

Preliminary Flood Mitigation Options Map Index With 1% AEP Flood Extent



Map Produced by Cardno NSW/ACT Pty Ltd Date: September 2016 Project:59915195 Coordinate System: MGA Zone 56

MARRICKVILLE VALLEY FRMS&P

1.2 Divert Flows from Wardell Rd down Bishop St to basin via 600mm diameter pipes

4.1 New drainage system

down Livingstone Rd

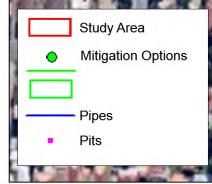
1.1 Divert Flows from Morton Ave via 1200mm diameter pipe to Fraser St and install 1.5m by 1.5m box culvert from Fraser St to basin

1.3 Regrade road in Lawson Ave to fall to park

1.5 Upgrade existing 1050mm and 1200mm diameter pipes to 1650mm diameter pipes to connect to the proposed surcharge pit

1.4 Create new opening and remove adjacent mound

2.1 Install orifice plate on basin



outlet to maximise basin

2.4 Divert Flows from Wardell Rd and Pile St down to Porter Ave to Basin via 600mm diameter pipes

### Preliminary Flood Mitigation Options Area 1

#### MARRICKVILLE VALLEY FRMS&P



Flows from Morton Ave m diameter pipe to Fraser St 1.5m by 1.5m box culvert er St to basin

1.3 Regrade road in Lawson Ave to fall to park

1.5 Upgrade existing 1050mm and 1200mm diameter pipes to 1650mm diameter pipes to connect to the proposed surcharge pit

1.4 Create new opening and remove adjacent mound

2.1 Instruction outlet to flood at

2.1 Install orifice plate on basin outlet to maximise basin flood attenuation

2.4 Divert Flows from Wardell Rd and Pile St down to Porter Ave to Basin via 600mm diameter pipes

> 2.2 Duplicate pipe in Pile St and George St upgrade via 450mm and 600mm diameter pipes

2.3 Divert George St catchment from Livingstone Rd sag to Centennial St via 600mm diameter pipes

3.5 Approx. 2000m open space througl excavation with app surface area

5.2 Demolish brickwall a structures built over dra easement between Parl Neville Sts and upsize pipe to 450mm diamete and/or construct 1.2m w overland flow channel .





### Preliminary Flood Mitigation Options Area 2

#### MARRICKVILLE VALLEY FRMS&P



3.2 Duplicate the open western channel by installing new pits and 1200mm diameter pipe to Malakoff Tunnel.

chment

600mm

3.5 Approx. 2000m3 storage in the open space through bunding or excavation with approx. 5000m2 surface area

3.3 New drainage in Sydenham Rd and connect to Western Channel via 600mm diameter pipes

3.1 Divert stormwater from Jarvie Park to Malakoff Tunnel with a new minimum 1050mm diameter pipe, upgrade drainage in Petersham Rd to 750mm diameter pipe and Northcote St to 450mm diameter pipe

> 3.4 Increase inlet capacity on Despointes St and Silver Star with 450mm diameter pipes and Sydenham Rd with 600mm diameter pipes



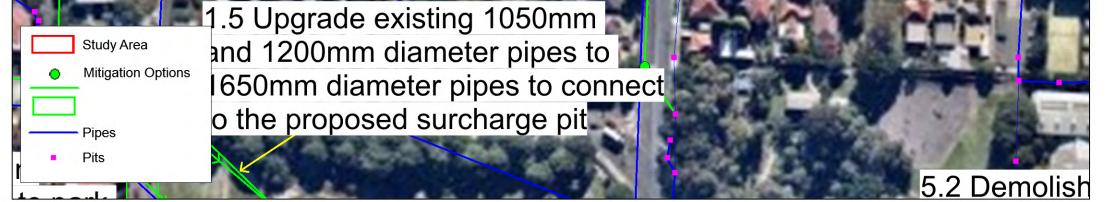
## Preliminary Flood Mitigation Options Area 3

#### MARRICKVILLE VALLEY FRMS&P



rom Wardell Rd o basin via pipes

4.1 New drainage system down Livingstone Rd via 450mm diameter pipe



# **Preliminary Flood Mitigation Options** Area 4

#### MARRICKVILLE VALLEY FRMS&P



5.3 Upgrade drainage in Addison Rd between Park Rd and Gordon Ln via 600mm diameter pipes

5.4 New raised thresholds at Park, Neville and Essex Sts

5.2 Demolish brickwall and structures built over drainage easement between Park and Neville Sts and upsize pipe to 450mm diameter pipe and/or construct 1.2m wide overland flow channel .

5.5 Approx 500m3 storage in the open space through either bunding or excavation with approx. 1000m2 surface area

5.7 Install a new 1200mm diameter pipe and reconfigure connection to Eastern Channel

5.1 New drainage from Park Rd down Surrey St via 450mm diameter pipes, Charles St via 600mm diameter pipes to channel in Illawarra Rd

Study Area Mitigation Options Pipes Pits

3.2 Duplicate the open western

Preliminary Flood Mitigation Options Area 5

MARRICKVILLE VALLEY FRMS&P

6.1 Upgrade Newington F diameter pip

6.4 Install new inlets and 600mm diameter pipes along England Ave, Agar St and Wemyss St

5.6 Increase inlet capacity in Illawarra, York and Shephard Sts via 450mm diameter pipes

5.8 Upgrade Eastern Channel section between Illawarra Rd and Meeks Ln to 4000mm x 3000mm rectangular section

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6.2 Upgrade drainage in Stanmore Rd and Merchant St to 600mm diameter pipes

6.3 Divert flows from Stanmore Rd into 500m3 detention on/under school oval via 450mm diameter pipe to the basin inlet, and 375mm diameter pipe from the basin outlet

> 6.1 Upgrade drainage in Newington Rd to 600mm diameter pipes

6.4 Install new inlets and 600mm diameter pipes along England Ave, Agar St and Wemyss St

5.7 Install a new 1200mm diameter 🟅



### Preliminary Flood Mitigation Options Area 6

#### MARRICKVILLE VALLEY FRMS&P



6.1 Upgrade drainage in Newington Rd to 600mm diameter pipes

ew inlets diameter pipes and Ave, Wemyss St

se inlet capacity a, York and Sts via 450mm pipes

nnel Rd

х

on

7.3 New 600mm diameter pipes Fotheringham St

7.4 Duplicate trunk under Enmore Park from Addison Rd at Phillpot St to Leicester St 3.2m x 2.0m box culvert

7.5 Duplicate 600mm diameter pipe and new pits in Denby St and threshold on Denby St at Addison Rd

7.2 Industry partnership with large 'super roofs' to store and use water

7.1 Install 600mm diameter pipes along Enmore Rd and Cook Rd and install 1800mm x 600mm box culvert along Smith St



## Preliminary Flood Mitigation Options Area 7

#### MARRICKVILLE VALLEY FRMS&P



8.3 Upgrade and Extend drainage in Crawford PI and Hollands Ave via 600mm and 750mm diameter pipes

> 9.1 New drainage in Marricky Road and connect to Malako via 600mm diameter pipes

8.2 New drainage in Robert Street via 600mm diameter pipe

8.1 New drainage in Arthur Street and connect to Malakoff tunnel via 600mm diameter pipe



# Preliminary Flood Mitigation Options Area 8

#### MARRICKVILLE VALLEY FRMS&P



8.3 Upgrade and Extend drainage in Crawford PI and Hollands Ave via 600mm and 750mm diameter pipes

9.1 New drainage in Marrickville Road and connect to Malakoff tunnel via 600mm diameter pipes

8.2 New drainage in Robert Street via 600mm diameter pipe

> 8.1 New drainage in Arthur Street and connect to Malakoff tunnel via 600mm diameter pipe

9.3 Divert flows from McNeilly Park to Malakoff Tunnel by installing a new 1200mm diameter pipe and large inlet pits



9.2 Upgrade drainage in Illawarra Rd and connect to Malakoff Tunnel via 600mm diameter pipes

Preliminary Flood Mitigation Options Area 9

MARRICKVILLE VALLEY FRMS&P





d Extend drainage in I Hollands Ave 750mm diameter pipes

> 9.1 New drainage in Marrickville Road and connect to Malakoff tunnel via 600mm diameter pipes

8.2 New drainage in Robert Street

8.1 New drainage in Arthur Street and connect to Malakoff tunnel via 600mm diameter pipe

9.3 Divert flows from McNeilly Park to Malakoff Tunnel by installing a new 1200mm diameter pipe and large inlet pits

9.2 Upgrade drainage in Illawarra Rd and connect to Malakoff Tunnel via 600mm diameter pipes



### Preliminary Flood Mitigation Options Area 9

#### MARRICKVILLE VALLEY FRMS&P



pipe, upgra Rd to 750r Northcote

5.7 Upgrade drainage ir Sydney St with 600mm diameter pipe and Vincent St with 900mm diameter pipe

> 10.1 Divert Marrickville Rd flows down Barclay St to Sydenham 🐋 Detention Basin via 600mm diameter pipes

10.4 Divert flows from rail and Charlotte Ave into Western Channel via 900mm diameter pipe

> 10.2 Divert Myrtle St Channel to existing pump station

> > 10.5 Optimise arrangement to utilise current SPS 271 pump station capacity

10.3 Upgrade drainage in Carrington Rd and connect to pipe in rail land via 450mm diameter pipe

Study Area Mitigation Options Pipes Pits

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> 11.2 Construct overland flow path from childcare centre around edge of park to rail culver

**Preliminary Flood Mitigation Options** Area 10

MARRICKVILLE VALLEY FRMS&P

5.3 Div Wilkinso via 750m

11.5 Duplicate existing twin 900mm diameter pipe underneath Tillman Park and discharge flows into Eastern Channel

> 11.1 Construct overl path from Unwins Br edge of park to rail o



10.1 Divert Marrickville Rd flows down Barclay St to Sydenham Detention Basin via 600mm diameter pipes

pement to utilise current

11.5 Duplicate existing twin 900mm diameter pipe underneath Tillman Park and discharge flows into Eastern Channel

11.2 Construct overland flow path from childcare centre around edge of park to rail culvert 11.1 Construct overland flow path from Unwins Bridge Rd aroun edge of park to rail culvert

11.3 Upgrade drainage in Unwins Bridge Rd and Terry St via 600mm diameter pipes to connect to existing twin 900mm diameter pipes

11.4 Upgrade drainage in Unwins Bridge Rd at Bridge St via 450mm diameter pipe



## Preliminary Flood Mitigation Options Area 11

#### MARRICKVILLE VALLEY FRMS&P



10.3 Upgrade drainage in Carrington Rd and connect to pipe in rail land via 450mm diameter pipe

12.2 Upgrade drainage in Renwick St to install 750mm diameter pipes

12.3 Industry part large 'super roofs' use water and/or o eastern channel

12.1 Upgrade drainage in Cary St and Premier St to install 750mm diameter pipes 12.6 Raise road level of Carrington Rd near Cary St to allow water to drain to park

> 12.5 Raise western channel wall to stop overflows in Cary Street

> > 12.7 Provide detention of 10000m3 of storage volume underneath the park, surface area of approx 1000m2 and use existing pump station to transfer high flows to underground storage

12.4 Remove the checkboards in central channel, install GPT and backflow prevention and optimise pump station operation or pumps and/or wet well upgrade

13.1 Upgrade drainag



### Preliminary Flood Mitigation Options Area 12

#### MARRICKVILLE VALLEY FRMS&P



12.3 Industry partnership with large 'super roofs' to store and use water and/or discharge to eastern channel

13.4 Industry partnership with School to store and use water

Cary Street

etention of 10000m3 of storage eath the park, surface area of 2 and use existing pump station flows to underground storage

> 13.1 Upgrade drainage in Gannon St and Edwin St to 600mm diameter pipes

13.5 Upgrade drainage in Brooklyn St and Union St Upgrades to install 375mm-450mm diameter pipes

13.2 Upgrade drainage in Griffiths St to 600mm diameter pipes

> 13.3 Industry partnership with Sydney Buses to store and use water



### Preliminary Flood Mitigation Options Area 13

#### MARRICKVILLE VALLEY FRMS&P



15.6 Upgrade drainage in Lilian Fowler Place to 600mm diameter pipes

15.8 Optimise arrangement to utilise current DPS1 detention storage at pump station capacity

kley St and into Shirlow St trunk 900mm diameter pipes

14.2 Council harvest and store stormwater for truck washdown, ops use and toilets

14.1 Duplicate or upgrade existing 675mm diameter pipe to 1200mm pipe underneath Bolton St and Railway Line



# Preliminary Flood Mitigation Options Area 14

#### MARRICKVILLE VALLEY FRMS&P



15.2 Upgrade and extend drainage in Victoria Rd north of Sydenham Rd to 600mm diameter pipes

15.5 Upgrade drainage in Faversham St to 600mm diameter pipes

15.6 Upgrade drainage in Lilian Fowler Place to 600mm diameter pipes

15.8 Optimise arrangement to utilise current DPS1 detention storage at pump station capacity

15.3 Divert Buckley St and Wilkinson Lane into Shirlow St trunk via 750mm and 900mm diameter pipes

15.1 Upgrade and extend drainage in Victoria Rd south of Sydenham Rd and Victoria Lane to 600mm diameter pipes and Victoria Lane and Meeks Rd to 600m diameter pipes

 Study Area Mitigation Options
 Pipes Pits

> Preliminary Flood Mitigation Options Area 15

> > MARRICKVILLE VALLEY FRMS&P





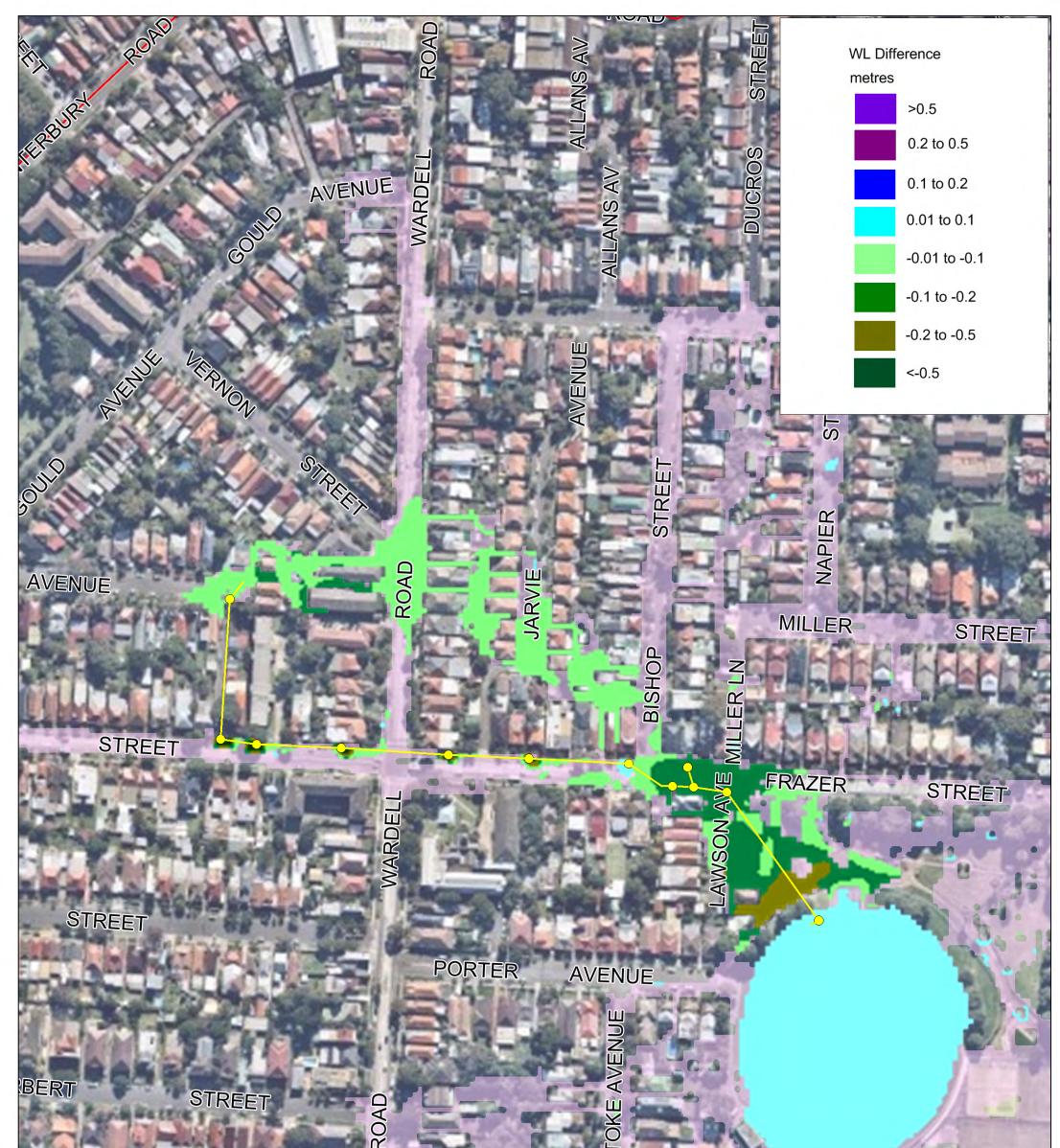
Marrickville Valley Floodplain Risk Management Study and Plan

