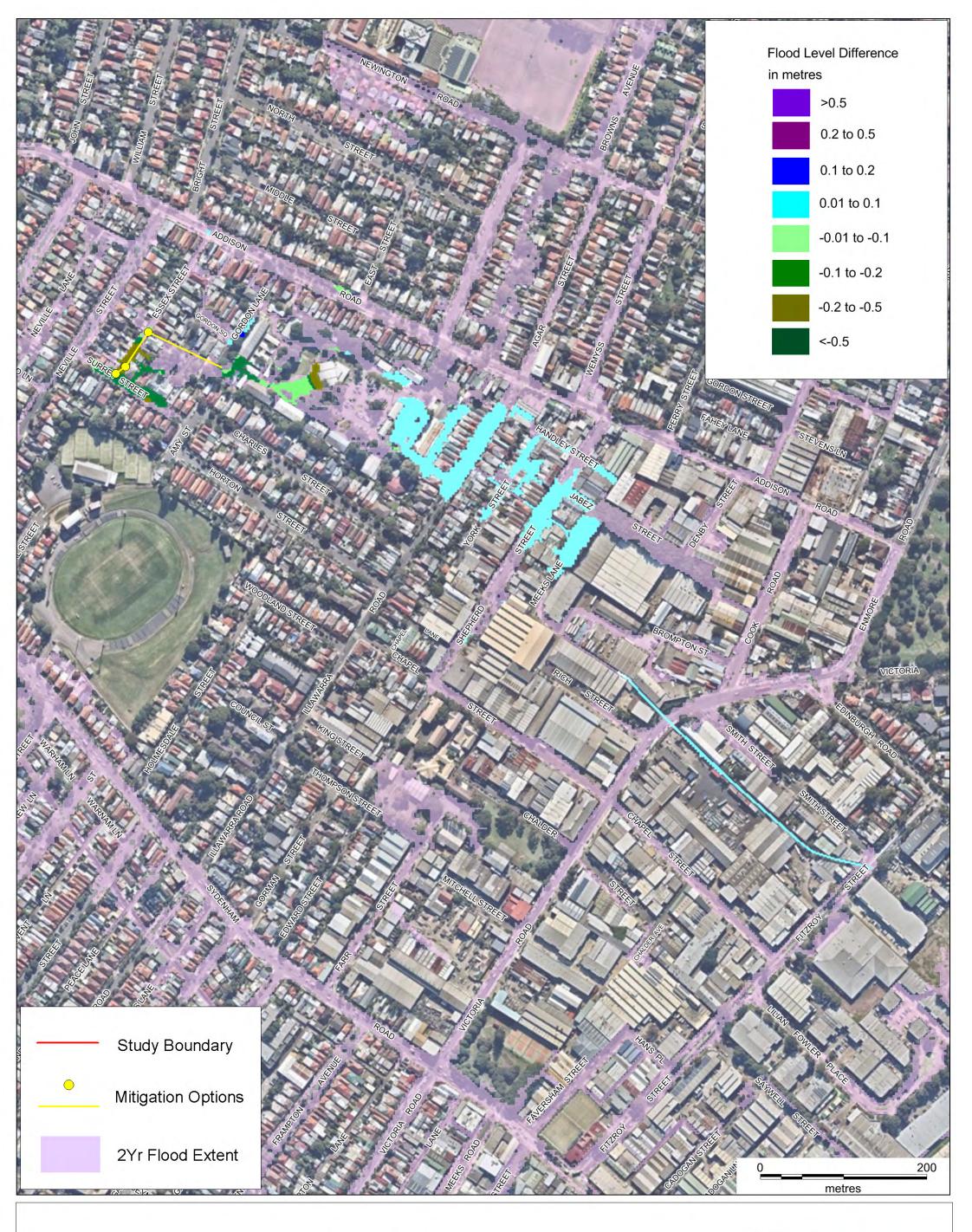
Cardno



Water Level Difference 1% AEP Option FM5.6

MARRICKVILLE VALLEY FRMS&P

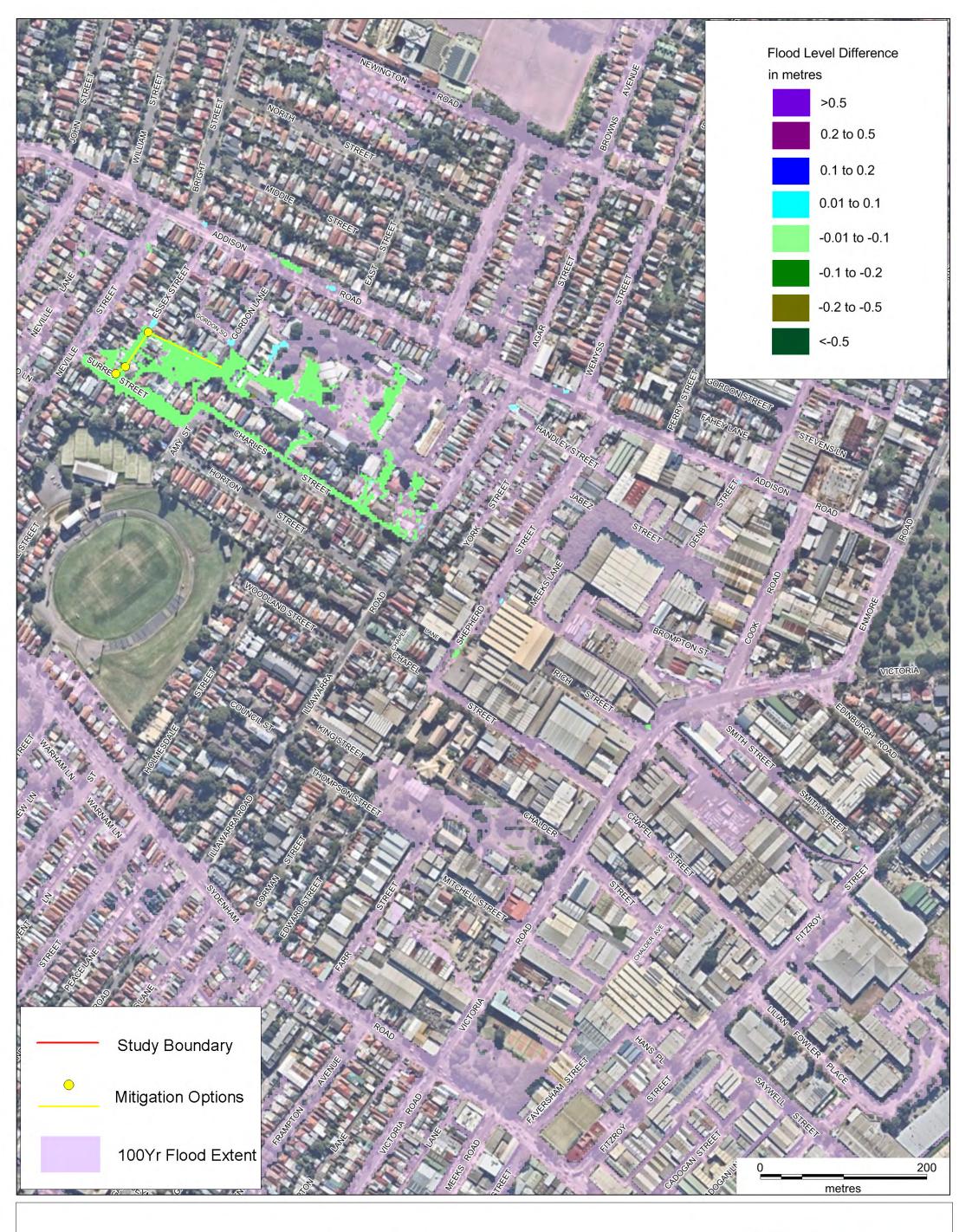




Water Level Difference 2 Yr Option FM5.9

MARRICKVILLE VALLEY FRMS&P

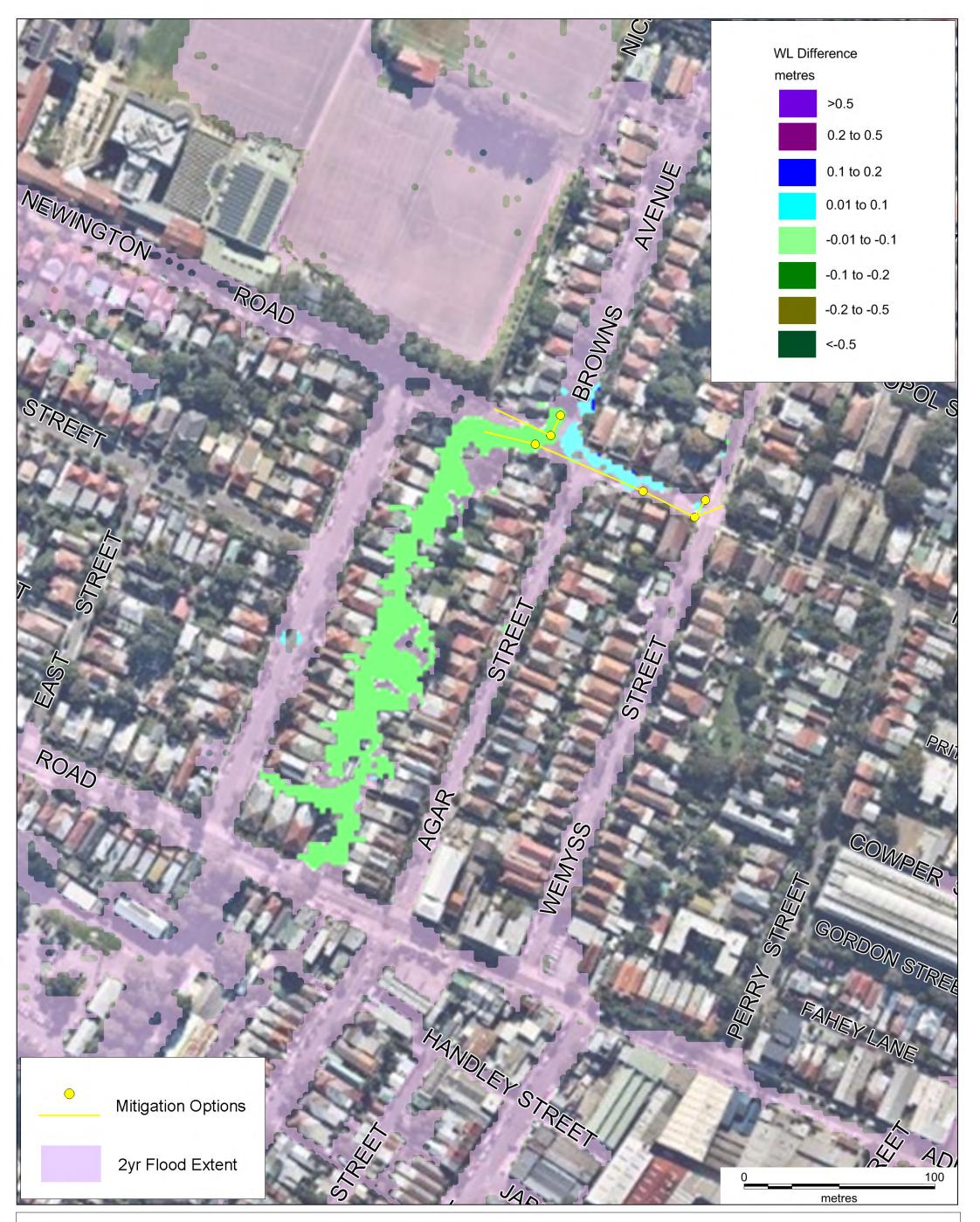
Cardno



Water Level Difference 100 Yr Option FM5.9

MARRICKVILLE VALLEY FRMS&P

Cardno



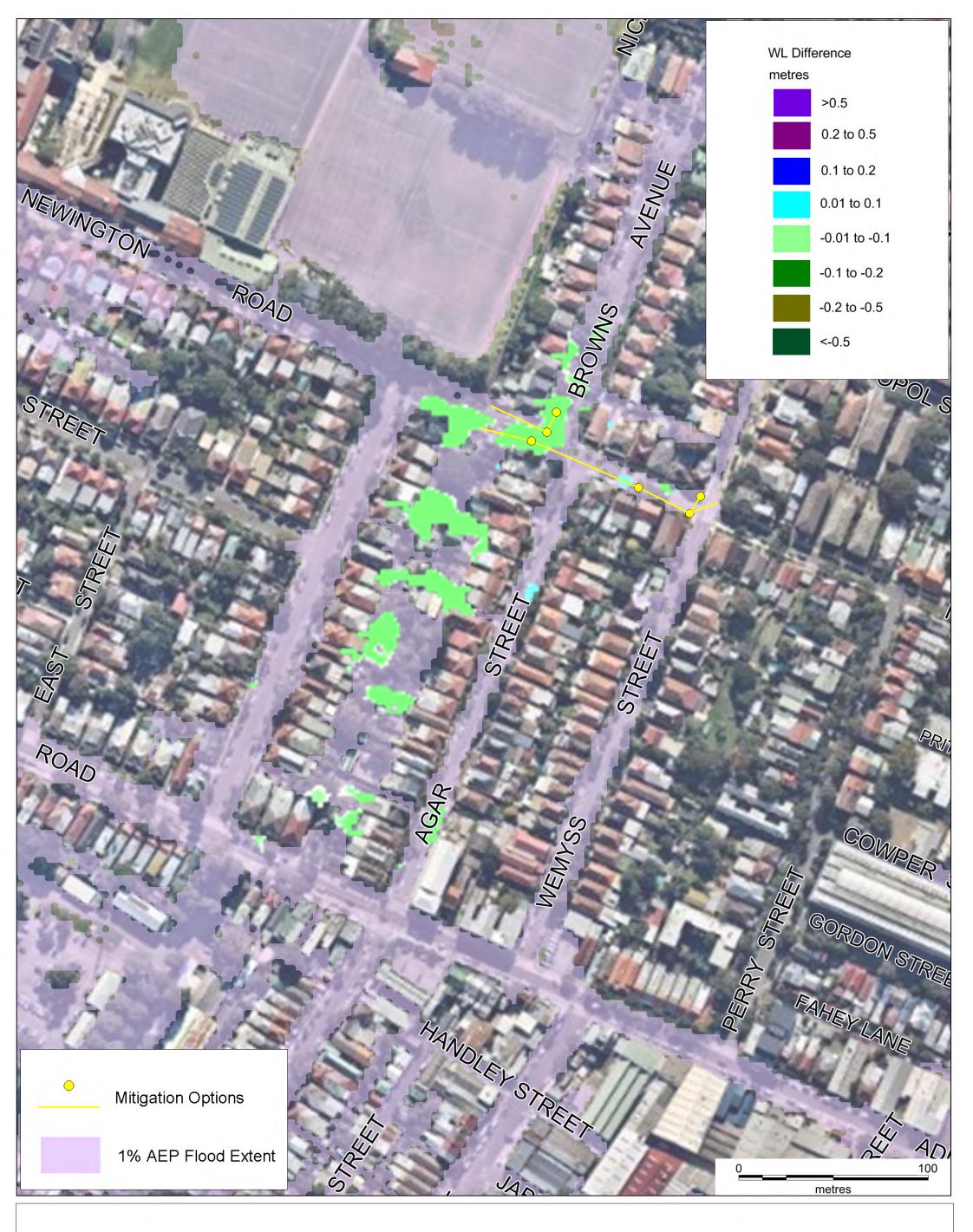
 Water Level Difference
 Cardno

 2 Yr
 Map Produced by Cardno NSW/ACT Pty Ltd

 Dption FM6.1
 Date: February 2017

 Project:59915195
 Project:59915195

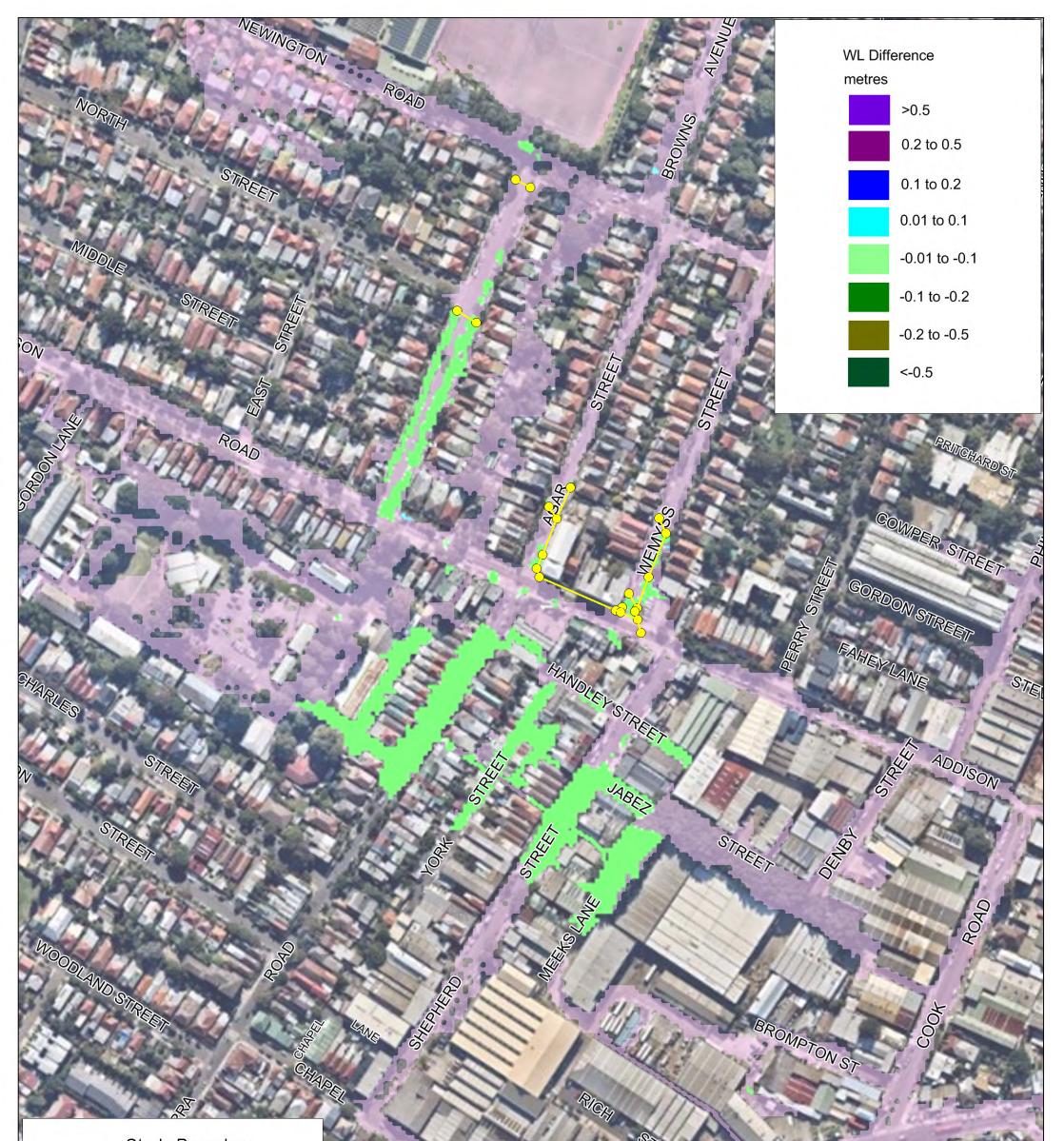
 Coordinate System: MGA Zone 56
 Map Produced by Cardno NSW/ACT Pty Ltd



Water Level Difference 1% AEP Option FM6.1

MARRICKVILLE VALLEY FRMS&P

Cardno

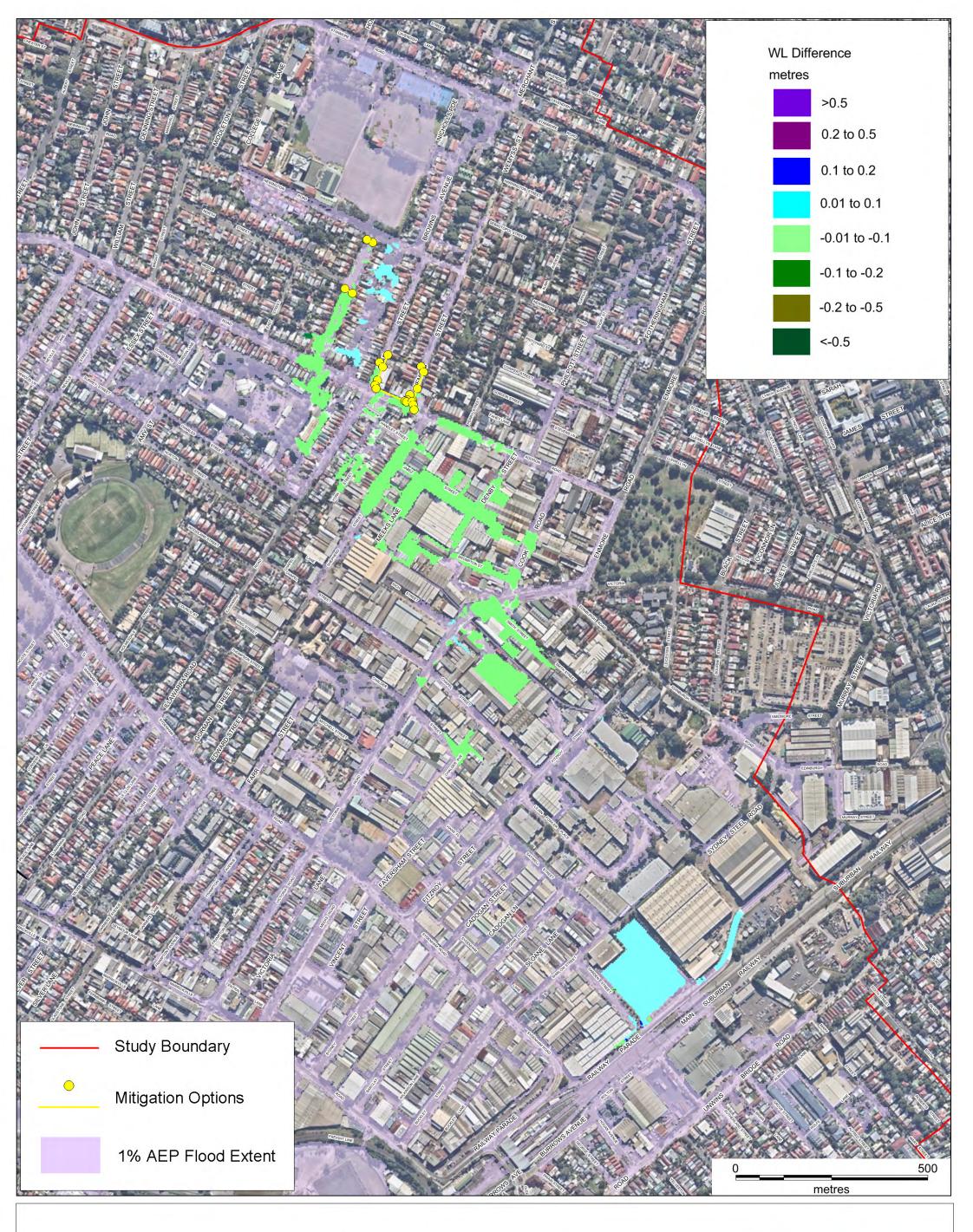




## Water Level Difference 2 Yr Option FM6.4

MARRICKVILLE VALLEY FRMS&P

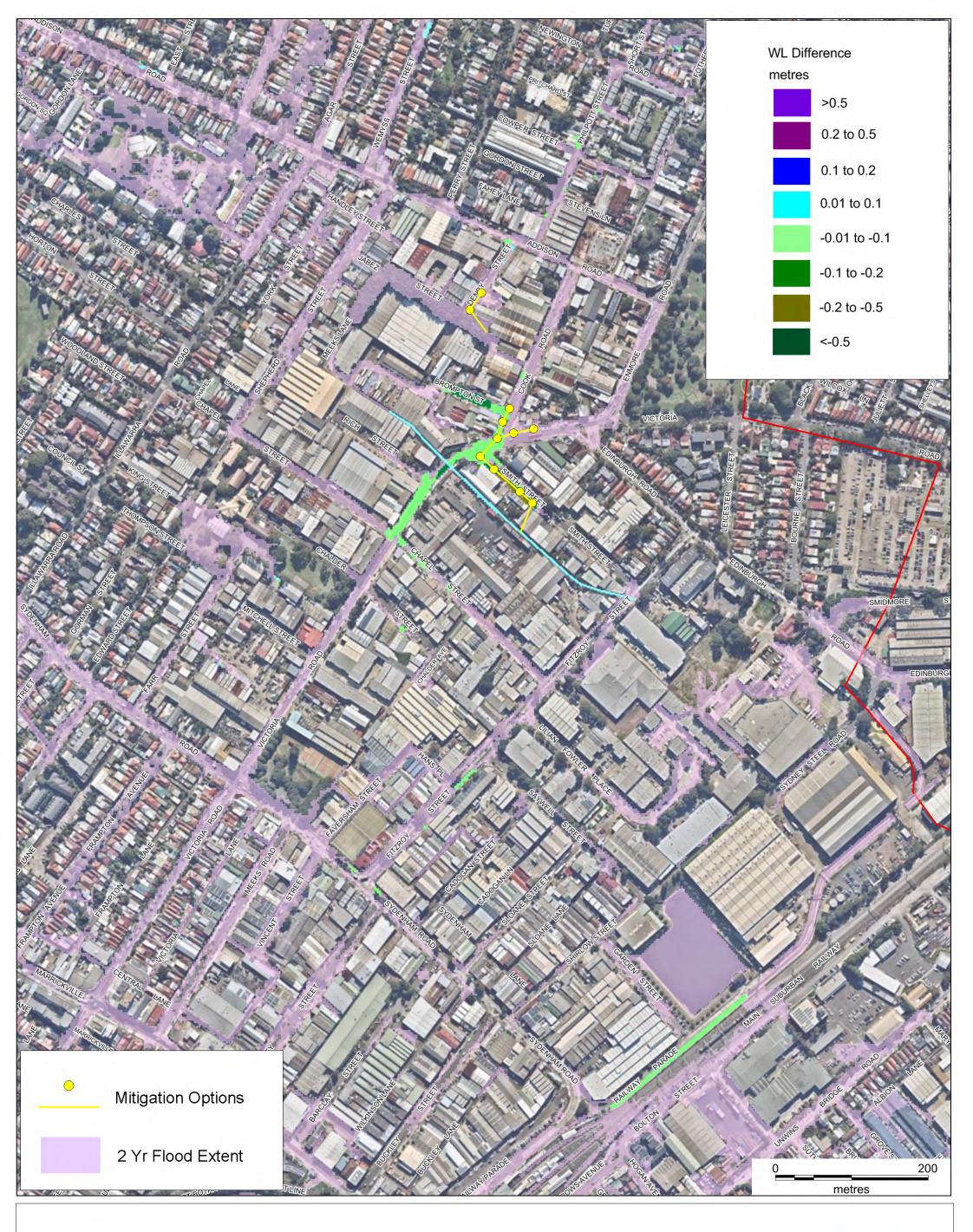
Cardno



Water Level Difference 1% AEP Option FM6.4

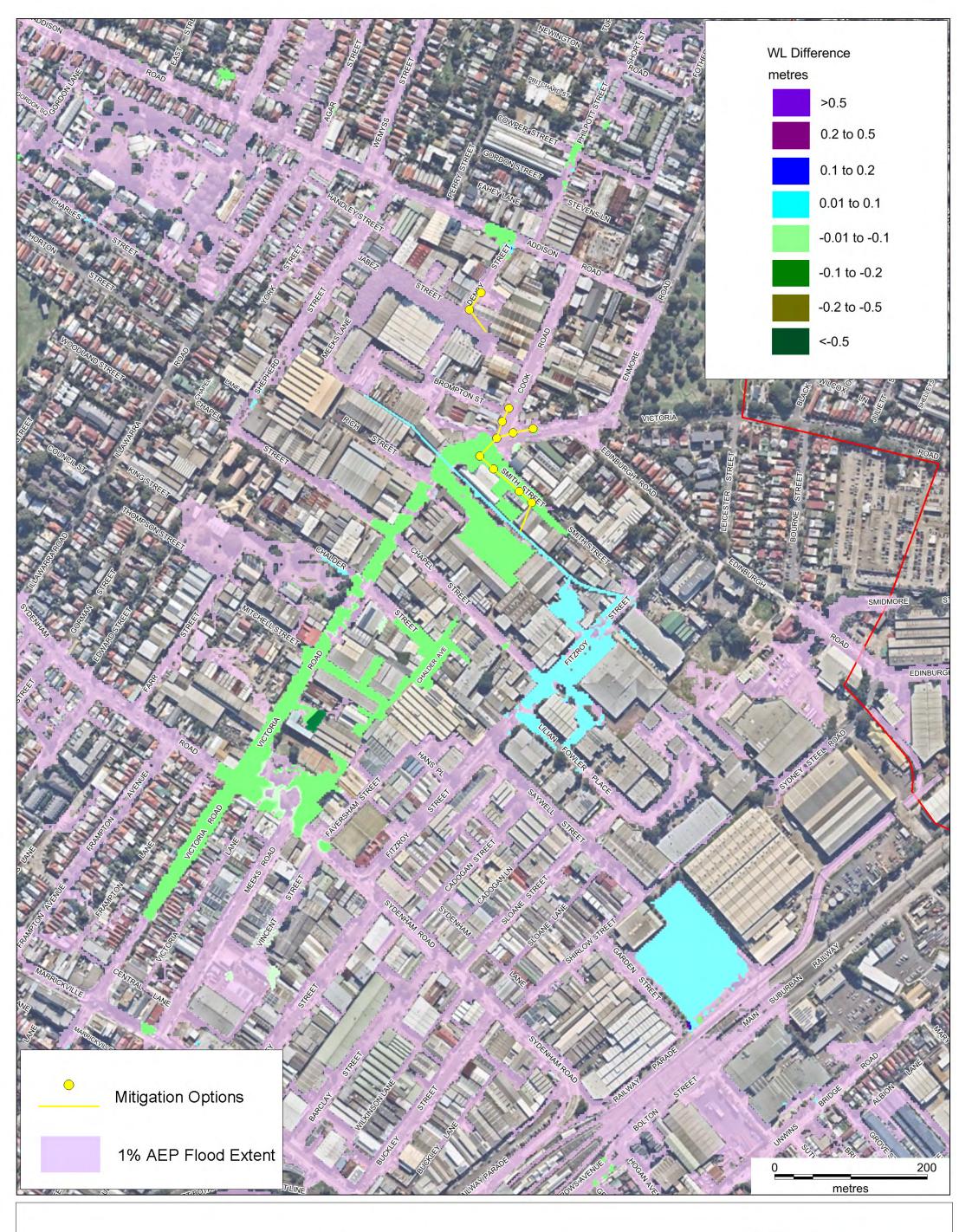
MARRICKVILLE VALLEY FRMS&P

Cardno



Water Level Difference 2 Yr Option FM7.1 & FM7.5 MARRICKVILLE VALLEY FRMS&P

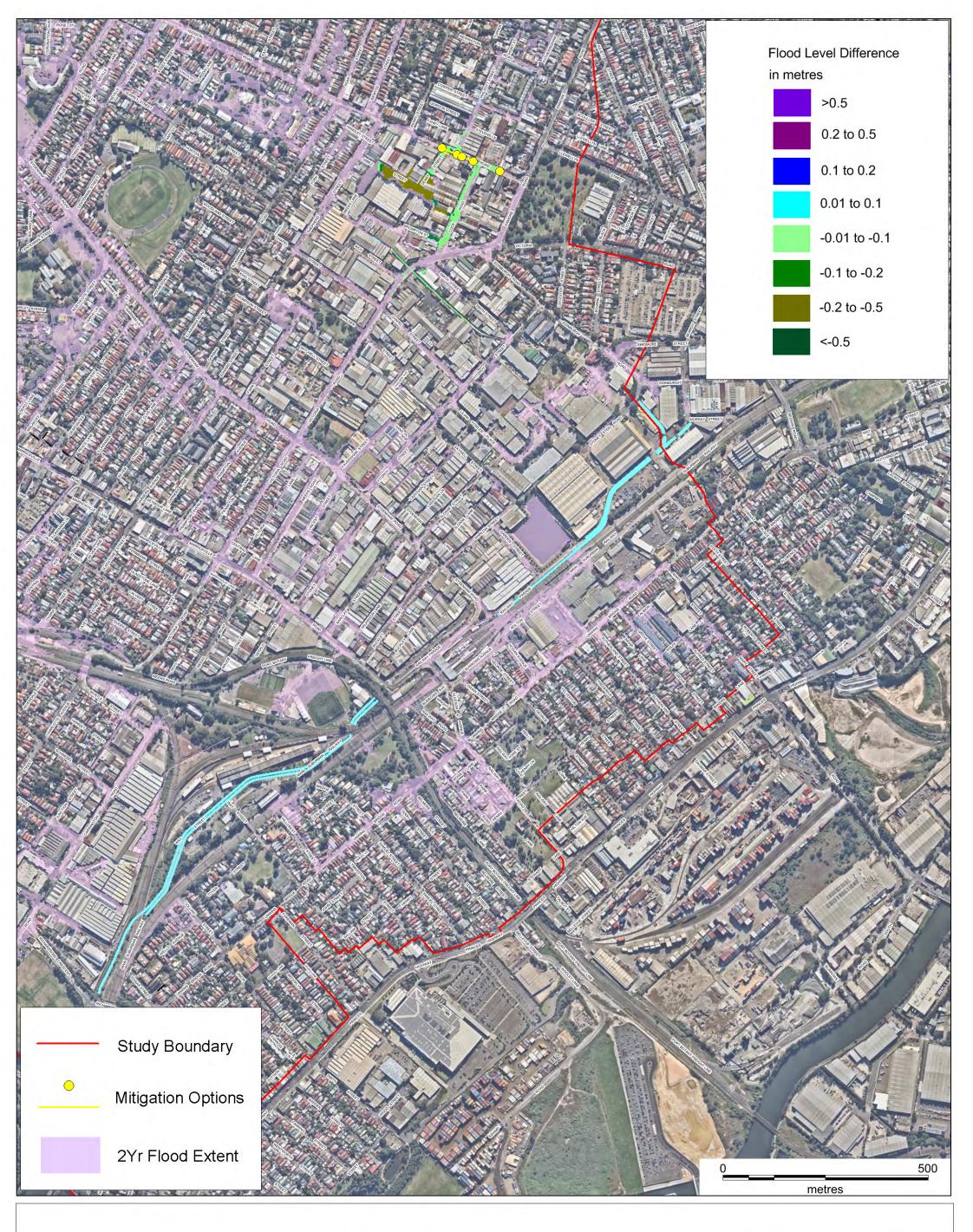




Water Level Difference 1% AEP Option FM7.1 & FM7.5

MARRICKVILLE VALLEY FRMS&P

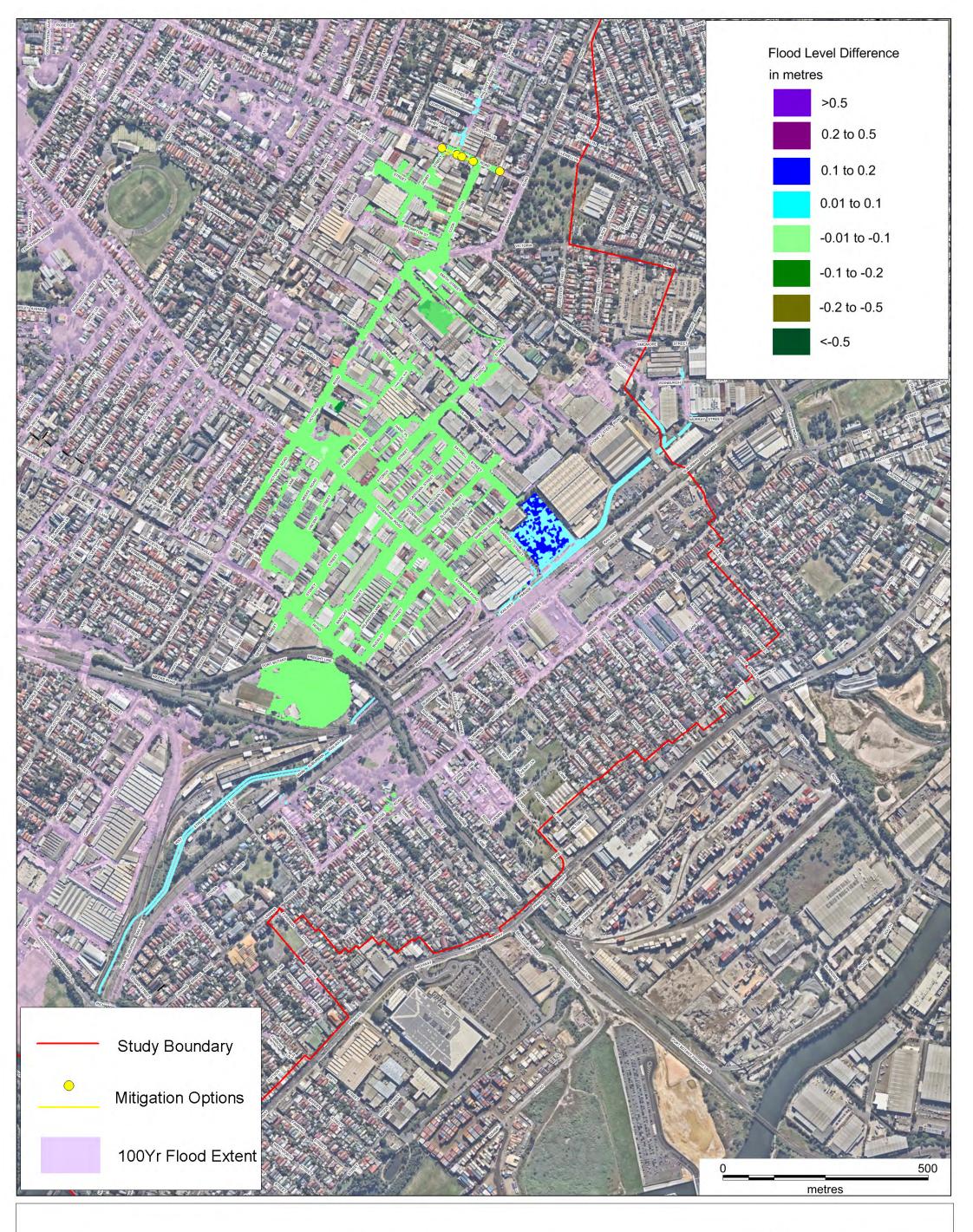




Water Level Difference 2 Yr Option FM7.6

MARRICKVILLE VALLEY FRMS&P

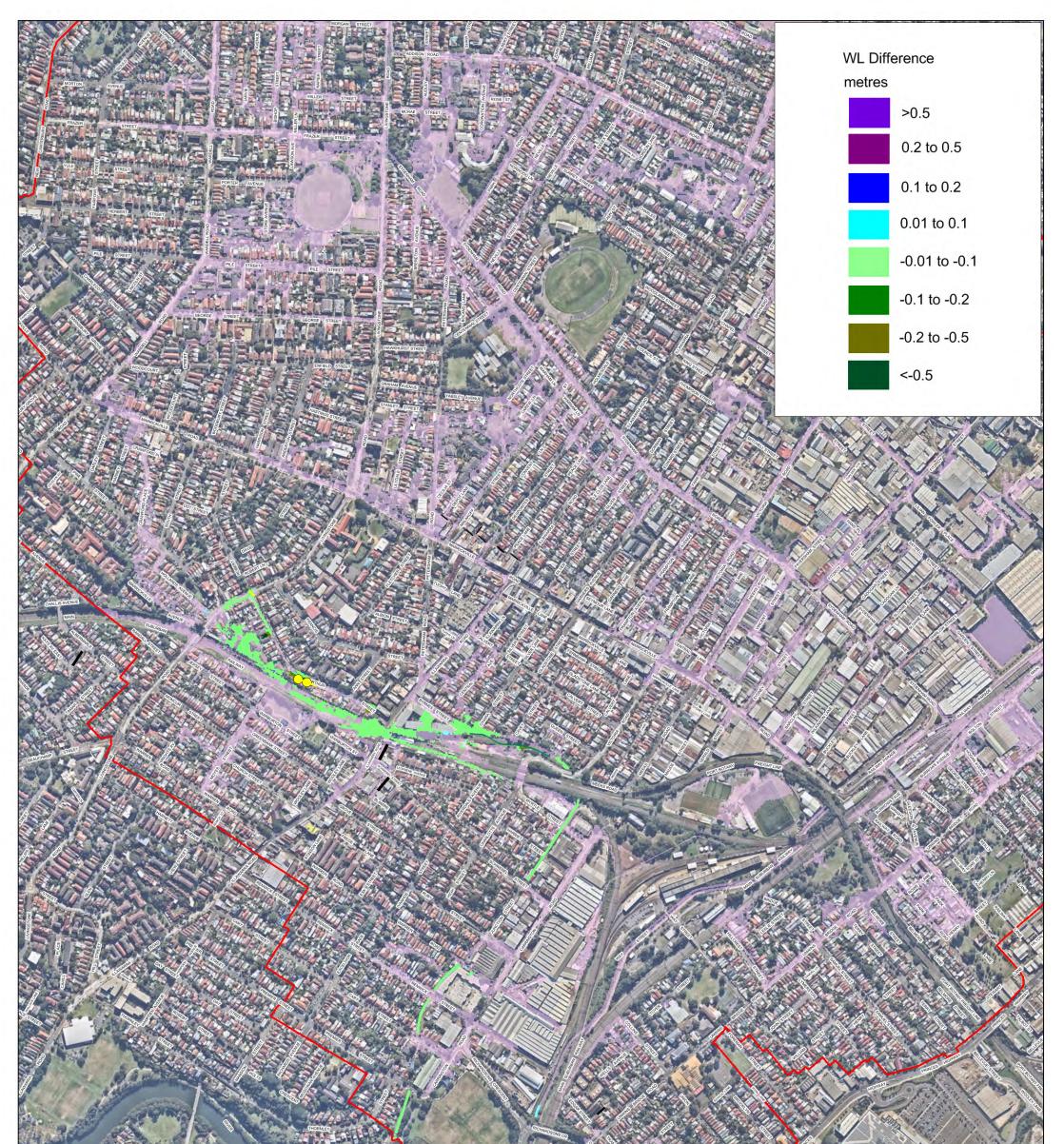
Cardno



## Water Level Difference 100 Yr Option FM7.6

MARRICKVILLE VALLEY FRMS&P

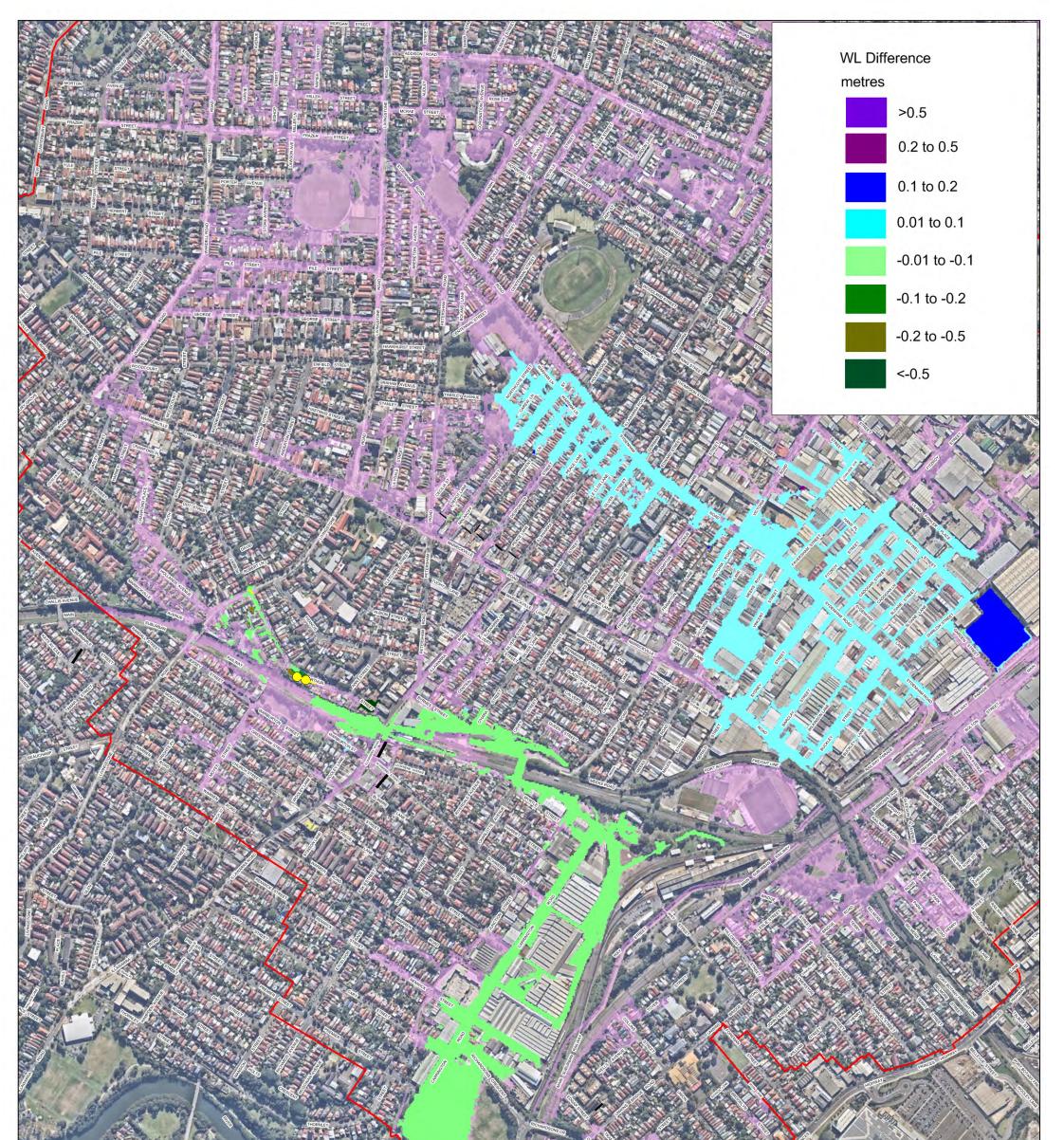






Water Level Difference 2 Yr Option FM 8.1 & 8.2 MARRICKVILLE VALLEY FRMS&P



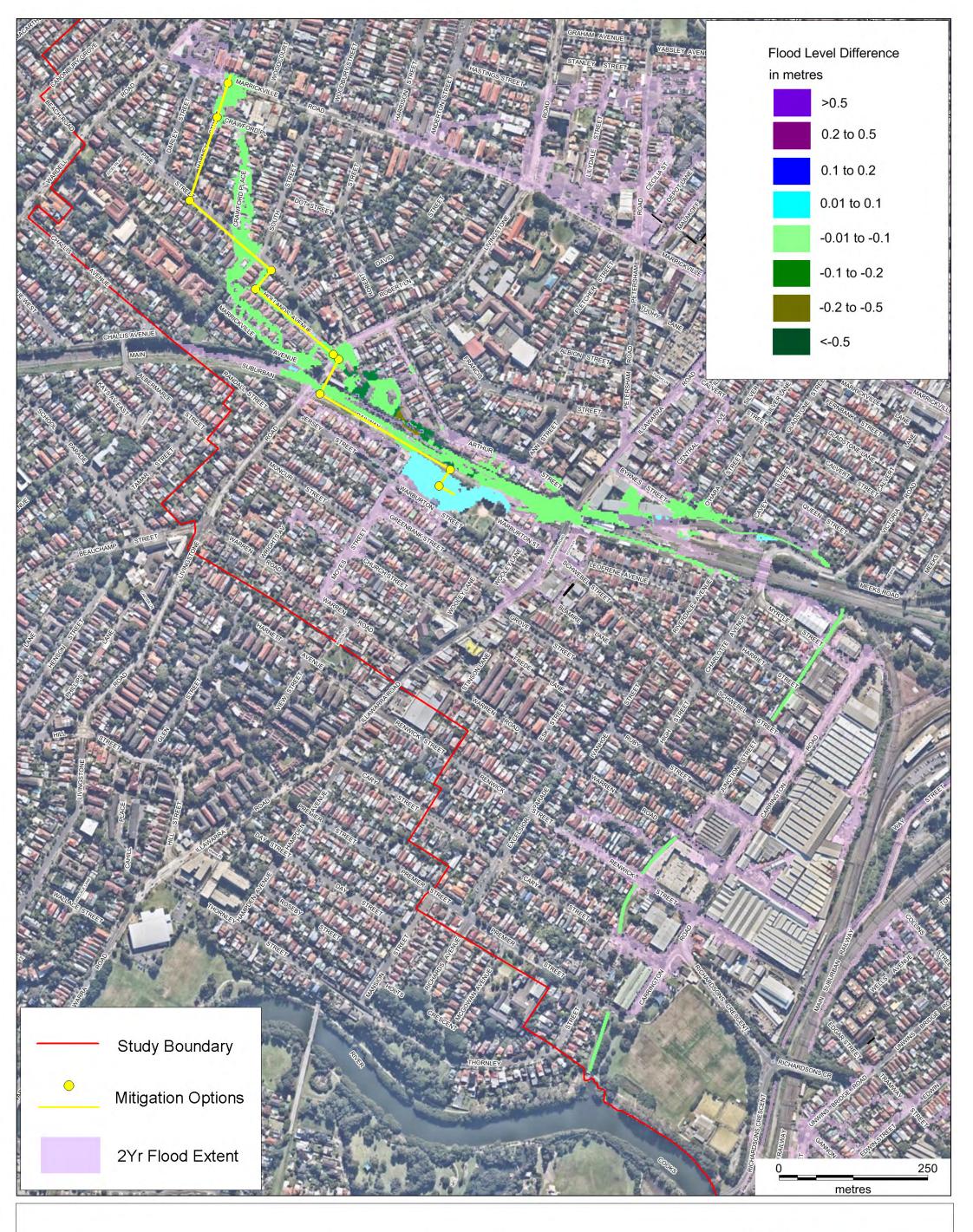




Water Level Difference 1% AEP Option FM 8.1 & 8.2

MARRICKVILLE VALLEY FRMS&P

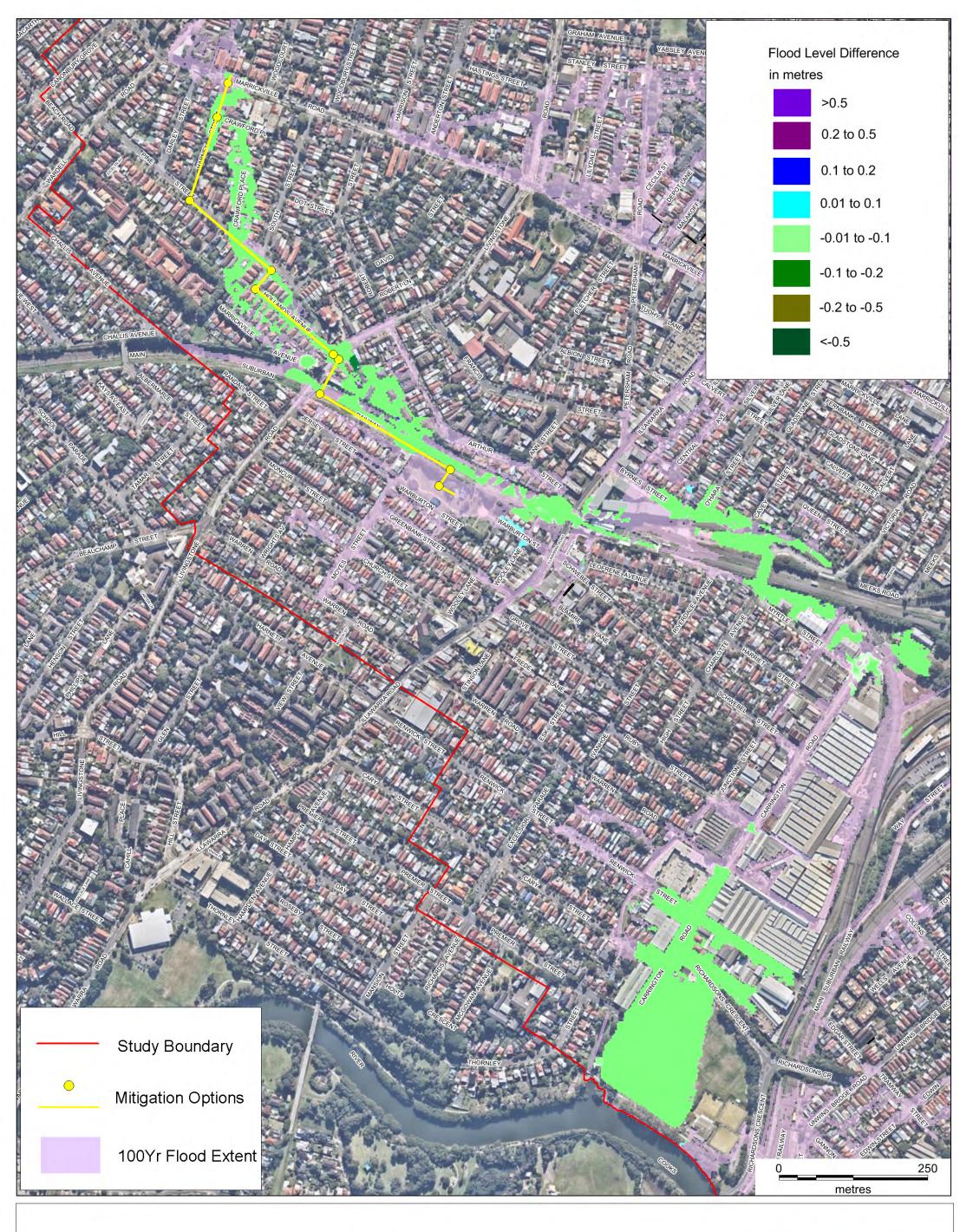




Water Level Difference 2 Yr Option FM8.3

MARRICKVILLE VALLEY FRMS&P

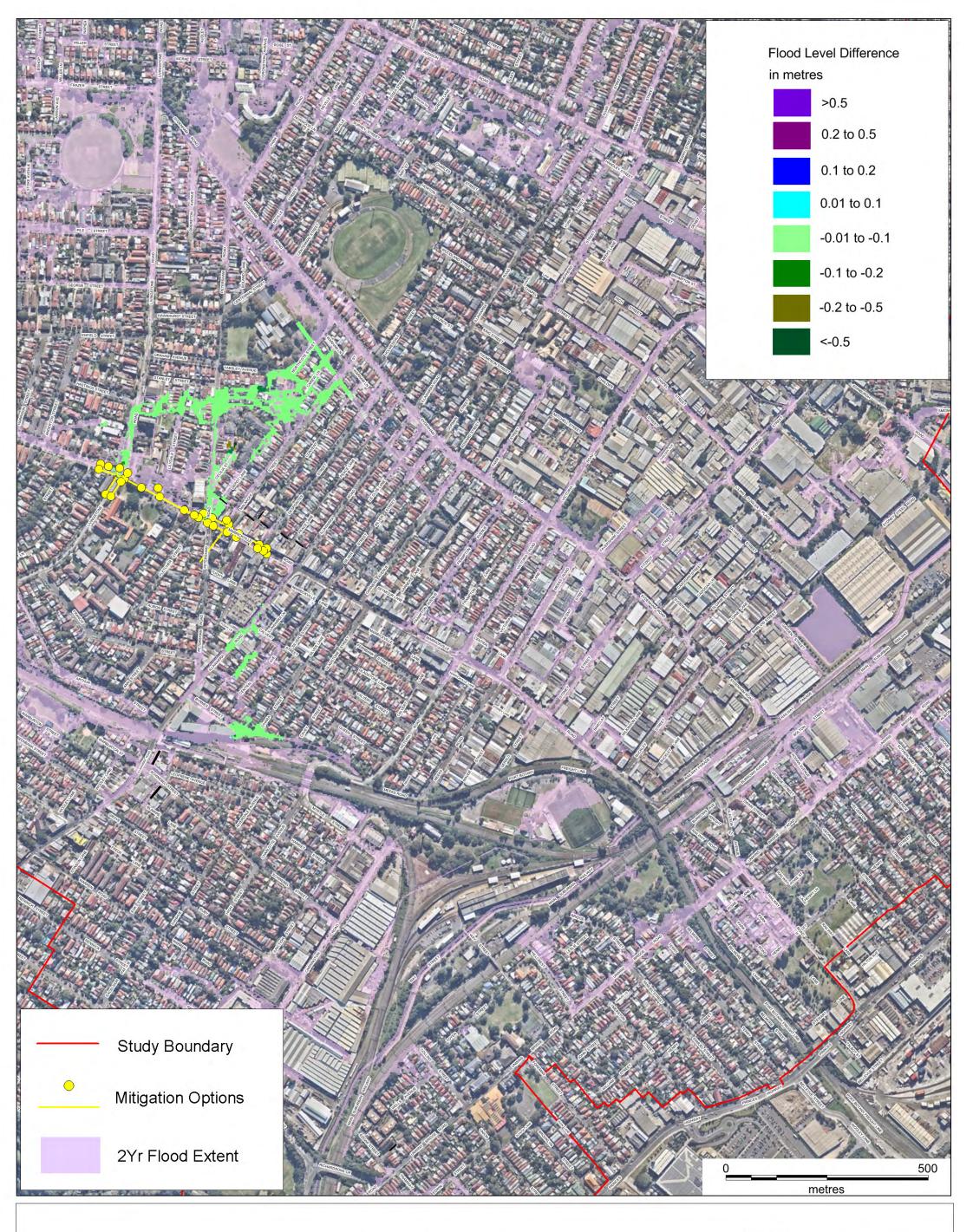
Cardno



Water Level Difference 100 Yr Option FM8.3

MARRICKVILLE VALLEY FRMS&P

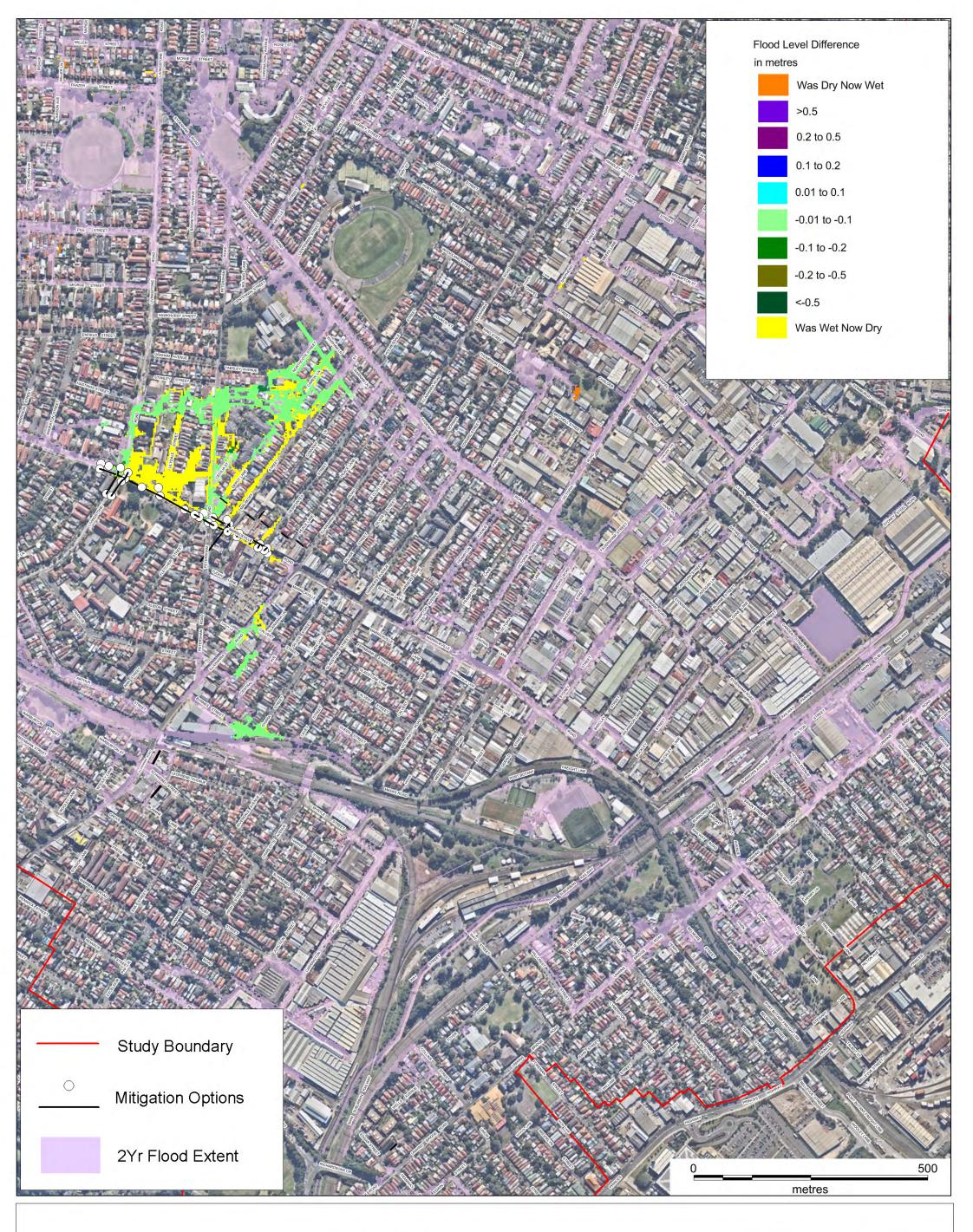




Water Level Difference 2 Yr Option FM9.1

MARRICKVILLE VALLEY FRMS&P

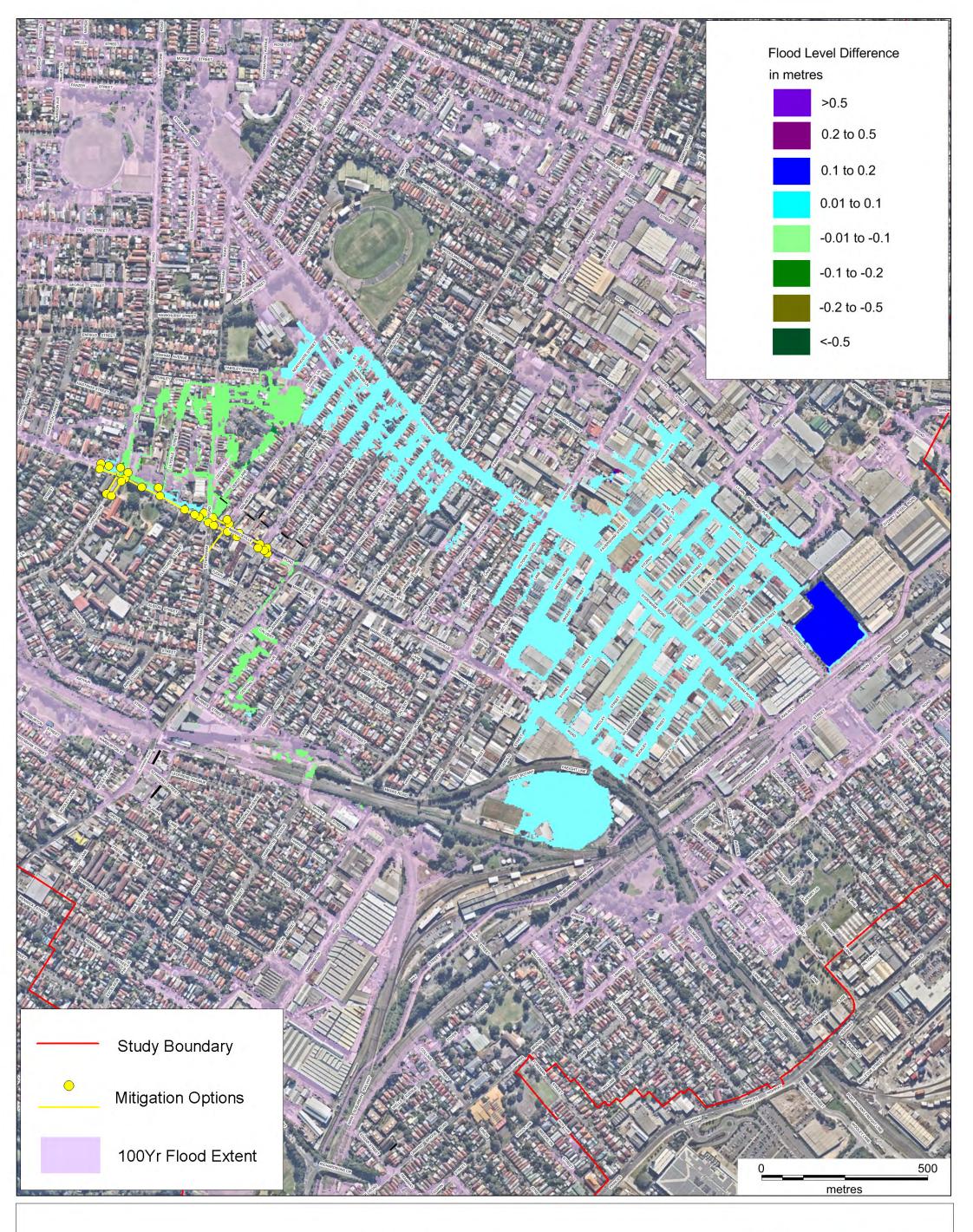
Cardno



Water Level Difference 2 Yr Option FM9.1

MARRICKVILLE VALLEY FRMS&P

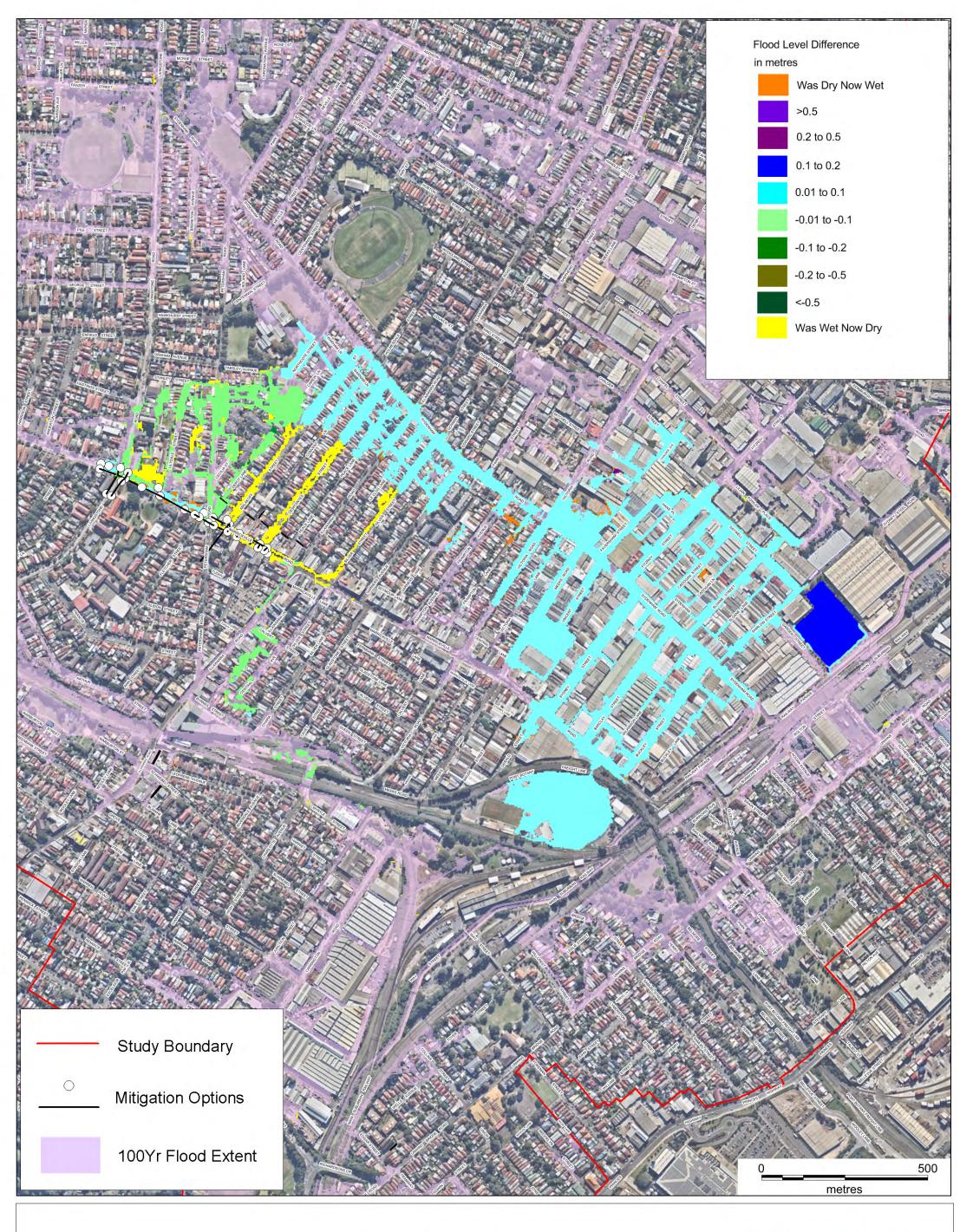
Cardno



Water Level Difference 100 Yr Option FM9.1

MARRICKVILLE VALLEY FRMS&P

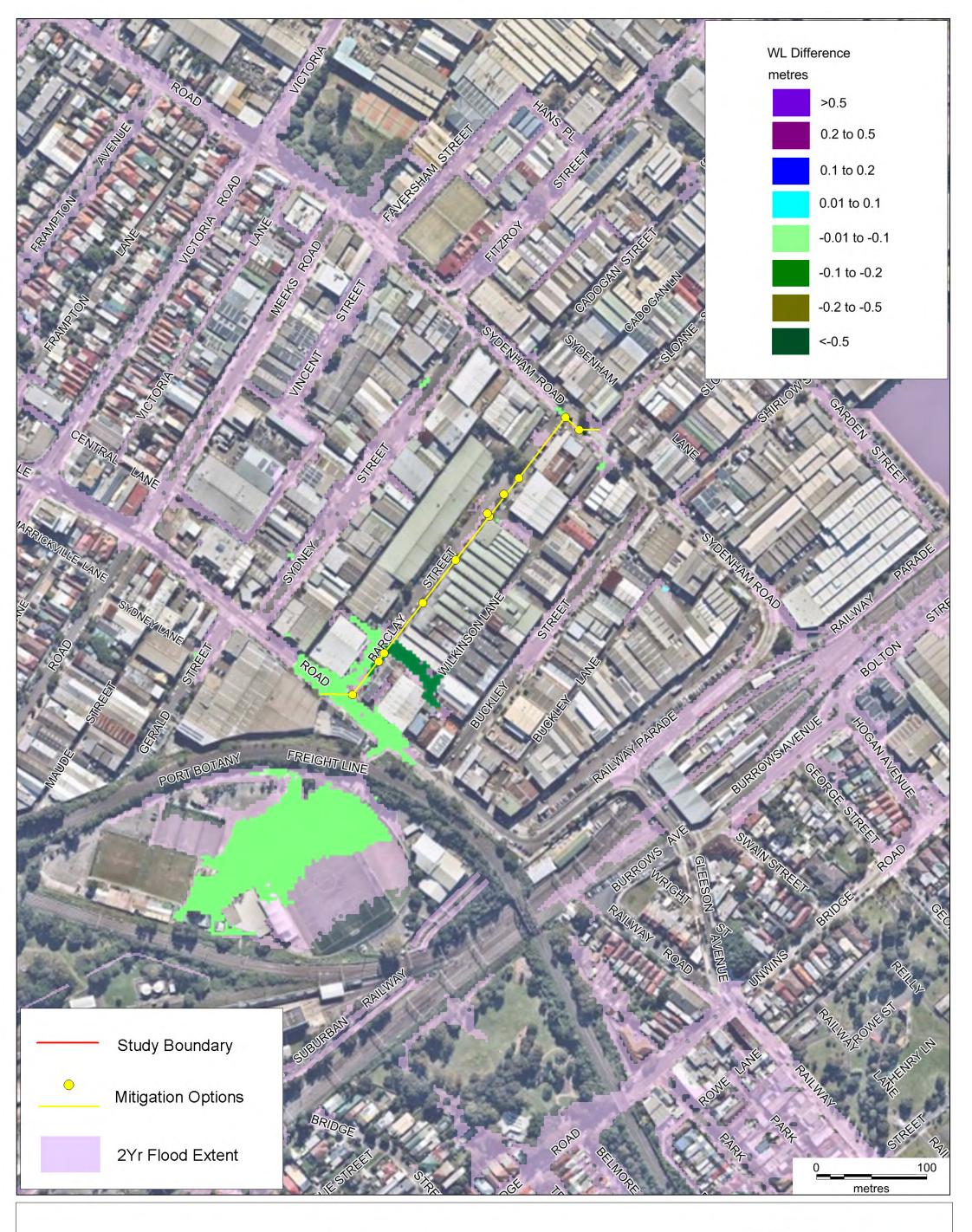
Cardno



Water Level Difference 100 Yr Option FM9.1

MARRICKVILLE VALLEY FRMS&P

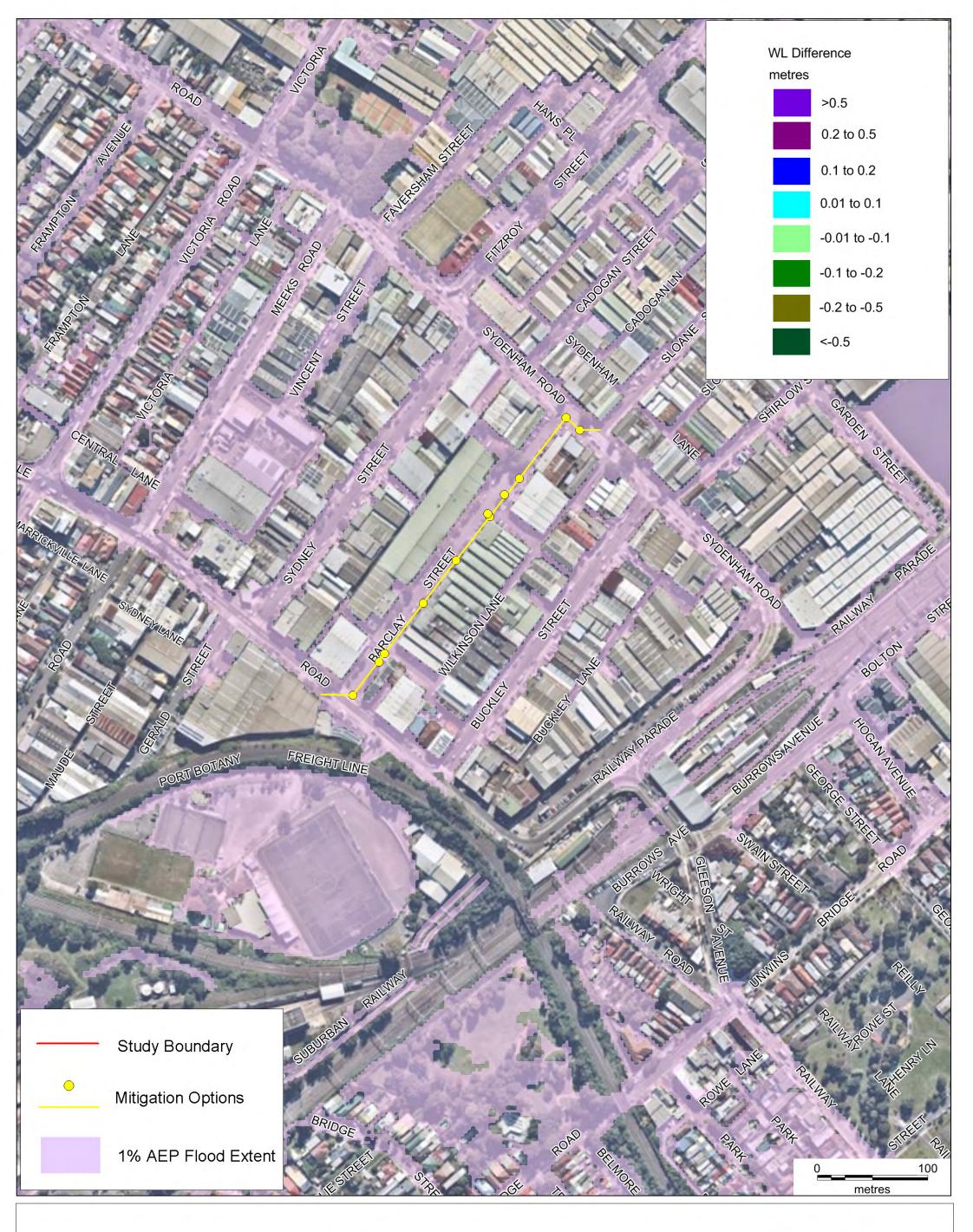
Cardno



## Water Level Difference 2 Yr Option FM10.1

MARRICKVILLE VALLEY FRMS&P

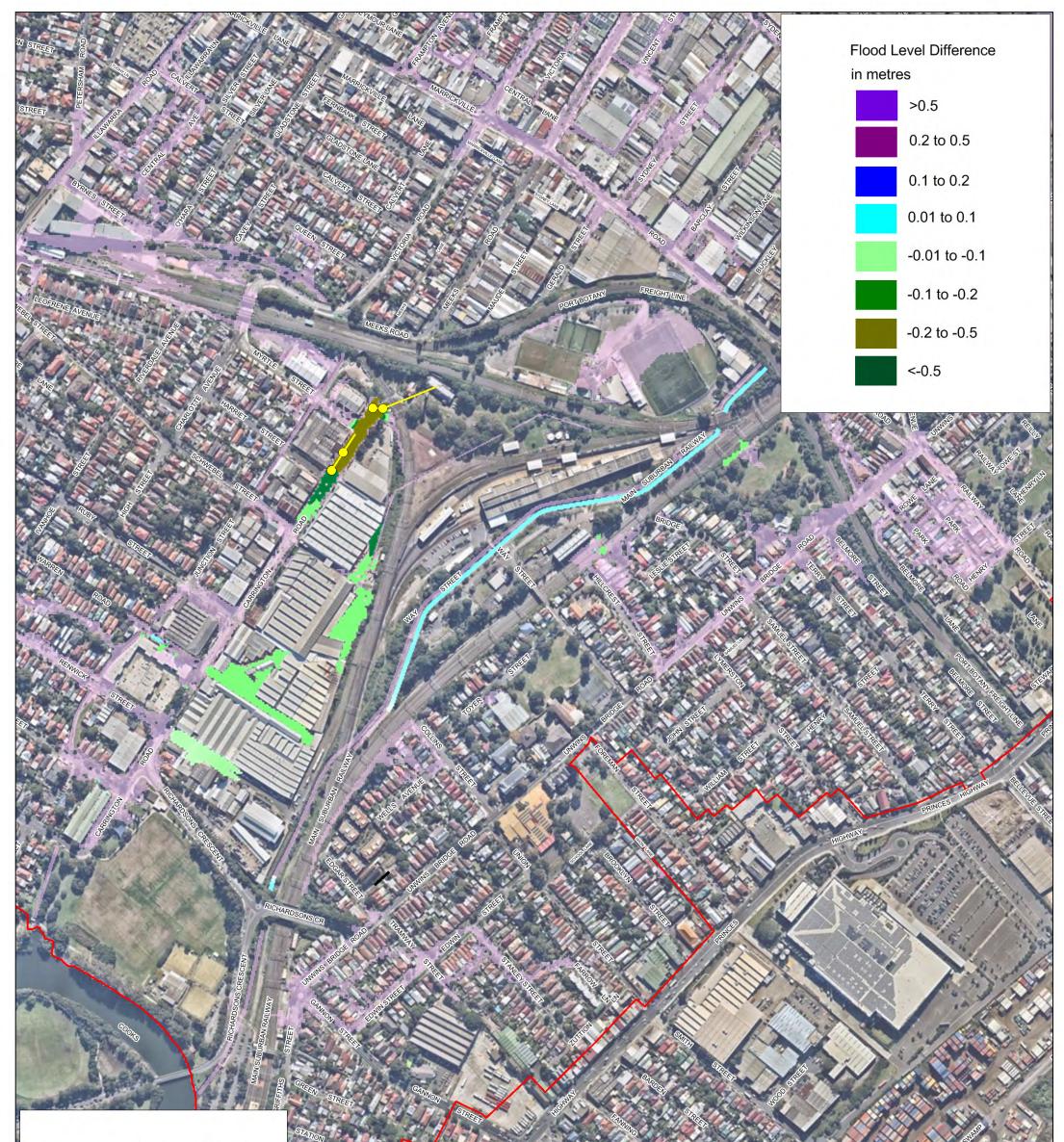






MARRICKVILLE VALLEY FRMS&P



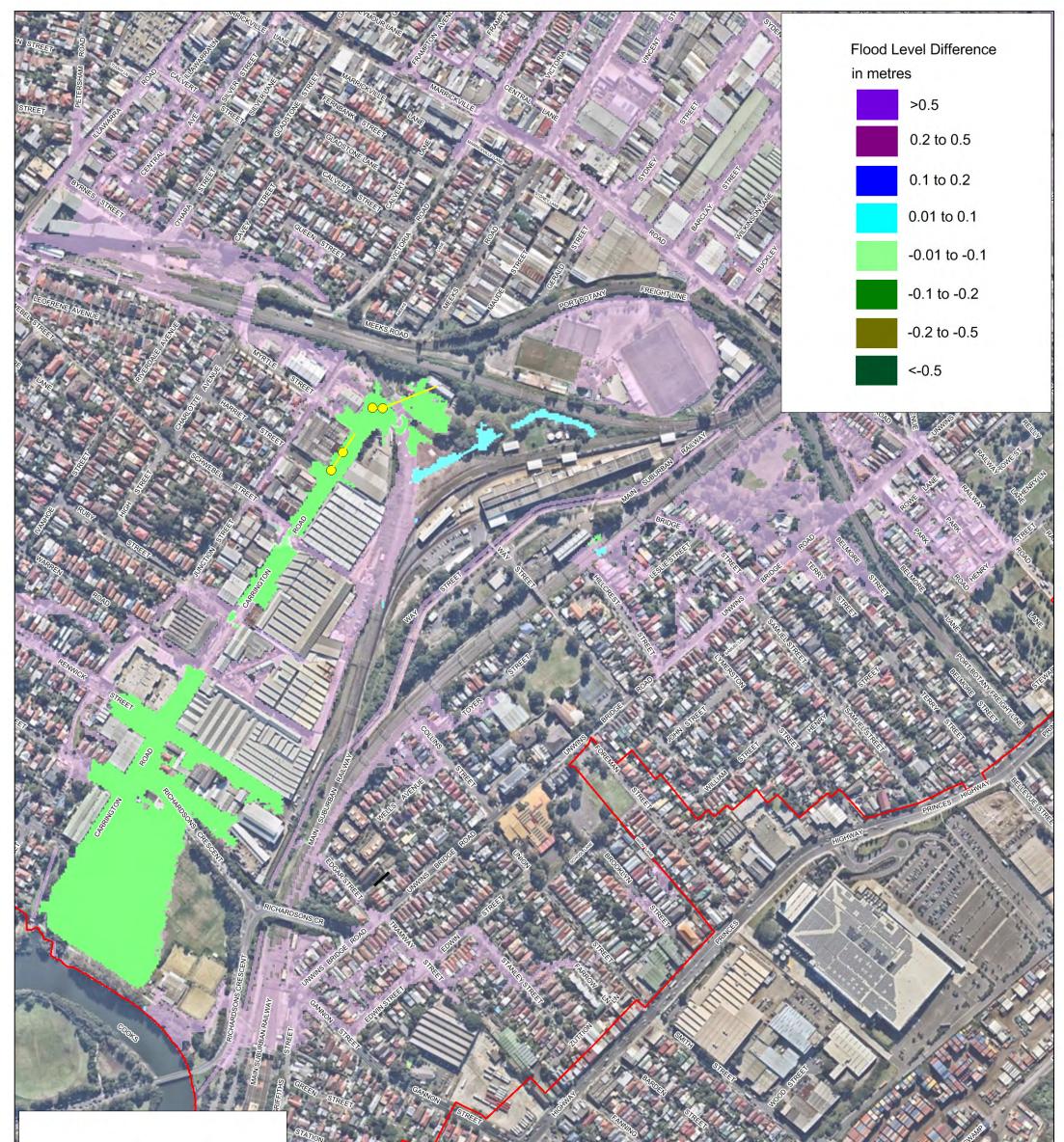




Water Level Difference 2Yr **Option FM10.2** 

MARRICKVILLE VALLEY FRMS&P

Cardno

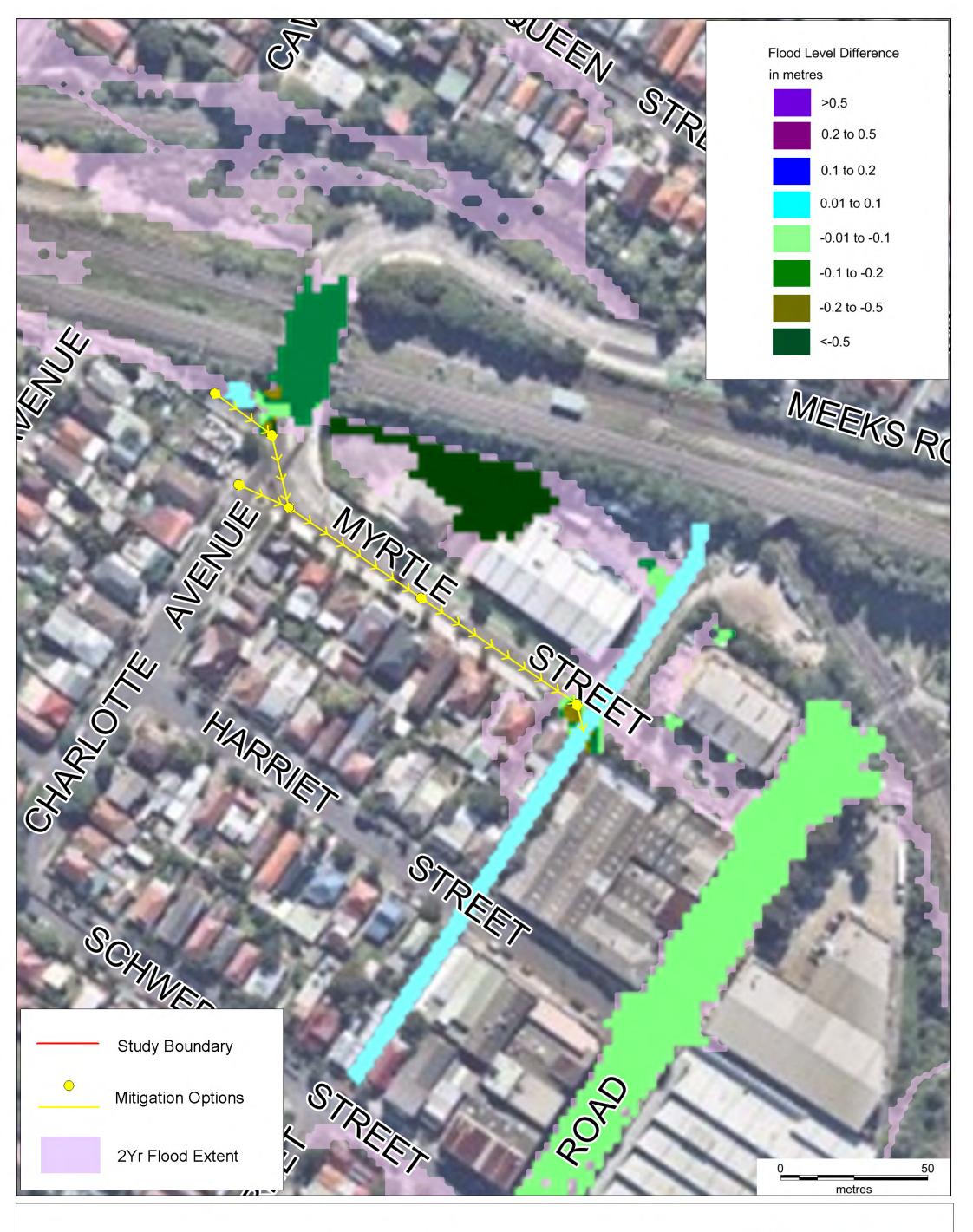




Water Level Difference 100 Yr **Option FM10.2** 

MARRICKVILLE VALLEY FRMS&P

Cardno



## Water Level Difference 2 Yr Option FM10.4

MARRICKVILLE VALLEY FRMS&P





Water Level Difference 1% AEP Option FM10.4

MARRICKVILLE VALLEY FRMS&P

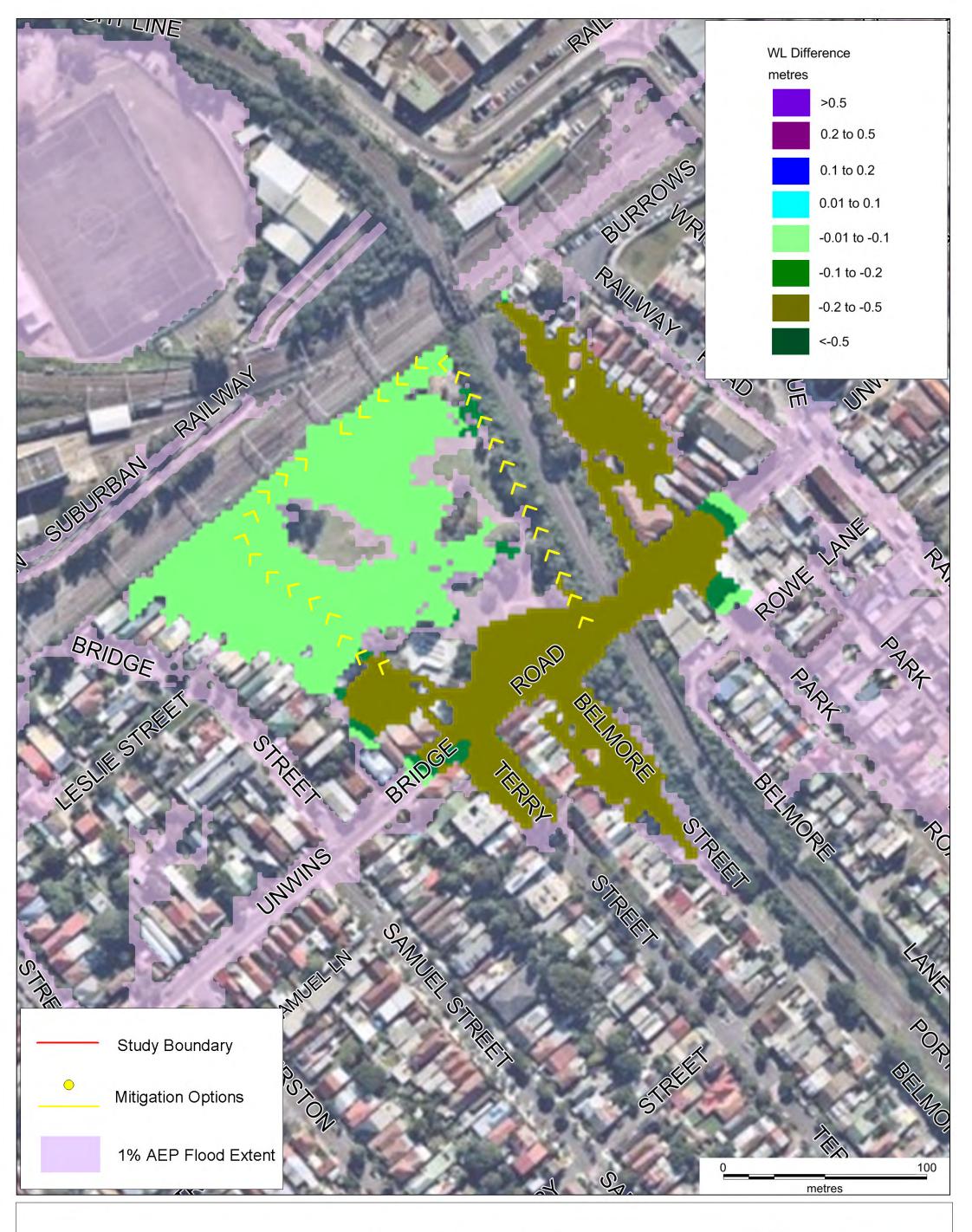
Cardno



Water Level Difference 2 Yr Option FM11.1 & FM11.2

MARRICKVILLE VALLEY FRMS&P

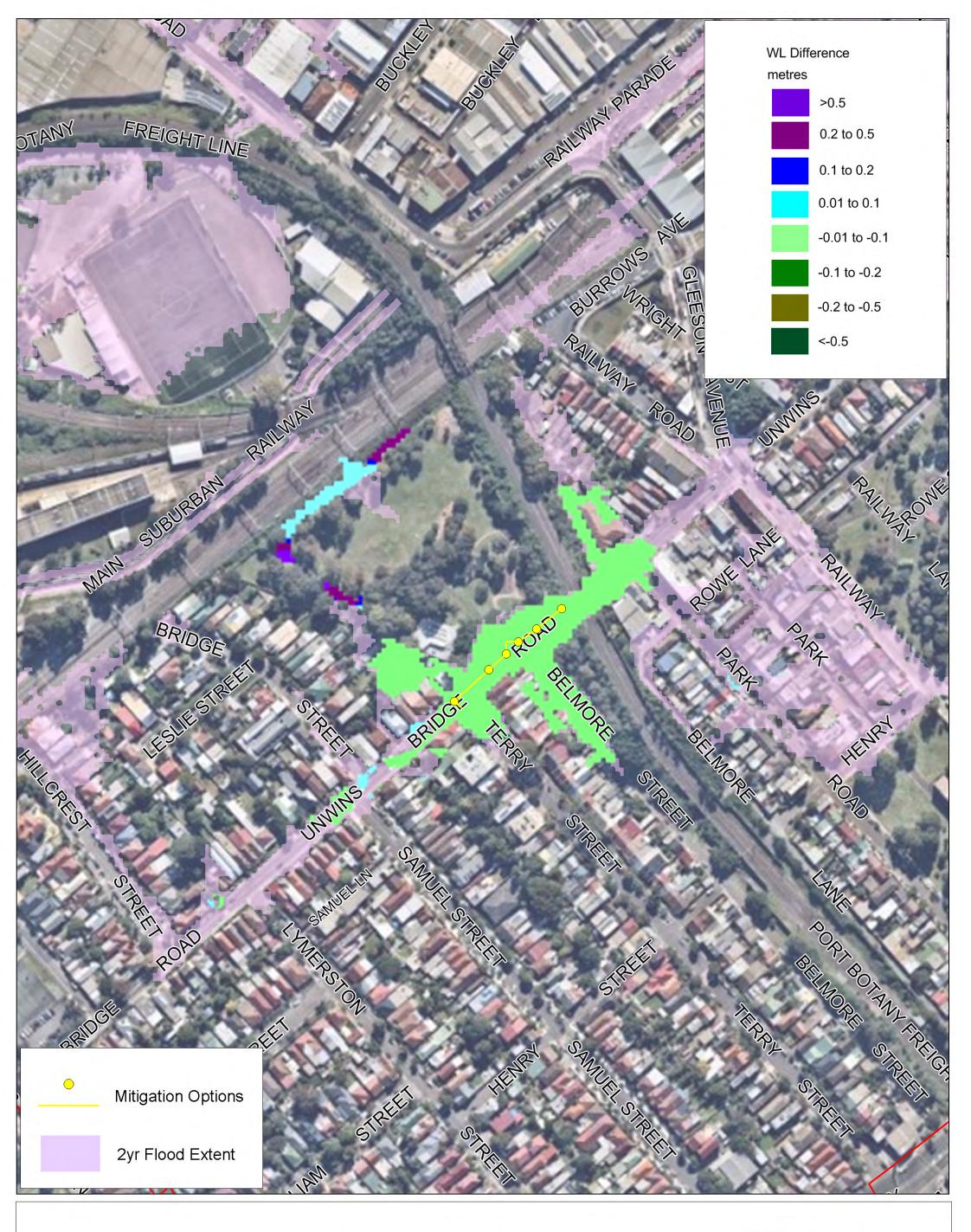
Cardno



Water Level Difference 1% AEP Option FM11.1 & FM11.2

MARRICKVILLE VALLEY FRMS&P

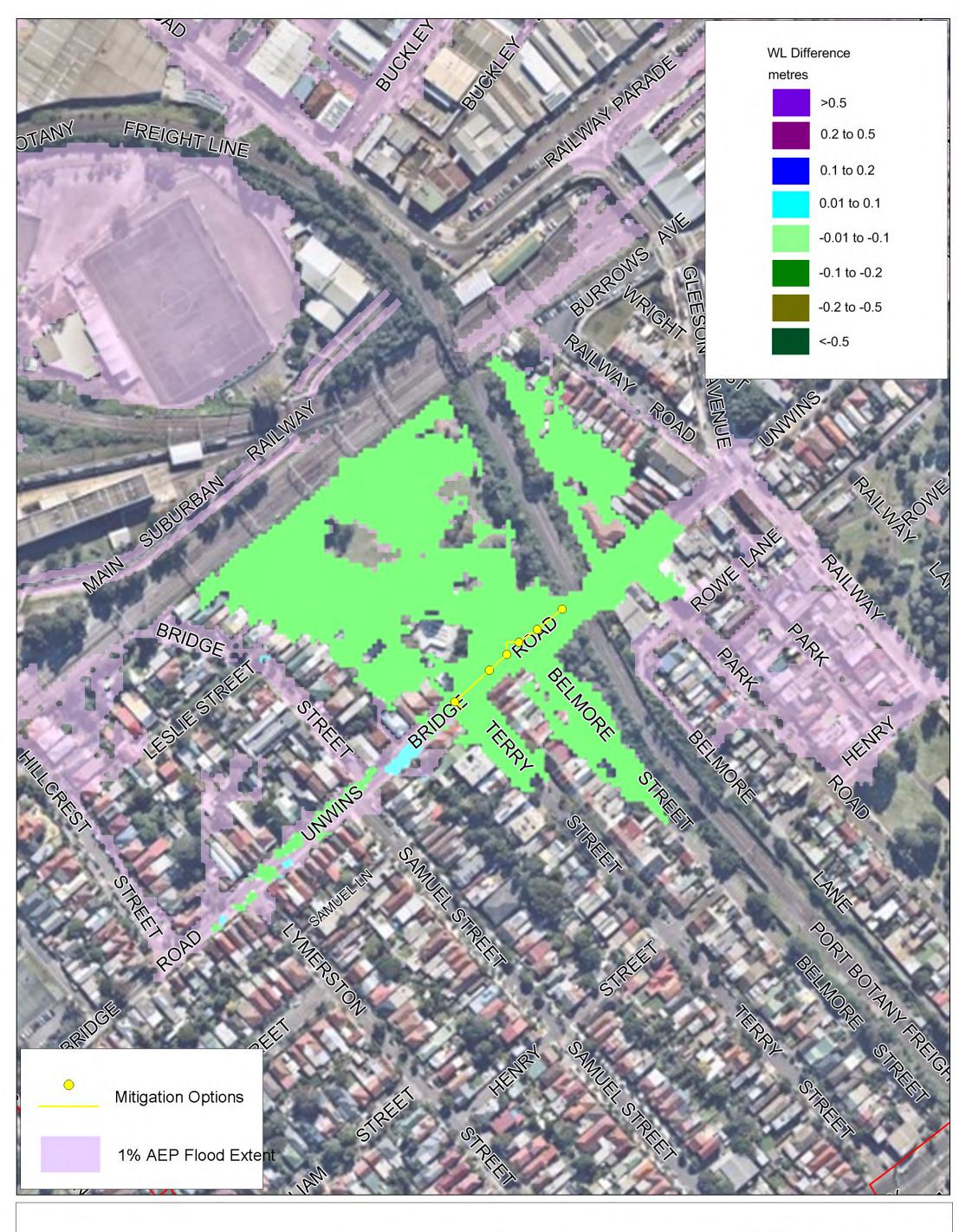
Cardno



Water Level Difference 2 Yr Option FM11.3

MARRICKVILLE VALLEY FRMS&P

Cardno



Water Level Difference 1% AEP Option FM11.3

MARRICKVILLE VALLEY FRMS&P

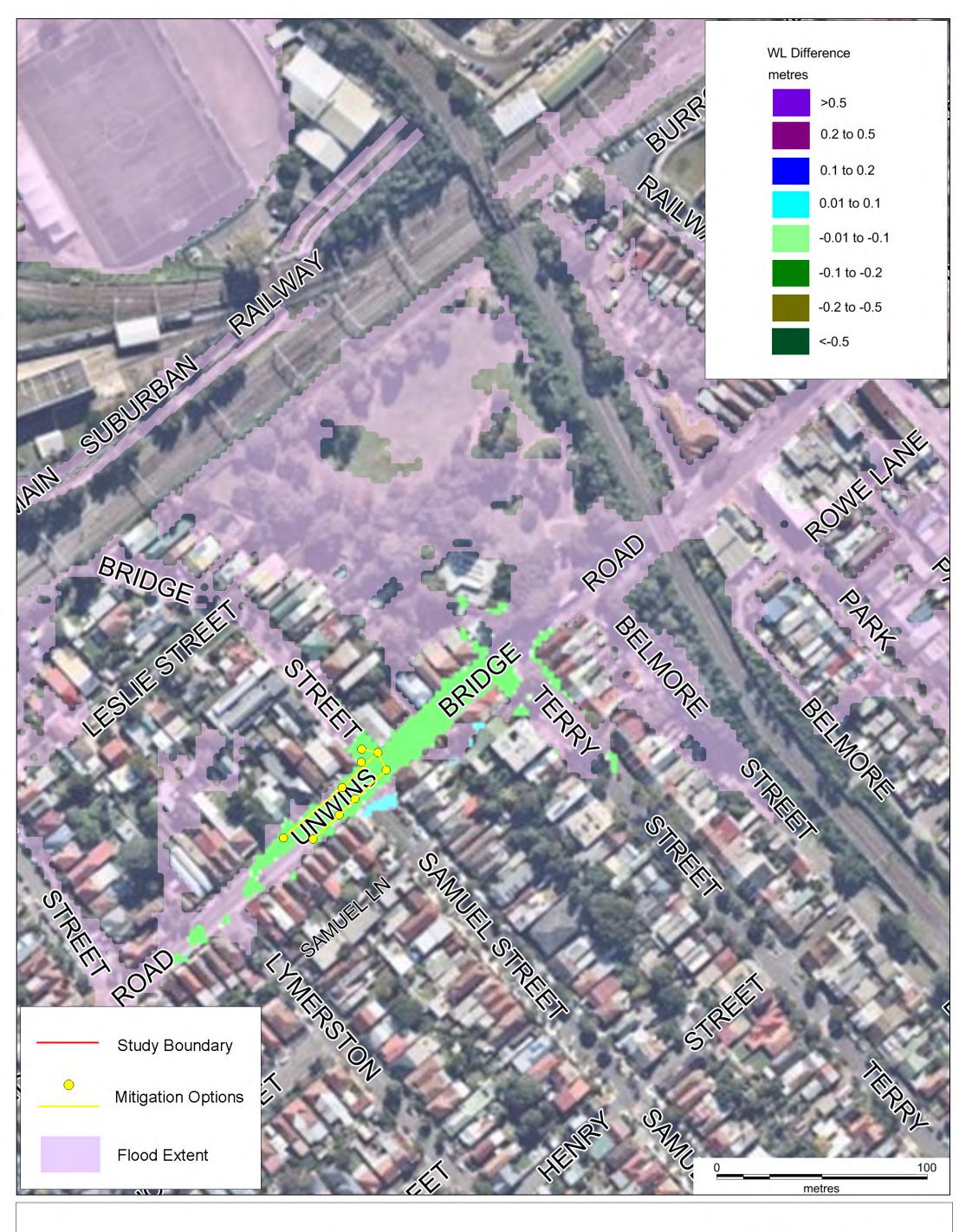
Cardno



Water Level Difference 2 Yr Option FM11.4

MARRICKVILLE VALLEY FRMS&P

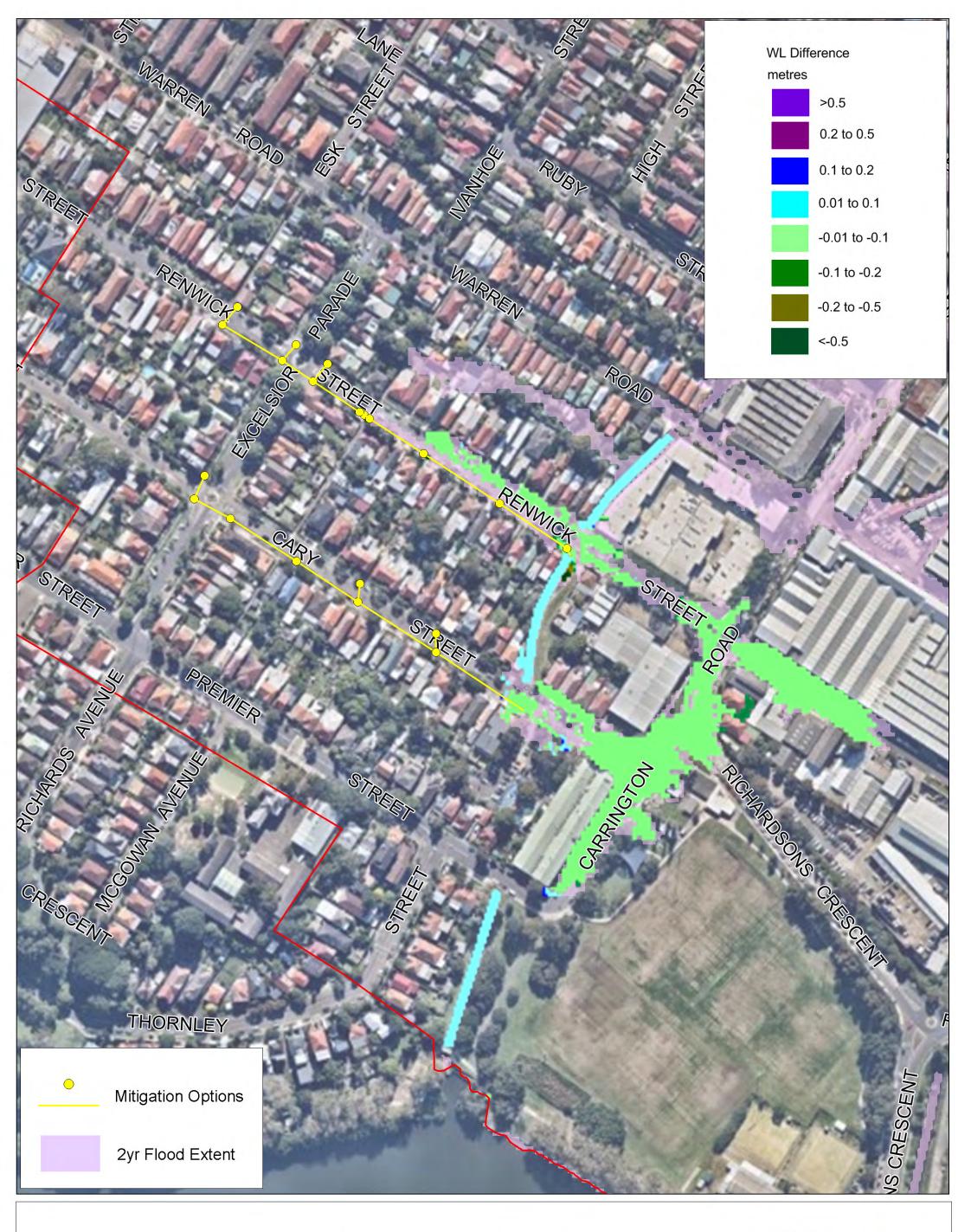
Cardno



Water Level Difference 1% AEP Option FM11.4

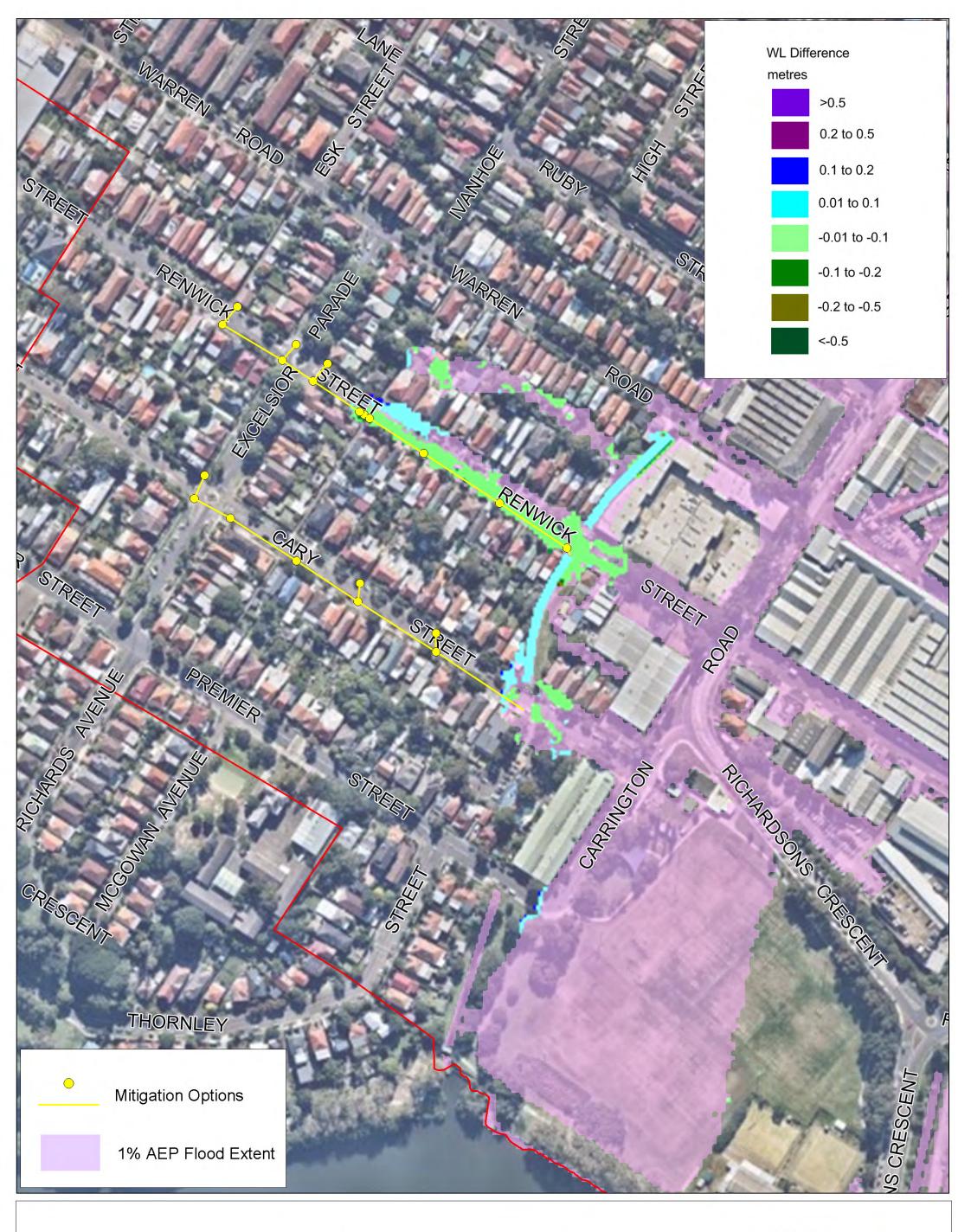
MARRICKVILLE VALLEY FRMS&P

Cardno



Water Level Difference 2 Yr Option FM 12.1 & 12.2 MARRICKVILLE VALLEY FRMS&P

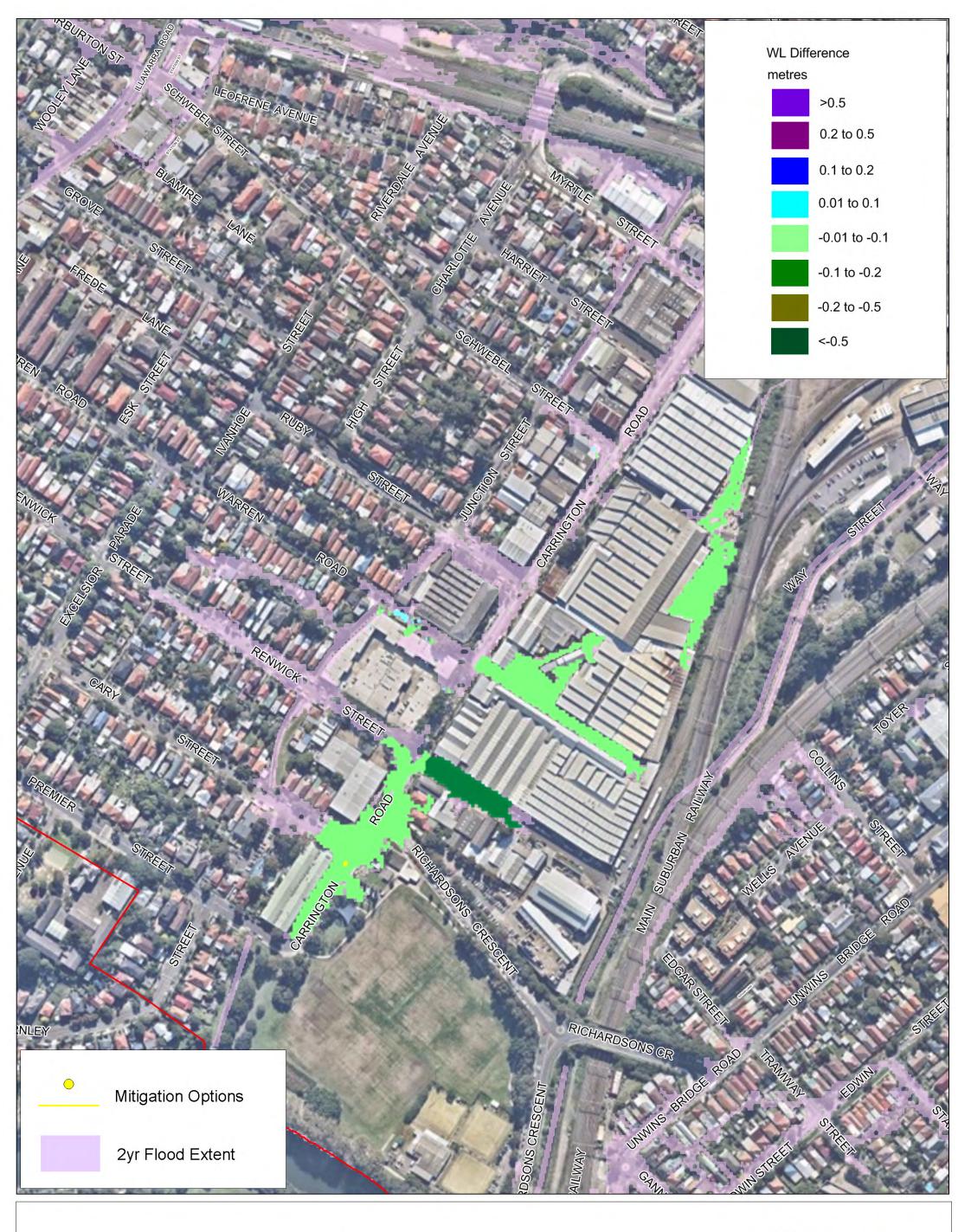




Water Level Difference 1% AEP Option FM 12.1 & 12.2

MARRICKVILLE VALLEY FRMS&P

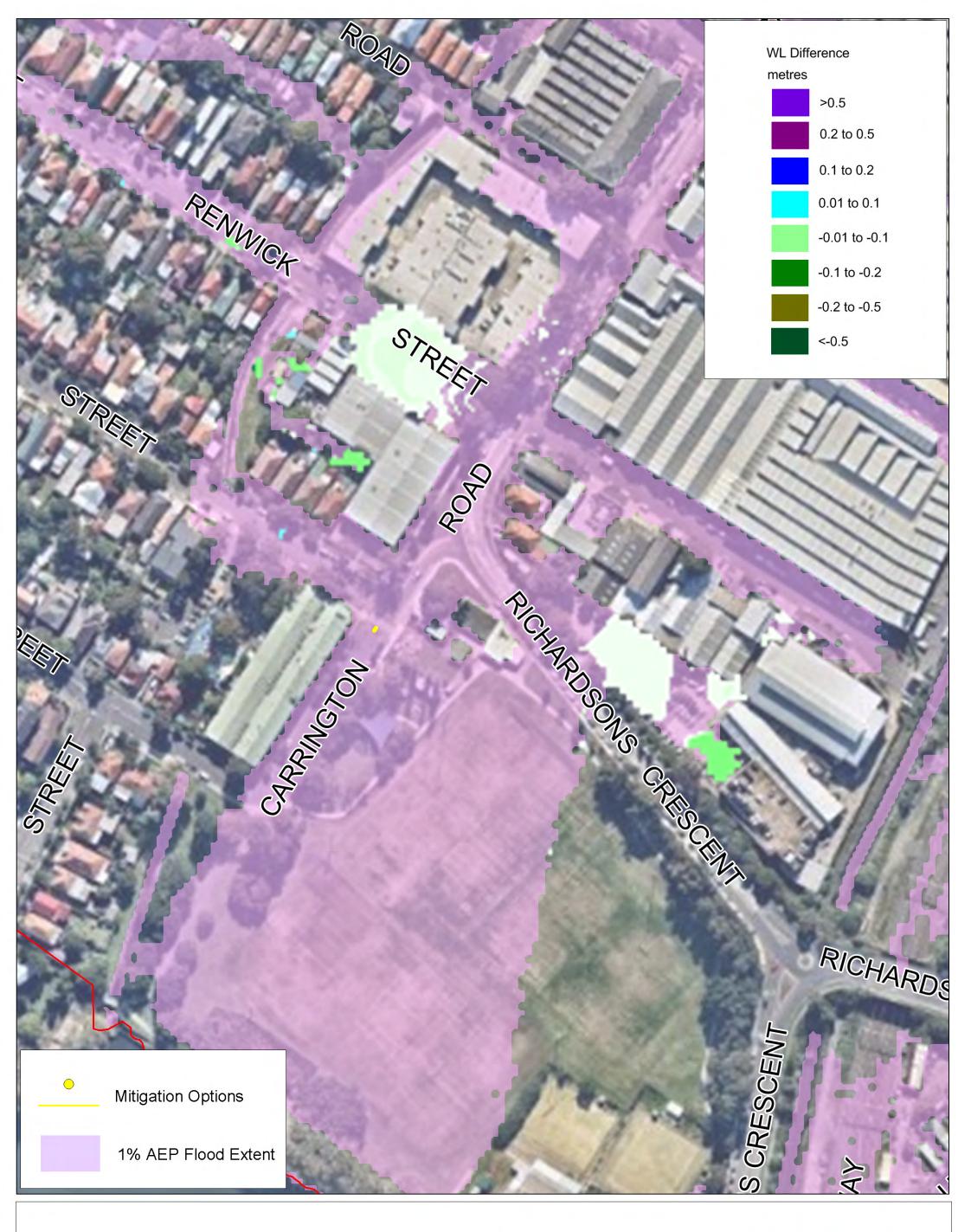




## Water Level Difference 2 Yr Option FM 12.4

MARRICKVILLE VALLEY FRMS&P





Water Level Difference 1% AEP Option FM 12.4

MARRICKVILLE VALLEY FRMS&P





Water Level Difference 2 Yr Option FM 12.5

MARRICKVILLE VALLEY FRMS&P

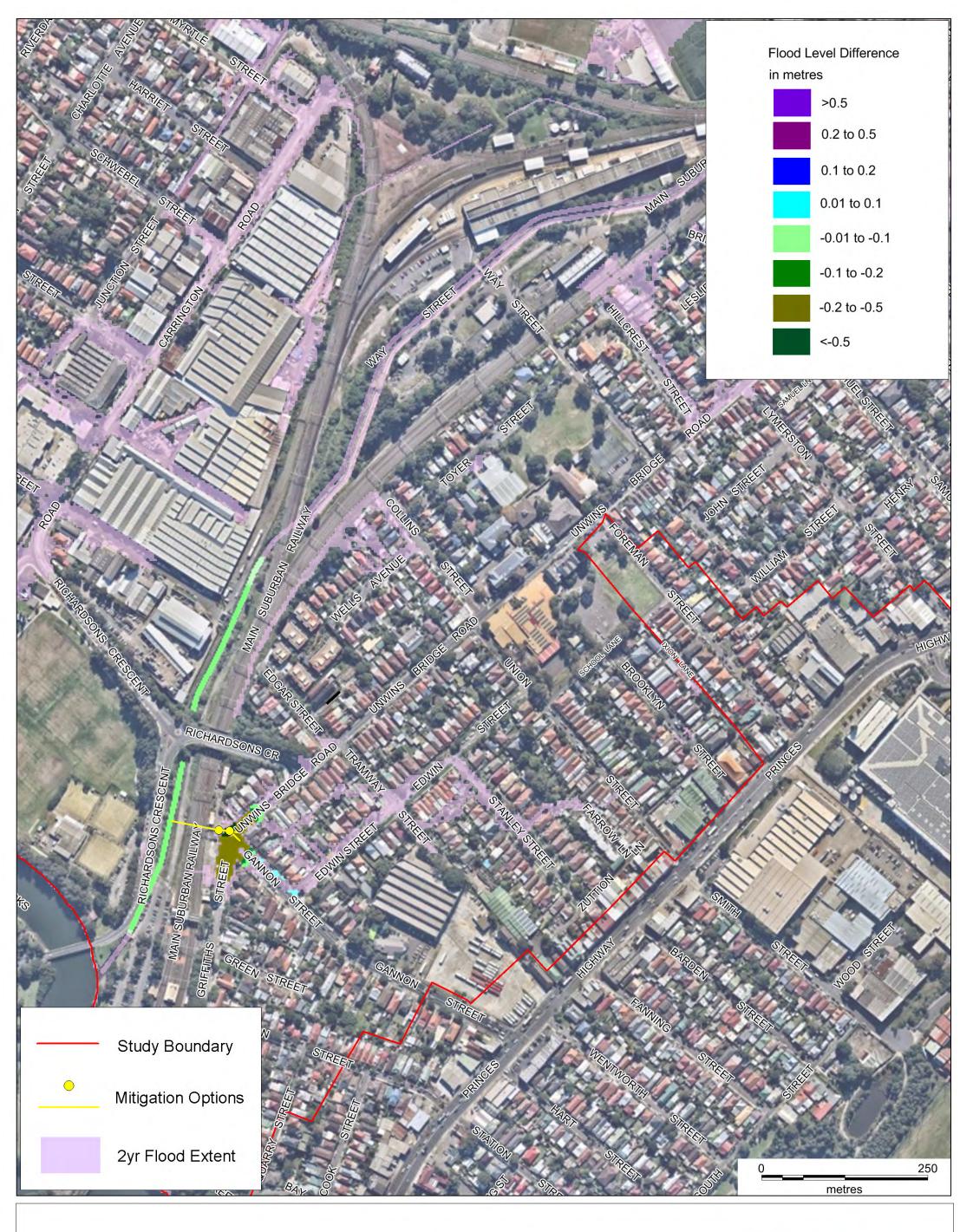




Water Level Difference 1% AEP Option FM 12.5

MARRICKVILLE VALLEY FRMS&P



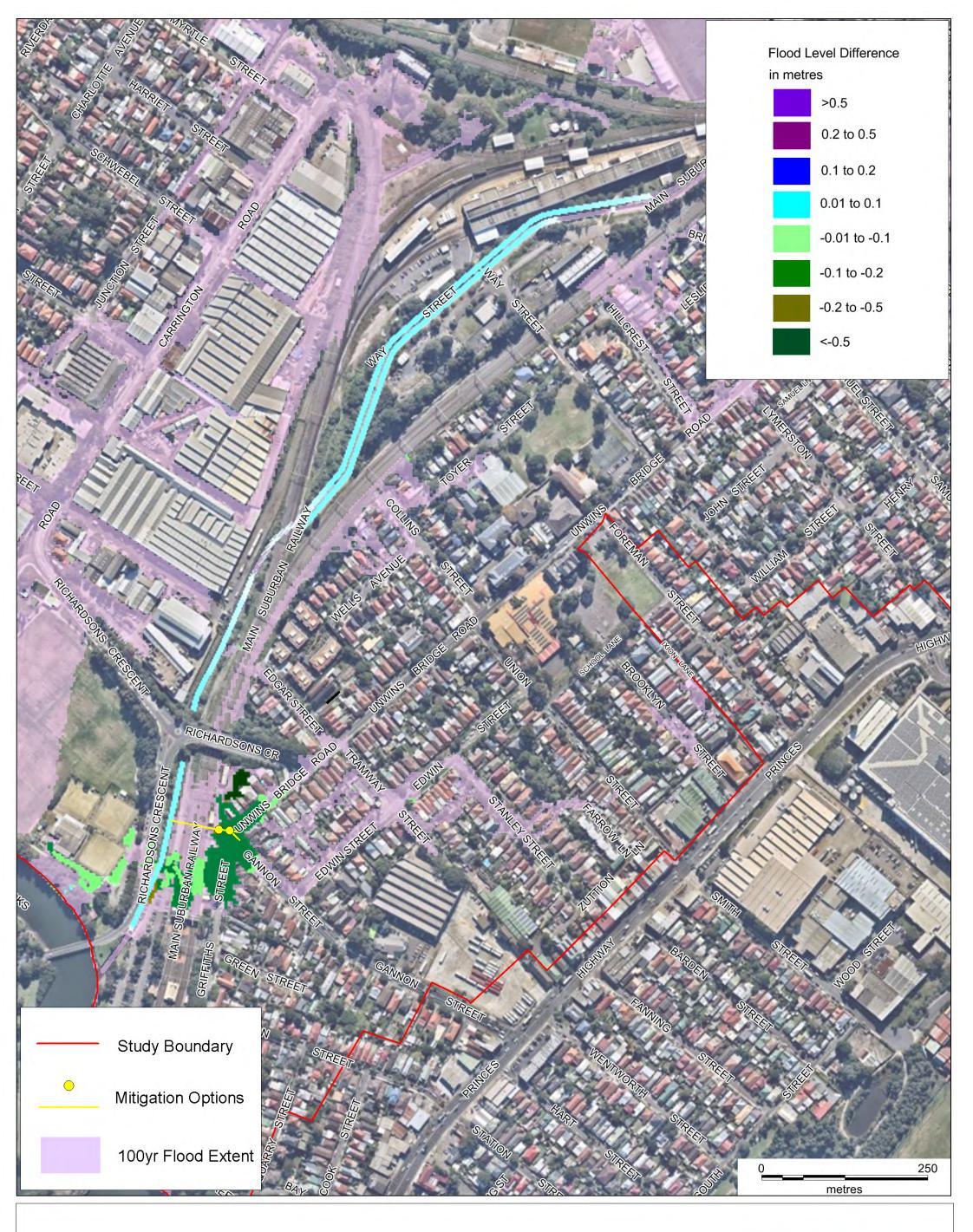


W S E

## Water Level Difference 2 Yr Option FM13.1 & FM13.2

MARRICKVILLE VALLEY FRMS&P

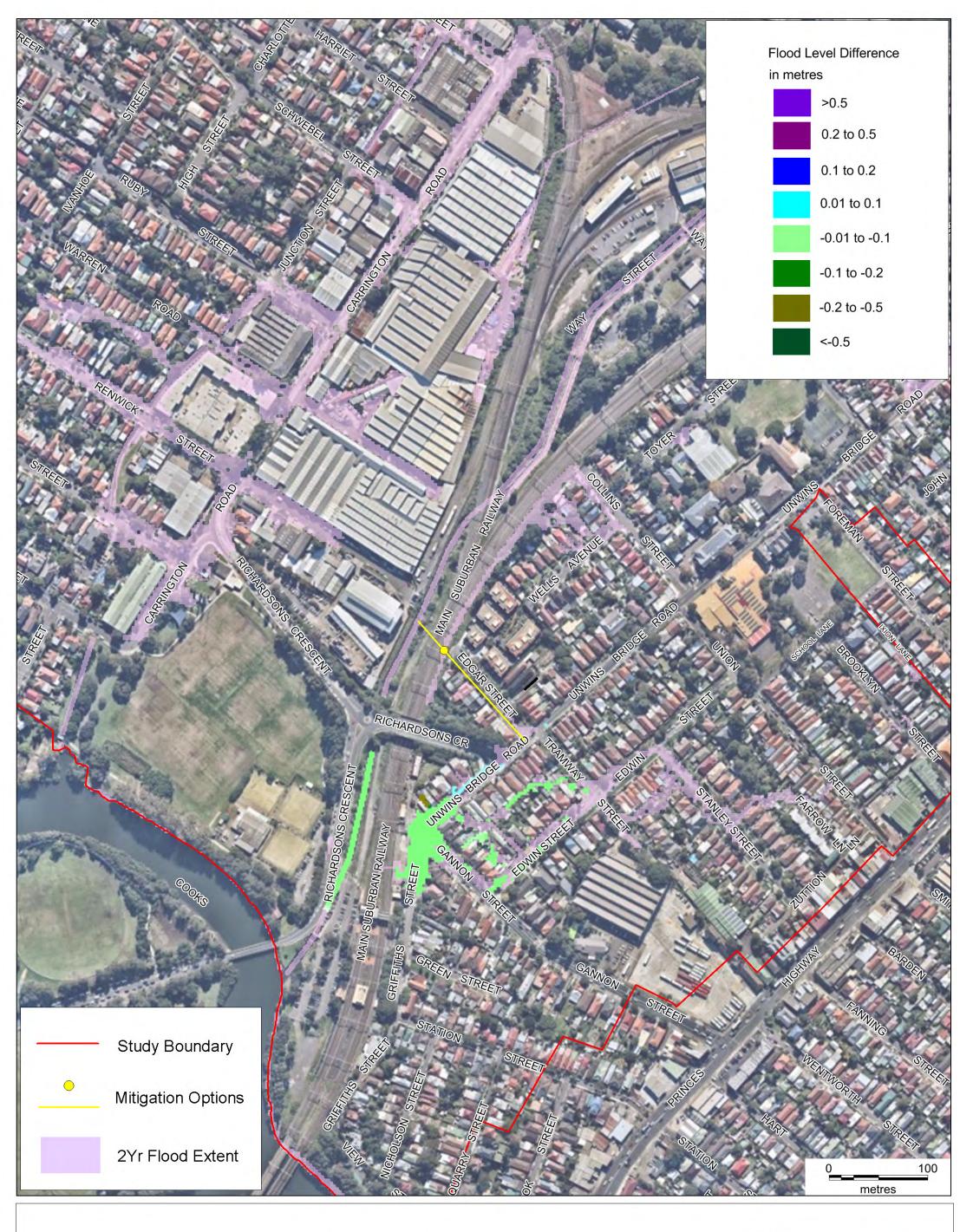
Cardno



Water Level Difference 100 Yr Option FM13.1 & FM13.2

MARRICKVILLE VALLEY FRMS&P

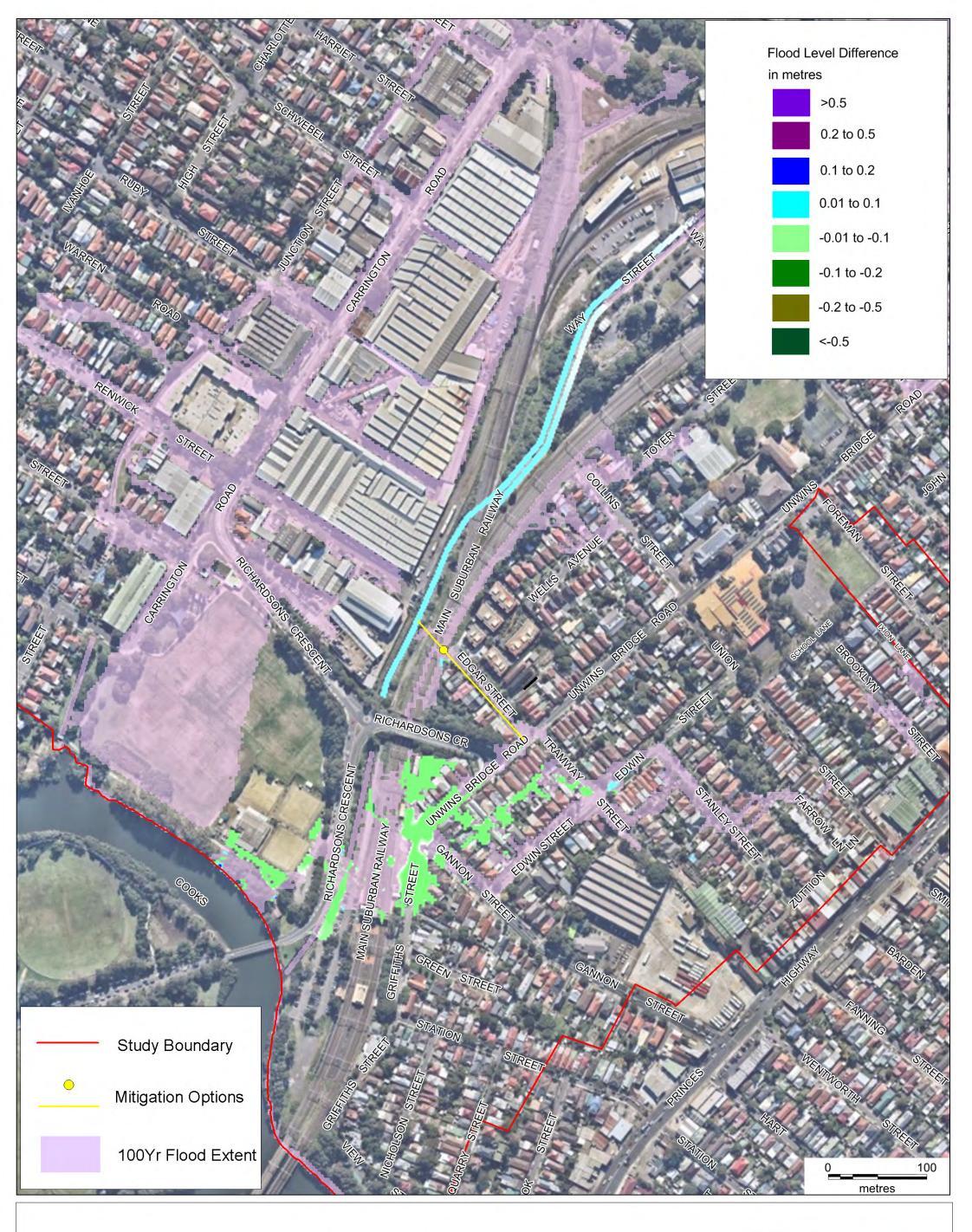
Cardno



## Water Level Difference 2 Yr Option FM13.4

MARRICKVILLE VALLEY FRMS&P

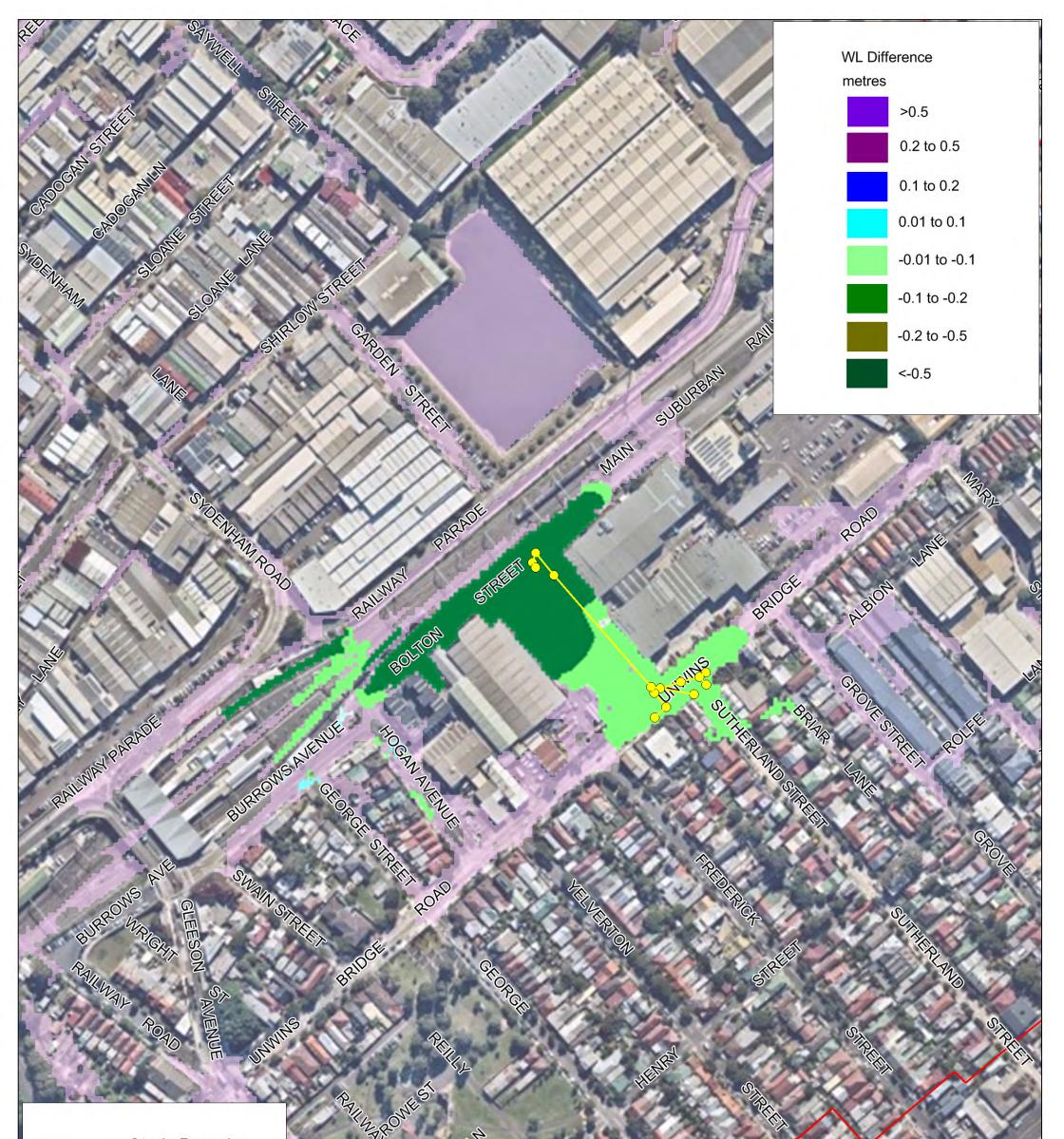




Water Level Difference 100 Yr Option FM13.4

MARRICKVILLE VALLEY FRMS&P

Cardno

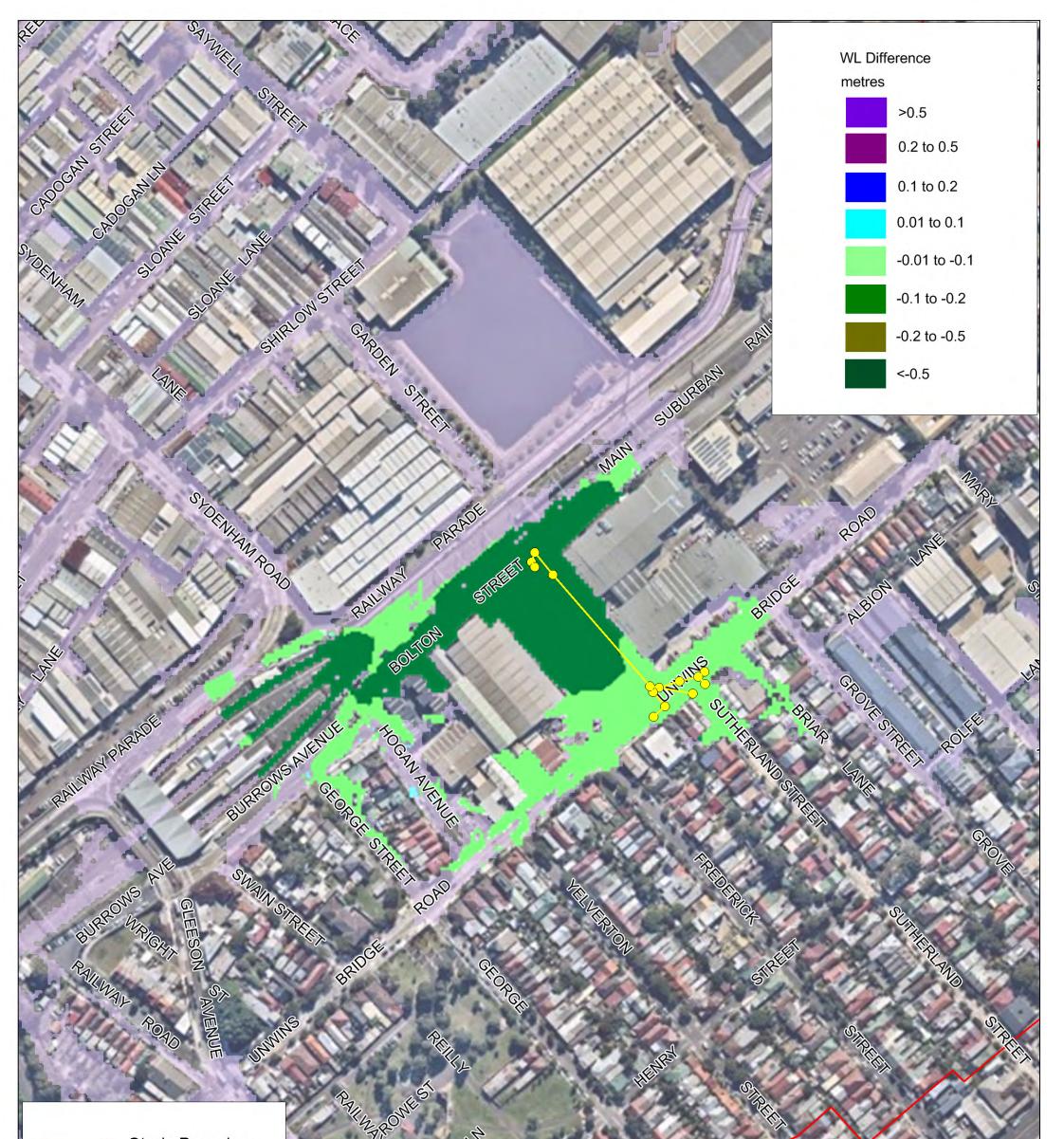




## Water Level Difference 2 Yr Option FM14.1

MARRICKVILLE VALLEY FRMS&P



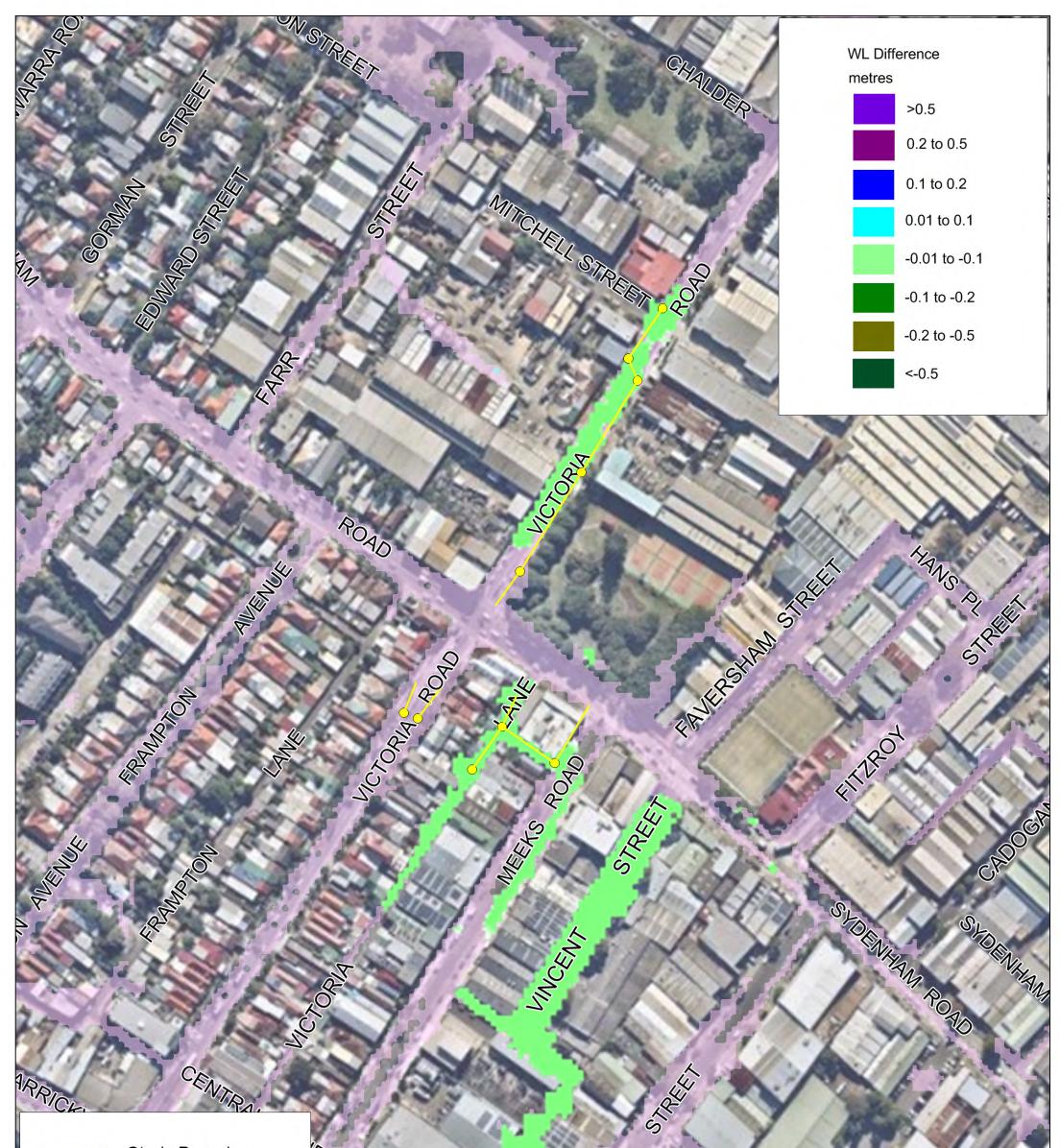




Water Level Difference 1% AEP Option FM14.1

MARRICKVILLE VALLEY FRMS&P



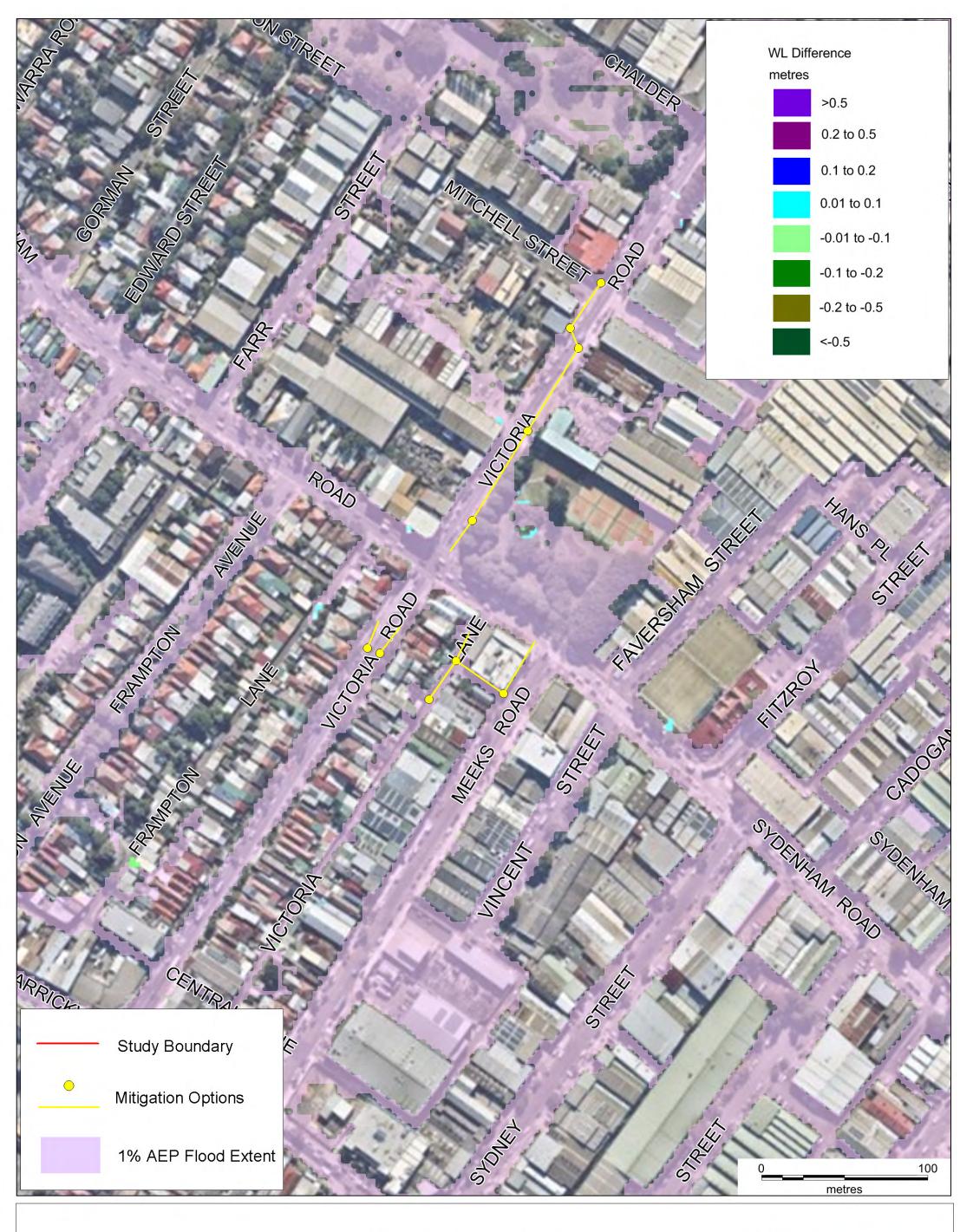




Water Level Difference 2Yr **Option FM15.1 & FM15.2** 

MARRICKVILLE VALLEY FRMS&P

Cardno



Water Level Difference 1% AEP Option FM15.1 & FM15.2

MARRICKVILLE VALLEY FRMS&P

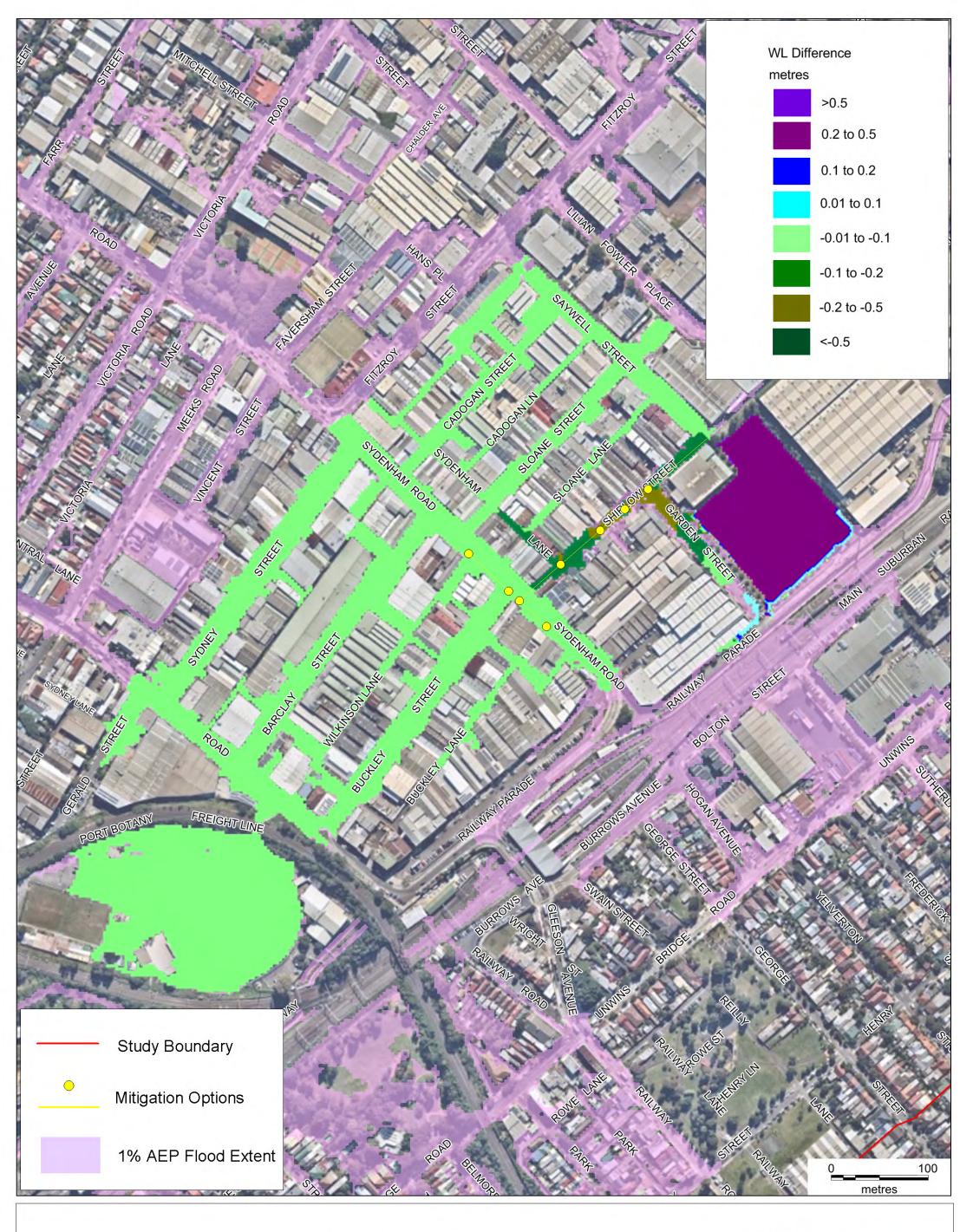
Cardno



Water Level Difference 2 Yr Option FM15.3

MARRICKVILLE VALLEY FRMS&P

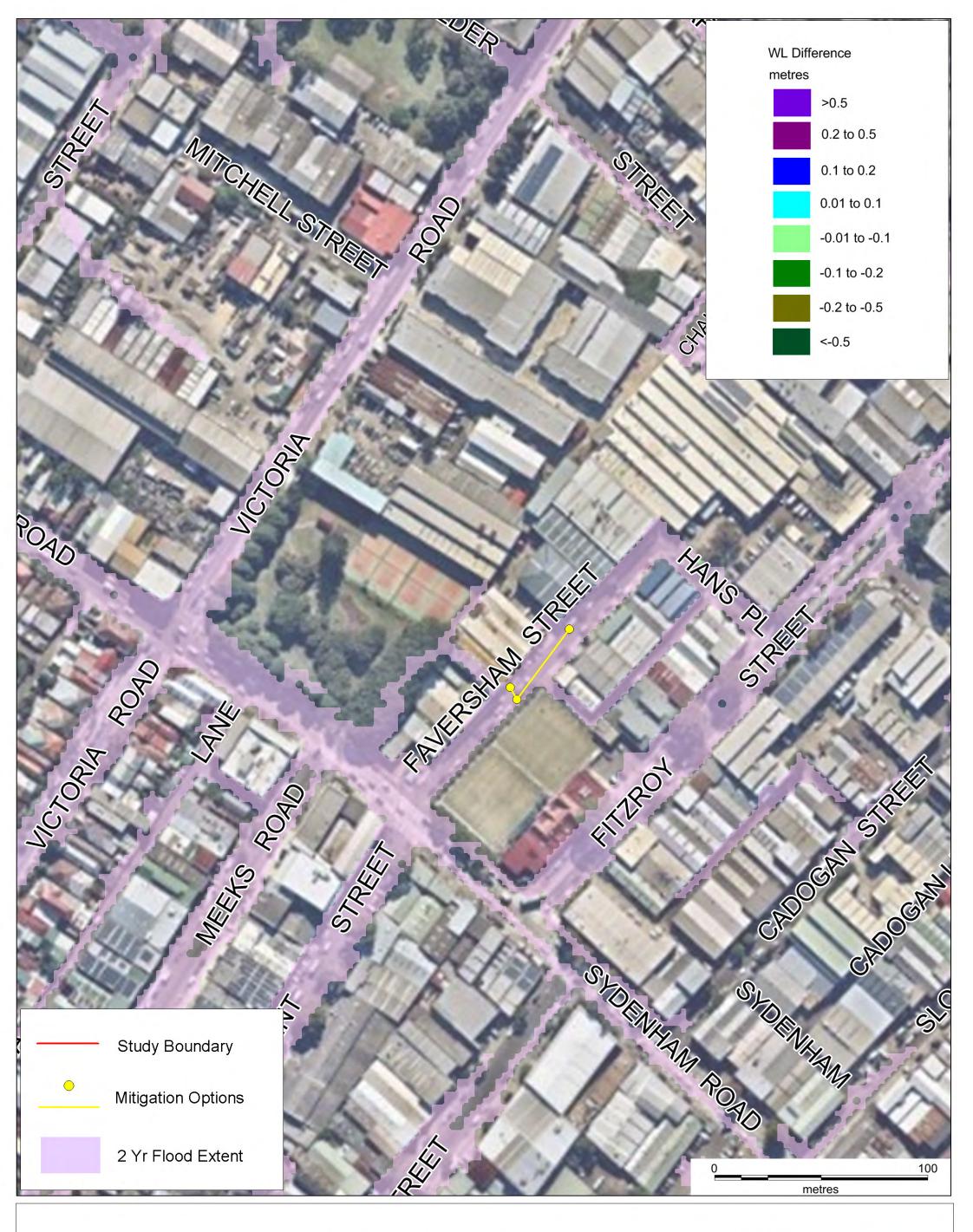
Cardno



Water Level Difference 1% AEP Option FM15.3

MARRICKVILLE VALLEY FRMS&P

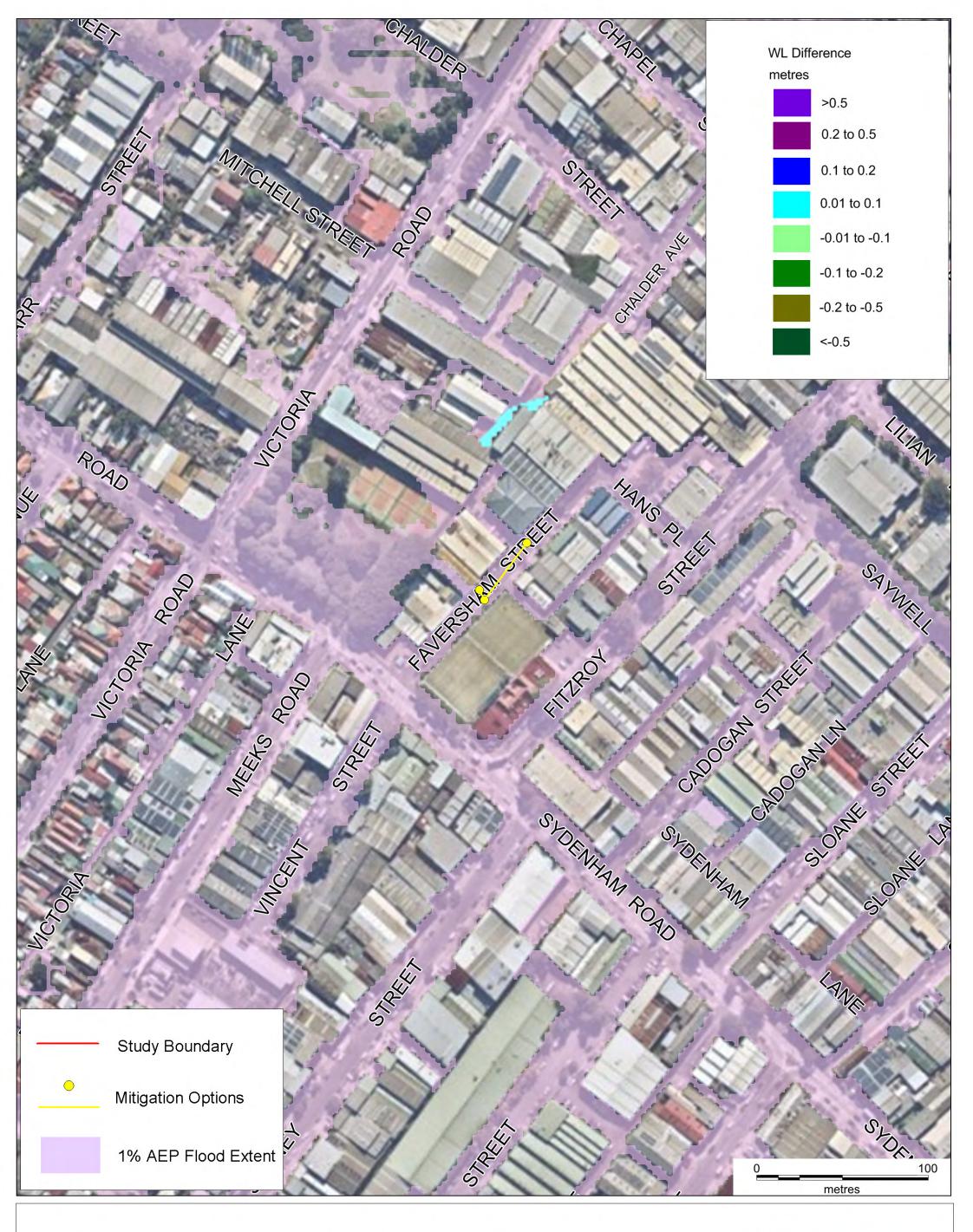
Cardno



Water Level Difference 2 Yr Option FM15.5

MARRICKVILLE VALLEY FRMS&P

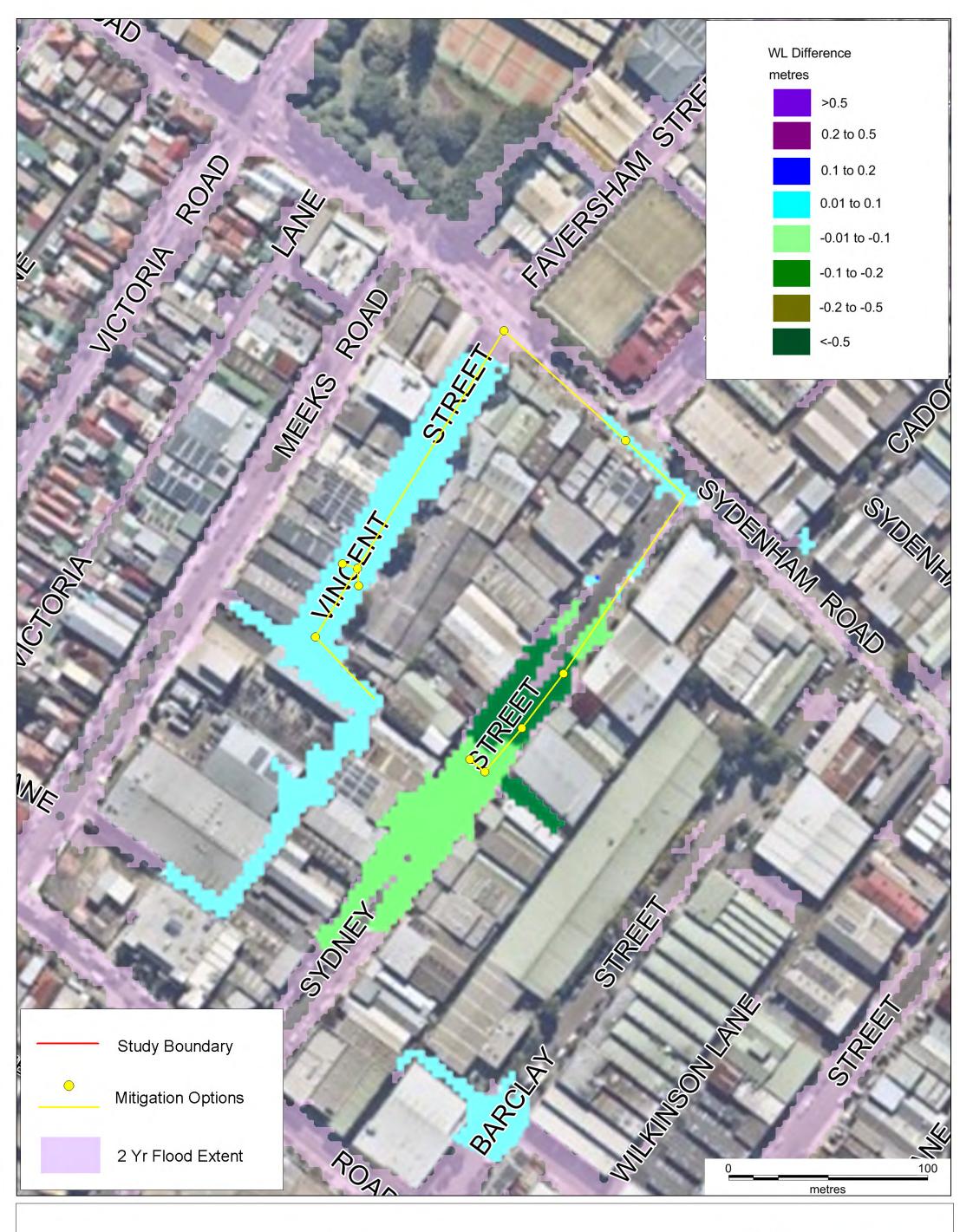
Cardno



Water Level Difference 1% AEP Option FM15.5

MARRICKVILLE VALLEY FRMS&P

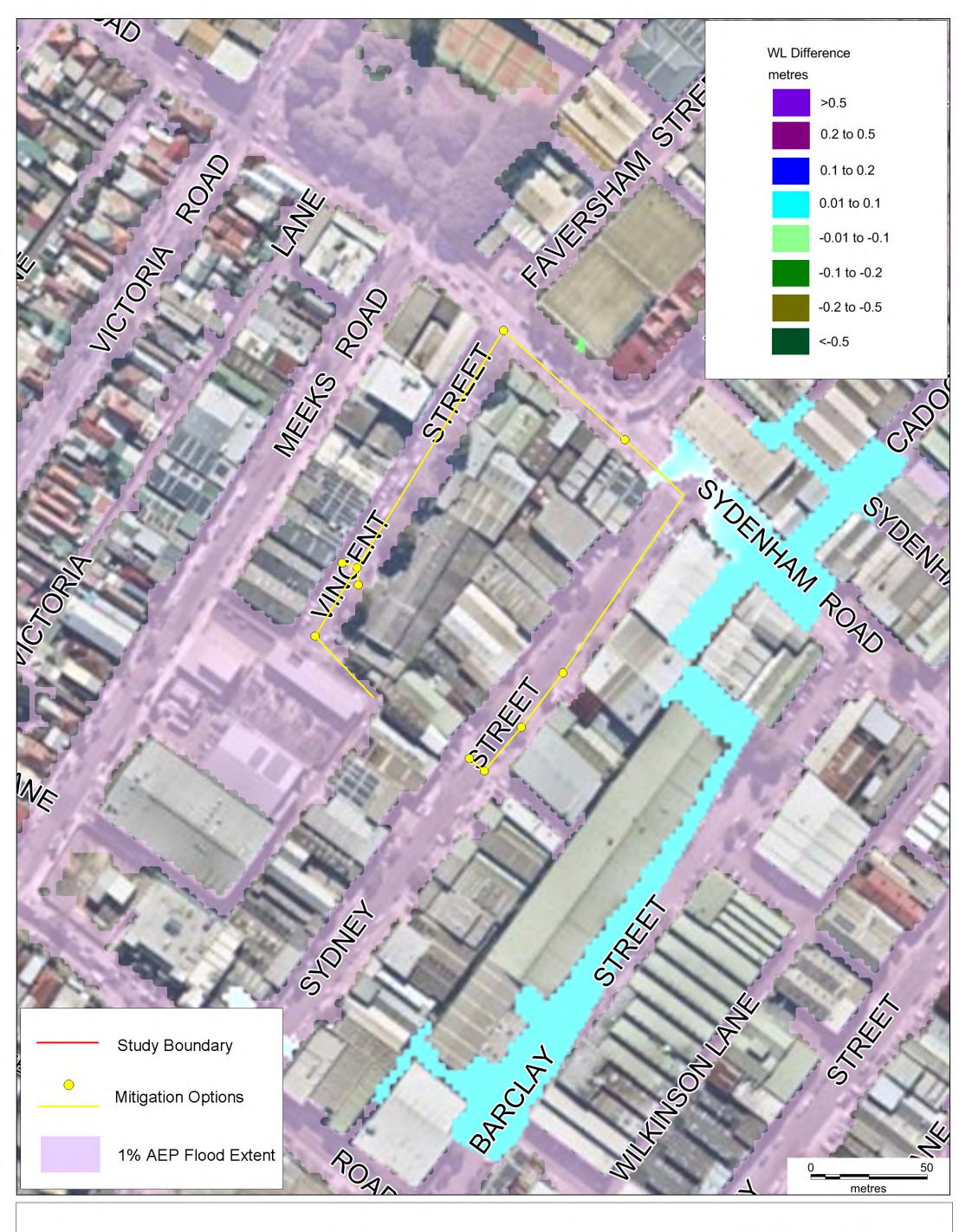
Cardno



Water Level Difference 2 Yr Option FM15.7

MARRICKVILLE VALLEY FRMS&P

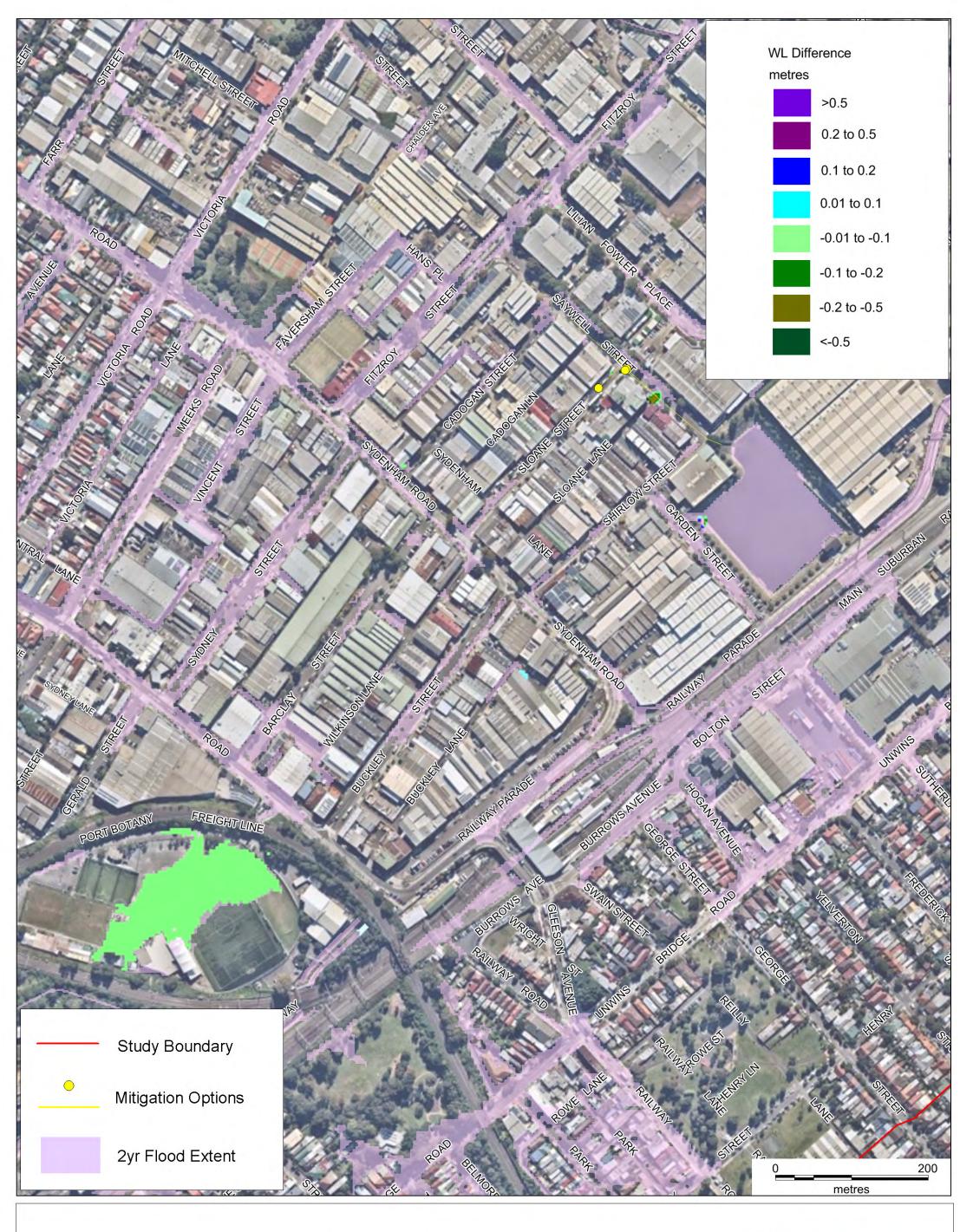




Water Level Difference 1% AEP Option FM15.7

MARRICKVILLE VALLEY FRMS&P

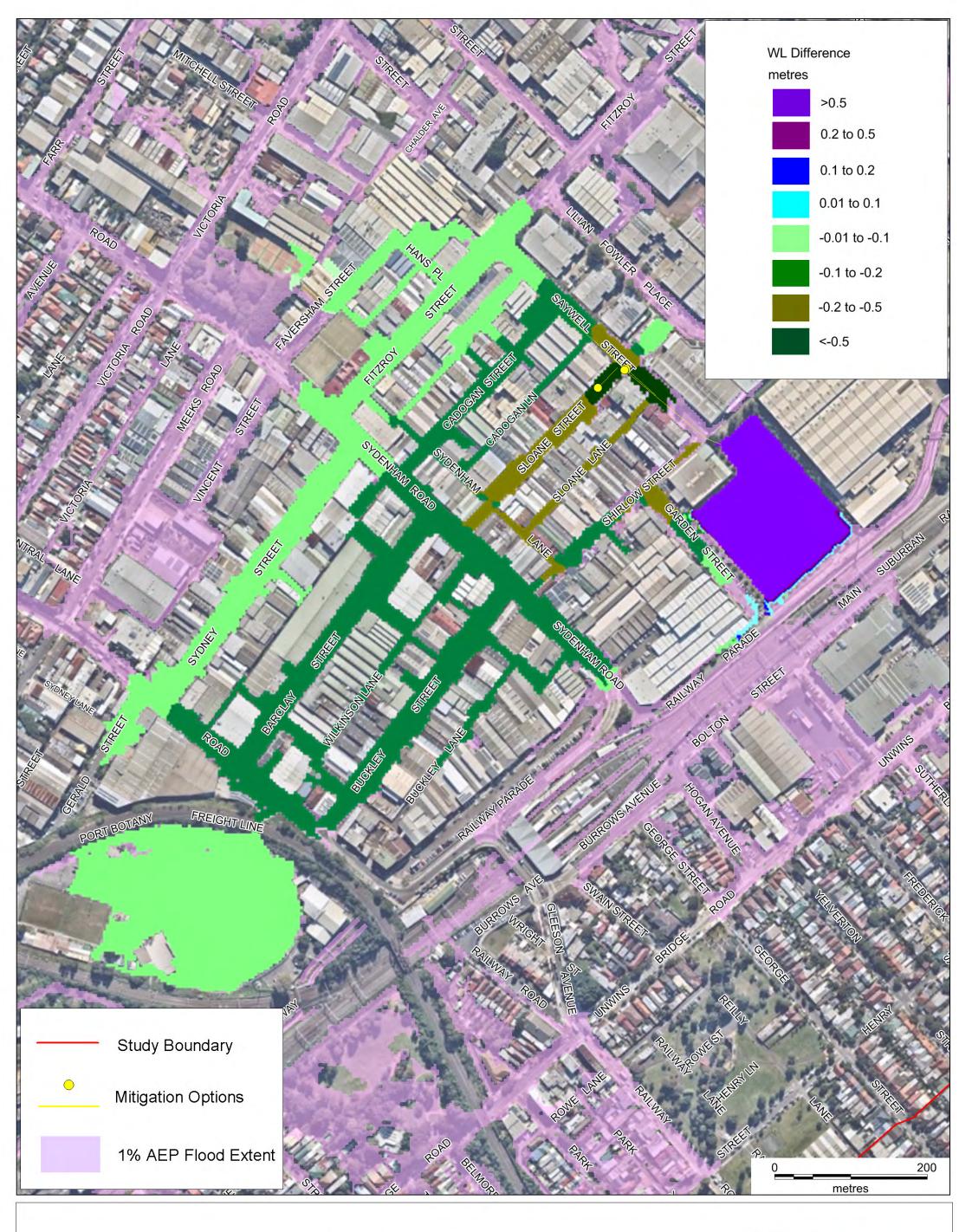




Water Level Difference 2 Yr Option FM15.9

MARRICKVILLE VALLEY FRMS&P

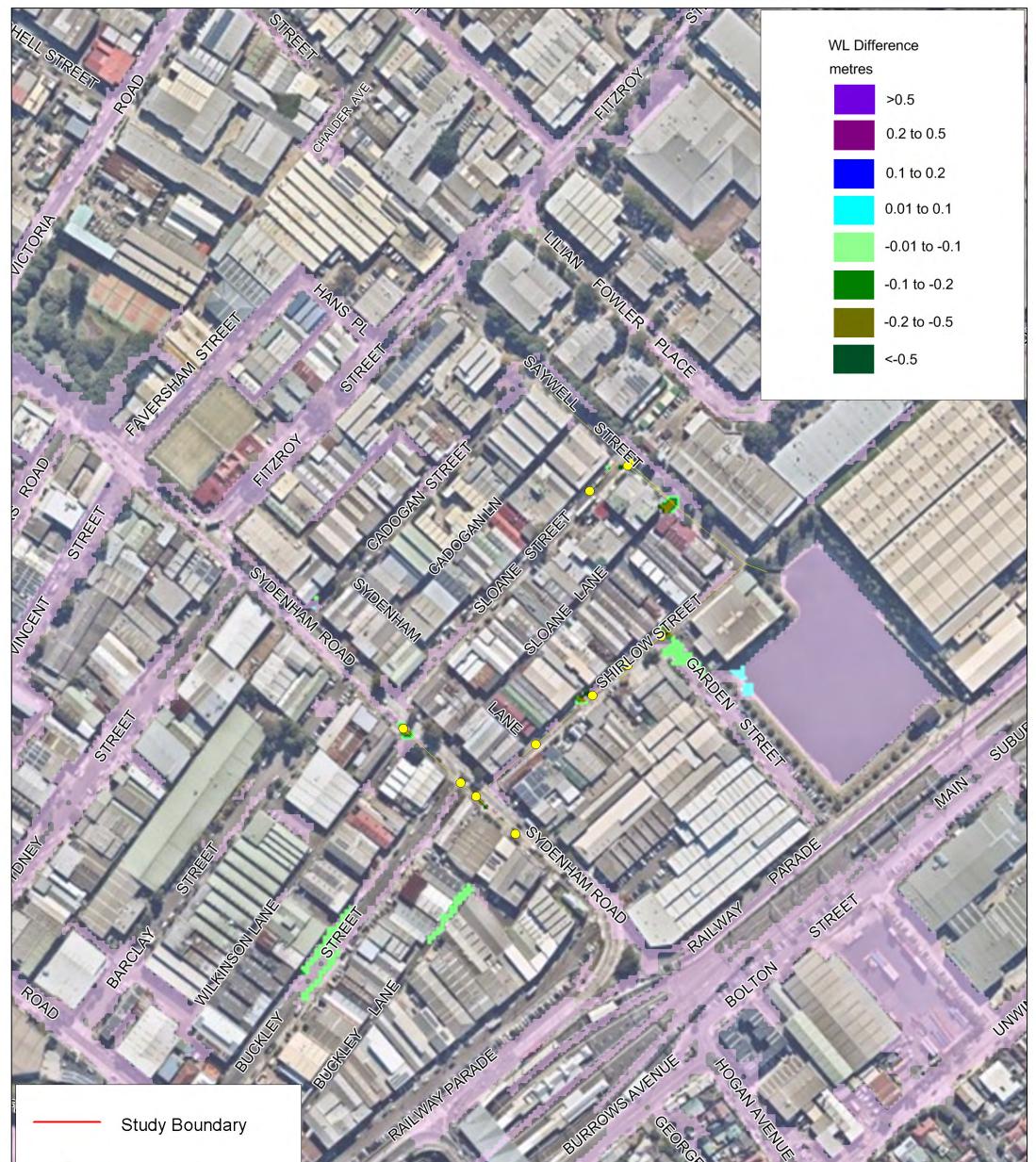
Cardno



Water Level Difference 1% AEP Option FM15.9

MARRICKVILLE VALLEY FRMS&P

Cardno

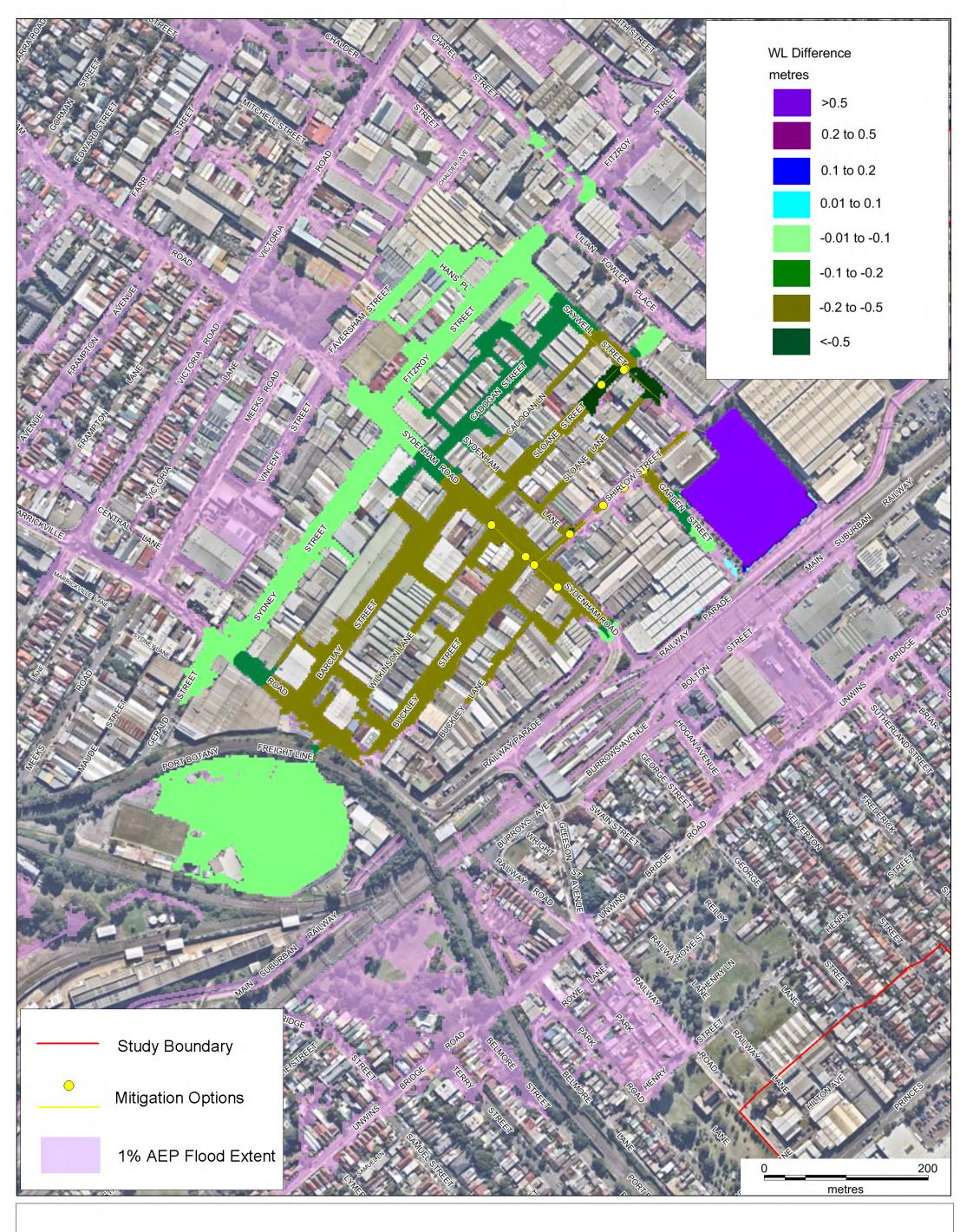




Water Level Difference 2Yr **Option FM15.10** 

MARRICKVILLE VALLEY FRMS&P

Cardno



Water Level Difference 1% AEP Option FM15.10

MARRICKVILLE VALLEY FRMS&P



Marrickville Valley Floodplain Risk Management Study and Plan

# APPENDIX

A2

### OPTIONS COST BREAKDOWN



Rates based on Council's Comments

			Rate 2016	
Pipe / Culvert Size	Rate (\$/lin.m)	Rate 2010	(\$/lin.m)	Council Comment
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.1m dia. Pipe	650	750	862.5	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.225m dia. Pipe	720	825	948.75	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe	780	900	1035	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	800	925	1063.75	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.525m dia. Pipe	820	950	1092.5	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	850	975	1121.25	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.675m dia. Pipe	870	1000	1150	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	930	1075	1236.25	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe	980	1125	1293.75	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	1040	1200	1380	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe	1230	1425	1638.75	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe	1430	1650	1897.5	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe	1690	1950	2242.5	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe	1950	2250	2587.5	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.65m dia. Pipe	2330	2700	3105	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe	2850	3300	3795	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.95m dia. Pipe	3110	3600	4140	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe	3370	3900	4485	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for twin 1.8m dia. Pipe	6270	6750	7762.5	all about 25% too high
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert	1380	1200	1380	
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert	1725	1500	1725	
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m x 0.9m culvert	2185	1900	2185	
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert	2760	2400	2760	
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert	3220	2800	3220	
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 1.8m culvert	3680	3200	3680	
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.0m x 2.1m culvert	4485	3900	4485	
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m x 2.1m culvert	4600	4000	4600	
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 1.5m culvert	4600	4000	4600	
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert	4830	4200	4830	
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.7m x 2.7m culvert	5520	4800	5520	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x 0.6m culvert	3680	3200	3680	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x 0.9m culvert	5520	4800	5520	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x 1.5m culvert	5865	5100	5865	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x 3.0m culvert	6555	5700	6555	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.3m x 3.3m culvert	7072.5	6150	7072.5	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 0.6m culvert	5865	5100	5865	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 0.9m culvert	7245	6300	7245	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 1.5m culvert	7590	6600	7590	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 1.8m culvert	8107.5	7050	8107.5	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 2.0m culvert	9315	8100	9315	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 2.7m culvert	10695	9300	10695	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 3.3m culvert	13225	11500	13225	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.6m x 3.6m culvert	15180		15180	
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.8m x 1.8m culvert	13915		13915	
Supply, excavate, bed, lay, joint, backfill and provide connections for 4.3m x 1.9m culvert	14720		14720	
Supply, excavate, bed, lay, joint, backfill and provide connections for 5.0m x 1.8m culvert	15295		15295	
Supply, excavate, bed, lay, joint, backfill and provide connections for 5.5m x 1.5m culvert	15525		15525	
Supply, excavate, bed, lay, joint, backfill and provide connections for 5.5m x 2.7m culvert	16100		16100	
Supply, excavate, bed, lay, joint, backfill and provide connections for 6.0m x 1.8m culvert	18975			

#### **Other Rates**

	Rate (\$)	Unit
Clearing & grubbing	10	sq.m
Strip topsoil & stockpile for re-use (assuming 150mm depth)		cu.m
Dispose of excess topsoil (nominal 10% allowance)	200	cu.m
Pull up and dispose existing road surface (assuming 500mm depth)	150	sq.m
Removal and disposal of existing stormwater network	60	lin.m
Excavate material, including disposal / provision of cut	200	cu.m
Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	10	sq.m
Weeding / clearing of channel sections with overgrown banks or invasive / exotic species.	30	sq.m
Plant riparian corridor with suitable trees and shrubs	20	sq.m
Reinstate disturbed road pavement, including kerbs where necessary		sq.m
Removal of existing culvert system	5000	lin.m
Import, prepare and compact fill material	20	cu.m
Supply and install inlet or junction pit	6000	per unit
Supply, excavate, bed, lay, backfill surcharge pit	30000	per unit

Excavate- cut / fill & regrade to suit new design levels, including disposal / provision of cut / fill	30	cu.m
Relocation of services for minor road	30000	per unit
Relocation of services for major road	100000	per unit
Allowance for nightworks (assume for works on all regional/state roads and within 20m of traffic		
signals)	30%	

Option ID	Details	Conital	Ongoing - assumed 1%
•	Install new pipes to re-direct flows from Morton Ave	Capital	of capital cost
	to Frazer St, and install a new box culvert from the		
FM1.1	low point along Frazer St to a new surcharge pit in		
	Marrickville Oval. Additional sag inlet pits to get flows	\$2,328,000.00	စိုသူ သူတို့
	into the pipes. Divert Flows from Wardell Rd down Bishop St to	φ2,328,000.00	\$23,280
	basin via pipes & a box culvert from the low point		
FM1.2	along Frazer St to a new surcharge pit in Marrickville		
	Oval.	\$2,208,900.00	\$22,089
	Install orifice plate on basin outlet to maximise basin		
FM2.1	flood attenuation for up to the 20% AEP event.	\$72,000.00	\$720
	Divert George Street catchment from Livingstone	<b> </b>	φ/20
FM2.3	Road sag to Centennial St.	\$806,800.00	\$8,068
	Divert flows from Jarvie Park to Malakoff Tunnel and		
FM3.1	upgrade drainage in Petersham Rd and Northcote	¢704 200 00	ф <del>т</del> . о. 4 с
	St. Installing new pits and a pipe along Sydenham to	\$794,200.00	\$7,942
FM3.2	divert flows from the intersection of Sydenham Rd		
	and Petersham Rd to Malakoff Tunnel.	\$2,288,700.00	\$22,887
FM3.3	New drainage in Sydenham Road and connect to		
1 1013.5	Western Channel.	\$526,300.00	\$5,263
FM3.4	Increase inlet capacity on Despointes St, Silver St	\$450,500.00	¢4 БОБ
	and Sydenham Road near Garners Ave. Demolish brick wall and structures built over	\$450,500.00	\$4,505
	drainage easement between Park and Neville		
FM5.2	Streets and upgrade pipe size and/or construct a		
	overland flow channel.	\$222,600.00	\$2,226
	Upgrade drainage in Addison Rd between Park Rd		
FM5.3	and Gordon Lane via 600mm diameter pipes.	\$1,406,700.00	\$14,067
	New raised thresholds at Park St, Neville St and	Ŧ ,,	
FM5.4	Essex St.	\$59,100.00	\$591
FM5.6	Increase inlet capacity in Illawarra, York and	¢224 COO 00	<b>A</b> O O 10
	Shephard Streets via 450mm diameter pipes.	\$324,600.00	\$3,246
FM5.9	Drainage upgrades in Essex and Surrey Streets	\$874,500.00	\$8,745
FM6.1	Upgrade drainage in Newington Rd to 600mm	¢400.000.00	<b>A</b> 4 9 9 9
	diameter pipes.	\$422,900.00	\$4,229
FM6.4	Install new inlets and pipes along England Ave, Agar St and Wemyss St.	\$580,800.00	\$5,808
	Upgrade drainage and additional inlet capacity near	Ŧ ,	
FM7.1	Smith St, Enmore Rd and Cook Rd. Install pipes		
1 1017.1	along Enmore and Cook Rds, and a box culvert	¢4,400,000,00	<b>.</b>
	along Smith St. Duplicate under capacity trunk under Enmore Park	\$1,493,200.00	\$14,932
FM7.4	from Addison at Philpott to Leicester Street.	\$5,629,800.00	\$56,298
	Duplicate existing pipe and new pits in Denby St and	. , ,	