# APPENDIX



# OPTIONS MODELLING RESULTS







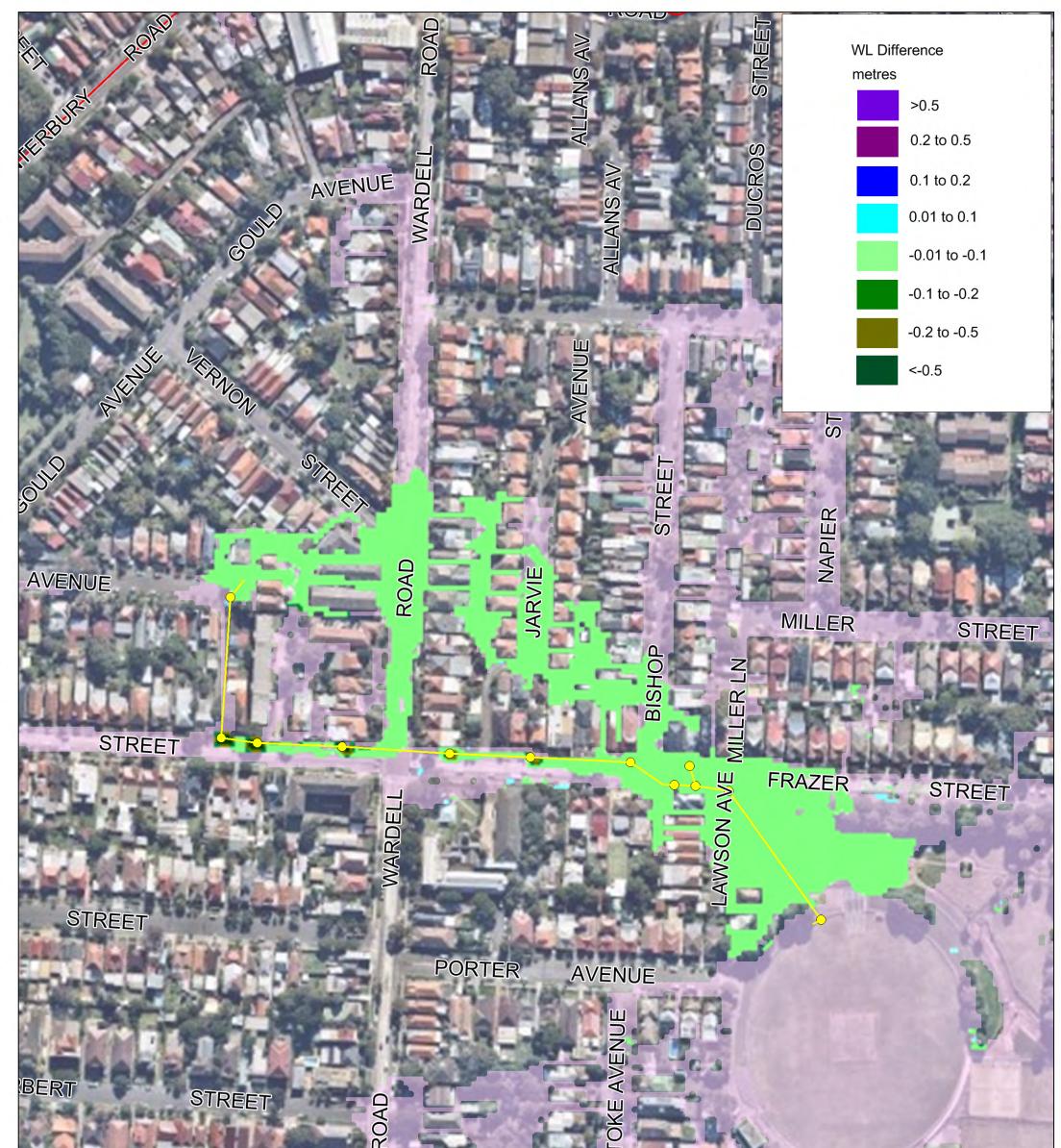
 Water Level Difference
 2 Yr

 2 Yr
 Map Produced by Cardno NSW/ACT Pty Ltd

 Option FM1.1
 Date: February 2017

 Project:59915195
 Project:59915195

 MARRICKVILLE VALLEY FRMS&P
 Coordinate System: MGA Zone 56

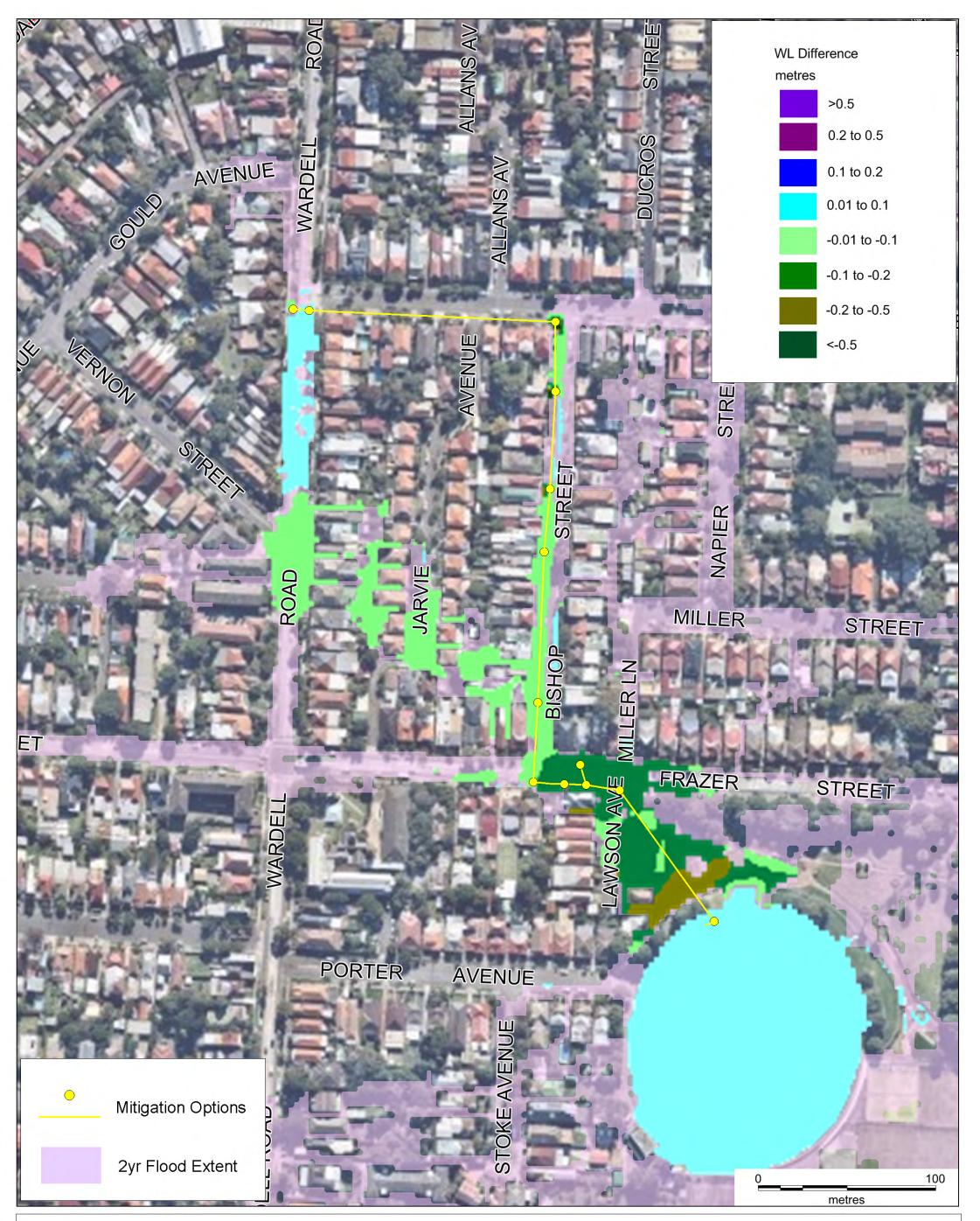




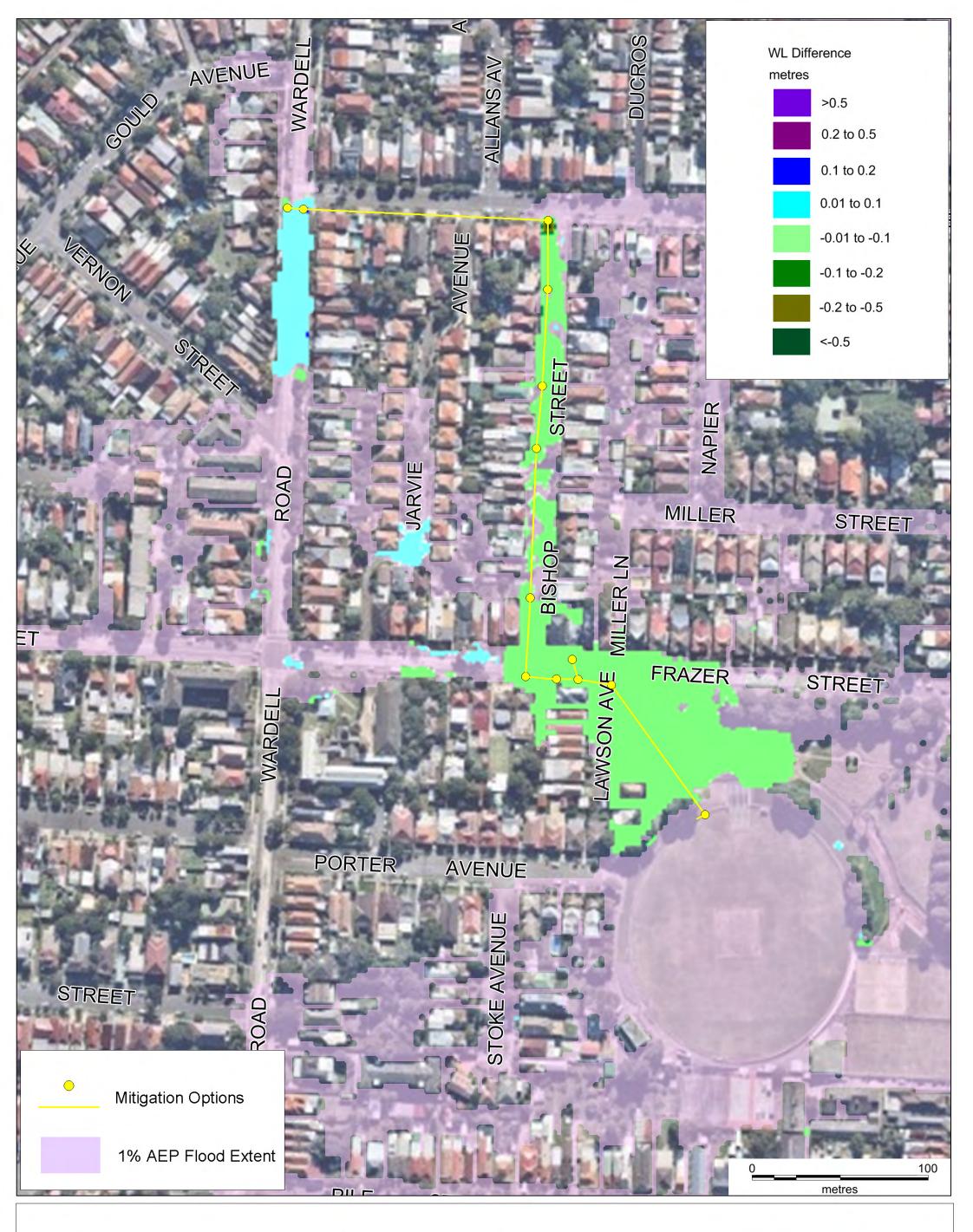
Water Level Difference 1% AEP Option FM1.1

MARRICKVILLE VALLEY FRMS&P







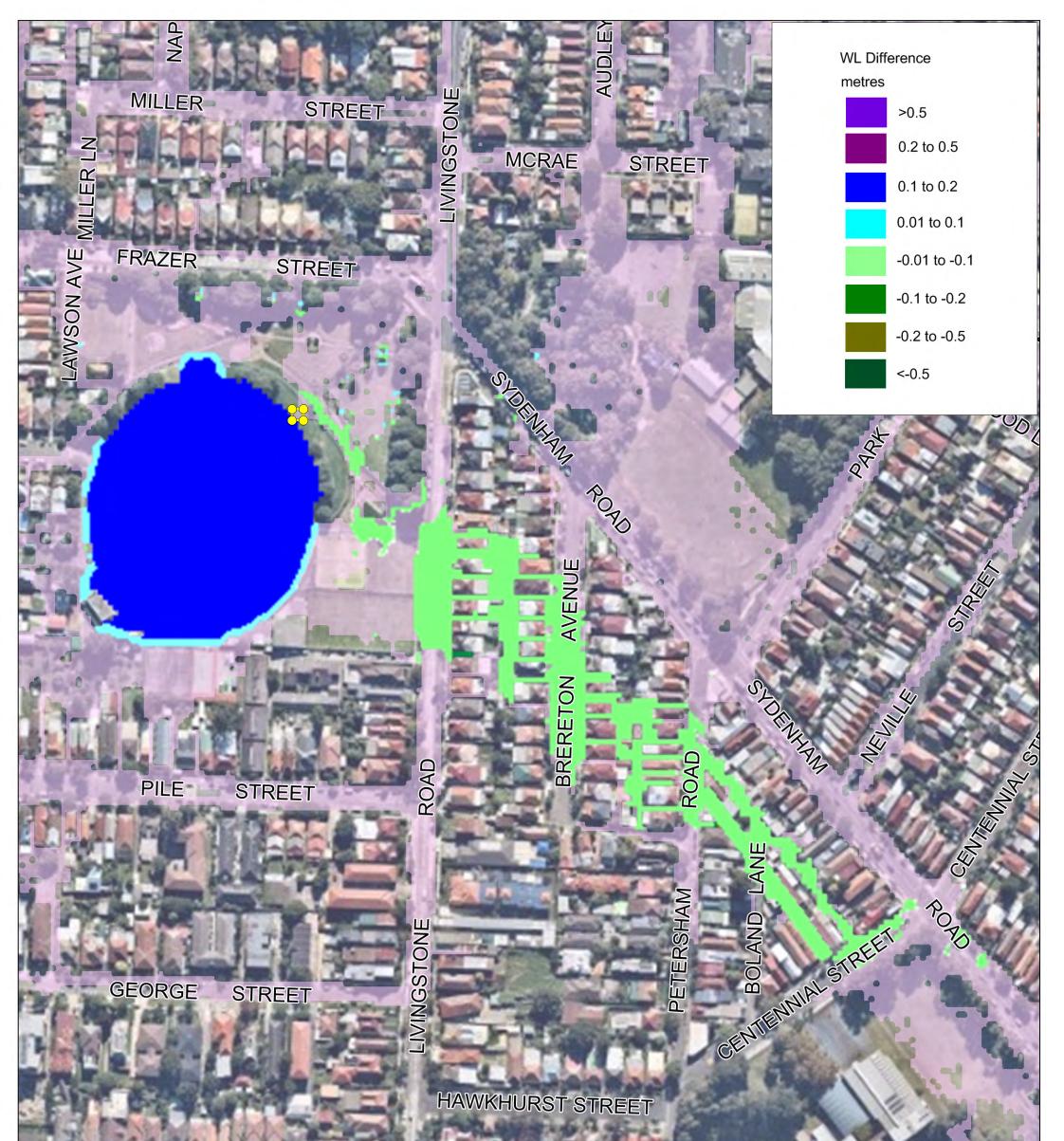


W S E

# Water Level Difference 1% AEP Option FM1.2

MARRICKVILLE VALLEY FRMS&P

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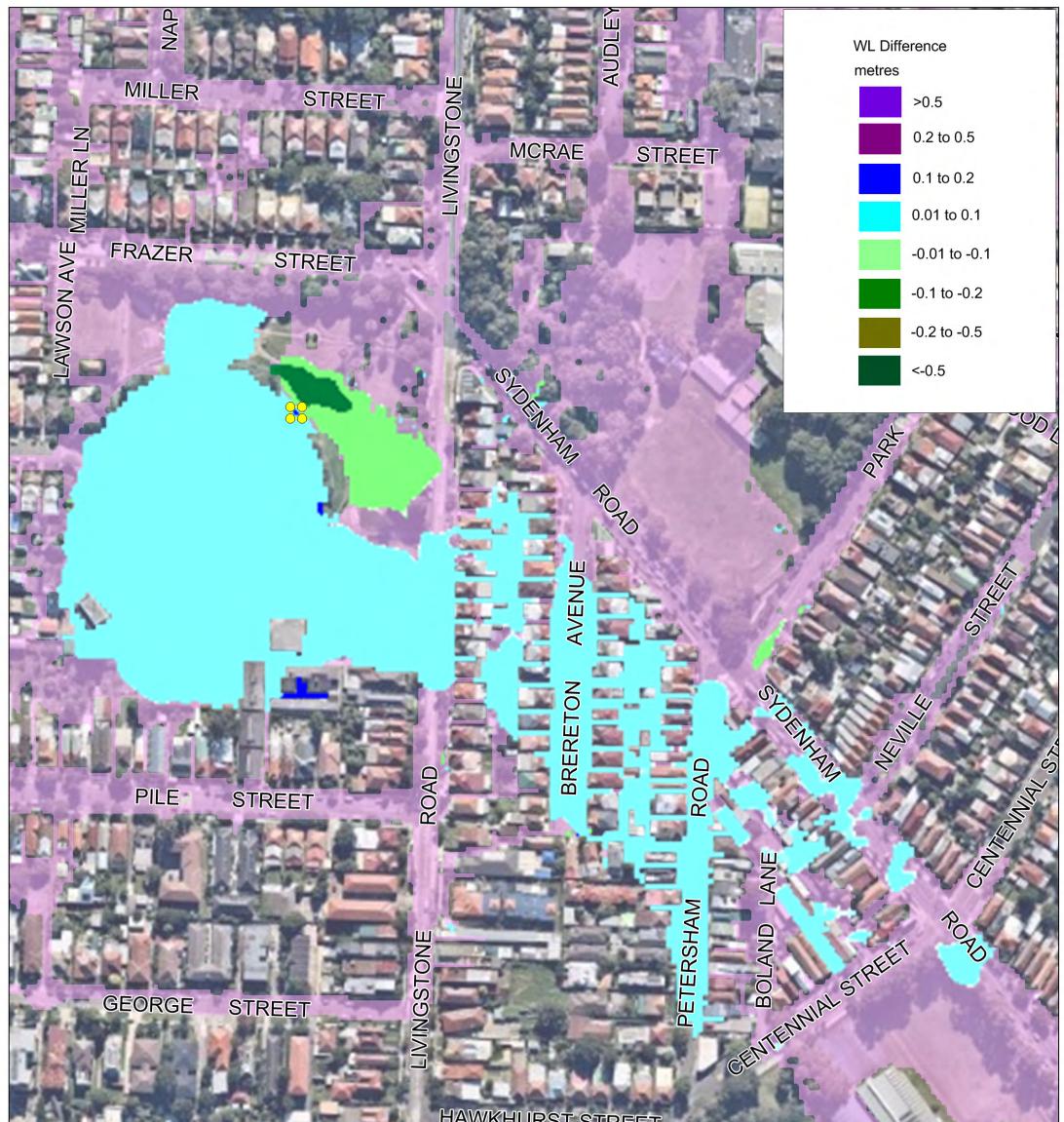