FM7.5	threshold on Denby St at Addison Rd.	\$187,900.00	\$1,879
FM7.6	Drainage works along Philpott St and Addison St		
1 1017.0	(near Denby St and Cook Road)	\$707,700.00	\$7,077
FM8.1	New drainage in Arthur Street and connect to	¢255 200 00	<b>\$0.55</b>
	Malakoff tunnel.	\$255,200.00	. ,
FM8.2	New drainage in Robert Street.	\$88,600.00	\$886
FM9.1	New drainage in Marrickville Road and connect to Malakoff tunnel.	\$2,439,600.00	\$24,396
	Divert Marrickville Rd flows down Barclay Street to	φ2,100,000.00	ψ24,050
FM10.1	Sydenham Detention Basin.	\$811,600.00	\$8,116
EN40.2	Divert flows from Carrington Road and Myrtle		
FM10.2	Street to pump station (SPS271)	\$957,200.00	\$9,572
FM10.4	Divert flows from rail and Charlotte Ave into Western	¢400.000.00	*
	Channel.	\$499,300.00	\$4,993

FM11.1	Construct overland flow Path from Unwins around edge of park to rail culvert.	\$281,100.00	\$2,811
FM11.2	Construct overland flow path from childcare centre around edge of park to rail culvert.	\$196,800.00	\$1,968
FM11.3	Upgrade drainage in Unwins Bridge Rd and Terry St.	\$404,300.00	\$4,043
FM11.4	Upgrade drainage in Unwins Bridge Rd at Bridge Street.	\$404,400.00	\$4,044
FM12.1	Upgrade drainage in Cary St to 750mm diameter pipes.	\$978,400.00	\$9,784
FM12.2	Upgrade drainage in Renwick to install 750mm diameter pipes.	\$743,800.00	\$7,438
FM12.4	Backflow prevention in the central channel and optimise pump station operations at Mackey Park.	\$95,500.00	\$955
FM12.5	Raise channel wall to stop overflows in Cary street.	\$347,400.00	\$3,474
FM13.1 & FM13.5	Upgrade drainage in Gannon St and Edwin St. Upgrade drainage in Griffiths St.	\$2,204,000.00	\$22,040
FM13.4	Divert flows down Edgar Street to new connection under rail	\$2,411,300.00	\$24,113
FM13.5	Upgrade drainage in Brooklyn St and Union St.	\$119,900.00	\$1,199
FM14.1	Upgrade the existing pipe underneath Bolton St and railway line.	\$563,300.00	\$5,633
FM15.1	Upgrade and extend drainage in Victoria Road South of Sydenham Rd and Victoria Lane, and Victoria Lane and Meeks Road.	\$402,300.00	\$4,023
FM15.2	Upgrade and extend Drainage in Victoria Road north of Sydenham Rd.	\$544,600.00	\$5,446
FM15.3	Divert Buckley St and Wilkinson Ln into Shirlow St trunk.	\$1,604,400.00	\$16,044
FM15.5	Upgrade drainage in Faversham Street.	\$153,800.00	\$1,538
FM15.7	Upgrade drainage in Sydney Street and Vincent Street.	\$951,500.00	\$9,515
FM15.9	Drainage works along Saywell Street	\$2,543,500.00	\$25,435
FM15.10	Drainage works along Saywell Street, Buckley St,Wilkinson Ln and Shirlow St	\$4,112,200.00	\$41,122

	5 MARRICKVILLE FRMS&P	C		Carc aping the Fut	
ost Est ption:	Fimate FM1.1 - Install new pipes to re-direct flows from Morton Ave to box culvert from the low point along Frazer St to a new surch Additional sag inlet pits to get flows into the pipes.				v1
EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item	+	
1.3 1.4	Construction setout & survey Work as executed survey & documentation	1	item item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				212,3
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1 2.2	Clearing & grubbing of vegatated areas Strip topsoil & stockpile for re-use (assuming 150mm depth)	333 49.95	sq. m	10 25	3,33 1,24
2.2	Dispose of excess topsoil (nominal 10% allowance)	49.95	cu. m cu. m	200	9
	SUBTOTAL				5,5
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe	10	lin.m	780	7,8
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe	0	lin.m	980	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	360	lin.m	1040	374,4
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m				<u> </u>
3.4	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.	0	lin.m	1230	
3.5	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.	0	lin.m	1430	
3.6	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia.	0	lin.m	2850	
3.7	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.65m	0	lin.m	1950	
3.8	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x	0	lin.m	2330	
3.9	1.2m culvert	141	lin.m	3680	518,8
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.7m x 2.7m culvert		q	5520	
3.11 3.12	Install new drainage / junction pit (assumed 1 pit per 50m of pipe) Supply, excavate, bed, lay, backfill surcharge pit	12 2	each each	6000 30000	72,0 60,0
3.13	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)		item	103,308	103,3
3.14	Allowance for nightworks (assume for works on all regional/state roads) SUBTOTAL	I	item	139,440	139,4 <b>1,275,8</b>
4.0	PAVEMENTS				
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	
7.1	SUBTOTAL	U	3 <b>q</b> . m	120	
5.0	TRAFFIC CONTROL				
	Control of traffic during works, incl allowance for night works (assumed 10% of			T T	
5.1	pipe install cost) SUBTOTAL	1	item	127583	127,5 <b>127,5</b>
		I		I	;•
6.0	PROPERTY BY-BACK				
6.1	Purchase of properties in order to create drainage easements SUBTOTAL		each	1300000	
7.0	MINOR LANDSCAPING				
	Repair disturbed areas in accordance with landscape architects requirements	1		<u>т</u> т	
7.1	(nominal allowance)	333	sq. m	20	6,6
	SUBTOTAL				6,6
	CONSTRUCTION SUB-TOTAL				1,627,9
8.0	CONTINGENCIES				
8.1	30% construction cost				488,3
	CONSTRUCTION TOTAL, excluding GST				2,116,3
	GST CONSTRUCTION TOTAL, including GST				211,6 2,327,9
	CONSTRUCTION TOTAL, rounded				2,328,0
	ER: imate of cost is provided in good faith using information available at this stage. T SW) will not accept liability in the event that actual costs exceed the estimate.	This estimate of	of cost is no	t guaranteed.	
Estimate	e does not include Consultant's fees, including design or project management e / rates in 2016 dollars and does not allow for inflation				

	5 MARRICKVILLE FRMS&P		Sha	aping the Fut	ure
Cost Est	imate				
Option:	FM1.2 - Divert Flows from Wardell Rd down Bishop St to basi from the low point along Frazer St to a new surcharge pit in M			culvert	v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	•		•	201,5
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	333	sq. m	10	3,3
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	49.95	cu. m	25	1,2
2.3	Dispose of excess topsoil (nominal 10% allowance)	4.995	cu. m	200	g
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				5,5
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.	10	lin.m	780	7,8
3.2	Pipe	370	lin.m	850	314,5
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	60	lin.m	1040	62,4
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x				

1.2m culvert	141	lin.m	3680	518,880
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
2.4m culvert		lin.m	4830	0
Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	12	each	6000	72,000
Supply, excavate, bed, lay, backfill surcharge pit	2	each	30000	60,000
Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
installation cost, with minimum cost of \$30,000)	1	item	103,558	103,558
Allowance for nightworks (assume for works on all regional/state roads)	1	item	70,800	70,800
SUBTOTAL				1,209,938
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert Install new drainage / junction pit (assumed 1 pit per 50m of pipe) Supply, excavate, bed, lay, backfill surcharge pit Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000) Allowance for nightworks (assume for works on all regional/state roads)	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x         2.4m culvert         Install new drainage / junction pit (assumed 1 pit per 50m of pipe)         12         Supply, excavate, bed, lay, backfill surcharge pit         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)         1         Allowance for nightworks (assume for works on all regional/state roads)	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m xInstall2.4m culvertlin.mInstall new drainage / junction pit (assumed 1 pit per 50m of pipe)12Supply, excavate, bed, lay, backfill surcharge pit2Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)1Allowance for nightworks (assume for works on all regional/state roads)1	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m xIn.m48302.4m culvertlin.m4830Install new drainage / junction pit (assumed 1 pit per 50m of pipe)12each6000Supply, excavate, bed, lay, backfill surcharge pit2each30000Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)1item103,558Allowance for nightworks (assume for works on all regional/state roads)1item70,800

#### 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

r								
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0			
	SUBTOTAL			•	0			
5.0	PROPERTY BY-BACK							
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0			
	SUBTOTAL				0			
6.0	TRAFFIC CONTROL							
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	120994	120,994			
	SUBTOTAL			•	120,994			
7.0	MINOR LANDSCAPING							
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	333	sq. m	20	6,660			
	SUBTOTAL				6,660			
	CONSTRUCTION SUB-TOTAL				1,544,670			
8.0	CONTINGENCIES							
8.1	30% construction cost				463,401			
	CONSTRUCTION TOTAL, excluding GST				2,008,070			
	GST				200,807			
	CONSTRUCTION TOTAL, including GST				2,208,877			
	CONSTRUCTION TOTAL, rounded				2,208,900			
DISCLAI	MER:							
1. This e	stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed				
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.							
NOTES:								
1. Estimate does not include Consultant's fees, including design or project management								
2. Estima	ate / rates in 2016 dollars and does not allow for inflation							

Marrickville Valley FRMSP

5991519 Cost Est	5 MARRICKVILLE FRMS&P			<b>Caro</b> aping the Fut	
	FM2.1 - Install orifice plate on basin outlet to maximise basin event.	flood atten	uation fo	r up to the	20% AE
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				6,60
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	78	sq. m	10	78
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	11.7225	cu. m	25	29
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.17225	cu. m	200	23
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				1,30
3.0	DRAINAGE				
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	3	lin.m	800	2,40
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.	3			2,400
3.2	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m		lin.m	850	
3.3	dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
0.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m			1040	
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1230	
3.6	Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
5.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.			1030	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe		lin.m	2850	
2 10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin m	2270	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x				
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	(
3.14	0.4m culvert		lin.m	3220	

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x				
3.15	1.5m culvert		lin.m	5865	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	1	each	6000	6,000
3.17	Install Install orifice plate on basin outlet	1	each	30000	30,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.18	installation cost, with minimum cost of \$30,000)	0	item	0	0
	SUBTOTAL	-			38,400

#### 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	3840	3,840
	SUBTOTAL				3,840
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	10	sq. m	20	200
	SUBTOTAL				200
	CONSTRUCTION SUB-TOTAL				50,349
8.0	CONTINGENCIES				
8.1	30% construction cost				15,105
	CONSTRUCTION TOTAL, excluding GST				65,454
	GST				6,545
	CONSTRUCTION TOTAL, including GST				71,999
	CONSTRUCTION TOTAL, rounded				72,000
DISCLAII					
	estimate of cost is provided in good faith using information available at this stage. Th	is estimate	e of cost is not	t guaranteed	
Cardno (N	(NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				

2. Estimate / rates in 2010 dollars and does not allow for inflation

59915195 September 2017

Marrickville Valley FRMSP

#### 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM2.3 - Divert George Street catchment from Livingstone Road sag to Centennial St.

TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				73,60
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	129	sq. m	10	1,29
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	19.35	cu. m	25	48
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.935	cu. m	200	38
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL		·		2,16
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	430	lin.m	850	365,50
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe		lin.m	1950	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x				
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x		lin.m	3220	
3.15	2.4m culvert	E	lin.m	4830	26.00
3.16	Install new drainage / junction pit (assumed 1 pit per 50m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	6	each	6000	36,00
3.17	installation cost, with minimum cost of \$30,000)	1	item	40,150	40,1
	SUBTOTAL				441,6
4.0	PAVEMENTS				
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	44165	44,16
	SUBTOTAL				44,16
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	129	sq. m	20	2,58
	SUBTOTAL				2,58
	CONSTRUCTION SUB-TOTAL				564,15
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				564,15
<b>8.0</b> 8.1					564,15 169,24
	CONTINGENCIES				
	CONTINGENCIES 30% construction cost				169,24
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				169,24 733,40
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				169,24 733,40 73,34
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				169,24 733,40 73,34 806,74
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	his estimate	of cost is not	t guaranteed.	169,24 733,40 73,34 806,74
8.1 ISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	his estimate	of cost is not	guaranteed.	169,24 733,40 73,34 806,74
8.1 ISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	guaranteed.	169,24 733,44 73,34 806,74
8.1 ISCLAI This eardno (I OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed.	169,24 733,44 73,34 806,74

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

FM3.1 - Divert flows from Jarvie Park to Malakoff Tunnel and upgrade drainage in Northcote St and Carew Ln.       EM No. DESCRIPTION OF WORK     QUANTITY     UNIT     RATE       1.0     GENERAL AND PRELIMINARIES     1     item     1       1.1.     Site establishment, security fencing, facilities & disestablishment     1     item     1       1.2.     Provision of sediment & erosion control     1     item     1       1.3.     Construction security functing, facilities & disestablishment     1     item       1.4.     Work as executed survey & documentation     1     item       1.5.     Geotechnical supervision, testing & certification     1     item       2.0     DEMOLITION, CLEARING AND GRUBBING     14.175     cu.m     25       2.1     Clearing & grubbing of vegatated areas (nominal allowance)     95     sq.m     10       2.2     DEMOLITION, CLEARING AND GRUBBING     14.175     cu.m     25       2.3     Dispose of excess topsoil (nominal 10% allowance)     1.4175     u.m     20       2.4     Pull up and dispose existing rod surface     0     sq.m     150       3.1     dia.Pipe     Malakoff 11 and provide connections for 0.45m     iin.m     100       3.2     Pippose exeavate, bed, lay, joint, backfill and provide connections for 0.5m     iin.	Ire	aping the Futu	Sha		timate
EM NO. DESCRIPTION OF WORK       QUANTITY       UNIT       RATE         10       GENERAL AND PRELIMINARIES			inage in	pgrade dra	
1.0       GENERAL AND PRELIMINARIES         1.1       Site establishment, security fencing, facilities & disestablishment       1       item         1.2       Provision of sediment & arosion control       1       item         1.3       Construction setout & survey       1       item         1.4       Work as executed survey & documentation       1       item         1.5       Geotechnical supervision, testing & certification       1       item         2.0       DEMOLITION, CLEARING AND GRUBBING       1       14.175       ou.m       225         2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sq. m       10         2.2       Strip topsoid & stockpile for travue (assuming 150mm depth)       14.175       ou.m       200         2.4       Pull up and dispose existing road surface       0       sq.m       150         3.0       DRAINAGE       50       SuBTOTAL       50         3.1       dia. Pipe       150       iin.m       800         3.2       Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m       150       iin.m       800         3.2       Supply, excavate, bed, lay, joint, backfill and provide connections for 0.5m dia.       40       iin.m       100	v1				Northcote St and Carew Ln.
1.1       Site establishment, security fencing, facilities & disestablishment       1       item         1.2       Provision of sediment & arosion control       1       item         1.3       Construction setout & survey       1       item         1.4       Work as executed survey & documentation       1       item         1.5       Geotechnical supervision, testing & certification       1       item         2.0       DEMOLITION, CLEARING AND GRUBBING       1       item         2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sq. m       10         2.2       Strip topsoil & stockpile for re-use (assuming 150mm depth)       14.175       cu. m       220         2.4       Pull up and dispose existing road surface       0       sq.m       150         3.0       DRAINAGE       3       Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m       140       in.m       800         3.1       dia. Pipe       150       in.m       800       3       3       Supply, excavate, bed, lay, joint, backfill and provide connections for 0.67m       100       in.m       104       104       104       104       104       104       104       104       103       3       3       3 <td< th=""><th>COST</th><th>RATE</th><th>UNIT</th><th>QUANTITY</th><th>DESCRIPTION OF WORK</th></td<>	COST	RATE	UNIT	QUANTITY	DESCRIPTION OF WORK
1.2       Provision of sediment & erosion control       1       item         1.3       Construction setout & survey       1       item         1.4       Work as execued survey & documentation       1       item         1.5       Geotechnical supervision, testing & certification       1       item         1.5       Geotechnical supervision, testing & certification       1       item         2.0       DEMOLITION, CLEARING AND GRUBBING       1       14.175       cu.m       25.25         2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sg.m       10         2.2       Strip topsoil & stockpile for re-use (assuming 150mm depth)       14.175       cu.m       200         2.4       Pull up and dispose existing road surface       0       sg.m       150         SUBTOTAL       30       DRAINAGE       40       lin.m       800         3.2       Pipe excavate, bed, lay, joint, backfill and provide connections for 0.45m       40       lin.m       930         3.3       da.Pipe       scavate, bed, lay, joint, backfill and provide connections for 0.5m       40       lin.m       1404         3.4       Pipe       sapply, excavate, bed, lay, joint, backfill and provide connections for 1.5m       lin.m       1400					GENERAL AND PRELIMINARIES
1.2       Provision of sediment & erosion control       1       item         1.3       Construction sectout & survey       1       item         1.4       Work as executed survey & documentation       1       item         1.5       Geotechnical supervision, testing & certification       1       item         1.5       Geotechnical supervision, testing & certification       1       item         2.0       DEMOLITION, CLEARING AND GRUBBING       1       14.175       cu.m       25         2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sq.m       10         2.2       Strip topsoil & stockpile for re-use (assuming 150mm depth)       14.175       cu.m       25         2.3       Dispose of excess topsoil (nominal 10% allowance)       1.4175       cu.m       200         2.4       Pull up and dispose existing road surface       0       sq.m       150         SUBTOTAL       30       DRAINAGE       150       lin.m       800         3.1       dia. Pipe       scaavate, bed, lay, joint, backfill and provide connections for 0.8m dia.       40       lin.m       140         3.2       Pipe, scaavate, bed, lay, joint, backfill and provide connections for 1.5m dia.       100       lin.m       140			item	1	Site establishment, security fencing, facilities & disestablishment
1.4       Work as executed survey & documentation       1       item         1.5       Geotechnical supervision, testing & certification       1       item         1.5       Geotechnical supervision, testing & certification       1       item         2.0       DEMOLITION, CLEARING AND GRUBBING         2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sq.m       10         2.2       Strip topsoil & tockpile for re-use (assuming 150mm depth)       14.175       cu.m       25         2.3       Dispose of excess topsoil (nominal 10% allowance)       0       sq.m       150         SUBTOTAL       0       sq.m       160       sq.m       800         3.0       DRAINAGE       0       sq.m       160       iin.m       800         3.1       diaPipe       160       iin.m       800       30       Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m       160       iin.m       800         3.2       Pipe       10       iin.m       800       30       30       30       30       30       30       30       30       30       30       30       30       30       30       30       30       30       30       30			item	1	
1.5       Geotechnical supervision, testing & certification       1       item         SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)       95       sq. m       10         2.0       DEMOLITION, CLEARING AND GRUBBING       95       sq. m       10         2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sq. m       22         2.3       Dispose of excess topsoil (nominal 10% allowance)       1.4175       cu. m       220         2.4       Pull up and dispose existing road surface       0       sq. m       150         SUBTOTAL       30       DRAINAGE       150       supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m       40       iin.m       800         3.1       dia. Pipe       150       iin.m       800       supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m       40       iin.m       800         3.2       Pipe       150       iin.m       800       supply, excavate, bed, lay, joint, backfill and provide connections for 0.5m       40       iin.m       1040       iin.m       1040       iin.m       1040       iin.m       1040       supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m       100       iin.m       1223       iin.m       1233			item	1	Construction setout & survey
SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)           2.0         DEMOLITION, CLEARING AND GRUBBING           2.1         Clearing & grubbing of vegatated areas (nominal allowance)         95         s.g. m         10           2.2         Strip topsoil & stockpile for re-use (assuming 150mm depth)         14.175         cu. m         25           2.3         Dispose of excess topsoil (nominal 10% allowance)         1.4175         cu. m         200           2.4         Pull up and dispose existing road surface         0         sq.m         150           SUBTOTAL         SUBTOTAL         50         SUBTOTAL         50           3.0         DRAINAGE         150         tinm         800           3.1         dia. Pipe         150         tinm         800           3.2         Pipe, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.         160         tinm         800           3.3         dia. Pipe         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         110         tinm         1440           3.4         Pipe         tippe         tipply, excavate, bed, lay, joint, backfill and provide connections for 1.05m         100         tinm         1230           3.4         Pipe <td< td=""><td></td><td></td><td>item</td><td>1</td><td>Work as executed survey &amp; documentation</td></td<>			item	1	Work as executed survey & documentation
2.0         DEMOLITION, CLEARING AND GRUBBING           2.1         Clearing & grubbing of vegatated areas (nominal allowance)         95         sq. m         10           2.2         Strip topsoil & stockpile for re-use (assuming 150mm depth)         14.175         cu. m         250           2.3         Dispose of excess topsoil (nominal 10% allowance)         1.4175         cu. m         200           2.4         Pull up and dispose existing road surface         0         sq.m         150           SUBTOTAL         0         sq.m         150         sq.m         150           3.0         DRAINAGE         150         lin.m         800           3.1         dia. Pipe         150         lin.m         800           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m         40         lin.m         800           3.2         Pipe         25         lin.m         930           3.3         dia. Pipe         25         lin.m         1040           Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m         lin.m         11430           3.4         Pipe         supply, excavate, bed, lay, joint, backfill and provide connections for 0.5m dia.         lin.m         1430           Supply, excavate,			item	1	Geotechnical supervision, testing & certification
2.1       Clearing & grubbing of vegatated areas (nominal allowance)       95       sq. m       10         2.2       Strip topsoil & stockpile for re-use (assuming 150mm depth)       14.175       cu. m       25         2.3       Dispose of excess topsoil (nominal 10% allowance)       1.4175       cu. m       200         2.4       Pull up and dispose existing road surface       0       sq.m       150         SUBTOTAL       SUBTOTAL	72,4				SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)
2.2       Strip topsoil & stockpile for re-use (assuming 150mm depth)       14.175       cu.m       25         2.3       Dispose of excess topsoil (nominal 10% allowance)       1.4175       cu.m       200         2.4       Pull up and dispose existing road surface       0       sq.m       150         3.0       DRAINAGE					DEMOLITION, CLEARING AND GRUBBING
2.2       Strip topsoil & stockpile for re-use (assuming 150mm depth)       14.175       cu.m       25         2.3       Dispose of excess topsoil (nominal 10% allowance)       1.4175       cu.m       200         2.4       Pull up and dispose existing road surface       0       sq.m       150         3.0       DRAINAGE	(	10	sq. m	95	Clearing & grubbing of vegatated areas (nominal allowance)
2.3       Dispose of excess topsoil (nominal 10% allowance)       1.4175       cu.m       200         2.4       Pull up and dispose existing road surface       0       sq.m       150         SUBTOTAL       3.0       DRAINAGE       150       lin.m       800         3.1       dia. Pipe       150       lin.m       800         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m       40       lin.m       850         3.2       Pipe       25       lin.m       930         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m       25       lin.m       930         3.3       dia. Pipe       25       lin.m       930         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m       100       lin.m       1230         3.4       Pipe       100       lin.m       1430         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.       lin.m       1430         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       lin.m       1680         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.       lin.m       1680         3.8       Pipe       lin.m       1680       lin.m		25			