Water Level Difference 2 Yr Option FM 2.1

MARRICKVILLE VALLEY FRMS&P

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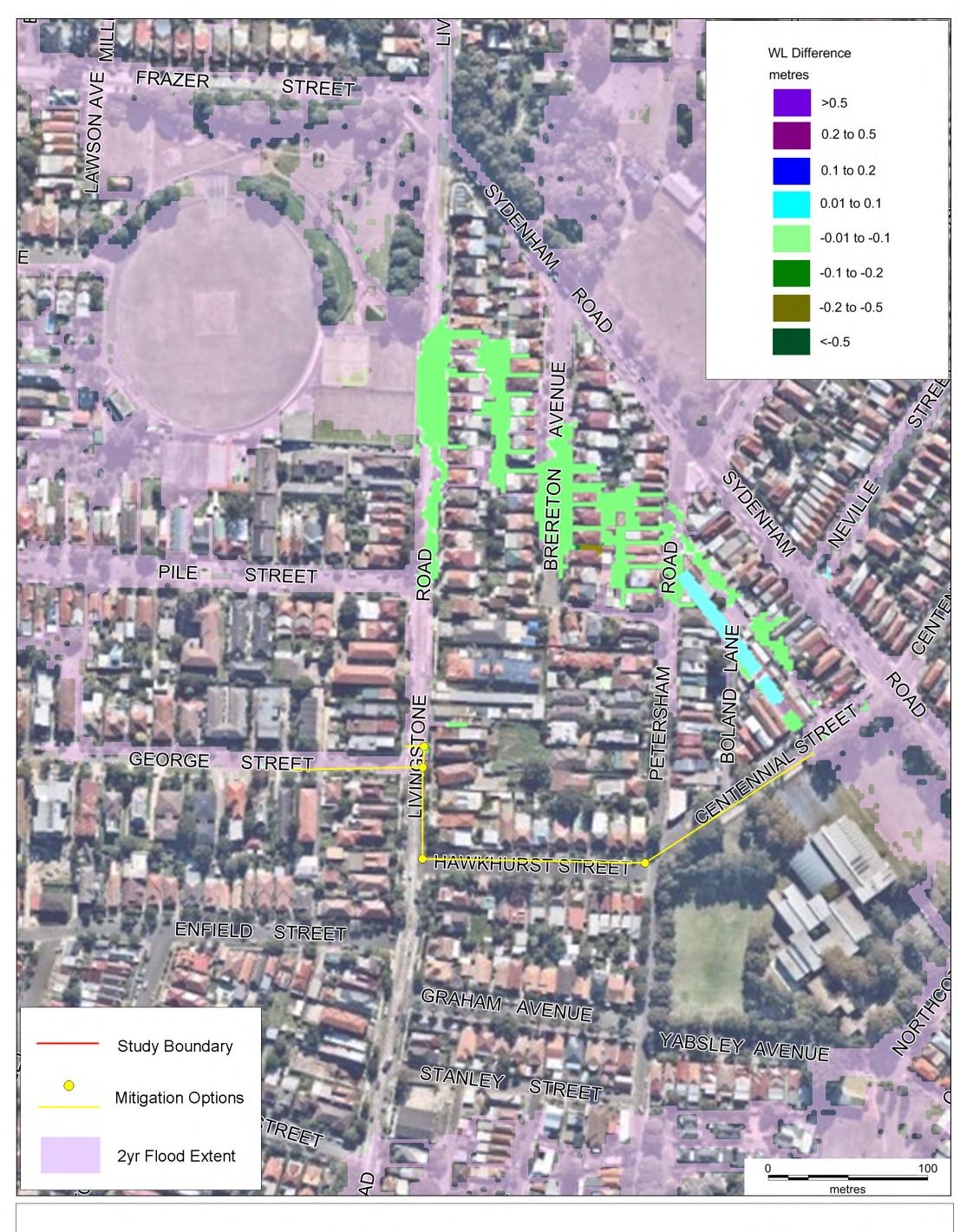
HAWKHURST STREET



Water Level Difference 1% AEP **Option FM 2.1** 

MARRICKVILLE VALLEY FRMS&P

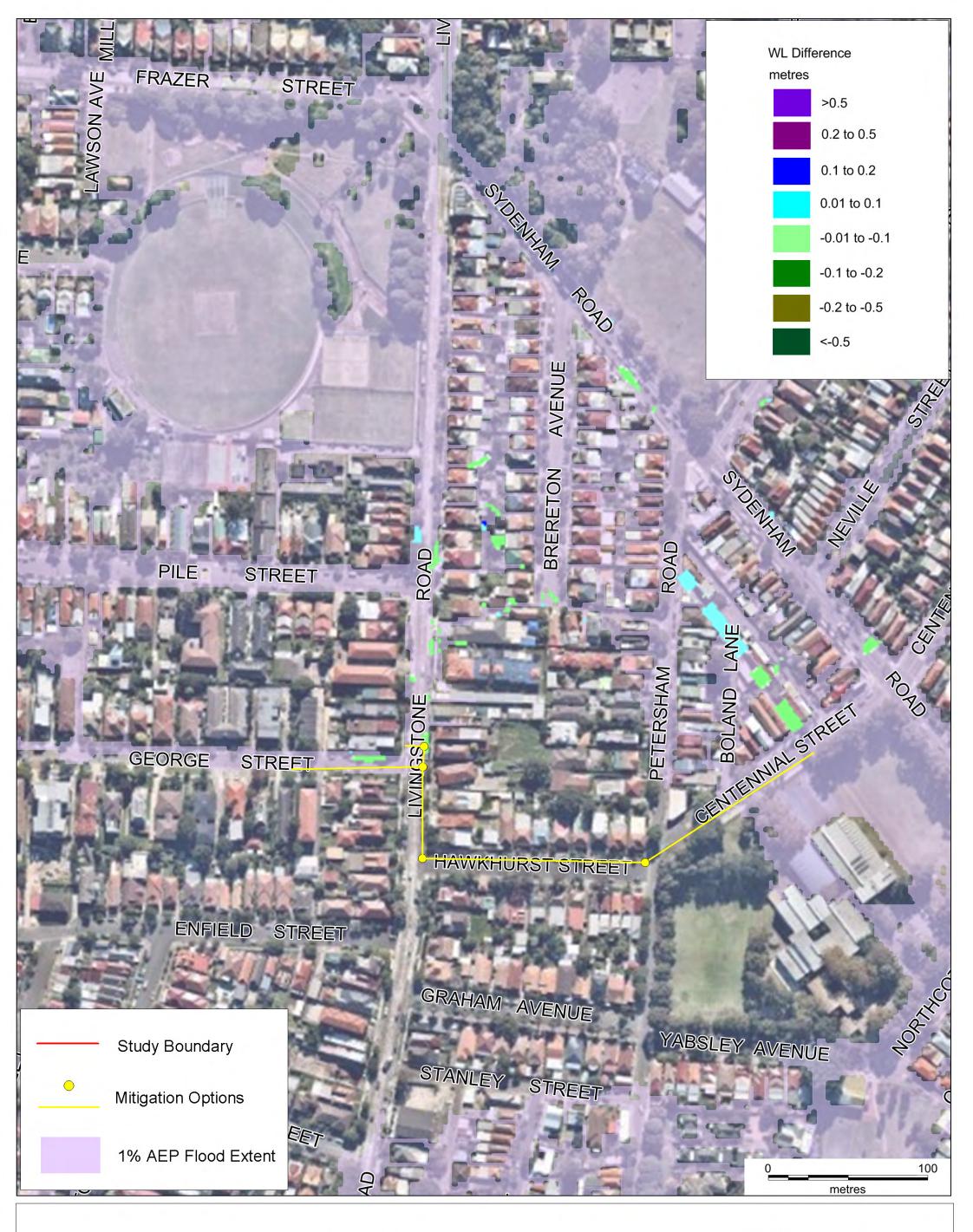




Water Level Difference 2 Yr Option FM2.3

MARRICKVILLE VALLEY FRMS&P

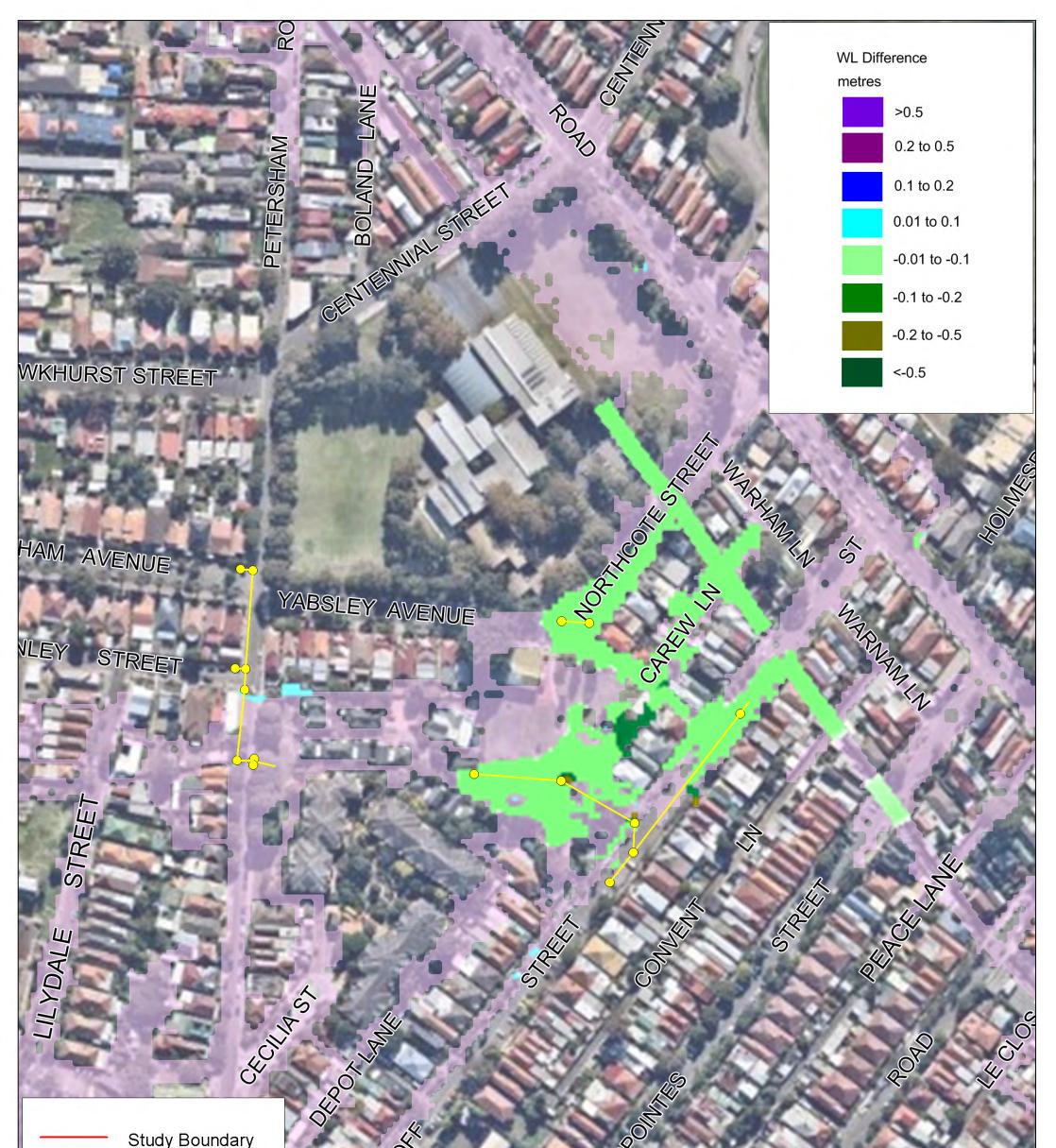
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Water Level Difference 1% AEP Option FM2.3

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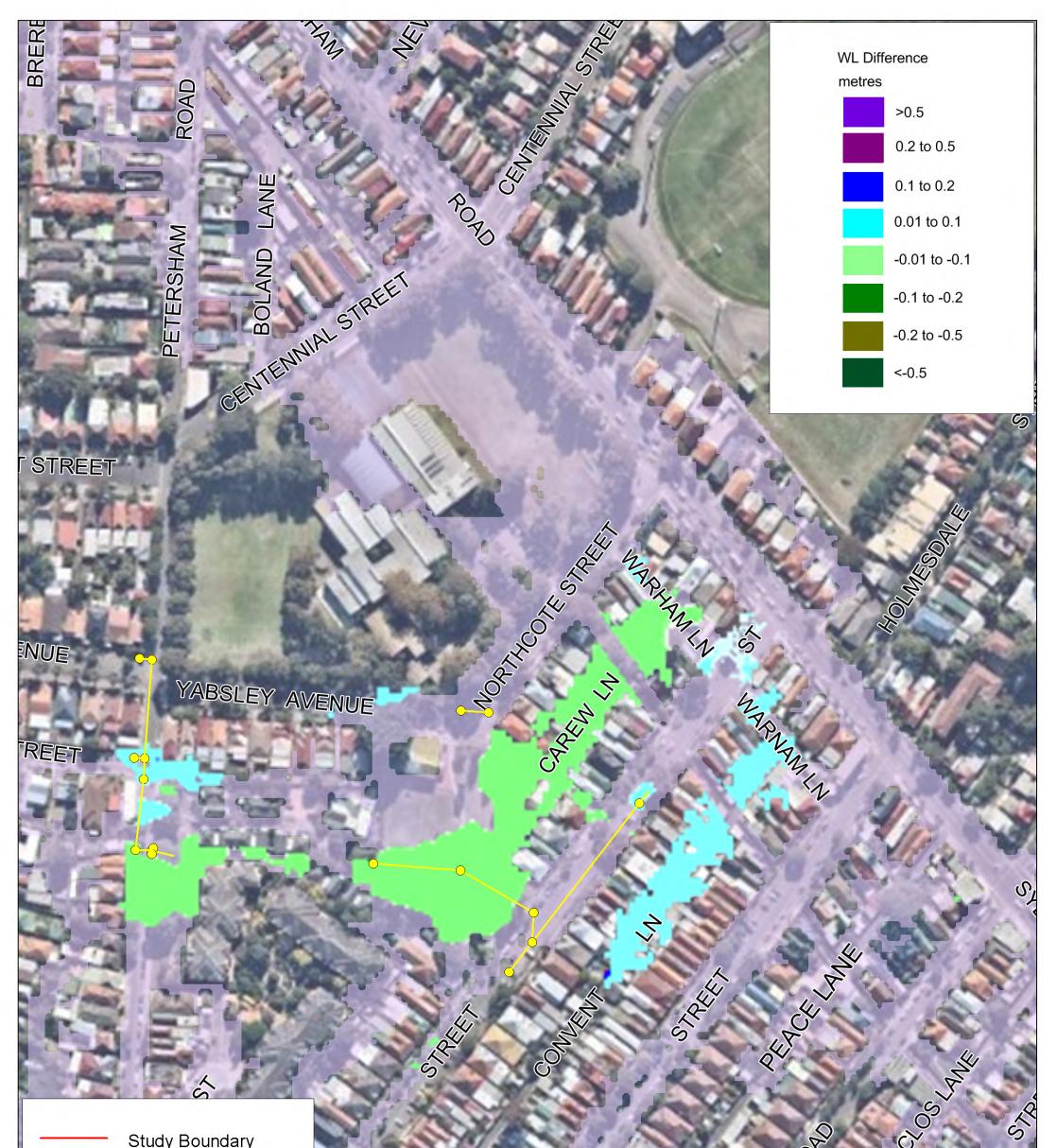




Water Level Difference 2 Yr Option FM3.1

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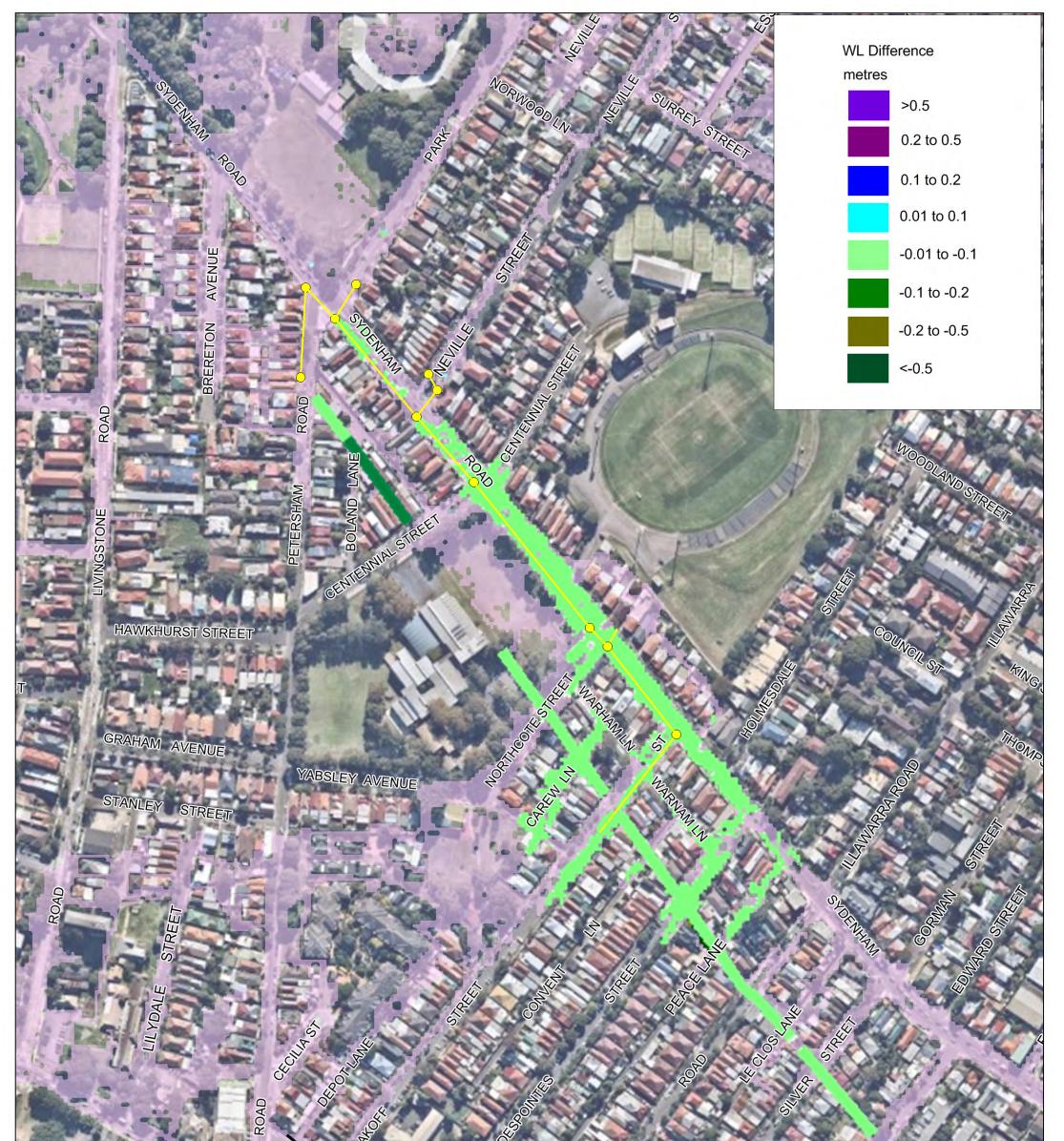