SUBTOTAL           3.0         DRAINAGE           3.1         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe         150         lin.m         800           3.2         Pipe         40         lin.m         800           3.3         dia. Pipe         40         lin.m         800           3.4         Pipe         40         lin.m         800           3.3         dia. Pipe         40         lin.m         800           3.4         Pipe         100         lin.m         930           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         lin.m         1040           3.5         dia. Pipe         100         lin.m         1230           Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m         lin.m         1430           3.6         Pipe         lin.m         1430           3.7         dia. Pipe         lin.m         1690           3.8         gipe         lin.m         1690           3.9         pipe         lin.m         1690           3.8         pipe         lin.m         1690           3.9         pipe         lin.m		200	cu. m	1.4175	
3.0       DRAINAGE         3.1       Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe       150       lin.m       800         3.2       Pipe       40       lin.m       850         3.3       dia. Pipe       40       lin.m       850         3.3       dia. Pipe       25       lin.m       930         3.4       Pipe       lin.m       1040       lin.m       850         3.4       Pipe       lin.m       1040       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       lin.m       1040         3.5       dia. Pipe       lin.m       1230         3.6       Pipe       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m       lin.m       1230         3.6       Pipe       lin.m       1430       Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.       lin.m       1430         3.7       dia. Pipe       lin.m       1690       lin.m       1690         3.8       Pipe       lin.m       1690       lin.m       1690         3.8       Pipe       lin.m       1690       l		150	sq.m	0	Pull up and dispose existing road surface
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m         150         lin.m         800           3.1         dia. Pipe         150         lin.m         800           3.2         Pipe         40         lin.m         850           3.3         dia. Pipe         25         lin.m         930           3.4         Pipe         25         lin.m         930           3.4         Pipe         25         lin.m         930           3.5         dia. Pipe         100         lin.m         1040           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         100         lin.m         1230           3.6         Pipe         100         lin.m         1230         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m         100         lin.m         1430           3.6         Pipe         lin.m         1430         1430         1430         110.m         1430           3.7         dia. Pipe         lin.m         1680         lin.m         1680         110.m         1680           3.8         Pipe         lin.m         1680         lin.m         370         311         0.45m         lin.m	1,				SUBTOTAL
3.1       dia. Pipe       150       lin.m       800         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.       40       lin.m       850         3.2       Pipe       25       lin.m       930         3.3       dia. Pipe       25       lin.m       930         3.4       Pipe       100       lin.m       1040         3.4       Pipe       lin.m       1040       100       100       100         3.5       dia. Pipe       lin.m       1040       100       100       101       1230         3.5       dia. Pipe       lin.m       1040       100					DRAINAGE
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.       40       lin.m       850         3.2       Pipe       25       lin.m       930         3.3       dia, Pipe       25       lin.m       930         3.4       Pipe       100       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       100       lin.m       1230         3.5       dia. Pipe       100       lin.m       1230         3.6       Pipe       100       lin.m       1230         3.6       Pipe       100       lin.m       1230         3.7       dia. Pipe       100       lin.m       1430         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m       lin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1300         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1300         Supply, excavate, bed, lay, joint, backfill and pro	120,	800	lin.m	150	
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m       25       lin.m       930         3.3       dia. Pipe       25       lin.m       930         3.4       Pipe       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m       100       lin.m       1230         3.5       Gaupty, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.       100       lin.m       1230         3.6       Pipe       100       lin.m       1430         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m       100       lin.m       1430         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       100       lin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       10.40       lin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.       10.40       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       10.45m       lin.m       1380         3.10       Pipe       lin.m       1380       lin.m       1380         3.11       0.45m culvert       lin.m       1380       lin.m       1380 <td>.20,</td> <td>850</td> <td></td> <td></td> <td>Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.</td>	.20,	850			Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       Iin.m       1040         3.4       Pipe       Iin.m       1040         3.5       dia. Pipe       100       Iin.m       1230         3.6       Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m       100       Iin.m       1230         3.6       Pipe       100       Iin.m       1430         3.7       dia. Pipe       Iin.m       1430         3.7       dia. Pipe       Iin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m       Iin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       Iin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.       Iin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       Iin.m       1370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       Iin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       Iin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       Iin.m       1725         Supply, excavate, bed, lay, join	23,2				Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m         100         lin.m         1230           3.5         dia. Pipe         100         lin.m         1230           3.6         Pipe         lin.m         1430           3.7         dia. Pipe         lin.m         1430           3.7         dia. Pipe         lin.m         1430           3.8         Pipe         lin.m         1690           3.8         Pipe         lin.m         1690           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         lin.m         1640           3.8         Pipe         lin.m         1040         lin.m         1040           Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.         lin.m         1040           3.9         Pipe         lin.m         1300         lin.m         1330           3.10         Pipe         lin.m         1380         lin.m         1380           3.11         O.45m culvert         lin.m         1380         lin.m         1380           Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x         lin.m         1275         lin.m         1380           3.12					Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.       lin.m       1430         3.6       Pipe       lin.m       1430         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m       lin.m       1690         3.7       dia. Pipe       lin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       lin.m       1690         3.8       Pipe       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.       lin.m       2850         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1380         3.10       Pipe       lin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1380         3.11       0.45m culvert       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       3.13         3.13       1.2m culvert       lin.m       3220         <	123,			100	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m       lin.m       1690         3.7       dia. Pipe       lin.m       1690         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       lin.m       1040         3.8       Pipe       lin.m       1040         3.9       Pipe       lin.m       2850         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       lin.m       2850         3.10       Pipe       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       17260         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connect	120,			100	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.       lin.m       1040         3.8       Pipe       lin.m       1040         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.       lin.m       2850         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       lin.m       2850         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide c					Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.       Iin.m       2850         3.9       Pipe       Iin.m       2850         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       Iin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       Iin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       Iin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       Iin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       Iin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       Iin.m       1726         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       Iin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       Iin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       Iin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       Iin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (n		1690	lin.m		
3.9       Pipe       lin.m       2850         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connect		1040	lin.m		
3.10       Pipe       lin.m       3370         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x       lin.m       1380         3.11       0.45m culvert       lin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       lin.m       1380         3.12       0.6m culvert       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       4830         3.15       2.4m culvert       lin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       60000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       316       subbrottal       39,625         SUBTOTAL       Item       39,625       1       item       39,625		2850	lin.m		Pipe
3.11       0.45m culvert       lin.m       1380         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       lin.m       1725         3.12       0.6m culvert       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       1725         3.13       1.2m culvert       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       4830         3.15       2.4m culvert       lin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       316       istem       39,625         SUBTOTAL       Item       39,625       Item       39,625       Item       39,625		3370	lin.m		Pipe
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x       lin.m       1725         3.12       0.6m culvert       lin.m       1725         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       2760         3.13       1.2m culvert       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       4830         3.15       2.4m culvert       lin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       39,625       SUBTOTAL		1380	lin.m		
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x       lin.m       2760         3.13       1.2m culvert       lin.m       2760         Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x       lin.m       3220         3.14       0.4m culvert       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       4830         3.15       2.4m culvert       lin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       39,625       317       item       39,625         SUBTOTAL       SUBTOTAL       Item       39,625       39,625       39,625					Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m xIin.m32203.140.4m culvertIin.m3220Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m xIin.m32203.152.4m culvertIin.m48303.16Install new drainage / junction pit (assumed 1 pit per 20m of pipe)16each6000Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage1item39,625SUBTOTALSUBTOTALIin.m483039,625			iin.m		Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x
3.14       0.4m culvert       lin.m       3220         Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m       4830         3.15       2.4m culvert       lin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       1       item       39,625         SUBTOTAL       SUBTOTAL       Item       39,625		2760	lin.m		
3.15       2.4m culvert       lin.m       4830         3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       1       item       39,625         3.17       SUBTOTAL       SUBTOTAL       Installation cost, with minimum cost of \$30,000       1       item       39,625		3220	lin.m		0.4m culvert
3.16       Install new drainage / junction pit (assumed 1 pit per 20m of pipe)       16       each       6000         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage       1       item       39,625         3.17       SUBTOTAL       SUBTOTAL       1       item       39,625		4830	lin.m		
3.17       installation cost, with minimum cost of \$30,000)       1       item       39,625         SUBTOTAL       1	96,			16	Install new drainage / junction pit (assumed 1 pit per 20m of pipe)
	39,	39,625	item	1	
4.0 PAVEMENTS	435,				
					PAVEMENTS
Reinstate disturbed road pavement, including demolition and disposal of		г г			Reinstate disturbed road pavement, including demolition and disposal of