Water Level Difference 1% AEP Option FM3.1

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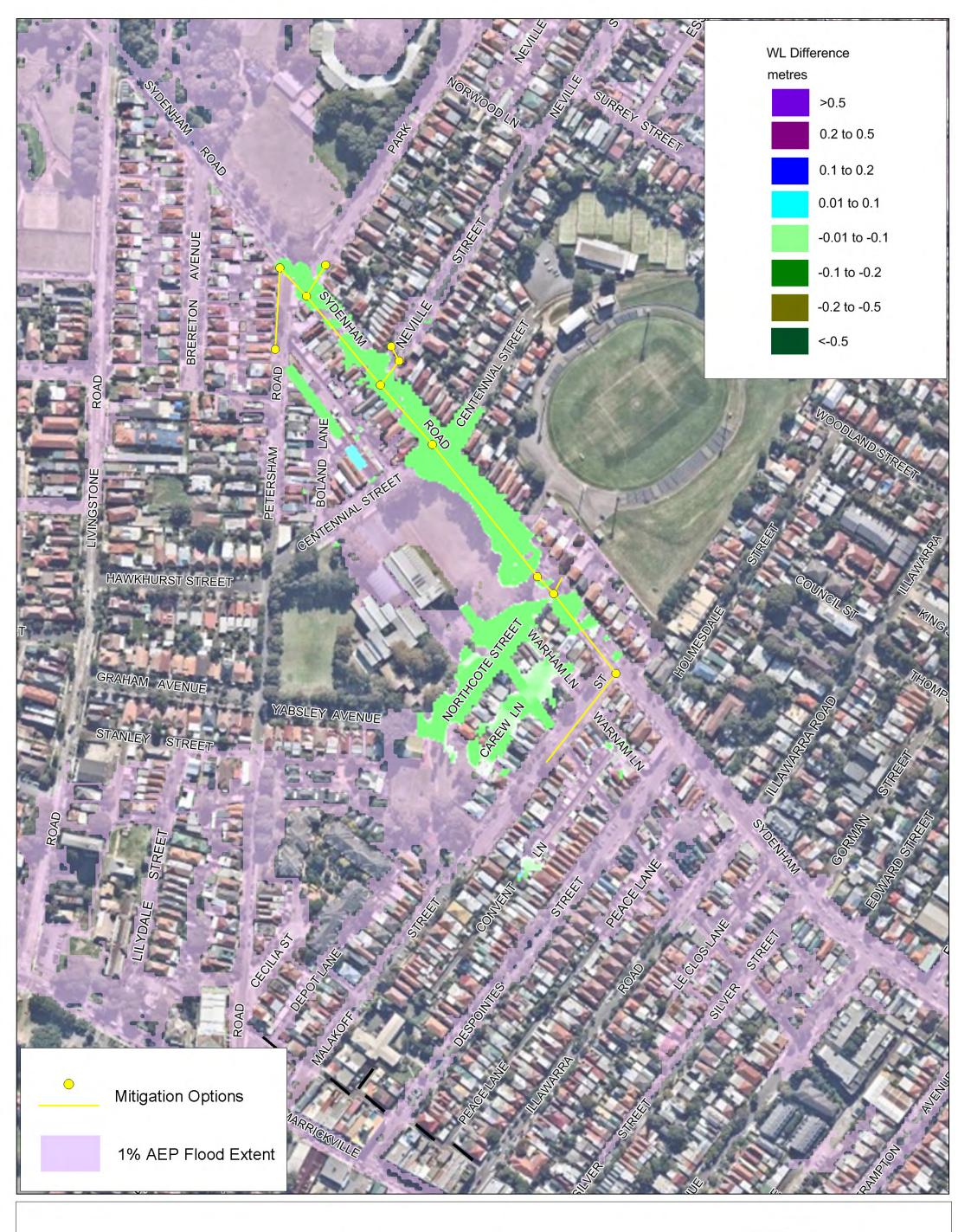




Water Level Difference 2 Yr Option FM3.2

MARRICKVILLE VALLEY FRMS&P

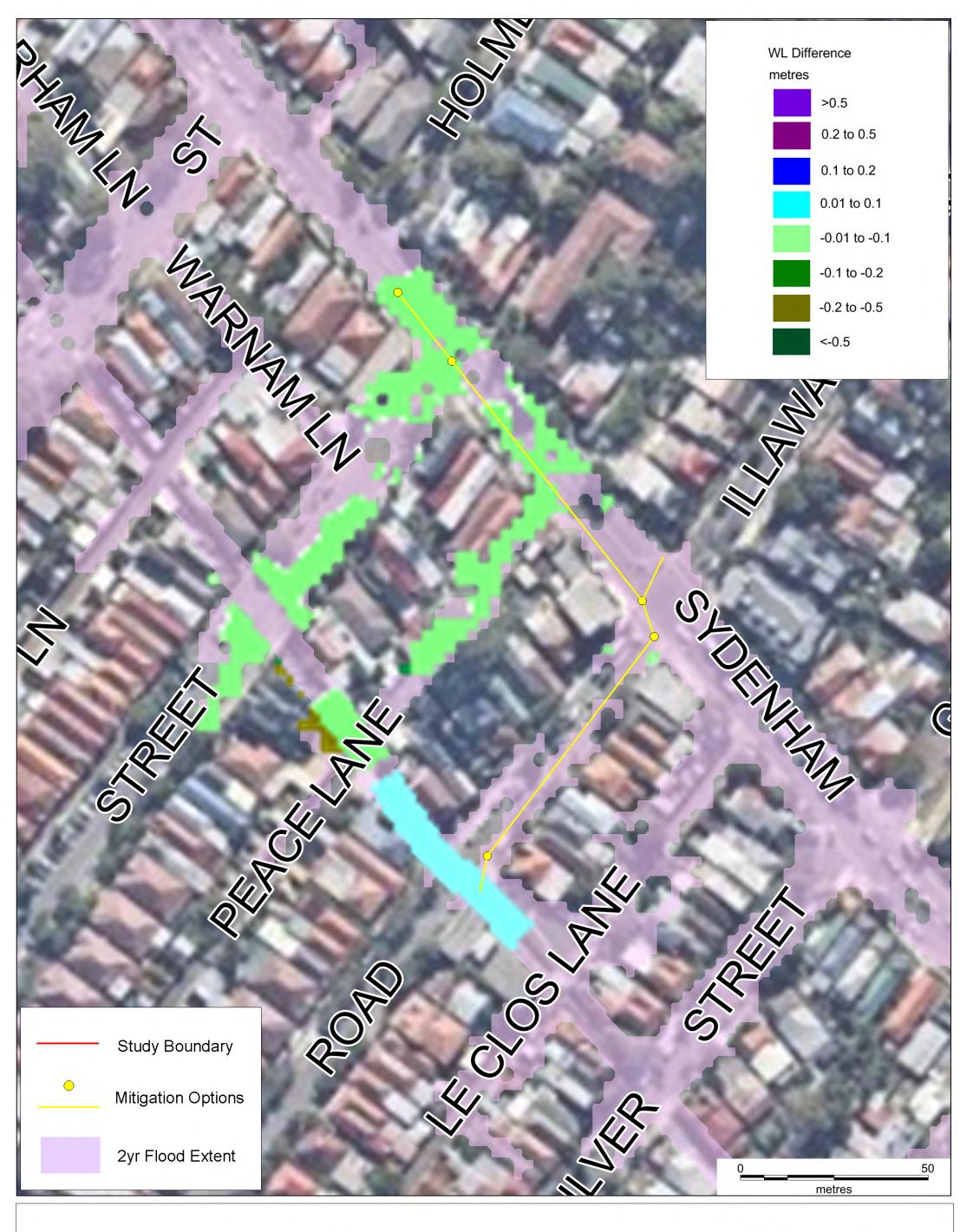
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Water Level Difference 1% AEP Option FM3.2

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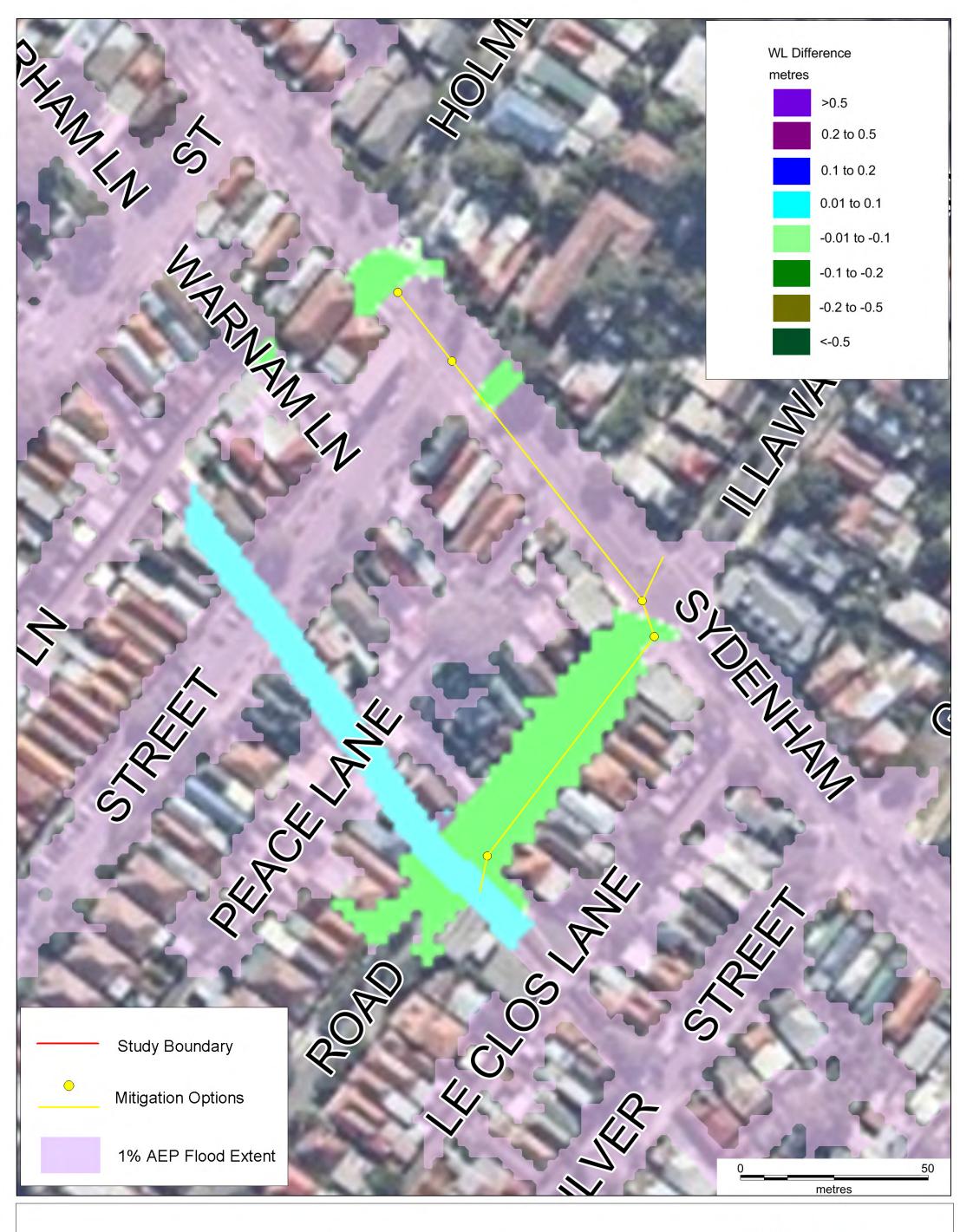
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Water Level Difference 2 Yr Option FM3.3

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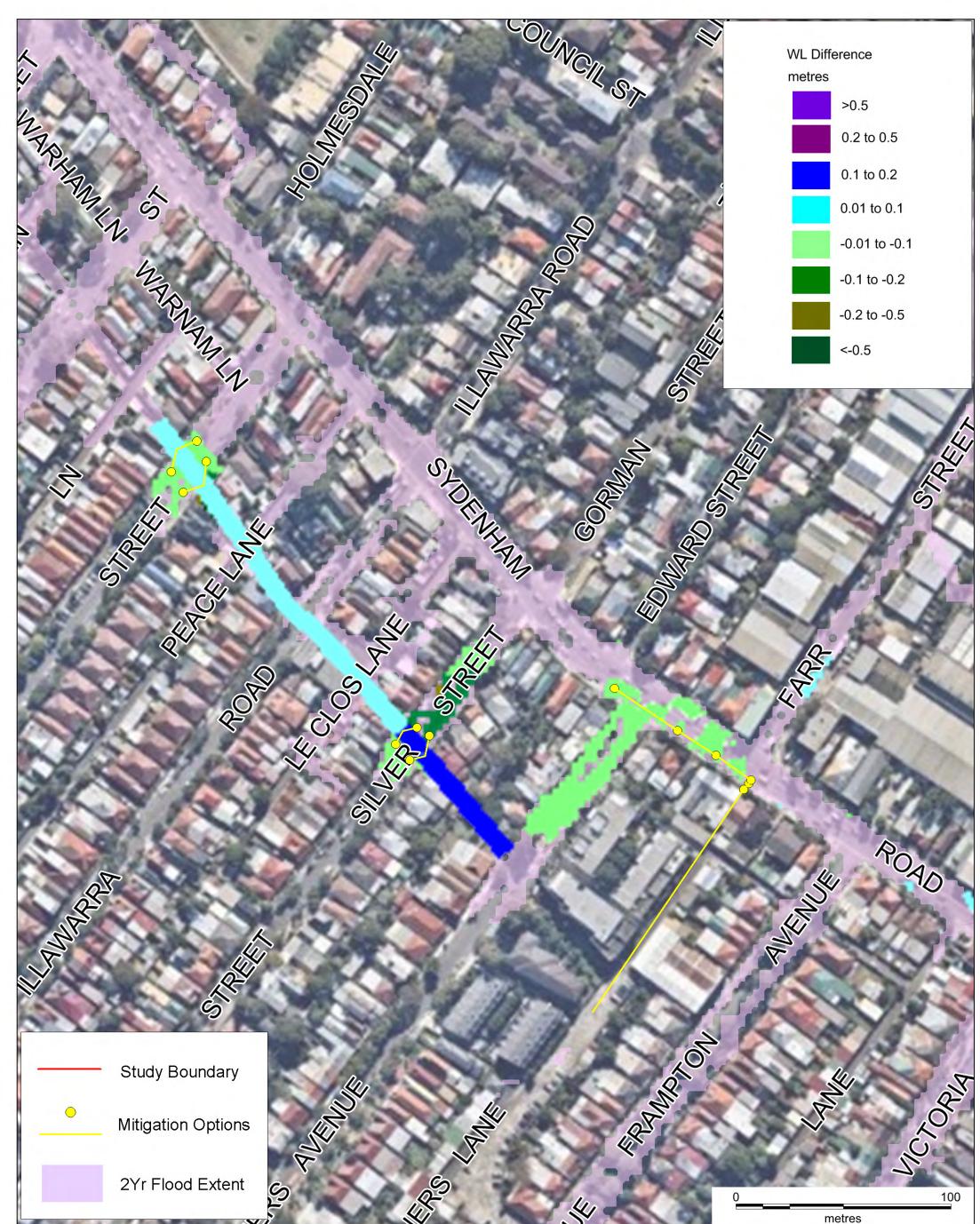
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Water Level Difference 1% AEP Option FM3.3

MARRICKVILLE VALLEY FRMS&P

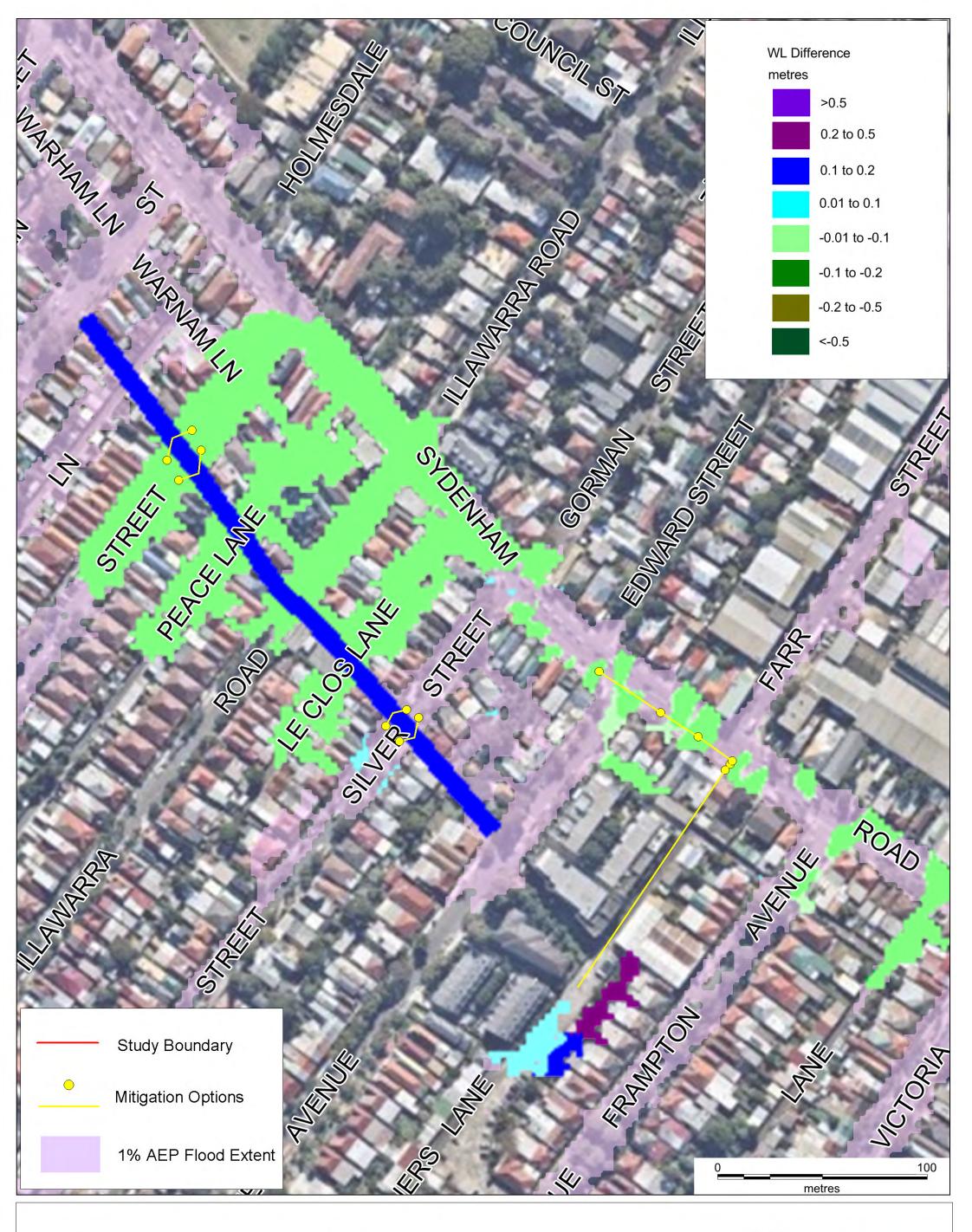
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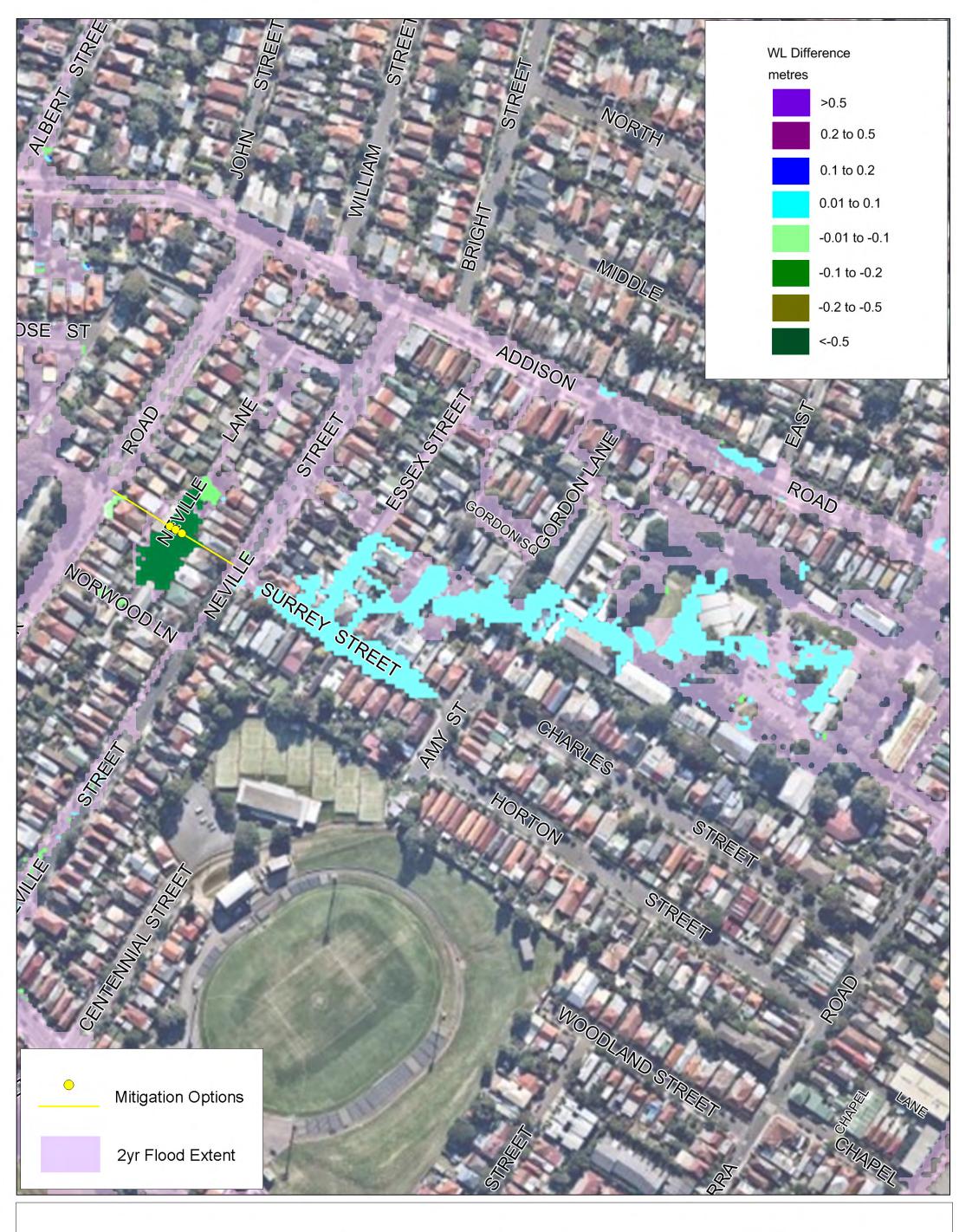




Water Level Difference 1% AEP Option FM3.4

MARRICKVILLE VALLEY FRMS&P

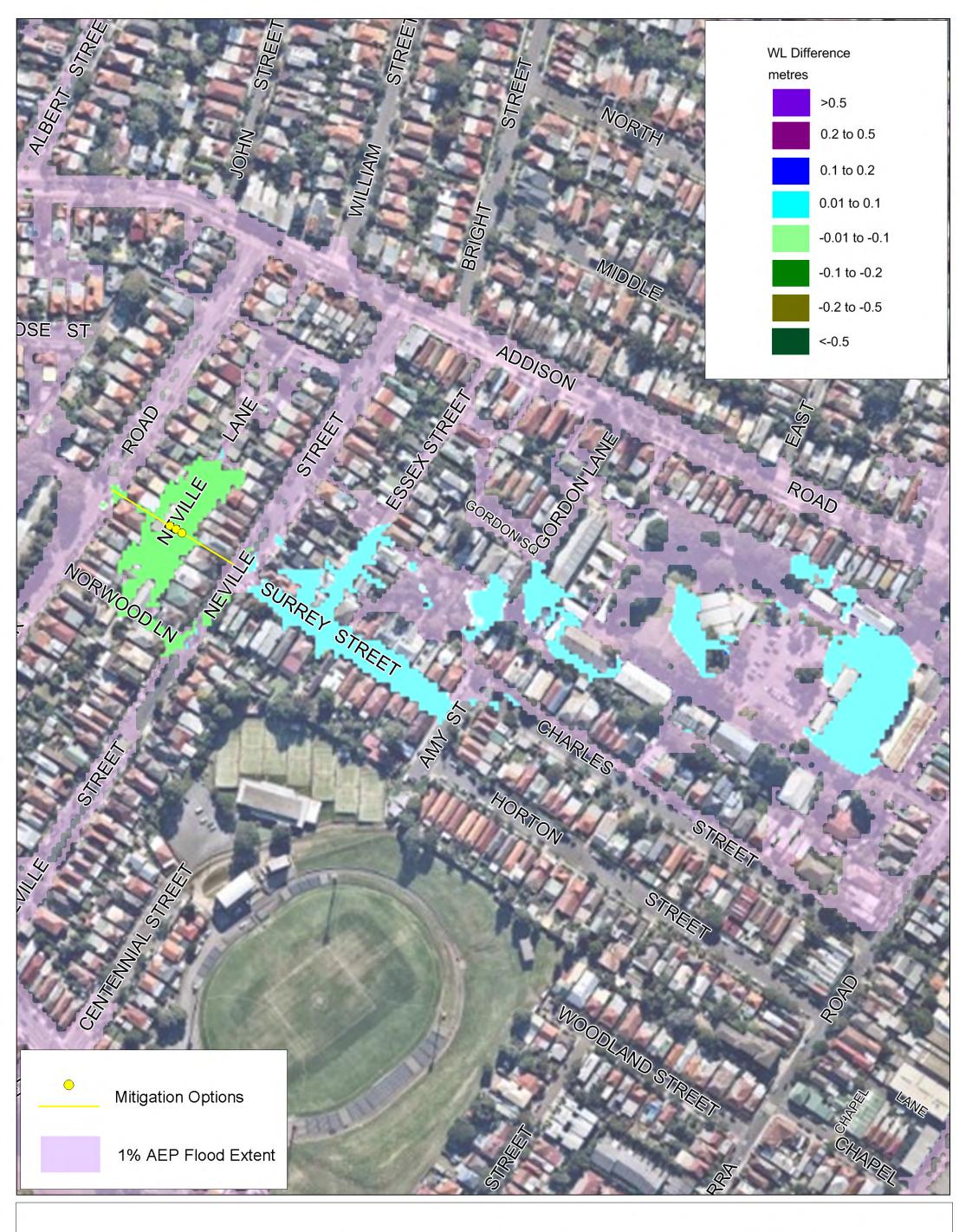
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Water Level Difference 2 Yr Option FM5.2