Marrickville Valley FRMSP

	SUBTOTAL				C
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	(
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	43588	43,588
	SUBTOTAL				43,58
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	95	sq. m	20	1,89
	SUBTOTAL				1,89
	CONSTRUCTION SUB-TOTAL				
					555,33
8.0	CONTINGENCIES			I	555,33
<b>8.0</b> 8.1					555,33
	CONTINGENCIES				166,607
	CONTINGENCIES 30% construction cost				
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				166,60 <sup>°</sup> 721,93°
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				166,60 721,93 72,19
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				166,60 721,93 72,19 794,13
8.1 DISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is no	t guaranteed.	166,60 721,93 72,19 794,13
8.1 DISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	of cost is no	t guaranteed.	166,60 721,93 72,19 794,13
8.1 DISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is no	t guaranteed.	166,60 721,93 72,19 794,13
8.1 DISCLAI . This e Cardno ( NOTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is no	t guaranteed.	166,60 721,93 72,19 794,13

Marrickville Valley FRMSP

#### 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM3.2 - Installing new pits and a pipe along Sydenham to divert flows from the intersection of Sydenham Rd and Petersham Rd to Malakoff Tunnel.

	v1
ITEM NO. DESCRIPTION OF WORK QUANTITY UNIT RATE	COST

#### 1.0 GENERAL AND PRELIMINARIES

	1			
1.1	Site establishment, security fencing, facilities & disestablishment	1	item	
1.2	Provision of sediment & erosion control	1	item	
1.3	Construction setout & survey	1	item	
1.4	Work as executed survey & documentation	1	item	
1.5	Geotechnical supervision, testing & certification	1	item	
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			208,800

#### 2.0 DEMOLITION, CLEARING AND GRUBBING

2.1	Clearing & grubbing of vegatated areas (nominal allowance)	189	sq. m	10	1,890
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	28.35	cu. m	25	709
2.3	Dispose of excess topsoil (nominal 10% allowance)	2.835	cu. m	200	567
2.4	Pull up and dispose existing road surface	0	sq.m	150	0
	SUBTOTAL				3,166

#### 3.0 DRAINAGE

3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	80	lin.m	850	68,0
0.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m	00		000	00,0
3.2	dia. Pipe		lin.m	930	
0.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m			000	
3.3	dia. Pipe		lin.m	980	
0.0	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.4	Pipe		lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m				
3.5	dia. Pipe		lin.m	1230	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.				
3.6	Pipe	550	lin.m	1430	786,5
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m				
3.7	dia. Pipe		lin.m	1690	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.8	Pipe		lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.				
3.9	Pipe		lin.m	2850	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.				
3.10	Pipe		lin.m	3370	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x				
3.11	0.45m culvert		lin.m	1380	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x				
3.12	0.6m culvert		lin.m	1725	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x				
3.13	1.2m culvert		lin.m	2760	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x				
3.14	0.4m culvert		lin.m	3220	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	8	each	6000	48,0
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$100,000)	1	item	100,000	100,0
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	256,350	256,3
	SUBTOTAL				1,258,8

#### 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	125885	125,885
	SUBTOTAL				125,885
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	189	sq. m	20	3,780
	SUBTOTAL				3,780
	CONSTRUCTION SUB-TOTAL				1,600,481
8.0	CONTINGENCIES				
<b>8.0</b> 8.1	CONTINGENCIES 30% construction cost				480,144
					480,144
					480,144 2,080,625
	30% construction cost				
	30% construction cost CONSTRUCTION TOTAL, excluding GST				2,080,625
	30% construction cost CONSTRUCTION TOTAL, excluding GST GST				2,080,625 208,062
	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				2,080,625 208,062 2,288,687
8.1	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is not	guaranteed.	2,080,625 208,062 2,288,687
8.1 DISCLAI 1. This es	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	of cost is not	guaranteed.	2,080,625 208,062 2,288,687
8.1 DISCLAI 1. This es	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	nis estimate	of cost is not	guaranteed.	2,080,625 208,062 2,288,687
8.1 DISCLAI 1. This es Cardno (I NOTES:	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	nis estimate	of cost is not	guaranteed.	2,080,625 208,062 2,288,687
8.1 DISCLAI 1. This es Cardno (I NOTES: 1. Estima	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	guaranteed.	2,080,625 208,062 2,288,687

Marrickville Valley FRMSP

59915195	MARRICKVILLE FRMS&P
33313133	



Cost Estimate

Option: FM3.3 - New drainage in Sydenham Road and connect to Western Channel.

1.0					
	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				48,0
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	66	sq. m	10	6
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	9.9	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.99	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				1,1
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.				
3.1	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m	220	lin.m	850	187,0
3.2	dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x	├───┼	lin.m	2760	
3.14	0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x	├───┼	lin.m	3220	
3.15	2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 50m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	6	each	6000	36,0
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	35,700	35,7

## 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	28870	28,870
0.1	SUBTOTAL		item	20070	28,870 28,870
					20,010
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	66	sq. m	20	1,320
	SUBTOTAL				1,320
	CONSTRUCTION SUB-TOTAL				367,996
8.0	CONTINGENCIES				
8.1	30% construction cost				110,399
	CONSTRUCTION TOTAL, excluding GST				478,394
	GST				47,839
	CONSTRUCTION TOTAL, including GST				526,234
	CONSTRUCTION TOTAL, rounded				526,300
DISCLAI		nio potimoto	of cost is not	t guaranta ad	
	stimate of cost is provided in good faith using information available at this stage. The NSW() will not account liability in the event that actual easts evened the estimate	nis estimate	OF COST IS NOT	t guaranteed	
NOTES:	NSW) will not accept liability in the event that actual costs exceed the estimate.				
	ate does not include Consultant's fees, including design or project management				
	ate / rates in 2010 dollars and does not allow for inflation				
ounc					

Marrickville Valley FRMSP

5991519	5 MARRICKVILLE FRMS&P			Card	
Cost Est	timate		Sha	ping the Fut	lire
	FM3.4 - Increase inlet capacity on Despointes St , Convent La	ne, Peace L	.ane, Le C	Clos Lane,	Illawarı
	Road and SilverStreet.			1	4
	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
		QUANTIT	UNIT		0001
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				41,1
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	45	sq. m	10	4
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	6.75	cu. m	25	1
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.675	cu. m	200	1
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				7
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	150	lin.m	850	127,5
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	,
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.4	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin.m	1040	
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1230	
3.6	Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x				
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
2.45	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin	4000	
3.15 3.16	Install new drainage / junction pit (assumed 1 pit per 10m of pipe)	15	lin.m each	4830 6000	90,0
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0		120	0
4.1	SUBTOTAL	0	sq. m	120	0
	SOBTOTIAL				•
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	24750	24,750
	SUBTOTAL				24,750
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	45	sq. m	20	900
	SUBTOTAL				900
	CONSTRUCTION SUB-TOTAL				315,004
8.0	CONSTRUCTION SUB-TOTAL				315,004
<b>8.0</b> 8.1					
	CONTINGENCIES				94,501
	CONTINGENCIES 30% construction cost				94,501 409,505
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				94,501 409,505 40,950
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				315,004 94,501 409,505 40,950 450,455 450,500
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				94,501 409,505 40,950 450,455
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	e of cost is not	t guaranteed	94,501 409,505 40,950 450,455 450,500
8.1 DISCLAI 1. This e	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	e of cost is not	t guaranteed	94,501 409,505 40,950 450,455 450,500
8.1 DISCLAI 1. This e	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. TI NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	e of cost is not	t guaranteed	94,501 409,505 40,950 450,455 450,500
8.1 DISCLAI 1. This e: Cardno ( NOTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. TI NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	t guaranteed	94,501 409,505 40,950 450,455 450,500

Marrickville Valley FRMSP

59915195 MARRICKVILLE FRMS&P						
Option:	FM3.6 - Possible detention basin in Wilkins School					
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 <b>COST</b>	
1.0	GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item			
1.2	Provision of sediment & erosion control	1	item			
1.3	Construction setout & survey	1	item			
1.4	Work as executed survey & documentation	1	item			
1.5	Geotechnical supervision, testing & certification	1	item			
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				66,4	
2.0	DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	1,515	sq. m	10	15,1	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	227.25	cu. m	25	5,6	
2.3	Dispose of excess topsoil (nominal 10% allowance)	22.725	cu. m	200	4,5	
2.4	Pull up and dispose existing road surface		sq.m	35		
	SUBTOTAL				25,3	
3.0	DRAINAGE					
2.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m	50	lin m	790	20.0	
3.1 3.2	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	50	lin.m	850	39,0	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980		
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040		
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230		
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430		
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690		
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040		
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850		
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370		
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380		
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725		
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760		
3.14	0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	3220		
3.15	2.4m culvert		lin.m	4830		
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	2	each	5000	10,0	
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0	
	SUBTOTAL	l l			79,	
4.0	EARTHWORKS					
4.1	Import, prepare and compact fill material	Г	cu. m	120		
4.2	Excavate material, including disposal / provision of cut	1500	cu. m	200	300,0	

	SUBTOTAL				300,000
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	С
	SUBTOTAL				(
6.0					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	7900	7,900
	SUBTOTAL				7,90
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	1,515	sq. m	20	30,300
	SUBTOTAL				30,30
	CONSTRUCTION SUB-TOTAL				508,97
8.0	CONTINGENCIES				
8.1	30% construction cost				152,693
	CONSTRUCTION TOTAL, excluding GST				661,669
	GST				66,167
	CONSTRUCTION TOTAL, including GST				727,830
	CONSTRUCTION TOTAL, rounded				727,90
ISCLAI	MER:				
. This es	stimate of cost is provided in good faith using information available at this stage. The	his estimate	of cost is not	t guaranteed.	
Cardno (I	NSW) will not accept liability in the event that actual costs exceed the estimate.				
IOTES:					
. Estima	te does not include Consultant's fees, including design or project management				
. Estima	te / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST	
1.0	GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item			
1.2	Provision of sediment & erosion control	1	item			
1.3	Construction setout & survey	1	item			
1.4	Work as executed survey & documentation	1	item			
1.5	Geotechnical supervision, testing & certification	1	item			
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				<b>20</b> , <sup>-</sup>	
2.0	DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	18	sq. m	10		
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	2.7	cu. m	25		
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.27	cu. m	200		
2.4	Pull up and dispose existing road surface	80	sq.m	35	2,	
	SUBTOTAL				3,	
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m					
3.1	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.	30	lin.m	800	24,	
3.2	Pipe	30	lin.m	850	25,	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980		
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040		
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m					
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1230		
3.6	Pipe		lin.m	1430		
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690		
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040		
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.					
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850		
3.10	Pipe		lin.m	3370		
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380		
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x					
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x	┨────┤	lin.m	1725		
0.40	1.2m culvert		lin.m	2760		
3.13						
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin m	3220		

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	3	each	5000	15,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
	SUBTOTAL				94,500
4.0	PAVEMENTS				

	Provision of diversion "speed humps" (assumed from same material as road			Т Т	
4.2	pavement, laid at time of pavement reinstatement, with 3m width)	40	lin.m	360	14,400
	SUBTOTAL				24,000
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	11850	11 950
0.1	SUBTOTAL	1	item	11050	11,850 <b>11,850</b>
	SOBTOTAL				11,030
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	18	sq. m	20	360
	SUBTOTAL				360
	CONSTRUCTION SUB-TOTAL				153,912
8.0	CONTINGENCIES				
8.1	30% construction cost				46,173
	CONSTRUCTION TOTAL, excluding GST				200,085
	GST				20,008
	CONSTRUCTION TOTAL, including GST				220,093
	CONSTRUCTION TOTAL, rounded				220,100
DISCLA	MER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. The	nis estimate	e of cost is no	t guaranteed.	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				
2. Estima	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

991519 ost Est ption:				<b>Caro</b> Shaping the Fut		
ption	FM5.2 - Demolish brick wall and structures built over drainag and Neville Streets and upgrade pipe size and/or construct a				v1	
EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST	
1.0	GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item			
1.2	Provision of sediment & erosion control	1	item			
1.3	Construction setout & survey	1	item			
1.4	Work as executed survey & documentation	1	item			
1.5	Geotechnical supervision, testing & certification SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)		item		20,3	
2.0	DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegatated areas	30	sq. m	10	3	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	4.5	cu. m	25	1	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.45	cu. m	200		
2.4	Pull up and dispose existing road surface SUBTOTAL	0	sq.m	150	5	
3.0	DRAINAGE	1				
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m					
3.1	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m	100	lin.m	800	80,0	
3.2	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	0	lin.m	980		
3.3	Pipe	0	lin.m	1040		
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe	0	lin.m	1230		
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe	0	lin.m	1430		
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850		
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia.	0				
3.7	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.65m	0	lin.m	1950		
3.8	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x	0	lin.m	2330		
3.9	2.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.7m x	0	lin.m	4830		
3.10	2.7m culvert		q	5520	10.0	
3.11	Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	2	each	6000	12,0	
3.12	installation cost, with minimum cost of \$30,000) SUBTOTAL		item	30,000	30,0 <b>122,0</b>	
4.0						
4.0	PAVEMENTS					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing SUBTOTAL	0	sq. m	120		
	•			1		
5.0	TRAFFIC CONTROL					
5.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	12200	12,2	
	SUBTOTAL				12,2	
6.0	PROPERTY BY-BACK					
6.1	Purchase of properties in order to create drainage easements SUBTOTAL		each	1300000		
7.0	MINOR LANDSCAPING					
	Repair disturbed areas in accordance with landscape architects requirements	I I				
7.1	(nominal allowance)	30	sq. m	20	6	
	SUBTOTAL			I	6	
	CONSTRUCTION SUB-TOTAL				155,6	
8.0	CONTINGENCIES					
8.1	30% construction cost				46,6	
	CONSTRUCTION TOTAL, excluding GST				202,2	
	GST				20,2	
	CONSTRUCTION TOTAL, including GST				222,5	
	CONSTRUCTION TOTAL, rounded				222,6	
ardno (N <b>OTES</b> :	imate of cost is provided in good faith using information available at this stage. SW) will not accept liability in the event that actual costs exceed the estimate. e does not include Consultant's fees, including design or project management	This estimate c	of cost is	not guaranteed.		

991519 ost Est	5 MARRICKVILLE FRMS&P	5		Darc aping the Fut	
	FM5.3 - Upgrade drainage in Addison Rd between Park Rd an pipes.	d Gordon L	ane via 6	00mm diai	
EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item	<u> </u>	
1.1	Provision of sediment & erosion control	1	item		
1.2	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
1.5	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)		nem	<u> </u>	128,3
2.0	DEMOLITION, CLEARING AND GRUBBING				,
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	170	sq. m	10	1,6
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	25.425	cu. m	25	6
2.3	Dispose of excess topsoil (nominal 10% allowance)	2.5425	cu. m	200	5
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				2,8
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m				
3.1	dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	265	lin.m	850	225,2
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	300	lin.m	930	279,0
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.				
3.6 3.7	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m		lin.m	1430 1690	
	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m		
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9 3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	2850 3370	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert				
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13 3.14	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	2760 3220	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15 3.16	2.4m culvert Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	10	lin.m each	4830 6000	60,0
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17 3.18	installation cost, with minimum cost of \$30,000) Allowance for nightworks (assume for works on all regional/state roads)	1	item item	56,425 151,275	56,4 151,2
-	SUBTOTAL	ļļ		,=. •	771,9

59915195 September 2017

Marrickville Valley FRMSP

	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. TI NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	t guaranteed	1,278,776 127,878 1,406,654 1,406,700
<b>DISCLAI</b> 1. This et	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	t guaranteed	295,102 1,278,776 127,878 1,406,654 1,406,700
DISCLAI	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:				1,278,776 127,878 1,406,654 1,406,700
8.1	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST				1,278,776 127,878 1,406,654
8.1	CONSTRUCTION TOTAL, excluding GST GST				1,278,776 127,878
8.1	CONSTRUCTION TOTAL, excluding GST				1,278,776
8.1					
8.1	30% construction cost				295,102
8.0	CONTINGENCIES				
	CONSTRUCTION SUB-TOTAL				983,674
	SUBTOTAL				3,390
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	170	sq. m	20	3,390
7.0	MINOR LANDSCAPING				
	SUBTOTAL				77,195
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	77195	77,195
6.0	TRAFFIC CONTROL				
	SUBTOTAL				C
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	C
5.0	PROPERTY BY-BACK				
	additional material to provide good jointing SUBTOTAL				0
4.1		0	sq. m	120	0

Marrickville Valley FRMSP

	timate FM5.4 - New raised thresholds at Park St, Neville St and Esse	x St.			
					v1
FEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	•			5,4
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)		sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	0	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	200	
2.4	Pull up and dispose existing road surface	120	sq.m	35	4,2
	SUBTOTAL				4,2
<b>3.0</b>	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.		00.00		
3.2	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m		lin.m	850	
3.3	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	980	
3.4	Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.				
3.6	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m		lin.m	1430	
	dia. Pipe	++	lin.m	1690	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
	Pipe		lin.m	1040	
3.7	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m lin.m	1040 2850	
3.7 3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.				
3.7 3.8 3.9 3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m lin.m	2850 3370	
3.7 3.8 3.9 3.10 3.11	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m lin.m lin.m	2850 3370 1380	
3.7 3.8 3.9 3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m lin.m	2850 3370	
3.7 3.8 3.9 3.10 3.11	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m lin.m lin.m	2850 3370 1380	

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)		each	5000	0
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)	1	item	0	0
	SUBTOTAL				0
4.0	PAVEMENTS				
4.0					

-			1	-	
4.2	Provision of diversion "speed humps" (assumed from same material as road pavement, laid at time of pavement reinstatement, with 3m width)	40	lin.m	360	14,400
	SUBTOTAL				28,800
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
0.4	Control of traffic during works, incl allowance for night works (assumed 10% of	4		0000	0.000
6.1	pipe install cost)	1	item	2880	2,880
	SUBTOTAL				2,880
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	0	sq. m	20	0
	SUBTOTAL				0
	CONSTRUCTION SUB-TOTAL				41,280
8.0	CONTINGENCIES				
8.1	30% construction cost				12,384
	CONSTRUCTION TOTAL, excluding GST				53,664
	GST				5,366
	CONSTRUCTION TOTAL, including GST				59,030
	CONSTRUCTION TOTAL, rounded				59,100
DISCLA	IMER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. Th	nis estimate	e of cost is not	t guaranteed.	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				
2. Estima	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

	5 MARRICKVILLE FRMS&P			Card	
ost Est	timate		508	aping the Futu	Ire
Option:	FM5.6 - Increase inlet capacity in Illawarra, York and Shephare	d Streets vi	a 450mm	diameter	pipes.
				I	v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				29,60
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	42	sq. m	10	42
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	6.3	cu. m	25	15
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.63	cu. m	200	12
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				7(
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	140	lin.m	800	112,00
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		1111.111	1090	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x				
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	6	each	6000	36,0
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0
	SUBTOTAL				178,0
4.0	PAVEMENTS				

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	17800	17,80
	SUBTOTAL				17,80
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	42	sq. m	20	84
	SUBTOTAL				84
	CONSTRUCTION SUB-TOTAL				226,94
8.0	CONTINGENCIES				
8.1	30% construction cost				68,08
	CONSTRUCTION TOTAL, excluding GST				295,02
	GST				29,50
	CONSTRUCTION TOTAL, including GST				324,52
	CONSTRUCTION TOTAL, rounded				324,60
ISCLAI	MER:				
. This e	stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	guaranteed.	
ardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
OTES:					
. Estima	ate does not include Consultant's fees, including design or project management				
	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

991519	5 MARRICKVILLE FRMS&P			<b>Card</b>	
ost Est	imate		2116	aping the Fut	ure
ption:	FM5.9 - Drainage upgrades in Essex and Surrey Streets				
				1	v1
EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				53,
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	75	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	11.25	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.125	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				1,
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	50	lin.m	800	40,
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	25	lin.m	850	21
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe	175	lin.m	980	171
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m				
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1230	
3.6	Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe		lin.m	1950	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.				
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x				
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x	├	lin.m	1725	
3.13	1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
-	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x				
3.15 3.16	2.0m culvert Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	10	lin.m each	6500 6000	60
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17 3.18	installation cost, with minimum cost of \$30,000) Allowance for nightworks (assume for works on all regional/state roads)	1	item item	30,000 0	30
	SUBTOTAL				322,

59915195 September 2017

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	
	SUBTOTAL				
5.0	Legal Costs				
				<b>.</b>	
5.1	Allowance for legal costs to create easement	1	each	200000	200,00
	SUBTOTAL				200,00
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	32275	32,27
	SUBTOTAL				32,27
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	75	sq. m	20	1,50
	SUBTOTAL				1,50
	CONSTRUCTION SUB-TOTAL				611,48
8.0	CONTINGENCIES				
<b>8.0</b> 8.1	CONTINGENCIES 30% construction cost				183,44
	30% construction cost				183,44 794,92 79,49
	30% construction cost CONSTRUCTION TOTAL, excluding GST				794,92
	30% construction cost CONSTRUCTION TOTAL, excluding GST GST				794,92 79,43
	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				794,9 79,4 874,4
8.1	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is not	guaranteed.	794,9 79,4 874,4
8.1 DISCLAII	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	of cost is not	guaranteed.	794,9 79,4 874,4
8.1 DISCLAII	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	guaranteed.	794,9 79,4 874,4
8.1 PISCLAII . This es Cardno (N IOTES:	30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	guaranteed.	794,9 79,4 874,4

Marrickville Valley FRMSP

Option:	imate FM6.1 - Upgrade drainage in Newington Rd to 600mm diamet	ter pipes.			
					v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	•		•	38,6
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	59	sq. m	10	Ę
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	8.775	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.8775	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				9
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.	, ,			
3.1	Pipe	195	lin.m	850	165,
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x			2760	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2700	

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	0
3.16	Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	6	each	6000	36,000
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)		item	30,000	30,000
	SUBTOTAL				231,750
4.0	PAVEMENTS				
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	23175	23,17
	SUBTOTAL				23,17
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	59	sq. m	20	1,17
	SUBTOTAL				1,17
					205 67
	CONSTRUCTION SUB-TOTAL				295,67
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				295,67
<b>8.0</b> 8.1					
	CONTINGENCIES				295,67 88,70 384,37
	CONTINGENCIES 30% construction cost				88,70
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				88,70 384,37
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				88,70 384,37 38,43
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				88,70 384,37 38,43 422,81
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	his estimate	of cost is no	t guaranteed.	88,70 384,37 38,43 422,81
8.1 PISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER:	his estimate	of cost is no	t guaranteed.	88,70 384,37 38,43 422,87
8.1 PISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	his estimate	of cost is no	t guaranteed.	88,70 384,3 38,4 422,8
8.1 ISCLAI . This e ardno ( OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	his estimate	of cost is no	t guaranteed.	88,70 384,3 38,4 422,8

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

59915195	MARRICKVILLE FRMS&P
33313133	



Cost Estimate

Option: FM6.4 - Install new inlets and pipes along England Ave, Agar St and Wemyss St.

EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			-	53,
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	90	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	13.5	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.35	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				1,
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	300	lin.m	800	240,
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	8	each	6000	48,
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)		item	30,000	30,
	SUBTOTAL				318
4.0	PAVEMENTS				
4.0		1 1			
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	31800	31,80
	SUBTOTAL				31,8
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	90	sq. m	20	1,8
	SUBTOTAL				1,8
	CONSTRUCTION SUB-TOTAL				406,10
					406,10
8.0	CONSTRUCTION SUB-TOTAL				406,10
<b>8.0</b> 8.1					406,10 121,83
	CONTINGENCIES				
	CONTINGENCIES 30% construction cost				121,8
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				121,8 527,94
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				121,8 527,9 52,7
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				121,8 527,9 52,7 580,7
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	his estimate	of cost is no	t guaranteed.	121,8 527,9 52,7 580,7
8.1 ISCLAI This es ardno (	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	his estimate	of cost is no	t guaranteed.	121,8 527,9 52,7 580,7
8.1 ISCLAI This es ardno (1 OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The stimate of cost is provided in good faith using information available at this stage. The stimate of cost is provided in good faith using information available at this stage. The stimate of cost is provided in good faith using information available at this stage. The stimate of cost is provided in good faith using information available at this stage. The stimate of cost is provided in good faith using information available at this stage.	his estimate	of cost is no	t guaranteed.	121,8 527,9 52,7 580,7
8.1 ISCLAI This estimation	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is no	t guaranteed.	121,8 527,9 52,7 580,7

Marrickville Valley FRMSP

Option:	5 MARRICKVILLE FRMS&P			aping the Futu	
	FM7.1 - Upgrade drainage and additional inlet capacity near S Install pipes along Enmore and Cook Rds, and a box culvert a			and Cook	<b>Rd.</b> v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	<u> </u>		÷	136,2
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	77	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	11.475	cu. m	25	:
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.1475	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL		•		1,:
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m			1	
3.1	dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	95	lin.m	850	80,
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.4	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	+	lin.m	1040	
3.5	dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
37	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		11(1,11)	1090	
3.7	cappij, chearate, sea, aj, jent, saenin and prettae cenneetiene ter erem ala	1		1 1010	
3.7 3.8	Pipe		lin.m	1040	
	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m lin.m	1040 2850	
3.8 3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.8 3.9 3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m lin.m	2850 3370	
3.8 3.9 3.10 3.11	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m lin.m lin.m	2850 3370 1380	
3.8 3.9 3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m lin.m	2850 3370	
3.8 3.9 3.10 3.11	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m lin.m lin.m	2850 3370 1380	

0.6m culvert	160	lin.m	3500	560,000
Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
2.4m culvert		lin.m	4830	C
Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	8	each	6000	48,000
Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
installation cost, with minimum cost of \$30,000)	1	item	68,875	68,875
Allowance for nightworks (assume for works on all regional/state roads)	1	item	65,250	65,250
SUBTOTAL				822,875
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000) Allowance for nightworks (assume for works on all regional/state roads)	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x         2.4m culvert         Install new drainage / junction pit (assumed 1 pit per 25m of pipe)         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)         Allowance for nightworks (assume for works on all regional/state roads)	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x       lin.m         2.4m culvert       lin.m         Install new drainage / junction pit (assumed 1 pit per 25m of pipe)       8       each         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)       1       item         Allowance for nightworks (assume for works on all regional/state roads)       1       item	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m xlin.m48302.4m culvertlin.m4830Install new drainage / junction pit (assumed 1 pit per 25m of pipe)8each6000Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)1item68,875Allowance for nightworks (assume for works on all regional/state roads)1item65,250

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	C
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	82288	82,288
	SUBTOTAL				82,288
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	77	sq. m	20	1,530
	SUBTOTAL				1,530
	CONSTRUCTION SUB-TOTAL				1,044,174
8.0	CONTINGENCIES				
8.1	30% construction cost				313,252
	CONSTRUCTION TOTAL, excluding GST				1,357,426
	GST				135,743
	CONSTRUCTION TOTAL, including GST				1,493,169
	CONSTRUCTION TOTAL, rounded				1,493,200
DISCLAI	MER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				
2. Estima	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

59915195 MARRICKVILLE FRMS&P								
	FM7.4 - Duplicate under capacity trunk under Enmore Park fr Street.	om Addisoi	n at Philp	oott to Leic				
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST			
1.0	GENERAL AND PRELIMINARIES							
1.1	Site establishment, security fencing, facilities & disestablishment	1	item					
1.2	Provision of sediment & erosion control	1	item					
1.3	Construction setout & survey	1	item					
1.4	Work as executed survey & documentation	1	item					
1.5	Geotechnical supervision, testing & certification	1	item					
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)		Rom		513,50			
2.0	DEMOLITION, CLEARING AND GRUBBING							
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	110	sq. m	10	1,09			
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	16.425	cu. m	25	41			
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.6425	cu. m	200	32			
2.4	Pull up and dispose existing road surface	0	sq.m	150				
	SUBTOTAL				1,83			
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m			1				
3.1	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m		lin.m	800				
3.2	dia. Pipe		lin.m	930				
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin m	980				
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m lin.m	1040				
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230				
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.							
3.6	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m		lin.m	1430				
3.7	dia. Pipe		lin.m	1690				
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040				
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850				
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370				
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380				
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725				
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760				
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220				
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x 2.0m culvert	365	lin.m	6500	2,372,50			
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	15	each	6000	90,00			
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	246,250	246,2			
3.17	Allowance for nightworks (assume for works on all regional/state roads)	1	item	246,250 399,750	246,25 399,75			
		T						

59915195 September 2017

Marrickville Valley FRMSP

-					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
0.4	Control of traffic during works, incl allowance for night works (assumed 10% of	4	it a set	040050	040.050
6.1	pipe install cost) SUBTOTAL	1	item	310850	310,850 <b>310,850</b>
	SUBTUTAL				310,030
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	110	sq. m	20	2,190
	SUBTOTAL				2,190
	CONSTRUCTION SUB-TOTAL				3,936,874
8.0	CONTINGENCIES				
8.1	30% construction cost				1,181,062
	CONSTRUCTION TOTAL, excluding GST				5,117,936
	GST				511,794
	CONSTRUCTION TOTAL, including GST				5,629,730
	CONSTRUCTION TOTAL, rounded				5,629,800
DISCLA	IMER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima					
	ate does not include Consultant's fees, including design or project management				
2. Estima	ate does not include Consultant's fees, including design or project management ate / rates in 2016 dollars and does not allow for inflation				

Marrickville Valley FRMSP

991519	5 MARRICKVILLE FRMS&P			Card	
ost Est	imate		Sha	aping the Fut	ure
ption:	FM7.5 - Duplicate existing pipe and new pits in Denby St and t	hreshold o	on Denby	St at Addi	son Rd.
	5 F F F F F F F F F F F F F F F F F F F		,		v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
				<u> </u>	
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3 1.4	Construction setout & survey Work as executed survey & documentation	1	item		
1.4	Geotechnical supervision, testing & certification	1	item		
1.5	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	1	item	I	17,1
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	20	sq. m	10	1
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	2.925	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.2925	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				3
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.		lin.m	800	
3.2	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m	65	lin.m	850	55,2
3.3	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	930	
3.4	Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.				
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x		lin.m	3500	
3.15	2.4m culvert	-	lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	3	each	6000	18,0
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0
	SUBTOTAL				103,2
4.0	PAVEMENTS				
	Reinstate disturbed road pavement, including demolition and disposal of				

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	10325	10,32
	SUBTOTAL				10,32
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	20	sq. m	20	39
	SUBTOTAL				3
	CONSTRUCTION SUB-TOTAL				131.39
	CONSTRUCTION SUB-TOTAL				131,39
8.0	CONSTRUCTION SUB-TOTAL				131,3
<b>8.0</b> 8.1					
	CONTINGENCIES				131,39 39,4 <sup>2</sup> 170,80
	CONTINGENCIES 30% construction cost				39,41
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				39,4 <sup>.</sup> 170,80
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				39,4 170,8 17,0
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				39,4 170,8 17,0 187,8
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is no	t guaranteed.	39,4 170,8 17,0 187,8
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER:	nis estimate	of cost is no	t guaranteed.	39,4 170,8 17,0 187,8
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is no	t guaranteed.	39,4 170,8 17,0 187,8
8.1 ISCLAI This e ardno ( OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is no	t guaranteed.	39,4 170,8 17,0 187,8

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

Option:	timate FM7.6 - Drainage works along Philpott St and Addison St (ne	ar Donby S	t and Co	ok Road)	
	FM7.0 - Dramage works along Filipolt St and Addison St (ne	ar Denby S		JK RUAU)	v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				64,50
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	66	sq. m	10	66
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	9.9	cu. m	25	24
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.99	cu. m	200	19
2.4	Pull up and dispose existing road surface	0	sq.m	150	
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m				
3.1	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.		lin.m	800	
3.2	Pipe	50	lin.m	850	42,50
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	45	lin.m	930	41,85
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.4	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	115	lin.m	1040	119,60
3.5	dia. Pipe	10	lin.m	1230	12,30
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.				
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x				
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	

59915195 September 2017

Marrickville Valley FRMSP

ate / rates in 2016 dollars and does not allow for inflation		2. Estimate / rates in 2016 dollars and does not allow for initiation								
ata daga nat ingluda Cangultant'a faga, ingluding dagian ar project management										
NSW) will not accept liability in the event that actual costs exceed the estimate.										
	his estimate	e of cost is no	t guaranteed							
MER:										
CONSTRUCTION TOTAL, rounded				707,700						
CONSTRUCTION TOTAL, including GST				707,600						
GST				64,327						
CONSTRUCTION TOTAL, excluding GST				643,273						
30% construction cost				148,448						
CONTINGENCIES										
CONSTRUCTION SUB-TOTAL				494,826						
SUBTOTAL				1,320						
Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	66	sq. m	20	1,320						
MINOR LANDSCAPING										
SUBTOTAL				38,900						
Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	38900	38,900						
TRAFFIC CONTROL										
SUBTOTAL				(						
Purchase of properties in order to create drainage easements	0	each	1300000	(						
PROPERTY BY-BACK										
SUBTOTAL				(						
Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	C						
	additional material to provide good jointing SUBTOTAL PROPERTY BY-BACK Purchase of properties in order to create drainage easements SUBTOTAL TRAFFIC CONTROL Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost) SUBTOTAL MINOR LANDSCAPING Repair disturbed areas in accordance with landscape architects requirements (nominal allowance) SUBTOTAL CONSTRUCTION SUB-TOTAL CONSTRUCTION SUB-TOTAL CONSTRUCTION TOTAL, excluding GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	additional material to provide good jointing       0         SUBTOTAL       0         PROPERTY BY-BACK       0         Purchase of properties in order to create drainage easements       0         SUBTOTAL       0         TRAFFIC CONTROL       0         Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)       1         SUBTOTAL       1         SUBTOTAL       1         SUBTOTAL       1         SUBTOTAL       1         SUBTOTAL       66         SUBTOTAL       67         GONTINGENCIES       68         30% construction cost       68         CONSTRUCTION TOTAL, excluding GST       68         CONSTRUCTION TOTAL, including GST       68	additional material to provide good jointing       0       sq. m         SUBTOTAL       PROPERTY BY-BACK         Purchase of properties in order to create drainage easements       0       each         SUBTOTAL       0       each         TRAFFIC CONTROL       0       each         Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)       1       item         SUBTOTAL       1       item       SUBTOTAL         MINOR LANDSCAPING       66       sq. m         SUBTOTAL       66       sq. m         SUBTOTAL       66       sq. m         SUBTOTAL       0       sq. m         SUBTOTAL       66       sq. m         SUBTOTAL       66       sq. m         SUBTOTAL       66       sq. m         SUBTOTAL       0       0         CONSTRUCTION SUB-TOTAL       0       0         CONSTRUCTION SUB-TOTAL       0       0         30% construction cost       0       65         CONSTRUCTION TOTAL, excluding GST       0       0         CONSTRUCTION TOTAL, rounded       0       0       0         MRE:       stimate of cost is provided in good faith using information available at this stage	additional material to provide good jointing       0       sq.m       120         SUBTOTAL						

Marrickville Valley FRMSP

59915195	MARRICKVILLE FRMS&P
33313133	

Cost Estimate

Option: FM8.1 - New drainage in Arthur Street and connect to Malakoff tunnel.

TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
2.0	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				23,30
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	18	sq. m	10	18
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	2.7	cu. m	25	(
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.27	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				3
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	60	lin.m	1040	62,4
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x		lin.m	3220	
3.15	2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Install new junction pit at Malakoff tunnel	3	each each	6000 30000	<u>18,0</u> 30,0
3 17		1	Cauli	30000	30,0
3.17 3.18	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0

## 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

**Cardno** Shaping the Future

-					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	14040	14,040
0.1	SUBTOTAL		item	14040	14,040
7.0	MINOR LANDSCAPING		_		
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	18	sq. m	20	360
	SUBTOTAL				360
	CONSTRUCTION SUB-TOTAL				178,402
8.0	CONTINGENCIES				
8.1	30% construction cost				53,520
	CONSTRUCTION TOTAL, excluding GST				231,922
	GST				23,192
	CONSTRUCTION TOTAL, including GST				255,114
	CONSTRUCTION TOTAL, rounded				255,200
DISCLA	IMER:				
1. This e	stimate of cost is provided in good faith using information available at this stage.	his estimate	of cost is not	guaranteed	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				
2. Estima	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

5991519 Cost Es	95 MARRICKVILLE FRMS&P	5		Carca aping the Fut	
	FM8.2 - New drainage in Robert Street.				
				I	v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			-	8,1
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	5	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	0.675	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.0675	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	15	lin.m	850	12,75
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
5.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.			1030	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		111.111	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	1	each	6000	6,0
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0
	SUBTOTAL				48,7
4.0	PAVEMENTS				
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	4875	4,8
	SUBTOTAL				4,87
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	5	sq. m	20	ę
	SUBTOTAL				9
					61.90
	CONSTRUCTION SUB-TOTAL				61,89
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				61,8
<b>8.0</b> 8.1					
	CONTINGENCIES				18,50
	CONTINGENCIES 30% construction cost				61,85 18,50 80,45 8,04
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				18,50 80,4
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				18,5 80,4 8,0
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				18,5 80,4 8,0 88,5
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is not	t guaranteed.	18,5 80,4 8,0 88,5
8.1 ISCLAI This e	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER:	nis estimate	of cost is not	t guaranteed.	18,5 80,4 8,0 88,5
8.1 ISCLAI This e	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. TI NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	t guaranteed.	18,5 80,4 8,0 88,5
8.1 ISCLAI This e ardno ( OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. TI NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	t guaranteed.	18,5 80,4 8,0 88,5

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

	5 MARRICKVILLE FRMS&P			<b>Carc</b> aping the Fut	
Cost Est					
Option:	FM8.3 - New drainage works from Hollands Avenue via rail corridor to storage under McNeily Park connecting to Malakof	ff Tunnel			
	contract to storage under moreny rark connecting to malake			I	v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
1.0			Rom	<u> </u>	
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				193,40
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	218	sq. m	10	2,1
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	32.625	cu. m	25	8
2.3	Dispose of excess topsoil (nominal 10% allowance)	3.2625	cu. m	200	6
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				3,6
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	50	lin.m	800	40,00
5.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.	50		000	40,00
3.2	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m		lin.m	850	
3.3	dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m				
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.	650	lin.m	1230	799,5
3.6	Pipe	25	lin.m	1430	35,7
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe		lin.m	1950	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x				
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
0.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x				
	0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x		lin.m	3220	
3.14			lin.m	6500	
3.15	2.0m culvert				
	2.0m culvert Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	29	each	6000	174,00
3.15 3.16 3.17	2.0m culvert				174,00 104,92 10,72

59915195 September 2017

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	116490	116,490
	SUBTOTAL				116,490
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	218	sq. m	20	4,350
	SUBTOTAL				4,350
	CONSTRUCTION SUB-TOTAL				1,482,783
8.0	CONTINGENCIES				
8.1	30% construction cost				444,835
	CONSTRUCTION TOTAL, excluding GST				1,927,618
	GST				192,762
	CONSTRUCTION TOTAL, including GST				2,120,380
	CONSTRUCTION TOTAL, rounded				2,120,400
DISCLAII					
	timate of cost is provided in good faith using information available at this stage. The	his estimate	of cost is not	t guaranteed	
	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estimat	te does not include Consultant's fees, including design or project management				
	te / rates in 2016 dollars and does not allow for inflation				
3. This op	tion exludes cost of and is contingent on proposed works by Sydney Metro from H	ollands Ave	to McNeilly F	Park	

Marrickville Valley FRMSP

	timate				
Option:	FM9.1 - New drainage in Marrickville Road and connect to M	alakoff tunr	nel.		
	<b>U</b>				v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				222,5
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	212	sq. m	10	2,1
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	31.725	cu. m	25	7
2.3	Dispose of excess topsoil (nominal 10% allowance)	3.1725	cu. m	200	6
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				3,5
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	270	lin.m	800	216,0
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	90	lin.m	850	76,5
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	- , -
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	225	lin.m	1040	234,0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin.m	1230	129,1
3.5	dia. Pipe	105	1111.111		
3.5 3.6	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe	105			
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia.	15	lin.m	1430	
3.6 3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m lin.m	1430 1950	
3.6 3.7 3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m lin.m lin.m	1430 1950 1040	21,4
3.6 3.7 3.8 3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m lin.m lin.m lin.m	1430 1950 1040 2850	
3.6 3.7 3.8 3.9 3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370	
3.6 3.7 3.8 3.9 3.10 3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370 1380	
3.6 3.7 3.8 3.9 3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370	

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x				
3.15	2.0m culvert		lin.m	6500	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	29	each	6000	174,000
3.17	Supply and install m3 pre-cast storage tank	1	each	150000	150,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.18	installation cost, with minimum cost of \$30,000)	1	item	85,110	85,110
3.19	Allowance for nightworks (assume for works on all regional/state roads)	1	item	255,330	255,330
	SUBTOTAL				1,341,540

59915195 September 2017

Marrickville Valley FRMSP

-					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of	4	item	104454	104 154
6.1	pipe install cost) SUBTOTAL	1	Item	134154	134,154 <b>134,154</b>
	SUBTUTAL				134,134
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	212	sq. m	20	4,230
	SUBTOTAL			•	4,230
	CONSTRUCTION SUB-TOTAL				1,705,967
8.0	CONTINGENCIES				
8.1	30% construction cost				511,790
	CONSTRUCTION TOTAL, excluding GST				2,217,757
	GST		0       each       1300000         1       item       134154         1       item       134154         12       sq. m       20         12       sq. m       20         13       1       1         12       sq. m       20         12       sq. m       20         13       1       1         14       1       1         15       1       1         12       sq. m       20         13       1       1         14       1       1         15       1       1         12       sq. m       20         13       1       1         14       1       1         15       1       1         16       1       1         17       1       1         18       1       1         19       1       1         10       1       1         11       1       1         12       1       1         13       1       1         14       1       1	221,776	
	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				2,439,532 2,439,600
DISCLA					2,400,000
	stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed	
	NSW) will not accept liability in the event that actual costs exceed the estimate.			0	
NOTES:	· · ·				
1. Estima	ate does not include Consultant's fees, including design or project management				
	ate does not include Consultant's fees, including design or project management ate / rates in 2016 dollars and does not allow for inflation				

Marrickville Valley FRMSP

### 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM10.1 - Divert Marrickville Rd flows down Barclay Street to Sydenham Detention Basin.

	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				74,0
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	120	sq. m	10	1,2
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	18	cu. m	25	4
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.8	cu. m	200	;
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				2,
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	400	lin.m	850	340,
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	1690	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.9			lin.m	3370	
	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x				
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.10 3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m lin.m	1380 1725	
3.10 3.11 3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert				
3.10 3.11 3.12 3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x		lin.m	1725	
3.10 3.11 3.12 3.13 3.14 3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert	0	lin.m lin.m lin.m lin.m	1725 2760 3220 4830	40
3.9         3.10         3.11         3.12         3.13         3.14         3.15         3.16	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x	8	lin.m lin.m lin.m	1725 2760 3220	48,
3.10 3.11 3.12 3.13 3.14 3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert Install new drainage / junction pit (assumed 1 pit per 50m of pipe)		lin.m lin.m lin.m lin.m	1725 2760 3220 4830	48, 38, 17,

#### 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

			-		
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
				•	
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
61	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	44465	44,465
0.1			itoini	11100	44,465
7.0	MINOR LANDSCAPING				,
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	120	sq. m	20	2,400
	SUBTOTAL				2,400
	CONSTRUCTION SUB-TOTAL				567,525
8.0	CONTINGENCIES				
8.1	30% construction cost				170,258
	CONSTRUCTION TOTAL, excluding GST				737,783
	GST				73,778
SUBTOTAL         6.0       TRAFFIC CONTROL         6.1       Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)       1         item       4444         SUBTOTAL       1         7.0       MINOR LANDSCAPING         7.1       Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)       120         SUBTOTAL       120       sq. m         CONSTRUCTION SUB-TOTAL       120       sq. m         CONSTRUCTION SUB-TOTAL       120       sq. m         8.0       CONTINGENCIES       130% construction cost		811,561			
	CONSTRUCTION TOTAL, rounded				811,600
DISCLA	MER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	guaranteed.	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate				
	without accept liability in the event that actual costs exceed the estimate.				
NOTES:					
NOTES: 1. Estima	ate does not include Consultant's fees, including design or project management				

Marrickville Valley FRMSP

	5 MARRICKVILLE FRMS&P			aping the Futu	
Cost Est	limate				
Option:	FM10.2 - Divert flows from Carrington Road and Myrtle Stre	et to pump	station (	SPS271).	
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			-	87,30
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	39	sq. m	10	39
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	5.85	cu. m	25	14
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.585	cu. m	200	11
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				65
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m		lin no	800	
3.1 3.2	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	65	lin.m	800	55,25
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	65	lin.m	930	60,45
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	100	lin.m	1040	104,00
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia.		lin.m	1430	
3.7	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	1950	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	2760 3220	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x 2.0m culvert		lin.m	6500	
3.14 3.15		10	each	6000	60,0
	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	1			
3.15 3.16	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	1	item	30.000	30.00
3.15			item item item	30,000 18,135 200,000	30,00 18,13 200,00

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sa. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install east)	4	itom	50784	50 704
0.1	pipe install cost) SUBTOTAL	1	item	52764	
	SOBTOTAL				52,704
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	39	sq. m	20	780
	SUBTOTAL			-	780
	CONSTRUCTION SUB-TOTAL				669,352
8.0	CONTINGENCIES				
8.1	30% construction cost				200,806
	CONSTRUCTION TOTAL, excluding GST				870,157
	GST				87,016
	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded			item 52784 52,7 52,7 52,7 sq. m 20 7 7 6669,3 6669,3 200,8 200,8 870,1 87,0 957,1 957,2	
DISCLA					557,200
	stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not		
	NSW) will not accept liability in the event that actual costs exceed the estimate.		01 003013 110	guaranteeu.	
NOTES:					
	ate does not include Consultant's fees, including design or project management				
2. Estima	ate does not include Consultant's fees, including design or project management ate / rates in 2016 dollars and does not allow for inflation				

Marrickville Valley FRMSP

#### 59915195 MARRICKVILLE FRMS&P



Option: FM10.4 - Divert flows from rail and Charlotte Ave into Western Channel.

1.1 1.2 1.3 1.4 1.5	GENERAL AND PRELIMINARIES         Site establishment, security fencing, facilities & disestablishment         Provision of sediment & erosion control         Construction setout & survey         Work as executed survey & documentation         Geotechnical supervision, testing & certification         SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         DEMOLITION, CLEARING AND GRUBBING         Clearing & grubbing of vegatated areas (nominal allowance)         Strip topsoil & stockpile for re-use (assuming 150mm depth)         Dispose of excess topsoil (nominal 10% allowance)	1 1 1 1 1 60	item item item item sq. m		45,50
1.2 1.3 1.4 1.5 <b>2.0</b> 2.1 2.2 2.3	Provision of sediment & erosion control Construction setout & survey Work as executed survey & documentation Geotechnical supervision, testing & certification SUBTOTAL (Assumed as 15% of works cost, excluding property purchase) DEMOLITION, CLEARING AND GRUBBING Clearing & grubbing of vegatated areas (nominal allowance) Strip topsoil & stockpile for re-use (assuming 150mm depth)	1 1 1 1 60	item item item		45,50
1.3 1.4 1.5 <b>2.0</b> 2.1 2.2 2.3	Construction setout & survey Work as executed survey & documentation Geotechnical supervision, testing & certification SUBTOTAL (Assumed as 15% of works cost, excluding property purchase) <b>DEMOLITION, CLEARING AND GRUBBING</b> Clearing & grubbing of vegatated areas (nominal allowance) Strip topsoil & stockpile for re-use (assuming 150mm depth)	1 1 60	item item item		45,50
1.4 1.5 <b>2.0</b> 2.1 2.2 2.3	Work as executed survey & documentation         Geotechnical supervision, testing & certification         SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         DEMOLITION, CLEARING AND GRUBBING         Clearing & grubbing of vegatated areas (nominal allowance)         Strip topsoil & stockpile for re-use (assuming 150mm depth)	1 1 60	item item		45,50
1.5 <b>2.0</b> 2.1 2.2 2.3	Geotechnical supervision, testing & certification SUBTOTAL (Assumed as 15% of works cost, excluding property purchase) DEMOLITION, CLEARING AND GRUBBING Clearing & grubbing of vegatated areas (nominal allowance) Strip topsoil & stockpile for re-use (assuming 150mm depth)		item		45,50
<b>2.0</b> 2.1 2.2 2.3	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         DEMOLITION, CLEARING AND GRUBBING         Clearing & grubbing of vegatated areas (nominal allowance)         Strip topsoil & stockpile for re-use (assuming 150mm depth)				45,50
2.1 2.2 2.3	DEMOLITION, CLEARING AND GRUBBING Clearing & grubbing of vegatated areas (nominal allowance) Strip topsoil & stockpile for re-use (assuming 150mm depth)		sa. m		45,50
2.1 2.2 2.3	Clearing & grubbing of vegatated areas (nominal allowance) Strip topsoil & stockpile for re-use (assuming 150mm depth)		sa. m	<u>г</u>	
2.2 2.3	Strip topsoil & stockpile for re-use (assuming 150mm depth)		sa. m	<u>г г</u>	
2.3		_		10	60
	Dispose of excess topsoil (nominal 10% allowance)	9	cu. m	25	22
2.4		0.9	cu. m	200	18
	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				1,0
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	200	lin.m	1040	208,0
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15 3.16	2.4m culvert Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	6	lin.m each	4830 6000	36,0
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	4			
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,0
	SUBTOTAL				274,0
4.0	PAVEMENTS				
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

Cardno

Shaping the Future

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	27400	27,40
	SUBTOTAL				27,40
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	60	sq. m	20	1,20
	SUBTOTAL				1,2
	CONSTRUCTION SUB-TOTAL				349,1
8.0	CONTINGENCIES				
8.1	30% construction cost				104,73
8.1	30% construction cost CONSTRUCTION TOTAL, excluding GST				
8.1					104,73 453,83 45,38
8.1	CONSTRUCTION TOTAL, excluding GST				453,8
8.1	CONSTRUCTION TOTAL, excluding GST GST				453,8 45,3
8.1	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				453,8 45,3 499,2
<b>ISCLAI</b> This e	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	nis estimate	of cost is no	t guaranteed.	453,8 45,3 499,2
<b>ISCLAI</b> This ea	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	of cost is no	t guaranteed.	453,8 45,3 499,2
ISCLAI This e ardno ( OTES:	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is no	t guaranteed.	453,8 45,3 499,2
ISCLAI This ea ardno ( OTES: Estima	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	nis estimate	of cost is no	t guaranteed.	453,8 45,3 499,2

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

# 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM11.1 - Construct overland flow Path from Unwins around edge of park to rail culvert.

EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				25,6
2.0	DEMOLITION, CLEARING, GRUBBING & EARTHWORKS				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	1,250	sq. m	10	12,5
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	187.5	cu. m	25	4,6
2.3	Dispose of excess topsoil (nominal 10% allowance)	18.75	cu. m	200	3,7
2.4	Excavate material and regrade to suit design levels (incl. disposal of cut)	625	cu.m	200	125,0
2.5	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				145,9
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m				
3.7	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	1690	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	0	each	5000	
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	0	
3.17	installation cost, with minimum cost of \$50,000)		nom	U.	

4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	
	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	0	
	SUBTOTAL		-	-	
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	1,250	sq. m	20	25,0
	SUBTOTAL				25,0
	CONSTRUCTION SUB-TOTAL				196,5
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				196,5
<b>8.0</b> 8.1					
	CONTINGENCIES 30% construction cost				58,9
	CONTINGENCIES				196,5 58,9 255,4 255,5
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				58,9 255,4
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				58,9 255,4 25,5 281,0
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				58,9 255,4 25,5 281,0
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	his estimate	of cost is not	guaranteed.	58,9 255,4 25,5
8.1 ISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	his estimate	of cost is not	guaranteed.	58,9 255,4 25,5 281,0
8.1 ISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	guaranteed.	58,9 255,4 25,5 281,0
8.1 ISCLAI This estimation	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	guaranteed.	58,9 255,4 25,5 281,0

Marrickville Valley FRMSP

991519	5 MARRICKVILLE FRMS&P			Sard	
Cost Est	imate		Sha	aping the Fut	Ire
)ption:	FM11.2 - Construct overland flow path from childcare centre a	round edge	e of park	to rail culv	
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
1.0	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)		Rom		17,
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	875	sq. m	10	8,
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	131.25	cu. m	25	3,
2.3	Dispose of excess topsoil (nominal 10% allowance)	13.125	cu. m	200	2,
2.4	Excavate material and regrade to suit design levels (incl. disposal of cut)	437.5	cu.m	200	87,
2.4	Pull up and dispose existing road surface	0	sq.m	150	
2.4	SUBTOTAL	0	<u> </u>	150	102,
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m				
3.2 3.3	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m lin.m	930 980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m		lin.m	1430	
3.7	dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11 3.12	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1380 1725	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
3.15 3.16	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	0	lin.m each	4830 5000	
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	0	

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	0	0
	SUBTOTAL				0
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	875	sq. m	20	17,500
	SUBTOTAL		-		17,500
	CONSTRUCTION SUB-TOTAL				137,556
8.0	CONTINGENCIES				
8.1	30% construction cost				41,267
	CONSTRUCTION TOTAL, excluding GST				178,823
	GST				17,882
	CONSTRUCTION TOTAL, including GST				196,705
	CONSTRUCTION TOTAL, rounded				196,800
DISCLAI			of cost is not		
	stimate of cost is provided in good faith using information available at this stage. The second the estimate	nis estimate	of cost is not	guaranteed	
	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:	to door not include Consultant's food including design or project management				
	te does not include Consultant's fees, including design or project management te / rates in 2010 dollars and does not allow for inflation				
z. csuna					

Marrickville Valley FRMSP

				1	v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				36,900
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	36	sq. m	10	360
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	5.4	cu. m	25	135
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.54	cu. m	200	108
2.4	Pull up and dispose existing road surface	0	sq.m	150	C
	SUBTOTAL		•	·	603
<b>3.0</b> 3.1	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	C
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m		lin.m		
3.3	dia. Pipe			980	C
3.3 3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	120	lin.m	1040	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe	120			124,800
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe	120	lin.m	1040	124,800
3.4 3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe	120	lin.m lin.m	1040 1230	124,800
3.4 3.5 3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	120	lin.m lin.m lin.m	1040 1230 1430	124,800 0 0
3.4 3.5 3.6 3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	120	lin.m lin.m lin.m lin.m	1040 1230 1430 1690	0 124,800 0 0 0 0
3.4 3.5 3.6 3.7 3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m lin.m lin.m lin.m lin.m	1040 1230 1430 1690 1040	124,800 0 0 0
3.4 3.5 3.6 3.7 3.8 3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m lin.m lin.m lin.m lin.m	1040 1230 1430 1690 1040 2850	124,800 0 0 0 0
3.4         3.5         3.6         3.7         3.8         3.9         3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.6m culvert		lin.m lin.m lin.m lin.m lin.m lin.m	1040         1230         1430         1690         1040         2850         3370	124,800 0 0 0 0
3.4 3.5 3.6 3.7 3.8 3.9 3.10 3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m lin.m lin.m lin.m lin.m lin.m lin.m	1040 1230 1430 1690 1040 2850 3370 1380	124,800 0 0 0 0 0 0 0

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	5	each	6000	30,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	37,440	37,440
	SUBTOTAL				222,240

59915195 September 2017

Marrickville Valley FRMSP

				<del></del>	
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
	Control of traffic during works, incl allowance for night works (assumed 10% of				
6.1	pipe install cost)	1	item	22224	22,224
	SUBTOTAL				22,224
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	36	sq. m	20	720
	SUBTOTAL				720
	CONSTRUCTION SUB-TOTAL				282,687
8.0	CONTINGENCIES				
8.1	30% construction cost				84,806
	CONSTRUCTION TOTAL, excluding GST				367,493
	GST				36,749
	CONSTRUCTION TOTAL, including GST				404,242
	CONSTRUCTION TOTAL, rounded				404,300
DISCLA	IMER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. The	his estimate	of cost is not	t guaranteed.	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				
2. Estima	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

	FM11.4 - Upgrade drainage in Unwins Bridge Rd at Bridge Str	Cost Estimate Option: FM11.4 - Upgrade drainage in Unwins Bridge Rd at Bridge Street.						
				1	v1			
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST			
1.0	GENERAL AND PRELIMINARIES							
1.1	Site establishment, security fencing, facilities & disestablishment	1	item					
1.2	Provision of sediment & erosion control	1	item					
1.3	Construction setout & survey	1	item					
1.4	Work as executed survey & documentation	1	item					
1.5	Geotechnical supervision, testing & certification	1	item					
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			•	36,9			
2.0	DEMOLITION, CLEARING AND GRUBBING							
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	45	sq. m	10				
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	6.75	cu. m	25				
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.675	cu. m	200				
2.4	Pull up and dispose existing road surface	0	sq.m	150				
	SUBTOTAL		• •					
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m							
3.1	dia. Pipe	150	lin.m	800	120,0			
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930				
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980				
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.							
3.4	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin.m	1040				
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1230				
3.6	Pipe		lin.m	1430				
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690				
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.							
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040				
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850				
3.10	Pipe		lin.m	3370				
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380				
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin m	1705				
2 4 0	0.6m outvort							
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725				
3.12 3.13			lin.m	2760				

	SUBTOTAL				222,000
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	36,000	36,000
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	6	each	6000	36,000
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	C
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	C

59915195 September 2017

Marrickville Valley FRMSP

1. Estima	ate does not include Consultant's fees, including design or project management				
NOTES:					
Cardno (I	NSW) will not accept liability in the event that actual costs exceed the estimate.				
	stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	guaranteed	
DISCLAI					
	CONSTRUCTION TOTAL, rounded				404,400
	CONSTRUCTION TOTAL, including GST				404,338
	GST				36,758
	CONSTRUCTION TOTAL, excluding GST			[	367,580
8.1	30% construction cost				84,826
8.0	CONTINGENCIES				
	CONSTRUCTION SUB-TOTAL				282,754
	SUBTOTAL				900
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	45	sq. m	20	900
7.0	MINOR LANDSCAPING				
	SUBTOTAL				22,200
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	22200	22,200
6.0	TRAFFIC CONTROL				
	SUBTOTAL				0
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
5.0	PROPERTY BY-BACK				
	SUBTOTAL				0
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0

Marrickville Valley FRMSP

### 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM12.1 - Upgrade drainage in Cary St and and Premier St to 750mm diameter pipes.

ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				89,20
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	125	sq. m	10	1,24
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	18.675	cu. m	25	46
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.8675	cu. m	200	37
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				2,08
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	415	lin.m	930	385,95
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.6m culvert		lin.m	3500	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.15	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	17	each	4830 6000	102,00
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	48,795	48,79
0.17	SUBTOTAL		110111	40,790	<b>536,74</b>
4.0	PAVEMENTS	I			
<b>V</b> .F	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	53675	53,67
	SUBTOTAL				53,67
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	125	sq. m	20	2,49
	SUBTOTAL				2,49
	CONSTRUCTION SUB-TOTAL				68/ 10
	CONSTRUCTION SUB-TOTAL				684,19
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				684,19
<b>8.0</b> 8.1					
	CONTINGENCIES				684,19 205,25 889,45
	CONTINGENCIES 30% construction cost				205,25
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				205,25 889,45
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				205,24 889,44 88,94
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				205,2 889,4 88,94 978,39
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	his estimate	of cost is not	t guaranteed.	205,2 889,4 88,94 978,3
8.1 ISCLAI This e	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	his estimate	of cost is not	t guaranteed.	205,2 889,4 88,94 978,3
8.1 ISCLAI This e	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed.	205,2 889,4 88,9 978,3
8.1 ISCLAI This e ardno ( OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. T	his estimate	of cost is not	t guaranteed.	205,2 889,4 88,9 978,3

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

59915195	MARRICKVILLE FRMS&P



Option: FM12.2 - Upgrade drainage in Renwick to install 750mm diameter pipes.

1.0       GEN         1.1       Site         1.2       Prov         1.3       Con         1.4       Wor         1.5       Geo         2.0       DEN         2.1       Cleating         2.2       Strip         2.3       Disp         2.4       Pull         SUE       SUE         3.0       DRA         3.1       Gia.         Sup       Sup         3.1       Sup         3.3       Sup         3.4       Pipe         Sup       Sup         3.5       Gia.         Sup       Sup         3.4       Pipe         Sup       Sup         3.4       Pipe         Sup       Sup         3.5       Sup         3.6       Pipe         3.7       Gia.         Sup       Sup         3.7       Sup         3.8       Pipe         3.10       Pipe         Sup       Sup         3.10       Sup         Sup       Sup <t< th=""><th>pply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 1.05m</th><th>1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         0         1.4175         0         315</th><th>UNIT item item item item item cu. m cu. m cu. m cu. m cu. m item</th><th>RATE</th><th>COST 67,80 94 35 28 1,58</th></t<>	pply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         0         1.4175         0         315	UNIT item item item item item cu. m cu. m cu. m cu. m cu. m item	RATE	COST 67,80 94 35 28 1,58
1.1       Site         1.2       Prov         1.3       Con         1.4       Wor         1.5       Geo         2.0       DEN         2.1       Cleating         2.2       Strip         2.3       Disp         2.4       Pull         SUE       SUE         3.0       DRA         3.1       Gia.         Sup       Sup         3.1       Sup         3.2       Pipe         3.3       Gia.         Sup       Sup         3.4       Pipe         3.5       Gia.         Sup       Sup         3.4       Pipe         3.5       Sup         3.6       Pipe         3.7       Gia.         Sup       Sup         3.7       Sup         3.8       Pipe         3.10       Pipe         Sup       Sup         3.10       Sup         3.11       0.45	e establishment, security fencing, facilities & disestablishment vision of sediment & erosion control nstruction setout & survey rk as executed survey & documentation otechnical supervision, testing & certification BTOTAL (Assumed as 15% of works cost, excluding property purchase) <b>MOLITION, CLEARING AND GRUBBING</b> aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL <b>AINAGE</b> oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	item item item sq. m cu. m cu. m sq.m	25 200 150 800 850	94 35 28 <b>1,58</b>
1.2       Prov         1.3       Con         1.4       Wor         1.5       Geo         1.5       Geo         2.0       DEN         2.1       Clea         2.2       Strip         2.3       Disp         2.4       Pull         3.0       DRA         3.1       dia.         3.2       Pipe         3.3       dia.         3.4       Pipe         3.5       dia.         Sup       Sup         3.4       Pipe         3.7       dia.         Sup       Sup         3.4       Pipe         3.7       dia.         Sup       Sup         3.6       Sup         3.7       dia.         Sup       Sup         3.7       Sup         3.8       Pipe         3.10       Pipe         3.11       0.45         Sup       Sup         3.11       0.45	vision of sediment & erosion control nstruction setout & survey rk as executed survey & documentation otechnical supervision, testing & certification BTOTAL (Assumed as 15% of works cost, excluding property purchase) MOLITION, CLEARING AND GRUBBING aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE Diply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	item item item sq. m cu. m cu. m sq.m	25 200 150 800 850	94 35 28 <b>1,58</b>
1.3       Con         1.4       Wor         1.5       Geo         SUE       SUE         2.0       DEN         2.1       Cleat         2.2       Strip         2.3       Disp         2.4       Pull         SUE       Sup         3.0       DRA         3.1       Gia.         Sup       Sup         3.1       Sup         3.2       Pipe         3.3       Gia.         Sup       Sup         3.4       Pipe         3.5       Gia.         Sup       Sup         3.4       Pipe         3.5       Sup         3.6       Pipe         3.7       Gia.         Sup       Sup         3.8       Pipe         3.9       Sup         3.10       Pipe         3.11       0.45	Instruction setout & survey Irk as executed survey & documentation Detechnical supervision, testing & certification BTOTAL (Assumed as 15% of works cost, excluding property purchase) MOLITION, CLEARING AND GRUBBING aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE Deply, excavate, bed, lay, joint, backfill and provide connections for 0.45m Pipe Deply, excavate, bed, lay, joint, backfill and provide connections for 0.75m Pipe Deply, excavate, bed, lay, joint, backfill and provide connections for 0.75m Pipe Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e Deply excavate, bed, lay, joint, backfill and provide connections for 1.05m e Deply excavate, bed, lay, joint, backfill and provide connections for 1.05m e Deply excavate, bed, lay, joint, backfill and provide co	1 1 95 14.175 1.4175 0	item item item sq. m cu. m cu. m sq.m in.m	25 200 150 800 850	94 35 28 1,58
1.4       Wor         1.5       Geo         SUE       SUE         2.0       DEN         2.1       Cleating         2.2       Strip         2.3       Disp         2.4       Pull         SUE       SUE         3.0       DRA         3.1       Gia.         Sup       Sup         3.1       Sup         3.2       Pipe         3.3       Gia.         Sup       Sup         3.4       Pipe         3.5       Gia.         Sup       Sup         3.4       Pipe         3.5       Gia.         Sup       Sup         3.6       Pipe         3.7       Gia.         Sup       Sup         3.7       Gia.         Sup       Sup         3.7       Sup         3.8       Pipe         3.9       Pipe         3.10       Pipe         3.11       0.45	rk as executed survey & documentation otechnical supervision, testing & certification BTOTAL (Assumed as 15% of works cost, excluding property purchase) <b>MOLITION, CLEARING AND GRUBBING</b> aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL <b>AINAGE</b> oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e	1 1 95 14.175 1.4175 0	item item sq. m cu. m cu. m sq.m lin.m	25 200 150 800 850	94 38 28 1,58
1.5GeoSUE2.0DEN2.1Cleat2.2Strip2.3Disp2.4PullSUESUE3.0DRA3.1dia.Sup3.13.2Pipe3.3dia.SupSup3.4Pipe3.5dia.SupSup3.6Pipe3.7dia.SupSup3.10Pipe3.10Sup3.110.45SupSup3.110.45	Detechnical supervision, testing & certification         BTOTAL (Assumed as 15% of works cost, excluding property purchase)         MOLITION, CLEARING AND GRUBBING         aring & grubbing of vegatated areas (nominal allowance)         p topsoil & stockpile for re-use (assuming 150mm depth)         pose of excess topsoil (nominal 10% allowance)         I up and dispose existing road surface         BTOTAL         AINAGE         oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m         . Pipe         oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m         . Pipe         oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m         . Pipe         oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         e         oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         e         oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         e         oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.         e         oply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	1 95 14.175 1.4175 0	item sq. m cu. m cu. m sq.m lin.m	25 200 150 800 850	94 35 28 1,58
2.0SUE2.1Cleat2.2Strip2.3Disp2.4PullSUESUE3.0DRA3.1dia.3.2Pipe3.3dia.SupSup3.4Pipe3.5dia.SupSup3.4Pipe3.5dia.SupSup3.4Pipe3.5dia.SupSup3.6Pipe3.7dia.SupSup3.7Sup3.8Pipe3.9Pipe3.10Pipe3.11O.45SupSup	BTOTAL (Assumed as 15% of works cost, excluding property purchase) MOLITION, CLEARING AND GRUBBING aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e	95 14.175 1.4175 0	sq. m cu. m cu. m sq.m	25 200 150 800 850	94 38 28 1,58
2.0       DEM         2.1       Cleat         2.2       Strip         2.3       Disp         2.4       Pull         3.0       DRA         3.1       dia.         3.2       Pipe         3.3       dia.         3.4       Pipe         3.5       dia.         Sup       Sup         3.6       Pipe         3.7       dia.         Sup       Sup         3.7       Sup         3.8       Pipe         3.9       Pipe         3.10       Pipe         3.11       0.45         Sup       Sup         3.11       0.45	MOLITION, CLEARING AND GRUBBING aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e	14.175 1.4175 0	cu. m cu. m sq.m	25 200 150 800 850	94 35 28 1,58
2.1       Cleat         2.2       Strip         2.3       Disp         2.4       Pull         SUE       SUE         3.0       DRA         3.1       dia.         Sup       3.1         3.2       Pipe         3.3       dia.         Sup       3.3         3.4       Pipe         3.5       dia.         Sup       3.4         Pipe       Sup         3.6       Pipe         3.7       dia.         Sup       3.6         Sup       3.7         Jan       Sup         3.7       Sup         3.8       Pipe         3.9       Pipe         3.10       Pipe         3.11       0.45	aring & grubbing of vegatated areas (nominal allowance) p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	14.175 1.4175 0	cu. m cu. m sq.m	25 200 150 800 850	35 28 1,58
2.2       Strip         2.3       Disp         2.4       Pull         SUE         3.0       DRA         3.1       dia.         Sup       3.1         3.2       Pipe         3.3       dia.         Sup       3.4         Pipe       Sup         3.5       dia.         Sup       3.4         Pipe       Sup         3.6       Pipe         3.7       dia.         Sup       3.7         3.8       Pipe         3.9       Pipe         3.10       Pipe         3.11       0.45	p topsoil & stockpile for re-use (assuming 150mm depth) pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE AINAGE oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	14.175 1.4175 0	cu. m cu. m sq.m	25 200 150 800 850	35 28 1,58
2.3       Disp         2.4       Pull         SUE         3.0       DRA         3.1       dia.         Sup       3.1         3.1       dia.         Sup       3.1         3.2       Pipe         3.3       dia.         Sup       3.3         3.4       Pipe         3.5       dia.         Sup       3.6         Pipe       Sup         3.6       Pipe         3.7       dia.         Sup       3.7         Jan       Sup         3.7       Sup         3.8       Pipe         Sup       Sup         3.7       Sup         3.8       Pipe         S.10       Pipe         S.10       Sup         3.10       Pipe         S.11       0.45	pose of excess topsoil (nominal 10% allowance) I up and dispose existing road surface BTOTAL AINAGE oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	1.4175 0	cu. m sq.m lin.m	200 150 800 850	28 1,58
2.4       Pull         SUE         3.0       DRA         3.1       dia.         3.2       Pipe         3.3       dia.         3.2       Pipe         3.3       dia.         3.4       Pipe         3.5       dia.         Sup       3.5         3.6       Pipe         3.7       dia.         Sup       3.7         3.8       Pipe         3.9       Pipe         3.10       Pipe         3.11       0.45	I up and dispose existing road surface BTOTAL AINAGE oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	0	sq.m lin.m lin.m	150 800 850	1,58
3.0       DRA         3.1       dia.         3.1       dia.         Sup       Sup         3.2       Pipe         3.3       dia.         Sup       Sup         3.3       dia.         Sup       Sup         3.4       Pipe         3.5       dia.         Sup       Sup         3.6       Pipe         3.7       dia.         Sup       Sup         3.10       Pipe         Sup       Sup         3.10       Sup         3.11       0.45	AINAGE poply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe poply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e poply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe poply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e poply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin.m lin.m	800	
SUE           3.0         DRA           3.1         dia.           Sup         Sup           3.1         dia.           Sup         Sup           3.2         Pipe           3.3         dia.           Sup         Sup           3.4         Pipe           3.5         dia.           Sup         Sup           3.6         Pipe           3.7         dia.           Sup         Sup           3.6         Pipe           Sup         Sup           3.6         Sup           3.7         dia.           Sup         Sup           3.7         Sup           3.8         Pipe           Sup         Sup           3.9         Pipe           Sup         Sup           3.10         Pipe           Sup         Sup           3.11         0.45	AINAGE poply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe poply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e poply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe poply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e poply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	315	lin.m lin.m	850	
3.1       Sup         3.1       Gaia.         Sup       Sup         3.2       Pipe         3.3       Gaia.         Sup       Sup         3.4       Pipe         3.5       Gaia.         Sup       Sup         3.5       Gaia.         Sup       Sup         3.6       Pipe         Sup       Sup         3.6       Sup         3.7       Gaa.         Sup       Sup         3.7       Gaa.         Sup       Sup         3.7       Gaa.         Sup       Sup         3.10       Pipe         Sup       Sup         3.10       Sup         3.11       0.45	pply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	315	lin.m	850	202.05
3.1       Sup         3.1       Gaia.         Sup       Sup         3.2       Pipe         3.3       Gaia.         Sup       Sup         3.4       Pipe         3.5       Gaia.         Sup       Sup         3.5       Gaia.         Sup       Sup         3.6       Pipe         Sup       Sup         3.6       Sup         3.7       Gaa.         Sup       Sup         3.7       Gaa.         Sup       Sup         3.7       Gaa.         Sup       Sup         3.7       Gaa.         Sup       Sup         3.10       Pipe         Sup       Sup         3.11       0.45	pply, excavate, bed, lay, joint, backfill and provide connections for 0.45m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	315	lin.m	850	202 05
Sup           3.2         Pipe           3.3         dia.           Sup         Sup           3.4         Pipe           3.5         dia.           Sup         3.5           3.6         Pipe           3.7         dia.           Sup         3.7           3.8         Pipe           3.9         Pipe           3.10         Pipe           3.11         0.45	pply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 0.75m Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	315	lin.m	850	202 05
Sup           3.3         dia.           Sup         Sup           3.4         Pipe           Sup         Sup           3.5         dia.           Sup         Sup           3.5         dia.           Sup         Sup           3.6         Pipe           3.7         dia.           Sup         Sup           3.7         dia.           Sup         Sup           3.8         Pipe           Sup         Sup           3.9         Pipe           Sup         Sup           3.10         Pipe           Sup         Sup           3.11         0.45	pply, excavate, bed, lay, joint, backfill and provide connections for 0.75m . Pipe pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e pply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	315			202 05
3.3       dia.         Sup         3.4       Pipe         Sup         3.5       dia.         Sup         3.5       dia.         Sup         3.6       Pipe         3.7       dia.         Sup         3.7       dia.         Sup         3.7       dia.         Sup         3.7       dia.         Sup       Sup         3.8       Pipe         Sup       Sup         3.9       Pipe         Sup       Sup         3.10       Pipe         Sup       Sup         3.11       0.45	Pipe oply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. e oply, excavate, bed, lay, joint, backfill and provide connections for 1.05m	315	lin.m	930	202 05
3.4       Pipe         3.5       Gia.         3.5       Gia.         3.6       Pipe         3.7       Gia.         3.8       Pipe         3.9       Pipe         3.10       Pipe         3.11       0.45	e oply, excavate, bed, lay, joint, backfill and provide connections for 1.05m			000	202,90
Sup           3.5         dia.           Sup         Sup           3.6         Pipe           Sup         Sup           3.7         dia.           Sup         Sup           3.7         dia.           Sup         Sup           3.8         Pipe           Sup         Sup           3.9         Pipe           Sup         Sup           3.10         Pipe           Sup         Sup           3.11         0.45	oply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin.m	1040	
Sup           3.6         Pipe           Sup         Sup           3.7         dia.           Sup         Sup           3.8         Pipe           3.9         Pipe           3.10         Pipe           Sup         Sup           3.11         0.45	Pipe		lin.m	1230	
Sup           3.7         dia.           Sup         Sup           3.8         Pipe           3.9         Pipe           3.10         Pipe           3.11         0.45	pply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1430	
Sup           3.8         Pipe           3.9         Pipe           3.9         Pipe           3.10         Pipe           3.10         Sup           3.11         0.45           Sup         Sup	oply, excavate, bed, lay, joint, backfill and provide connections for 1.35m				
Sup           3.9         Pipe           Sup         Sup           3.10         Pipe           Sup         Sup           3.10         Sup           3.11         0.45           Sup         Sup	pply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	1690	
Sup 3.10 Pipe Sup 3.11 0.45 Sup	e oply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.10 Pipe Sup 3.11 0.45 Sup	e pply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.11 0.45 Sup	e		lin.m	3370	
	oply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 5m culvert		lin.m	1380	
	oply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x m culvert		lin.m	1725	
3.13 1.2n	oply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x m culvert		lin.m	2760	
3.14 0.6n	oply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x m culvert		lin.m	3500	
	oply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x m culvert		lin.m	4830	
3.16 Insta	all new drainage / junction pit (assumed 1 pit per 25m of pipe)	13	each	6000	78,00
	ustment of exsiting services (nominal allowance) (assumed 10% of drainage allation cost, with minimum cost of \$30,000)	4	item	27.005	27.00
	anation cost, with minimum cost of \$30,000)	1	item	37,095	37,09
SUE	PTOTAL	1			408,0
4.0 PAV	BTOTAL	1			
Reir 4.1 addi	BTOTAL VEMENTS	1			

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

**Cardno** Shaping the Future

K s in order to create drainage easements g works, incl allowance for night works (assumed 10% of	0	each	1300000	
	0	each	1300000	
g works, incl allowance for night works (assumed 10% of				
g works, incl allowance for night works (assumed 10% of				
g works, incl allowance for night works (assumed 10% of				
	1	item	40805	40,80
				40,80
IG				
s in accordance with landscape architects requirements	95	sq. m	20	1,89
				1,89
				E20.44
	-		I	520,12
				156,03
				676,1
				67,6
				743,77
	•			740,00
d in good faith using information available at this stage	This estimate	e of cost is no	t quaranteed	
ility in the event that actual costs exceed the estimate.			r guarantooa.	
sultant's fees, including design or project management				
	CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	s in accordance with landscape architects requirements 95 CONSTRUCTION SUB-TOTAL CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	s in accordance with landscape architects requirements 95 sq. m CONSTRUCTION SUB-TOTAL CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	s in accordance with landscape architects requirements 95 sq. m 20 CONSTRUCTION SUB-TOTAL CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST

Marrickville Valley FRMSP

5991519	5 MARRICKVILLE FRMS&P			aping the Fut	
Cost Est Option:	timate FM12.4 - Backflow prevention in the central channel and opti Mackey Park.	imise pump	station o	operations	at
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			-	8,7
2.0	DEMOLITION, CLEARING, GRUBBING & EARTHWORKS				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	10	sq. m	10	1(
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	1.5	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.15	cu. m	200	
2.4	Construct earthern embankment and regrade to suit design levels (incl. provision of suitable fill)	0	cu.m	200	
2.5	Pull up and dispose existing road surface	10	sq.m	150	1,5
	SUBTOTAL				1,6
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
2 1 2	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin m	2760	