MARRICKVILLE VALLEY FRMS&P

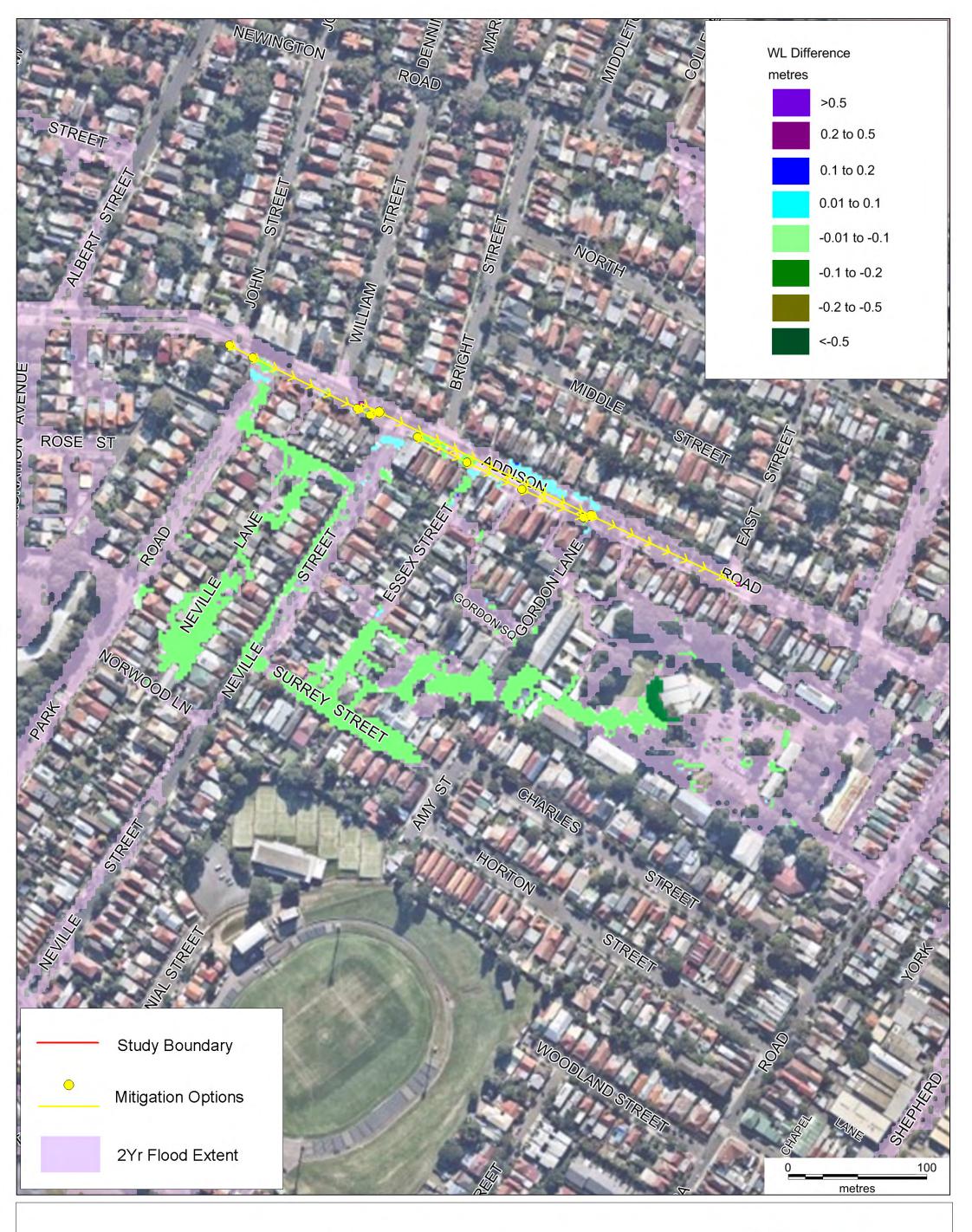




Water Level Difference 1% AEP Option FM5.2

MARRICKVILLE VALLEY FRMS&P

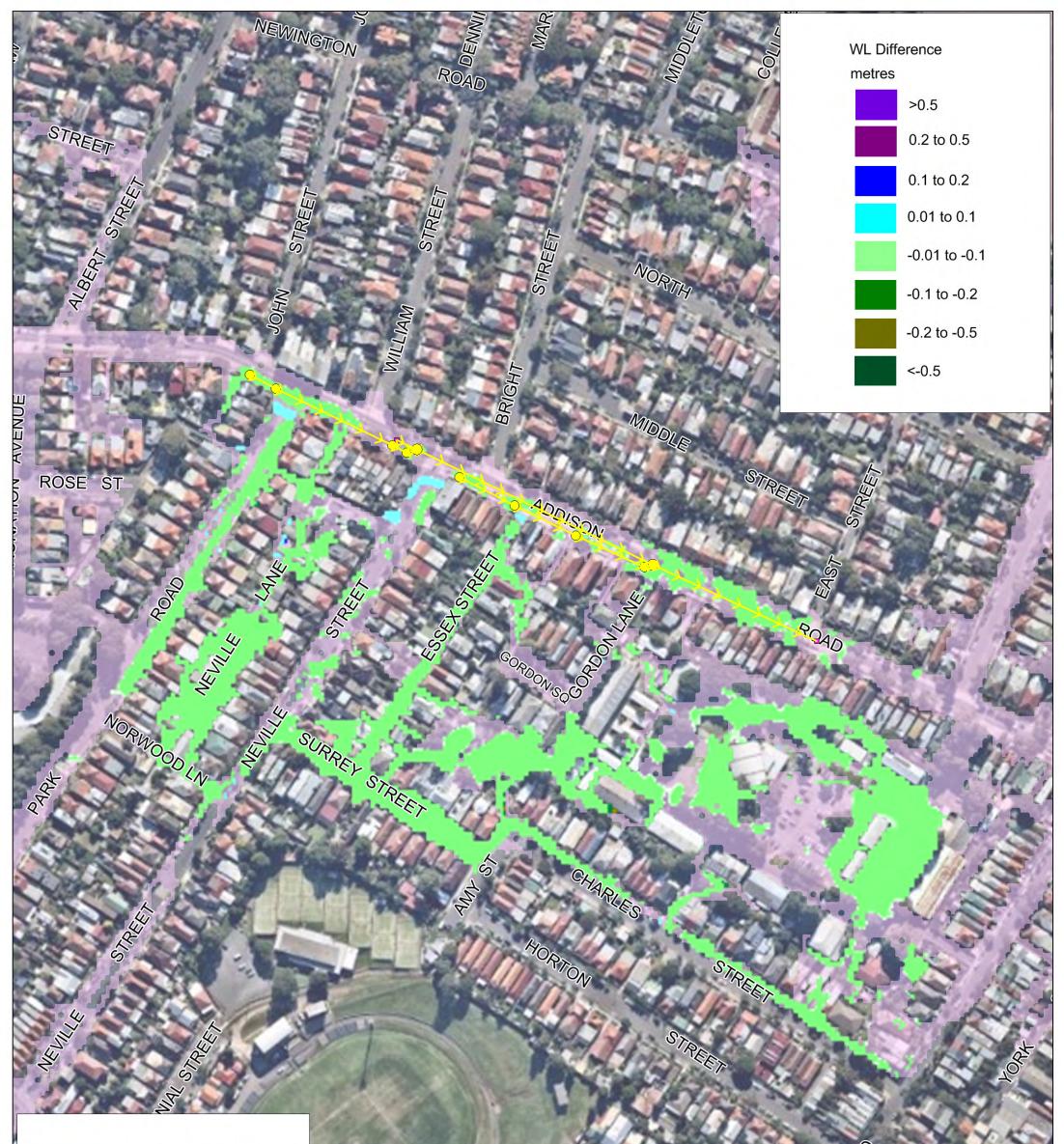




Water Level Difference 2 Yr Option FM5.3 & FM5.4

MARRICKVILLE VALLEY FRMS&P

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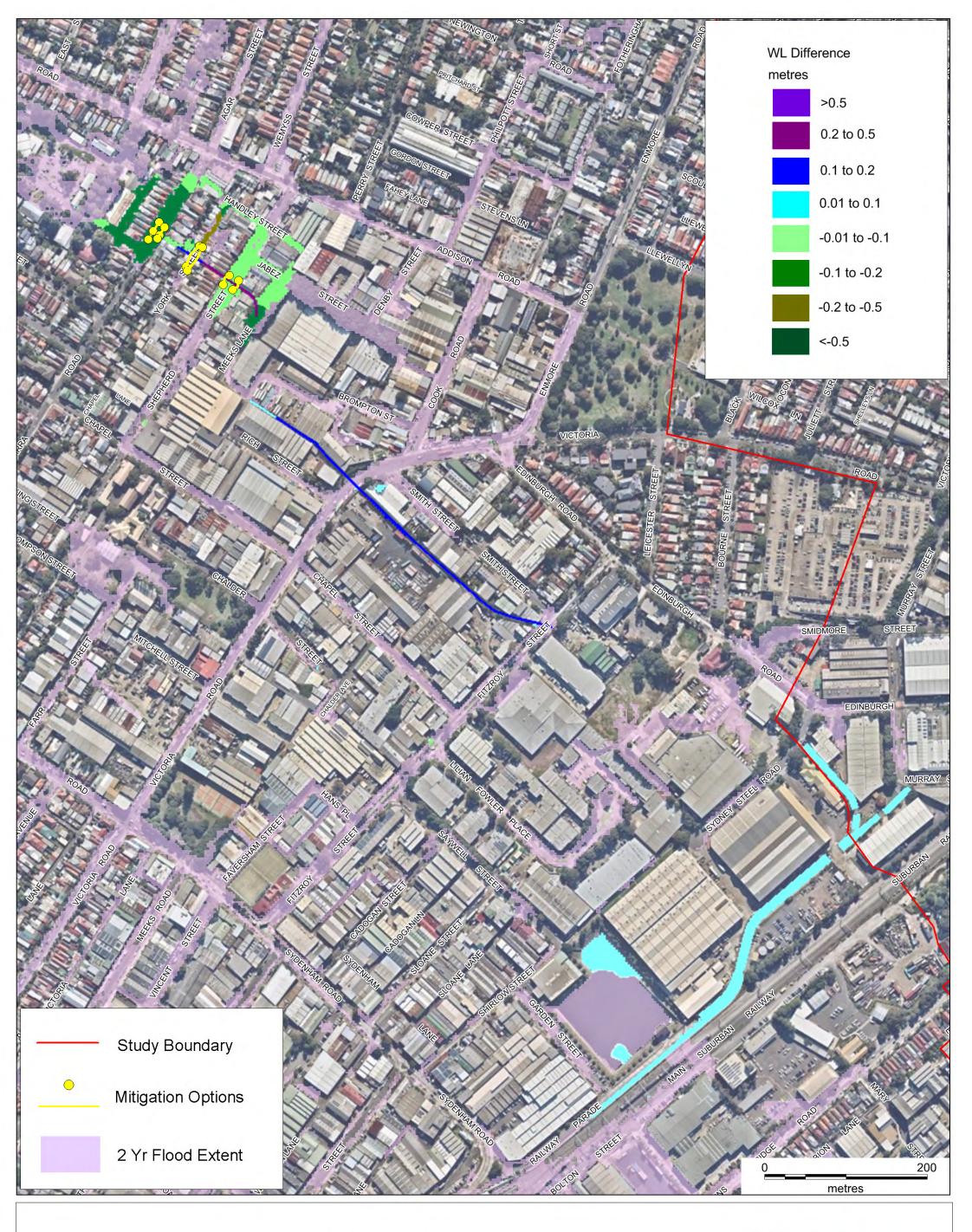




Water Level Difference **1% AEP** Option FM5.3 & FM5.4

MARRICKVILLE VALLEY FRMS&P

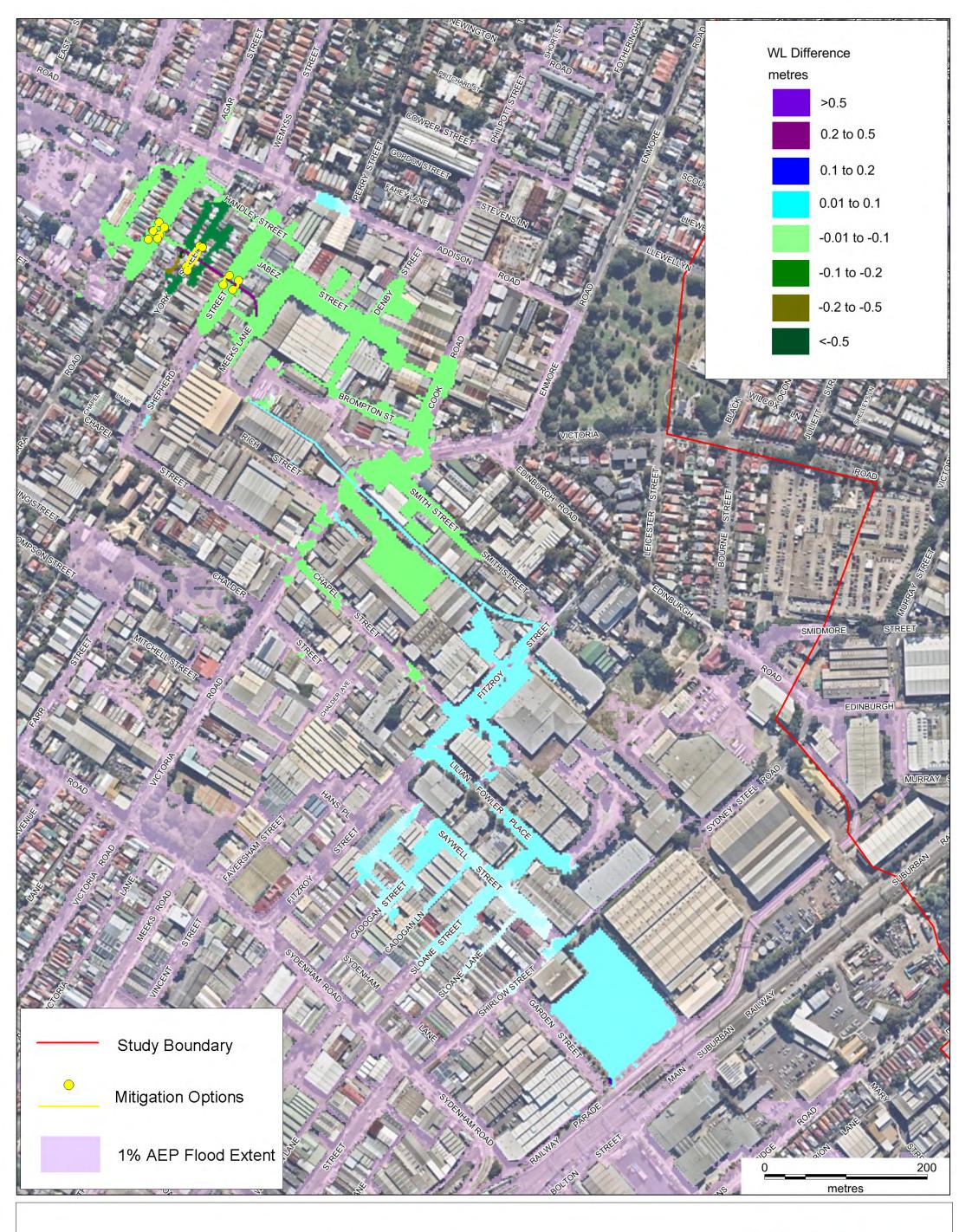
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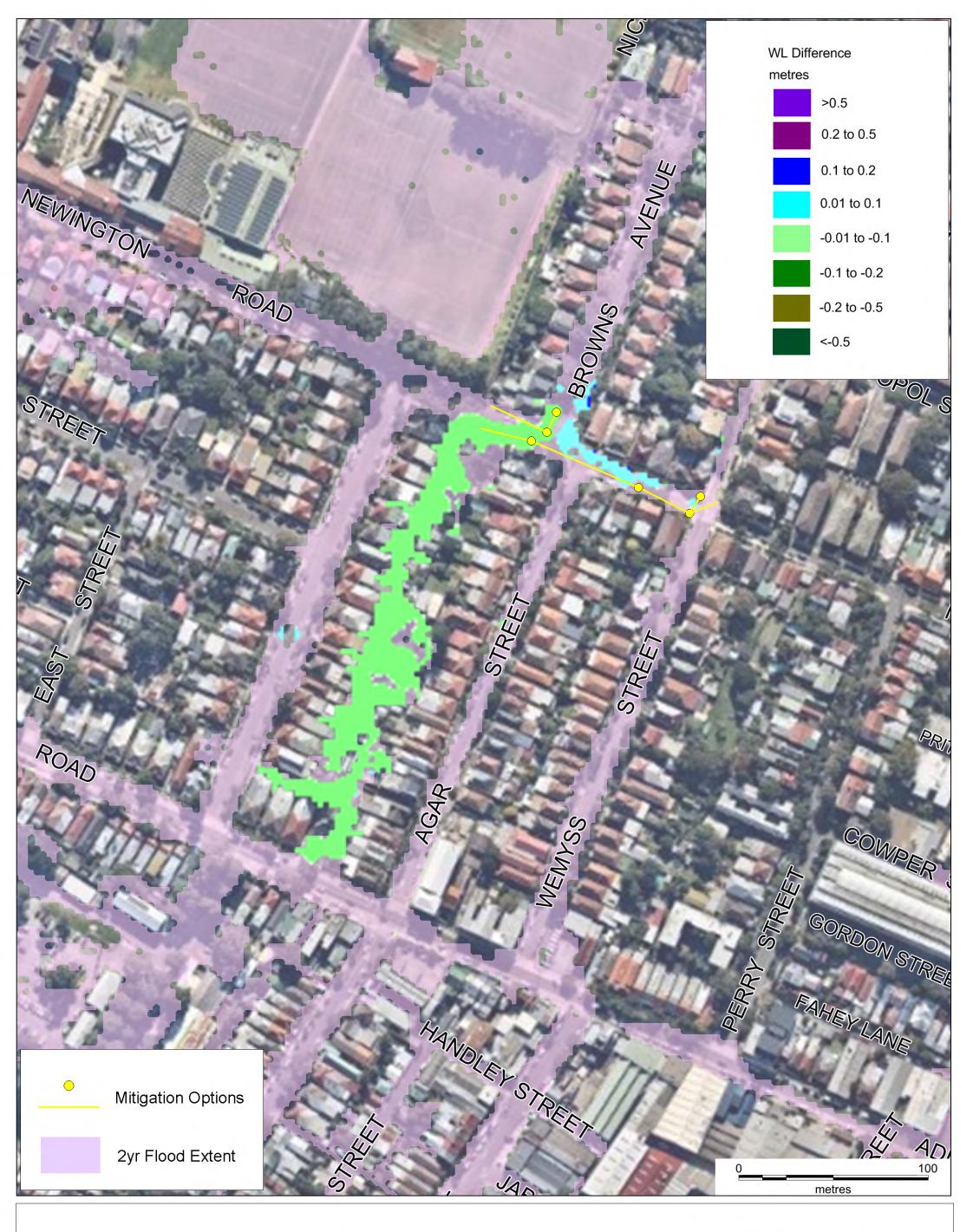




Water Level Difference 1% AEP Option FM5.6

MARRICKVILLE VALLEY FRMS&P

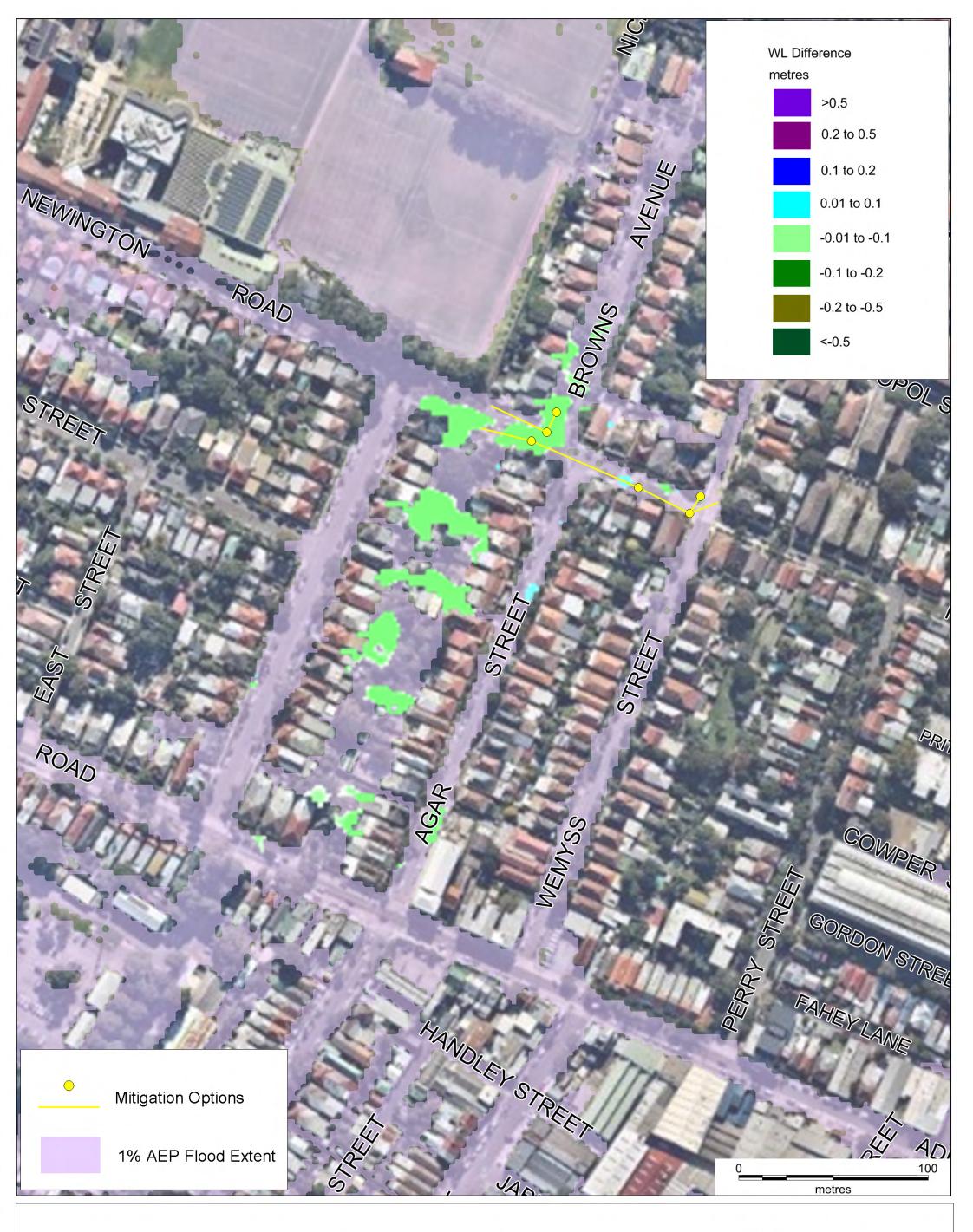
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Water Level Difference 2 Yr Option FM6.1

MARRICKVILLE VALLEY FRMS&P

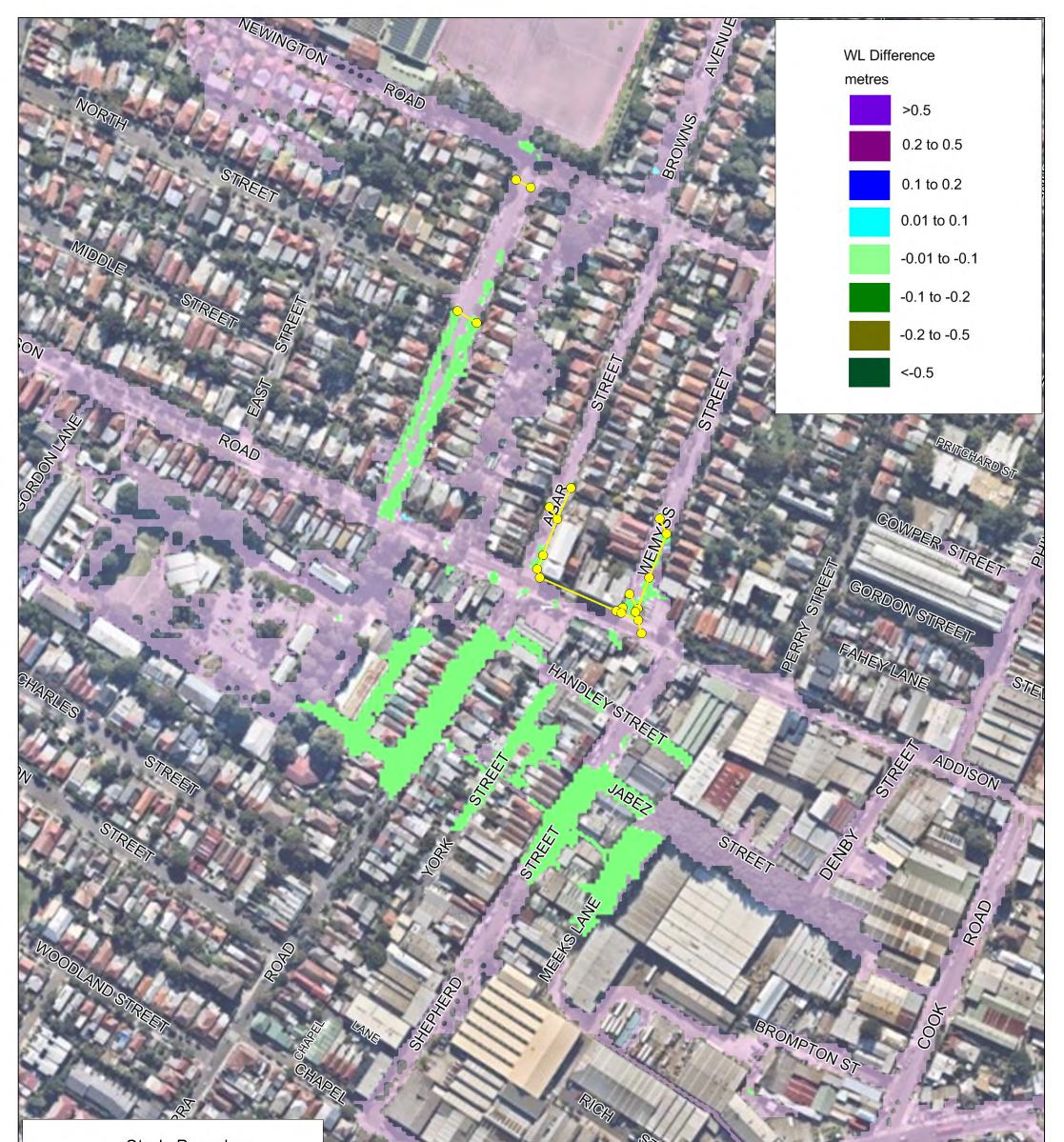
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Water Level Difference 1% AEP Option FM6.1

MARRICKVILLE VALLEY FRMS&P

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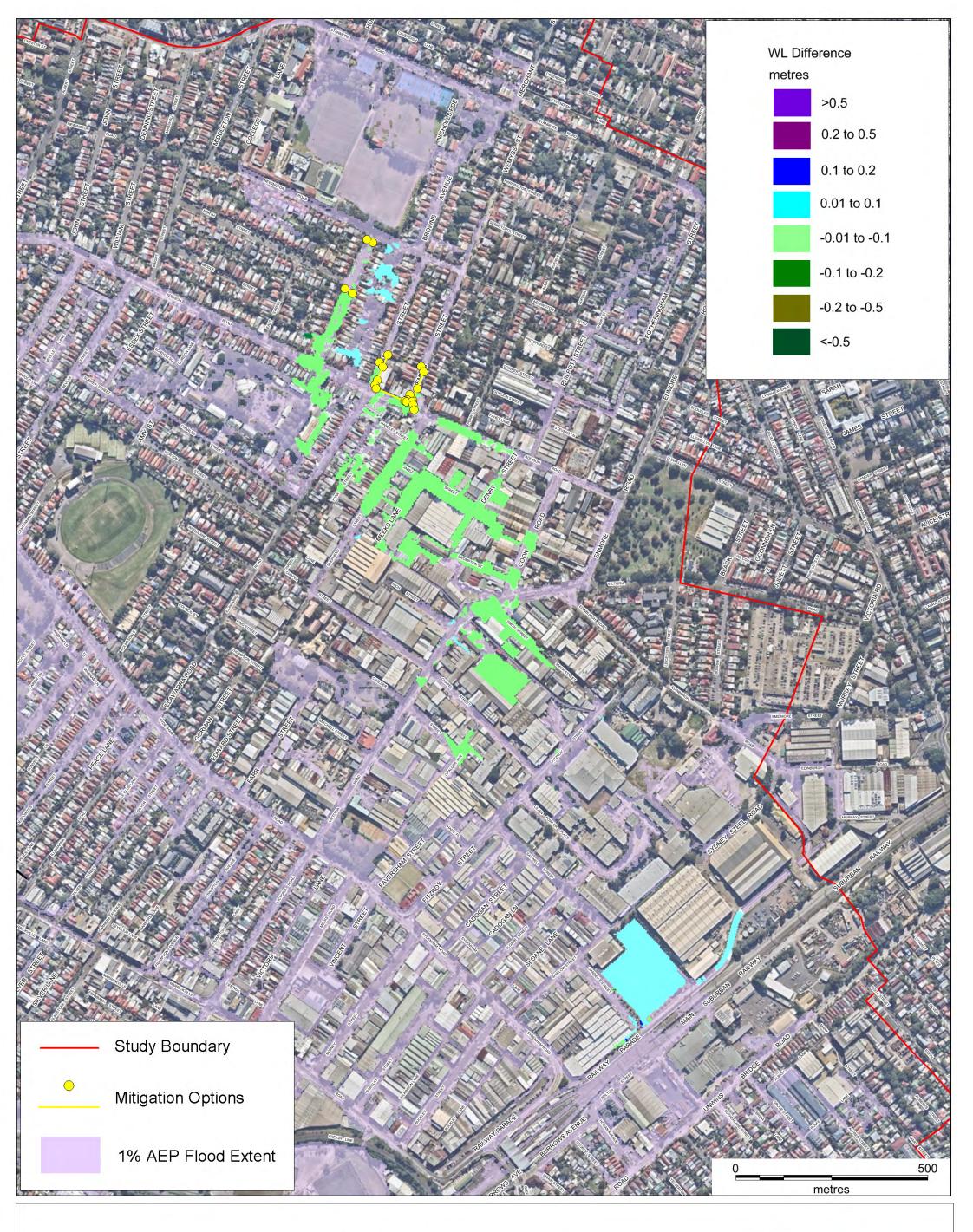




Water Level Difference 2 Yr Option FM6.4

MARRICKVILLE VALLEY FRMS&P

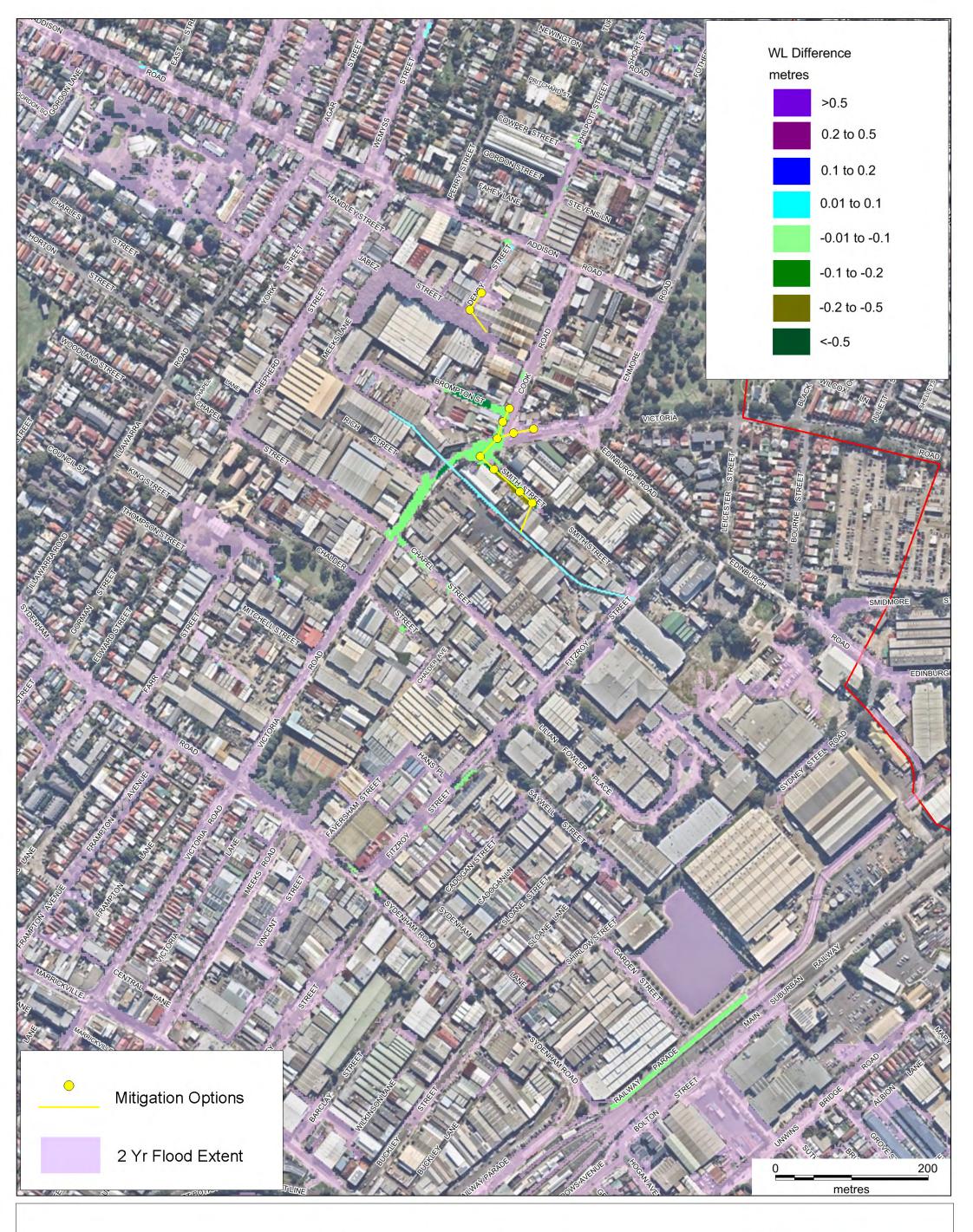
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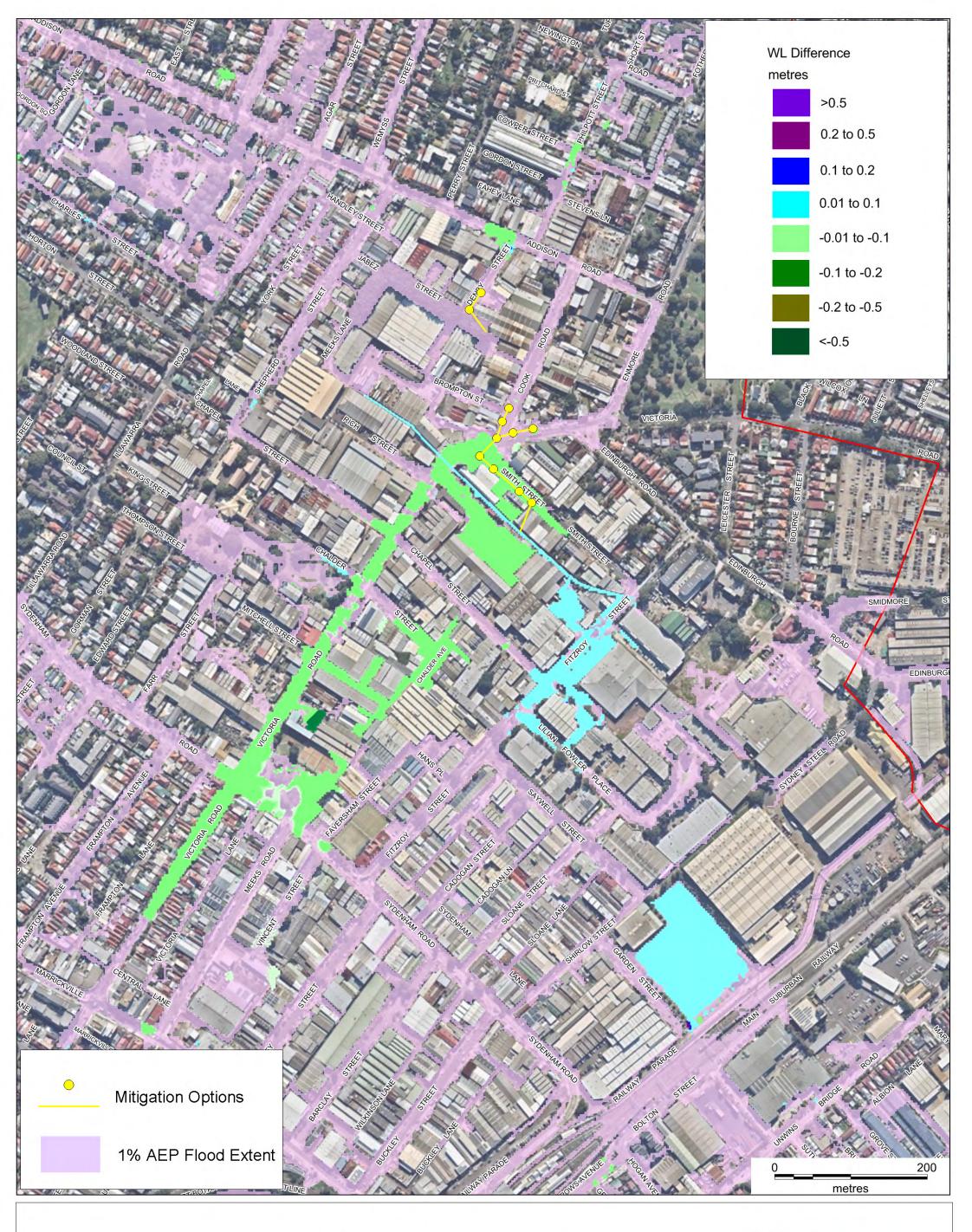
MARRICKVILLE VALLEY FRMS&P