	SUBTOTAL				50,000
3.18	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	0	0
3.17	Install new junction pit to divert flows to the Mackey Park pump station	1	each	50000	50,000
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	0	each	6000	0
3.15	1.5m culvert		lin.m	5865	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x				
3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x				
3.13	1.2m culvert		lin.m	2760	0

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of	10		400	
4.1	additional material to provide good jointing	10	sq. m	120	1,2
	SUBTOTAL				1,2
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL		-		
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	5000	5,0
	SUBTOTAL				5,0
7.0	MINOR LANDSCAPING Repair disturbed areas in accordance with landscape architects requirements				
7.1	(nominal allowance)	10	sq. m	20	2
	SUBTOTAL				2
	CONSTRUCTION SUB-TOTAL				66,7
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				66,7
<b>8.0</b> 8.1					
	CONTINGENCIES				20,0
	CONTINGENCIES 30% construction cost				
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				20,0 86,7
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				20,0 86,7 8,6
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				20,0 86,7 8,6 95,4
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	e of cost is no	t guaranteed.	20,0 86,7 8,6 95,4
8.1 SCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	e of cost is no	t guaranteed.	20,0 86,7 8,6 95,4
8.1 SCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	nis estimate	e of cost is no	t guaranteed.	20,0 86,7 8,6 95,4
8.1 SCLAI This e: rdno (i DTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	nis estimate	e of cost is no	t guaranteed.	20,0 86,7 8,0 95,

Marrickville Valley FRMSP

Cost Est	5 MARRICKVILLE FRMS&P imate FM12.5 - Raise channel wall to stop overflows in Cary street.			<b>Sarc</b> aping the Fut	
					v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				31,7
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	0	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	0	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL		•		
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x				
3.15	1.5m culvert		lin.m	5865	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)		each	6000	0
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.18	installation cost, with minimum cost of \$30,000)		item	0	0
3.19	Increase height of channel wall (construction as per existing channel)	160	face sq. m	1,200	192,000
	SUBTOTAL				192,000

59915195 September 2017

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	
	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	19200	19,20
	SUBTOTAL				19,20
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	0	sq. m	20	
	SUBTOTAL				
	CONSTRUCTION SUB-TOTAL				242,90
8.0	CONSTRUCTION SUB-TOTAL CONTINGENCIES				242,90
<b>8.0</b> 8.1					
	CONTINGENCIES 30% construction cost				72,87
	CONTINGENCIES				72,87 315,77
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				72,8 315,7 31,5
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				72,8 315,7 31,5 347,3
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				72,8 315,7
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is not	guaranteed.	72,8 315,7 31,5 347,3
8.1 DISCLAIN	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	of cost is not	guaranteed.	72,8 315,7 31,5 347,3
8.1 DISCLAIN	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	guaranteed.	72,8 315,7 31,5 347,3
8.1 DISCLAIN . This es Cardno (N IOTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	nis estimate	of cost is not	guaranteed.	72,8 315,7 31,5 347,3

Marrickville Valley FRMSP

timate				
FM13.1 and FM13.2 - Duplicate outlet under rail at intersection	n of Gannor	n Street a	nd Griffiths	Street
				v1
DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
GENERAL AND PRELIMINARIES				
Site establishment, security fencing, facilities & disestablishment	1	item		
Provision of sediment & erosion control	1	item		
Construction setout & survey	1	item		
Work as executed survey & documentation	1	item		
Geotechnical supervision, testing & certification	1	item		
SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				201,0
DEMOLITION, CLEARING AND GRUBBING				
Clearing & grubbing of vegatated areas (nominal allowance)	5	sq. m	10	
Strip topsoil & stockpile for re-use (assuming 150mm depth)	0.675	cu. m	25	
Dispose of excess topsoil (nominal 10% allowance)	0.0675	cu. m	200	
Pull up and dispose existing road surface	0	sq.m	150	
SUBTOTAL				
DRAINAGE	<del>,                                     </del>		<del></del>	
dia. Pipe		lin.m	800	
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m	15			13,
Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.	10	III.in		<u> </u>
Pipe		lin.m	1040	
	1		1 1	
dia. Pipe		lin.m	1230	
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.	$\left  \right $			
dia. Pipe		lin.m lin.m	1230 1430	
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe	60			117,
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia.	60	lin.m	1430	117,
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.	60	lin.m lin.m lin.m	1430 1950 1040	117,
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	60	lin.m lin.m	1430 1950	117,
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe	60	lin.m lin.m lin.m	1430 1950 1040	
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.	60	lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370	
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x	60	lin.m lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370 1380	
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert	60	lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370	
dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x	60	lin.m lin.m lin.m lin.m lin.m	1430 1950 1040 2850 3370 1380	
	DESCRIPTION OF WORK         GENERAL AND PRELIMINARIES         Site establishment, security fencing, facilities & disestablishment         Provision of sediment & erosion control         Construction setout & survey         Work as executed survey & documentation         Geotechnical supervision, testing & certification         SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         DEMOLITION, CLEARING AND GRUBBING         Clearing & grubbing of vegatated areas (nominal allowance)         Strip topsoil & stockpile for re-use (assuming 150mm depth)         Dispose of excess topsoil (nominal 10% allowance)         Pull up and dispose existing road surface         SUBTOTAL         DRAINAGE         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	DESCRIPTION OF WORK         QUANTITY           GENERAL AND PRELIMINARIES         1           Site establishment, security fencing, facilities & disestablishment         1           Provision of sediment & erosion control         1           Construction setout & survey         1           Work as executed survey & documentation         1           Geotechnical supervision, testing & certification         1           SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         1           DEMOLITION, CLEARING AND GRUBBING         5           Strip topsoil & stockpile for re-use (assuming 150mm depth)         0.675           Dispose of excess topsoil (nominal 10% allowance)         0           Pull up and dispose existing road surface         0           SUBTOTAL         0           SUBTOTAL         5           Pull up and dispose existing road surface         0           SUBTOTAL         0           SUBTOTAL         5           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m         1           Generation and provide connections for 0.675 m         15           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m         15           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m         15 <td>DESCRIPTION OF WORK         QUANTITY         UNIT           GENERAL AND PRELIMINARIES         item         item           Site establishment, security fencing, facilities &amp; disestablishment         1         item           Provision of sediment &amp; erosion control         1         item           Construction setout &amp; survey         1         item           Work as executed survey &amp; documentation         1         item           Geotechnical supervision, testing &amp; certification         1         item           SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         DEMOLITION, CLEARING AND GRUBBING           Clearing &amp; grubbing of vegatated areas (nominal allowance)         5         sq. m           Strip topsoil &amp; stockpile for re-use (assuming 150mm depth)         0.675         cu. m           Dispose of excess topsoil (nominal 10% allowance)         0         sq.m           SUBTOTAL         U         U         U           Pull up and dispose existing road surface         0         sq.m           SUBTOTAL         U         U         U           DRAINAGE         U         Uin.m         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m         Iin.m           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m         Iin.m</td> <td>GENERAL AND PRELIMINARIES         Site establishment, security fencing, facilities &amp; disestablishment       1       item         Provision of sediment &amp; erosion control       1       item         Construction setout &amp; survey       1       item         Work as executed survey &amp; documentation       1       item         Geotechnical supervision, testing &amp; certification       1       item         SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)       0         DEMOLITION, CLEARING AND GRUBBING         Clearing &amp; grubbing of vegatated areas (nominal allowance)       5       sq. m       10         Strip topsoil &amp; stockpile for re-use (assuming 150mm depth)       0.675       cu. m       250         Dispose of excess topsoil (nominal 10% allowance)       0       sq. m       150         SUBTOTAL       0       sq. m       150         SUPPly, excavate, bed, lay, joint, backfill and provide connections for 0.45m       lin.m       800         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.57m       lin.m       850         Supply, excavate, bed, lay, joint, b</td>	DESCRIPTION OF WORK         QUANTITY         UNIT           GENERAL AND PRELIMINARIES         item         item           Site establishment, security fencing, facilities & disestablishment         1         item           Provision of sediment & erosion control         1         item           Construction setout & survey         1         item           Work as executed survey & documentation         1         item           Geotechnical supervision, testing & certification         1         item           SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)         DEMOLITION, CLEARING AND GRUBBING           Clearing & grubbing of vegatated areas (nominal allowance)         5         sq. m           Strip topsoil & stockpile for re-use (assuming 150mm depth)         0.675         cu. m           Dispose of excess topsoil (nominal 10% allowance)         0         sq.m           SUBTOTAL         U         U         U           Pull up and dispose existing road surface         0         sq.m           SUBTOTAL         U         U         U           DRAINAGE         U         Uin.m         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m         Iin.m           Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m         Iin.m	GENERAL AND PRELIMINARIES         Site establishment, security fencing, facilities & disestablishment       1       item         Provision of sediment & erosion control       1       item         Construction setout & survey       1       item         Work as executed survey & documentation       1       item         Geotechnical supervision, testing & certification       1       item         SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)       0         DEMOLITION, CLEARING AND GRUBBING         Clearing & grubbing of vegatated areas (nominal allowance)       5       sq. m       10         Strip topsoil & stockpile for re-use (assuming 150mm depth)       0.675       cu. m       250         Dispose of excess topsoil (nominal 10% allowance)       0       sq. m       150         SUBTOTAL       0       sq. m       150         SUPPly, excavate, bed, lay, joint, backfill and provide connections for 0.45m       lin.m       800         Supply, excavate, bed, lay, joint, backfill and provide connections for 0.57m       lin.m       850         Supply, excavate, bed, lay, joint, b

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x				
3.15	2.0m culvert		lin.m	6500	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	3	each	6000	18,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	39,285	,
3.19	Allowance for cost for bore (under rail)	1	item	1,000,000	1,000,000
	SUBTOTAL				1,218,235

59915195 September 2017

Marrickville Valley FRMSP

				<u>г г</u>	
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	121824	121,824
0.1	SUBTOTAL		Rom	121021	121,824
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	5	sq. m	20	90
	SUBTOTAL				90
	CONSTRUCTION SUB-TOTAL				1,541,224
8.0	CONTINGENCIES				
8.1	30% construction cost				462,367
	CONSTRUCTION TOTAL, excluding GST				2,003,591
	GST				200,359
					2,203,950
	CONSTRUCTION TOTAL, including GST				2,203,330
	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				2,203,330
DISCLAI	CONSTRUCTION TOTAL, rounded				
	CONSTRUCTION TOTAL, rounded	is estimate	of cost is not	guaranteed.	
1. This e	CONSTRUCTION TOTAL, rounded MER:	is estimate	of cost is not	guaranteed.	
1. This e Cardno (	CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	is estimate	of cost is not	guaranteed.	
1. This es Cardno (I <b>NOTES</b> :	CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	iis estimate	of cost is not	guaranteed.	
1. This es Cardno (l <b>NOTES</b> : 1. Estima	CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th NSW) will not accept liability in the event that actual costs exceed the estimate.	is estimate	of cost is not	guaranteed.	

Marrickville Valley FRMSP

5991519	5 MARRICKVILLE FRMS&P			Carc aping the Futu	
Cost Est	timate				
Option:	FM13.4 - Divert flows down Edgar Street to new connection	under rail			
				I	v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
110	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)		Rom		219,900
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	63	sq. m	10	630
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	9.45	cu. m	25	230
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.945	cu. m	200	189
2.4	Pull up and dispose existing road surface	0	sq.m	150	(
	SUBTOTAL				1,055
3.0	DRAINAGE				
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m				
3.1	dia. Pipe		lin.m	800	(
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe	20	lin.m	800	16,000
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	20	lin.m	850	17,000
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	(
0.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m			1040	
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.	170	lin.m	1230	209,100
3.6	Pipe		lin.m	1430	(
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	(
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	(
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.				
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	(
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x	┨────┤	lin.m	3370	(
3.11	0.45m culvert		lin.m	1380	(
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	(
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	(
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x				
3.14	0.4m culvert		lin.m	3220	0

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.2m x				
3.15	2.0m culvert		lin.m	6500	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	9	each	6000	54,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	4,800	4,800
3.19	Allowance for cost for bore (under rail)	1	item	1,000,000	1,000,000
	SUBTOTAL				1,330,900

59915195 September 2017

Marrickville Valley FRMSP

Reinstate disturbed road pavement, including demolition and disposal of				
	0	sq. m	120	(
SUBTOTAL				
PROPERTY BY-BACK				
Purchase of properties in order to create drainage easements	0	each	1300000	
SUBTOTAL		-		
TRAFFIC CONTROL				
Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	133090	133,09
SUBTOTAL				133,09
MINOR LANDSCAPING				
Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	63	sq. m	20	1,26
SUBTOTAL				1,26
CONSTRUCTION SUB-TOTAL				1,686,20
CONTINGENCIES				
CONTINGENCIES 30% construction cost				505,86
30% construction cost				505,86 2,192,06 219,20
30% construction cost CONSTRUCTION TOTAL, excluding GST				2,192,06
30% construction cost CONSTRUCTION TOTAL, excluding GST GST				2,192,06
30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST				2,192,06 219,20 2,411,27
30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	his estimate	of cost is not	guaranteed.	2,192,06 219,20 2,411,27
30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	his estimate	of cost is not	guaranteed.	2,192,06 219,20 2,411,27
30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	his estimate	of cost is not	guaranteed.	2,192,06 219,20 2,411,27
30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The	his estimate	of cost is not	guaranteed.	2,192,06 219,20 2,411,27
	additional material to provide good jointing         SUBTOTAL         PROPERTY BY-BACK         Purchase of properties in order to create drainage easements         SUBTOTAL         TRAFFIC CONTROL         Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)         SUBTOTAL         MINOR LANDSCAPING         Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)         SUBTOTAL	additional material to provide good jointing       0         SUBTOTAL       0         PROPERTY BY-BACK       0         Purchase of properties in order to create drainage easements       0         SUBTOTAL       0         SUBTOTAL       1         Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)       1         SUBTOTAL       1         SUBTOTAL       63         SUBTOTAL       63	additional material to provide good jointing       0       sq. m         SUBTOTAL       9         PROPERTY BY-BACK       0       each         SUBTOTAL       1       item         Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)       1       item         SUBTOTAL       1       item       63       sq. m         MINOR LANDSCAPING       63       sq. m       sq. m	additional material to provide good jointing       0       sq. m       120         SUBTOTAL             PROPERTY BY-BACK              Purchase of properties in order to create drainage easements       0       each       1300000          SUBTOTAL                 TRAFFIC CONTROL             130000          Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)       1       item       133090          SUBTOTAL           133090          20          3000

Marrickville Valley FRMSP

Cost Est	5 MARRICKVILLE FRMS&P imate FM13.5 - Upgrade drainage in Brooklyn St and Union St.		_	aping the Fut	
				I	v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			<u> </u>	10,90
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	9	sq. m	10	9
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	1.35	cu. m	25	3
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.135	cu. m	200	2
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				15
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m				
3.1	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m	30	lin.m	800	24,00
3.2	dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
5.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.			900	
3.4	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin.m	1040	
3.5	dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.				
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	(
3.9	Pipe		lin.m	2850	(
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	(
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	(
	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x				
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x	+ +	lin.m	1725	(
3.13	1.2m culvert		lin.m	2760	(
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	(

	Supply, excavate, bed, lay, joint, backhill and provide connections for 1.8m x				
3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	2	each	6000	12,000
	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
3.17	installation cost, with minimum cost of \$30,000)		item	30,000	30,000
	SUBTOTAL				66,000
4.0	PAVEMENTS				
			-		
	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	0

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL		-		
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	6600	6,60
	SUBTOTAL				6,60
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	9	sq. m	20	18
					18
	SUBTOTAL				10
	CONSTRUCTION SUB-TOTAL				83,83
8.0					
<b>8.0</b> 8.1	CONSTRUCTION SUB-TOTAL				83,83
	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost				83,83 25,14
	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				83,83 25,14 108,98
	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				83,83 25,14 108,98 10,89
	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST				83,83 25,14 108,98 10,89 119,87
8.1	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				83,83 25,14 108,94 10,89
8.1 DISCLAI	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	s estimat	e of cost is no	ot guaranteed.	83,8 25,1 108,9 10,8 119,8
8.1 DISCLAI	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	s estimat	e of cost is no	ot guaranteed.	83,8 25,1 108,9 10,8 119,8
8.1 DISCLAI	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	s estimat	e of cost is no	ot guaranteed.	83,8 25,1 108,9 10,8 119,8
8.1 DISCLAI . This es Cardno (I IOTES:	CONSTRUCTION SUB-TOTAL CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. Th	s estimat	e of cost is no	ot guaranteed.	83,8 25,1 108,9 10,8 119,8

Marrickville Valley FRMSP

# 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM14.1 - Upgrade the existing pipe underneath Bolton St and railway line.

EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				51,
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	54	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	8.1	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.81	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	980	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe	180	lin.m	1430	257,
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	4	each	6000	24,
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	28,140	28,
0.17	SUBTOTAL		itom	20,140	309
		1			
4.0	PAVEMENTS				
	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	30954	30,9
	SUBTOTAL				30,9
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	54	sq. m	20	1,08
	SUBTOTAL				1,0
				I	
	CONSTRUCTION SUB-TOTAL				393,87
8.0	CONSTRUCTION SUB-TOTAL				393,8
<b>8.0</b> 8.1					
	CONTINGENCIES				393,87 118,10 512,04
	CONTINGENCIES 30% construction cost				118,10
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				118,10 512,04
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				118,1 512,0 51,2
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				118,1 512,0 51,2 563,2
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is no	t guaranteed.	118,1 512,0 51,2 563,2
8.1 ISCLAI This e ardno (	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	his estimate	of cost is no	t guaranteed.	118,1 512,0 51,2 563,2
8.1 ISCLAI This e ardno ( OTES:	CONTINGENCIES         30% construction cost         CONSTRUCTION TOTAL, excluding GST         GST         CONSTRUCTION TOTAL, including GST         CONSTRUCTION TOTAL, including GST         CONSTRUCTION TOTAL, including GST         MER:         stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is no	t guaranteed.	118,1 512,0 51,2 563,2
8.1 ISCLA This e ardno ( OTES: Estima	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. To NSW) will not accept liability in the event that actual costs exceed the estimate.	his estimate	of cost is no	t guaranteed.	118,1 512,0 51,2 563,2

Marrickville Valley FRMSP

	5 MARRICKVILLE FRMS&P	5		aping the Fut	
Cost Est Option:	FM15.1 - Upgrade and extend drainage in Victoria Road Sout and Victoria Lane and Meeks Road.	h of Sydenl	nam Rd a	nd Victoria	
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	†		<u> </u>	36,70
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	48	sq. m	10	48
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	7.2	cu. m	25	18
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.72	cu. m	200	14
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				80
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m	· · · · · ·			
3.1	dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	160	lin.m	850	136,00
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	930	
3.4	Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x	<b>↓</b>	lin.m	3370	
3.11	0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	

lin.n	m 3220	C
lin.n	m 4830	C
' eac	h 6000	42,000
iten	m 30,000	30,000
iten	m 12,750	12,750
		220,750

59915195 September 2017

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of				
4.1	additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	22075	22,075
	SUBTOTAL	-			22,075
7.0	MINOR LANDSCAPING				·
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	48	sq. m	20	960
	SUBTOTAL				960
	CONSTRUCTION SUB-TOTAL				281,289
8.0	CONTINGENCIES				
8.1	30% construction cost				84,387
	CONSTRUCTION TOTAL, excluding GST				365,676
	GST				36,568
	GST CONSTRUCTION TOTAL, including GST				
					36,568 402,243 402,300
DISCLAI	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				402,243
	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is not	guaranteed.	402,243
1. This e	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER:	nis estimate	of cost is not	guaranteed.	402,243
1. This e	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: Instimate of cost is provided in good faith using information available at this stage. The (NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	guaranteed.	402,243
1. This e Cardno ( <b>NOTES</b> :	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: Instimate of cost is provided in good faith using information available at this stage. The (NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	guaranteed.	402,243
1. This e Cardno ( <b>NOTES</b> : 1. Estima	CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: estimate of cost is provided in good faith using information available at this stage. The (NSW) will not accept liability in the event that actual costs exceed the estimate.	nis estimate	of cost is not	guaranteed.	402,243

Marrickville Valley FRMSP

# 59915195 MARRICKVILLE FRMS&P



Cost Estimate

Option: FM15.2 - Upgrade and extend Drainage in Victoria Road north of Sydenham Rd.

EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)			-	49,7
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	60	sq. m	10	6
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	9	cu. m	25	2
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.9	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL		·		1,0
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	200	lin.m	850	170,0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x		lin.m	3220	
3.15	2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	8	each	6000	48,
o 17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,
3.17			ROTT	00,000	

#### 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL				0
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	29900	29,900
	SUBTOTAL				29,900
7.0	MINOR LANDSCAPING			·	
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	60	sq. m	20	1,200
	SUBTOTAL				1,200
	CONSTRUCTION SUB-TOTAL				380,805
8.0	CONTINGENCIES				
8.1	30% construction cost				114,242
	CONSTRUCTION TOTAL, excluding GST				495,047
	GST				49,505
	CONSTRUCTION TOTAL, including GST				544,551
	CONSTRUCTION TOTAL, rounded				544,600
DISCLA	IMER:				
1. This e	stimate of cost is provided in good faith using information available at this stage. T	his estimate	e of cost is not	t guaranteed.	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
	ate does not include Consultant's fees, including design or project management				

Marrickville Valley FRMSP

Ontion:	timate FM15.3 - Divert Buckley St and Wilkinson Ln into Shirlow St t	runk			
puon.	T M 13.5 - Divert Buckley St and Wirkinson En into Shinow St t			1	v1
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				146,
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)		sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	0	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia.		lin.m	800	
3.2	Pipe		lin.m	850	
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe	350	lin.m	1950	682,
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x		lin.m	1380	
3.12	0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.6m culvert		lin.m	3500	

	SUBTOTAL				886,950
3.18	Allowance for nightworks (assume for works on all regional/state roads)	1	item	70,200	70,200
3.17	installation cost, with minimum cost of \$30,000)	1	item	74,250	74,250
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	10	each	6000	60,000
3.15	2.4m culvert	10	lin.m	4830	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.14	0.6m culvert		lin.m	3500	0

## 4.0 PAVEMENTS

59915195 September 2017

Marrickville Valley FRMSP

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0
	SUBTOTAL		0q. m	120	0
5.0					
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	88695	88,695
	SUBTOTAL				88,695
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	0	sq. m	20	0
	SUBTOTAL				0
					4 4 9 4 9 4 5
	CONSTRUCTION SUB-TOTAL				1,121,945
8.0	CONTINGENCIES				
8.1	30% construction cost				336,584
	CONSTRUCTION TOTAL, excluding GST				1,458,529
	GST				145,853
	CONSTRUCTION TOTAL, including GST				1,604,381
	CONSTRUCTION TOTAL, rounded				1,604,400
DISCLAI					
1. This e	stimate of cost is provided in good faith using information available at this stage.	his estimate	of cost is not	t guaranteed	
Cardno (	NSW) will not accept liability in the event that actual costs exceed the estimate.				
NOTES:					
1. Estima	ate does not include Consultant's fees, including design or project management				
2. Estima	ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

ost Est				aping the Fut	
ption:	FM15.5 - Upgrade drainage in Faversham Street.			I	v1
EM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				14,0
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	15	sq. m	10	1
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	2.25	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0.225	cu. m	200	
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL	•	•		2
3.0	DRAINAGE Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m				
3.1 3.2	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe	50	lin.m	800	42,5
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe	00	lin.m	930	
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m		lin.m	1430	
3.7	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	1690	
3.8	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia.		lin.m	1040	
3.9	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.		lin.m	2850	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11 3.12	0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1380	
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2760	
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4830	
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe) Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	2	each	6000	12,
3.17	installation cost, with minimum cost of \$30,000)	1	item	30,000	30,
	SUBTOTAL				84,
4.0	PAVEMENTS				
	Reinstate disturbed road pavement, including demolition and disposal of			<del>т т</del>	

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	8450	8,45
	SUBTOTAL				8,4
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	15	sq. m	20	30
	SUBTOTAL				3
	CONSTRUCTION SUB-TOTAL				107,5
8.0	CONTINGENCIES				
8.1	30% construction cost				32,2
	CONSTRUCTION TOTAL, excluding GST				139,7
	GST				13,97
	CONSTRUCTION TOTAL, including GST				153,72
	CONSTRUCTION TOTAL, rounded				153,8
ISCLAI					
	stimate of cost is provided in good faith using information available at this stage. The	his estimate	of cost is no	t guaranteed.	
	NSW) will not accept liability in the event that actual costs exceed the estimate.				
OTES:					
Estima	ate does not include Consultant's fees, including design or project management ate / rates in 2010 dollars and does not allow for inflation				

Marrickville Valley FRMSP

APPENDIX A COST ESTIMATES

-				1	
TEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				86,80
2.0	DEMOLITION, CLEARING AND GRUBBING				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	123	sq. m	10	1,23
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	18.45	cu. m	25	40
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.845	cu. m	200	36
2.4	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				2,00
3.0	DRAINAGE				
2.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m		lin m	200	
3.1 3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	800	
3.1 3.2 3.3	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe		lin.m lin.m lin.m	800 850 930	
3.2	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	410	lin.m	850	426,40
3.2 3.3	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe	410	lin.m lin.m	850 930	426,40
3.2 3.3 3.4	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe	410	lin.m lin.m lin.m	850 930 1040	426,40
3.2 3.3 3.4 3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe	410	lin.m lin.m lin.m lin.m	850 930 1040 1230	426,40
3.2 3.3 3.4 3.5 3.6	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	410	lin.m lin.m lin.m lin.m lin.m	850 930 1040 1230 1430	426,40
3.2 3.3 3.4 3.5 3.6 3.7	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe	410	lin.m lin.m lin.m lin.m lin.m	850 930 1040 1230 1430 1690	426,40
3.2         3.3         3.4         3.5         3.6         3.7         3.8	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe	410	lin.m lin.m lin.m lin.m lin.m lin.m	850 930 1040 1230 1430 1690 1040	426,40
3.2         3.3         3.4         3.5         3.6         3.7         3.8         3.9	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe	410	lin.m lin.m lin.m lin.m lin.m lin.m lin.m	850 930 1040 1230 1430 1690 1040 2850	426,40
3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert	410	lin.m lin.m lin.m lin.m lin.m lin.m lin.m lin.m	850 930 1040 1230 1430 1690 1040 2850 3370	426,40
3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10 3.11	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x	410	lin.m lin.m lin.m lin.m lin.m lin.m lin.m lin.m	850 930 1040 1230 1430 1690 1040 2850 3370 1380	426,40

3.14	0.4m culvert		lin.m	3220	0
	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x				
3.15	2.4m culvert		lin.m	4830	0
3.16	Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	8	each	6000	48,000
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	47,440	47,440
	SUBTOTAL				521,840
4.0	PAVEMENTS				
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	0	sq. m	120	0

Marrickville Valley FRMSP

	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	52184	52,18
	SUBTOTAL				52,18
7.0	MINOR LANDSCAPING				
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	123	sq. m	20	2,46
	SUBTOTAL				2,46
					665 34
	CONSTRUCTION SUB-TOTAL				665,34
8.0	CONTINGENCIES				665,34
<b>8.0</b> 8.1					
	CONTINGENCIES				665,34 199,60 864,94
	CONTINGENCIES 30% construction cost				199,60
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				199,60 864,94
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				199,60 864,94 86,49
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded				199,60 864,94 86,49 951,44
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	nis estimate	of cost is not	t guaranteed.	199,60 864,94 86,49 951,44
8.1 ISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	nis estimate	of cost is not	t guaranteed.	199,60 864,94 86,49 951,44
8.1 ISCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The stage is the stage of the stage of the stage of the stage.	nis estimate	of cost is not	t guaranteed.	199,60 864,94 86,44 951,44
8.1 ISCLAI This e ardno ( OTES:	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. The stage is the stage of the stage of the stage of the stage.	his estimate	of cost is not	t guaranteed.	199,60 864,94 86,44 951,44

Marrickville Valley FRMSP

5991519	5 MARRICKVILLE FRMS&P			Care aping the Fut	
Cost Est					
Option:	FM15.9 - Drainage works along Saywell Street				
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)	•		•	232,000
2.0	DEMOLITION, CLEARING, GRUBBING & EARTHWORKS				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	0	sq. m	10	(
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	0	cu. m	25	(
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	200	
2.4	Construct earthern embankment and regrade to suit design levels (incl. provision of suitable fill)	180	cu.m	200	36,000
2.5	Pull up and dispose existing road surface	0	sq.m	150	
	SUBTOTAL				36,00
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	(
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	(
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	930	
3.4	Pipe		lin.m	1040	
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1230	(
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1430	(
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	1690	(
3.8	Pipe		lin.m	1040	(
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	(
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	3370	(
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1380	(
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin.m	1725	(
0.40	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x		lin m	2760	

1.2m culvert		lin.m	2760	C
Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x				
0.4m culvert		lin.m	3220	0
Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x				
1.5m culvert	200	lin.m	5865	1,173,000
Install new drainage / junction pit (assumed 1 pit per 50m of pipe)	5	each	6000	30,000
Install new outlet near Sydenham Pit	1	each	50000	50,000
Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage				
installation cost, with minimum cost of \$30,000)	1	item	120,300	120,300
SUBTOTAL				1,373,300
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x 1.5m culvert Install new drainage / junction pit (assumed 1 pit per 50m of pipe) Install new outlet near Sydenham Pit Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x         0.4m culvert         Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x         1.5m culvert       200         Install new drainage / junction pit (assumed 1 pit per 50m of pipe)       5         Install new outlet near Sydenham Pit       1         Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)       1	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m xIin.m0.4m culvertlin.mSupply, excavate, bed, lay, joint, backfill and provide connections for 3.0m xIin.m1.5m culvert200Install new drainage / junction pit (assumed 1 pit per 50m of pipe)5Install new outlet near Sydenham Pit1Adjustment of exsiting services (nominal allowance) (assumed 10% of drainageinstallation cost, with minimum cost of \$30,000)1	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m xIin.m0.4m culvertlin.mSupply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x1.5m culvert200Install new drainage / junction pit (assumed 1 pit per 50m of pipe)51nstall new outlet near Sydenham Pit1Adjustment of exsiting services (nominal allowance) (assumed 10% of drainageinstallation cost, with minimum cost of \$30,000)1

## 4.0 PAVEMENTS

Marrickville Valley FRMSP

4.1	additional material to provide good jointing	0	sq. m	120	
	SUBTOTAL				
5.0	PROPERTY BY-BACK				
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	
	SUBTOTAL				
6.0	TRAFFIC CONTROL				
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	137330	137,3
0.1	SUBTOTAL		item	107000	137,3
<b>7.0</b>	MINOR LANDSCAPING Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	0	sq. m	20	
7.1	SUBTOTAL	0	Sq. 11	20	
	CONSTRUCTION SUB-TOTAL				1,778,6
8.0	CONSTRUCTION SUB-TOTAL				1,778,0
<b>8.0</b> 8.1					1,778,0 533,5
	CONTINGENCIES				
	CONTINGENCIES 30% construction cost				533,
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST				533,4 2,312,2
	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST				533,4 2,312,2 231,2
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST				533, 2,312,; 231,; 2,543,
8.1	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	is estimate	of cost is not	t guaranteed.	533,4 2,312,2 231,2 2,543,4 2,543,4
8.1 SCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER:	is estimate	of cost is not	t guaranteed.	533,4 2,312,1 231,7 2,543,4 2,543,4
8.1 SCLAI	CONTINGENCIES 30% construction cost CONSTRUCTION TOTAL, excluding GST GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded IMER: stimate of cost is provided in good faith using information available at this stage. Th NSW) will not accept liability in the event that actual costs exceed the estimate.	is estimate	of cost is not	t guaranteed.	533, 2,312, 231, 2,543, 2,543,

Marrickville Valley FRMSP

Cost Est					ure
Option:	FM15.9 - Drainage works along Saywell Street, Buckley St,Wilkinson Ln and Shirlow St				
	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	v1 COST
_		QUANTIT	UNIT	KATE	0001
1.0	GENERAL AND PRELIMINARIES				
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				375,1
2.0	DEMOLITION, CLEARING, GRUBBING & EARTHWORKS				
2.1	Clearing & grubbing of vegatated areas (nominal allowance)	0	sq. m	10	
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	0	cu. m	25	
2.3	Dispose of excess topsoil (nominal 10% allowance)	0	cu. m	200	
2.4	Construct earthern embankment and regrade to suit design levels (incl. provision of suitable fill)	180	cu.m	200	36,0
2.4	Pull up and dispose existing road surface	0		150	50,0
2.0	SUBTOTAL	0	sq.m	150	36,0
	00010112				50,0
3.0	DRAINAGE				
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Pipe		lin.m	800	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	850	
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.75m			650	
3.3	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia.		lin.m	930	
3.4	Pipe		lin.m	1040	
2.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m		lin m	4000	
3.5	dia. Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia.		lin.m	1230	
3.6	Pipe		lin.m	1430	
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	1690	
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.5m dia. Pipe	350	lin.m	1950	682,5
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	2850	
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia.			2000	
3.10	Pipe Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x		lin.m	3370	
3.11	0.45m culvert		lin.m	1380	
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1725	
	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x				
3.13	1.2m culvert Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x		lin.m	2760	
3.14	0.4m culvert		lin.m	3220	
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 3.0m x 1.5m culvert	200	lin.m	5865	1,173,0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	12	each	6000	72,0
3.17	Install new outlet near Sydenham Pit Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage	1	each	50000	50,0
3.18	installation cost, with minimum cost of \$30,000)	1	item	192,750	192,7
3.19	Allowance for nightworks (assume for works on all regional/state roads)	1	item	70,200	70,2
	SUBTOTAL				2,240,4

Marrickville Valley FRMSP

	Reinstate disturbed road pavement, including demolition and disposal of											
4.1	additional material to provide good jointing	0	sq. m	120	0							
	SUBTOTAL				C							
5.0	PROPERTY BY-BACK											
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	(							
	SUBTOTAL				C							
6.0	TRAFFIC CONTROL											
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	224045	224,045							
	SUBTOTAL				224,045							
7.0												
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	0	sq. m	20	(							
	SUBTOTAL				C							
	· · ·											
	CONSTRUCTION SUB-TOTAL				2,875,595							
8.0	CONTINGENCIES											
	30% construction cost				862,679							
8.1					3,738,274							
8.1	CONSTRUCTION TOTAL, excluding GST	GST										
8.1												
8.1					4,112,101							
8.1	GST				4,112,101 4,112,200							
	GST CONSTRUCTION TOTAL, including GST											
SCLAI	GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded	s estimate	e of cost is not	guaranteed.								
SCLAI	GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER:	s estimate	e of cost is not	guaranteed.								
SCLAI	GST CONSTRUCTION TOTAL, including GST CONSTRUCTION TOTAL, rounded MER: stimate of cost is provided in good faith using information available at this stage. This	s estimate	e of cost is not	guaranteed.								

Marrickville Valley FRMSP

Marrickville Valley Floodplain Risk Management Study and Plan

## APPENDIX

**OPTIONS MCA ANALYSIS** 



Category	Category Factor	Category Weighting	Criteria	Criteria Weighting	g Metric	FM1.1	FM1.2	FM2.1	FM2.3	FM3.1	FM3.2	FM3.3	FM3.4	FM3.6	FM4.2	FM5.2	FM5.3 & 5.4	FM5.6	FM5.9	FM6.1	FM6.4	FM7.1 & 7.5	FM7.6	FM8.1 & 8.2	FM8.3	FM9.1	FM10.1	FM10.2	FM10.4	FM11.1 & 11.2	FM11.3	FM11.4	<sup>:</sup> M12.1 & 12.:	FM12.4	M13.1 & 13.:	FM13.4	FM14.1 위	M15.1 & 15.	FM15.3	FM15.9	FM15.10
			Benefit Cost Ratio	5	Comparison of econom benefits against the capi and operating costs.		1	4	1	2	2	3	2	2	1	4	4	4	1	3	3	1	2	1	1	1	1	1	1	4	4	3	1	2	1	1	3	2	1	1	1
Economic	1.00	0.33	Complexity	3	Implementation or construction timeframe and challenges	9 1	1	1	2	1	-1	1	2	-2	2	1	2	3	-2	2	2	1	1	1	-1	-2	1	-1	1	1	2	1	2	3	2	-2	1	1	-1	-1	-1
			Staging of Works	1	Ability to stage propose works	d 0	0	0	0	0	1	0	1	1	2	0	1	2	0	0	1	0	0	0	2	1	0	1	0	0	0	0	2	0	0	0	0	1	1	0	2
			Reduction in risk to life	9 4	Change in number of properties with over floo flooding in 1% AEP ever and reduced flooding fo sensitive land uses (e.g schools, child care facilities, aged care)	nt r 2	-1	-2	0	1	1	1	1	1	1	-2	1	3	1	0	1	2	1	-3	1	-1	0	1	0	3	1	1	0	0	1	1	1	0	2	4	4
Social	0.75	0.25	Emergency Access	3	Flood depth and duratio changes for critical transport routes in 1% AEP event	2	-1	-2	0	0	3	0	3	-1	2	-1	1	1	1	0	1	3	2	-2	2	-2	0	1	1	3	2	0	0	0	2	1	2	0	3	4	4
			Social Disruption	3	Flood depth and duratio changes for transport routes in 2yr ARI even	2	-1	2	2	2	3	0	2	1	1	-1	3	2	1	1	2	2	2	1	2	4	1	2	1	3	1	1	2	3	1	1	1	2	0	0	0
			Community and Stakeholder Suppo	rt 4	Level of agreement	3	3	3	3	3	3	3	3	1	1	1	3	3	3	2	2	2	2	2	2	3	2	3	3	2	2	2	3	3	2	2	2	2	2	2	2
Environmental 0.75			Heritage Conservation Area and Heritage Items		Impacts to heritage item identified in the FRMS		1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Recreation and Flo / Fauna Impacts	a 4	Impacts on or benefits t recreation spaces or flor fauna inc. street trees	a/ -1	-1	0	0	-1	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	0	-1	-1	0	0	0	0	0
	0.75	0.25	Acid Sulfate Soils c contaminated land	<sup>r</sup> 1	Disruption of PASS or contaiminated land		-2	0	0	0	-2	-1	-1	0	0	0	0	0	0	0	0	-2	-2	0	0	0	-2	-2	-1	-1	-1	-1	0	0	-2	-2	0	-1	-2	-2	-2
			Visual Impact or Public Domain	3	Impact of completed wor on visual amenity or pub domain		0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
			CA	TEGORY WEI	GHTED SCORE - ECONOM	4.3	2.7	7.7	3.7	4.3	2.7	6.0	5.7	1.7	4.3	7.7	9.0	10.3	-0.3	7.0	7.3	2.7	4.3	2.7	1.3	0.0	2.7	1.0	2.7	7.7	8.7	6.0	4.3	6.3	3.7	-0.3	6.0	4.7	1.0	0.7	1.3
					WEIGHTED SCORE - SOCIA	8.0	0.5	1.0	4.5	5.5	8.5	4.0	7.8	2.0	4.3	-2.5	7.0	8.3	5.5	2.8	5.3	7.8	6.0	-1.8	6.0	3.5	2.8	6.3	4.5	9.5	5.3	3.8	4.5	5.3	5.3	4.5	5.3	3.5	6.3	9.0	9.0
			CATEGOR	Y WEIGHTED	SCORE - ENVIRONMENTA	-1.0	-1.0	0.0	0.0	-1.0	-0.5	-0.3	-0.3	-1.8	0.0	0.0	0.5	0.0	0.0	0.0	0.0	-0.5	-0.5	0.5	0.5	0.5	-0.5	-0.5	-0.3	-1.5	-0.3	-0.3	0.0	0.0	-1.5	-1.5	0.0	-0.3	-0.5	-0.5	-0.5
					MCA SCOP		2.29	8.42	7.04	7.71	8.67	8.81	11.29	1.85	7.52	5.79	14.63	16.52	3.79	9.06	11.27	8.10	8.46	1.73	6.21	3.00	4.35	5.31	5.85	13.67	12.42	8.63	7.71	10.27	6.48	1.92	9.94	7.10	5.31	7.04	7.71

CATEGORY WEIGHTED SCORE = CATEGORY WEIGHTING x CRITERIA WEIGHTING x CRITERIA SCORE

MCA SCORE = CATEGORY FACTOR x CATEGORY WEIGHTED SCORE

September 2017

Category	Category Weighting	Criteria	Criteria Weighting	Metric	PM 1	PM 2	PM 3	PM 4	PM 5	PM 6	EM 1	EM 2	EM 3	EM 4	EM 5	EM 6	EM 7
		Capital Cost	4	Capital Cost of Option	-4	-3	-4	-1	-1	0	-2	0	0	0	-1	-1	-1
Economic	0.33	Operating and Maintenance Cost	4	Annual Operating Cost of Option	0	0	-2	-1	-2	-3	-1	0	0	0	-2	-2	-2
		Implementation Complexity	3	Implementation timeframe and challenges	-4	-4	-3	-1	3	1	2	3	-1	-2	3	3	3
		Increased Awareness	5	Level of likely increased awareness	0	0	0	3	0	0	0	3	3	3	4	4	0
		Improved Response	5	NA	0	0	0	3	0	0	4	3	3	3	3	4	0
		Reduction in risk to life	5	NA	3	3	3	3	3	3	3	0	3	3	4	4	3
Social	0.20	Compatibility of proposed works / option with Council Plans & Policies	3	Level of compatibility	0	0	0	0	0	0	0	0	0	0	0	0	0
		Community and Stakeholder Support	3	Level of agreement	0	0	0	0	3	3	0	0	0	0	0	1	3
		Heritage Conservation Areas and Heritage Items	2	Impacts to heritage items identified in the FRMS	0	0	0	0	0	0	0	0	0	0	0	0	0
		Recreation and Flora / Fauna Impacts including Street Trees	4	Impacts or benefits to flora / fauna or passive/active recreational areas	2	0	1	0	0	0	0	0	0	0	0	0	0
Environmental	0.25	Acid Sulfate Soils and Contaminated Land	1	Disruption of PASS and/or Disruption of Contaminated Land	0	0	0	0	0	0	0	0	0	0	0	0	0
		Visual Impact	3	Impact of completed works on visual amenity or or function of public domain	1	0	0	0	2	1	0	0	0	0	0	0	3
CATEGORY WEIGHTED SCORE - ECONOMIC					-12.4	-10.7	-14.7	-4.9	-1.3	-4.0	-2.7	4.0	-1.3	-2.7	-1.3	-1.3	-1.3
	CATEGORY WEIGHTED SCORE - SOCIAL					3.0	3.0	9.0	4.8	4.8	7.0	6.0	9.0	9.0	11.0	12.6	4.8
	CATEGORY WEIGHTED SCORE - ENVIRONMENTAL						1.0	0.0	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.3
				MCA SCORE	-12.13	-11.82	-16.41	0.68	3.19	-0.93	2.04	10.13	5.42	3.64	7.02	8.30	3.75

CATEGORY WEIGHTED SCORE = CATEGORY WEIGHTING x CRITERIA WEIGHTING x CRITERIA SCORE MCA SCORE = CATEGORY FACTOR x CATEGORY WEIGHTED SCORE

## Marrickville Valley FRMSP June 2017