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

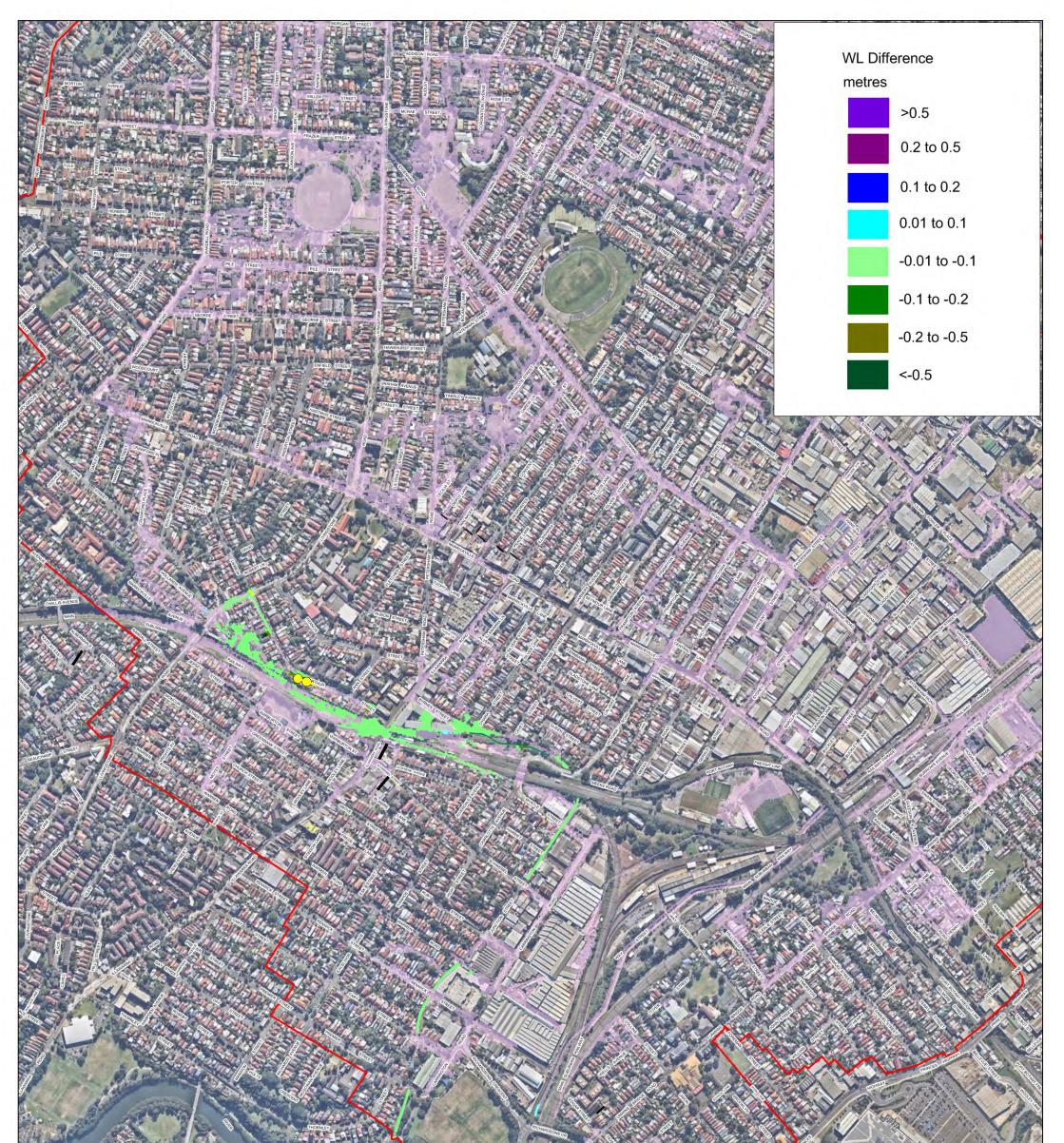




Water Level Difference 1% AEP Option FM7.1 & FM7.5

MARRICKVILLE VALLEY FRMS&P

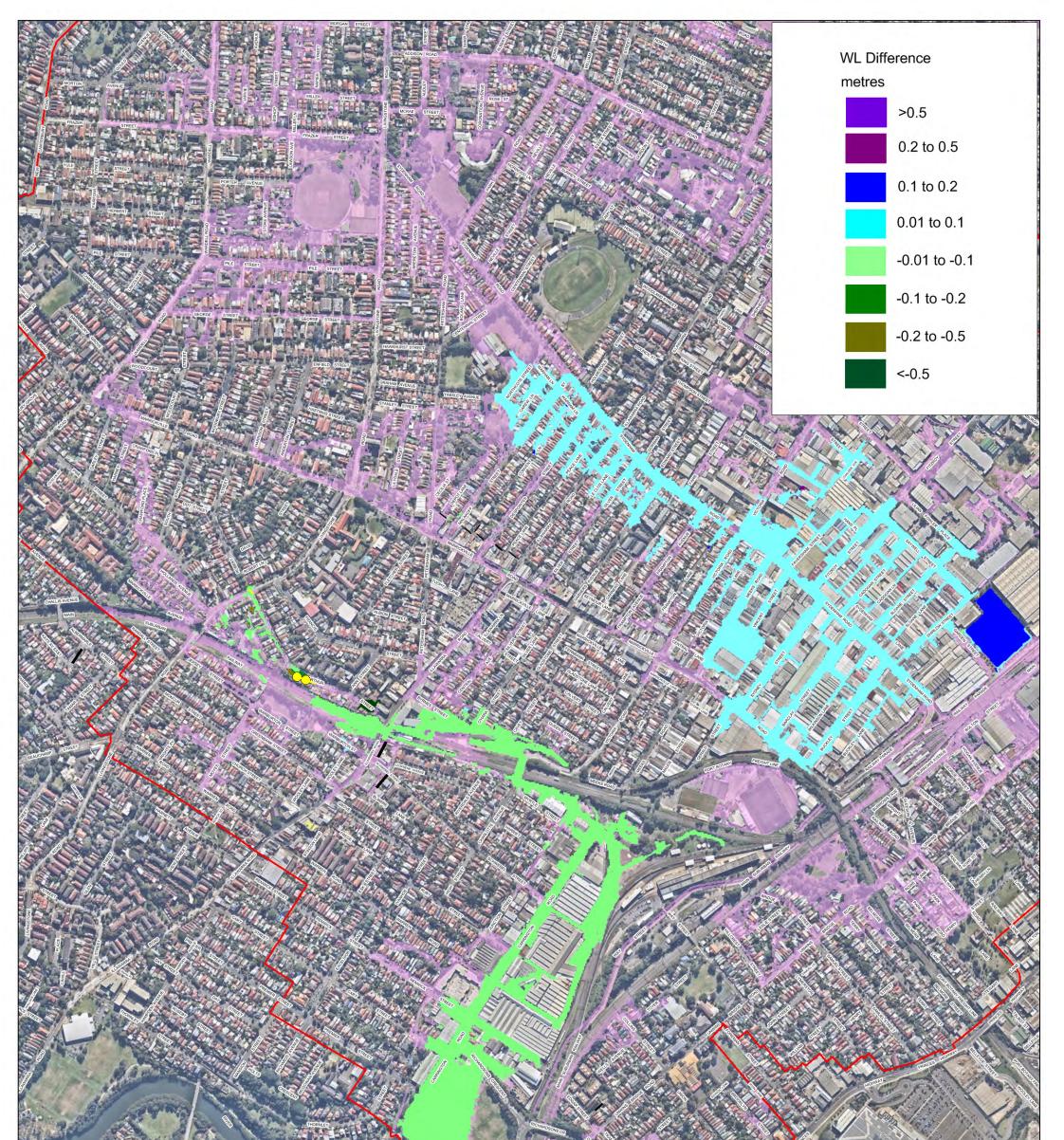






Water Level Difference 2 Yr Option FM 8.1 & 8.2 MARRICKVILLE VALLEY FRMS&P



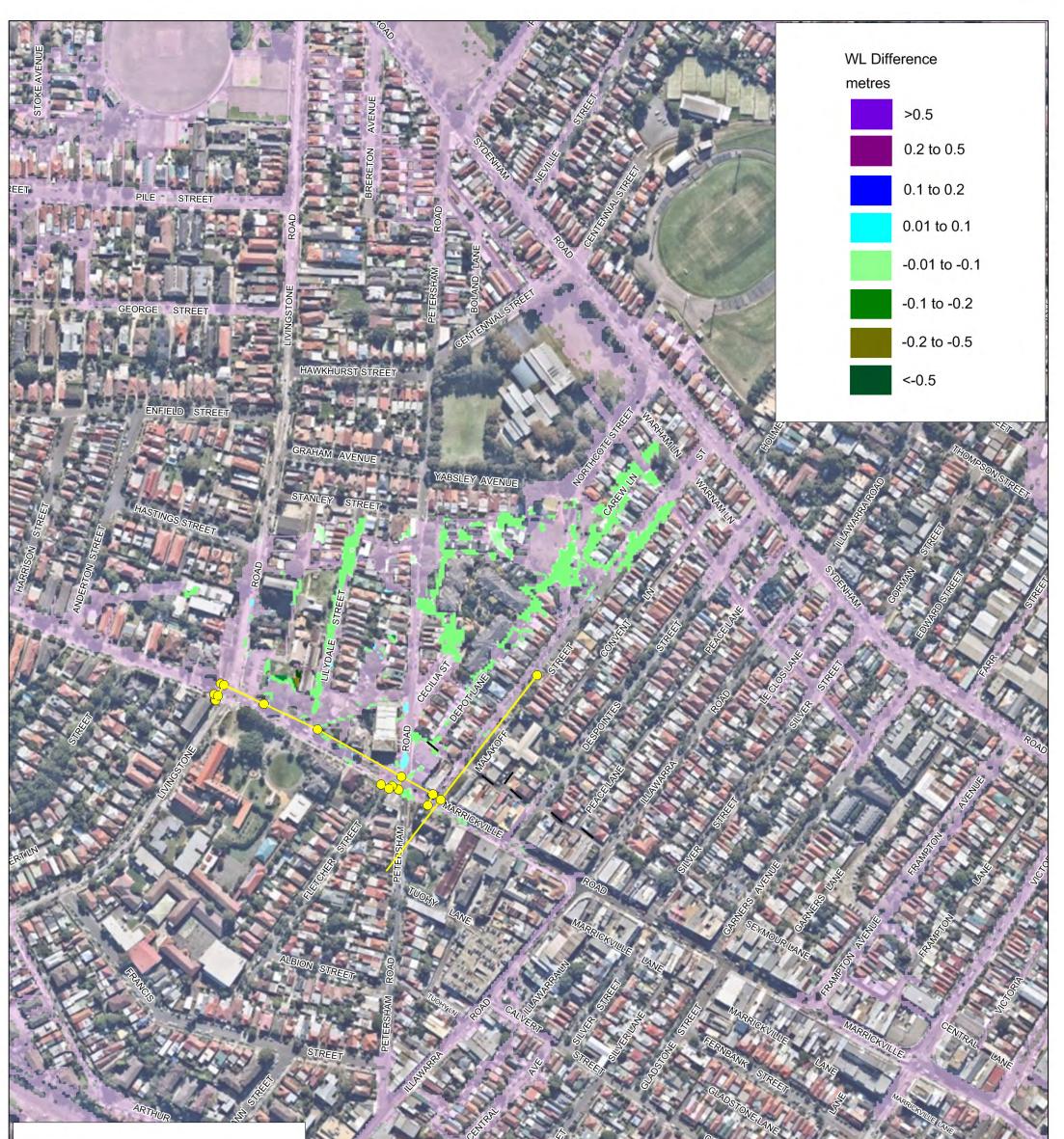




Water Level Difference 1% AEP Option FM 8.1 & 8.2

MARRICKVILLE VALLEY FRMS&P



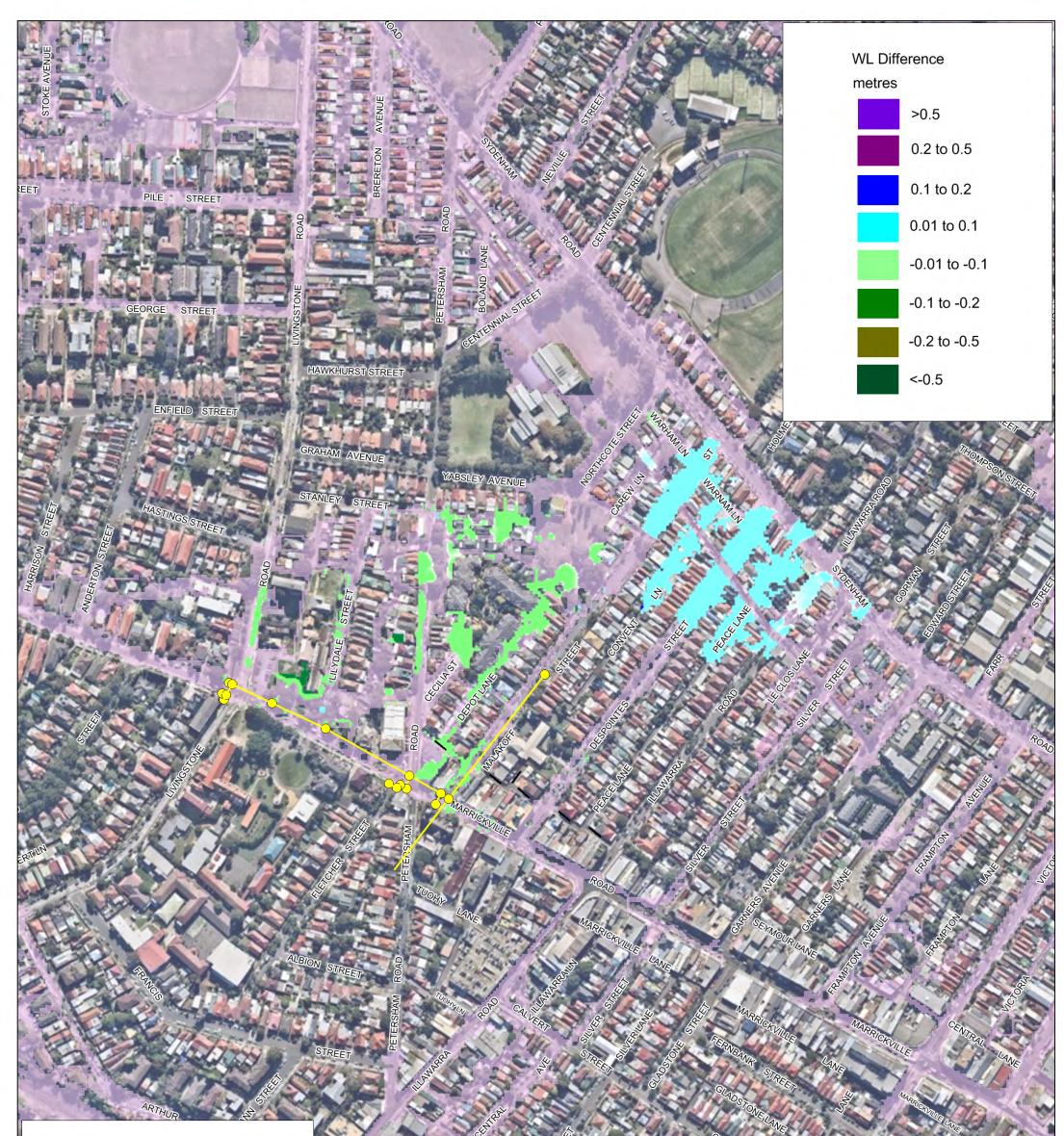




Water Level Difference 2 Yr **Option FM9.1** 

MARRICKVILLE VALLEY FRMS&P

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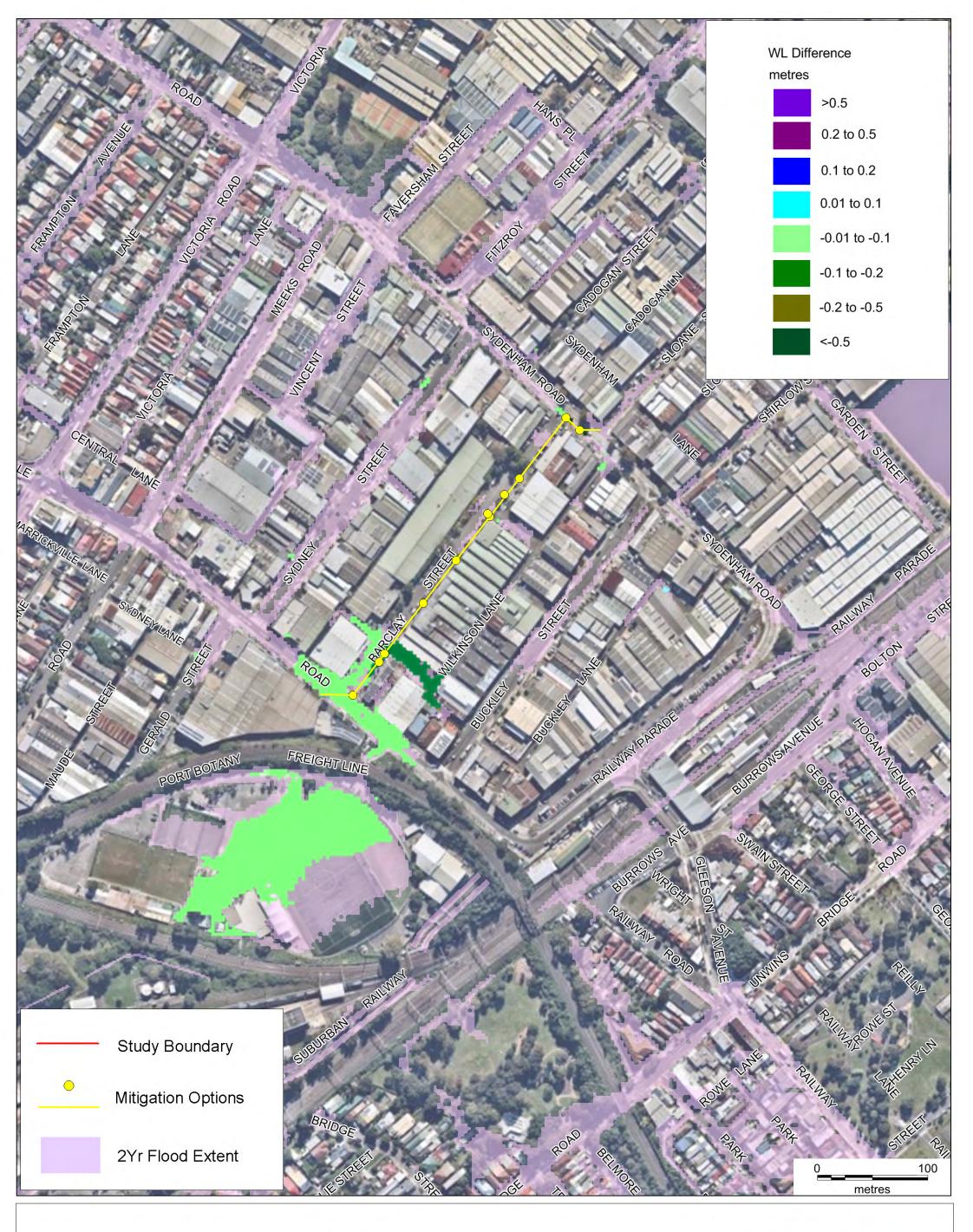




Water Level Difference 1% AEP Option FM9.1

MARRICKVILLE VALLEY FRMS&P

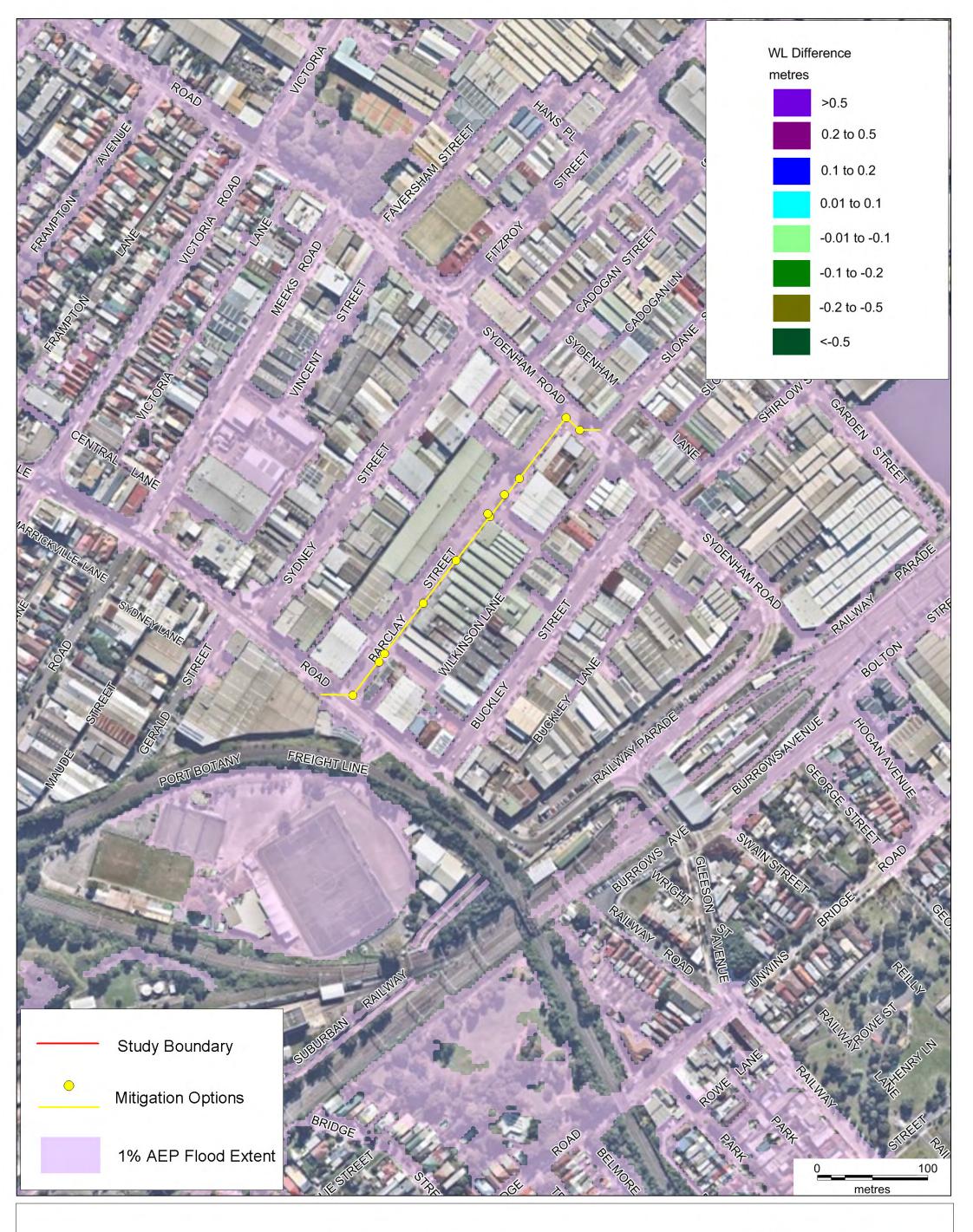
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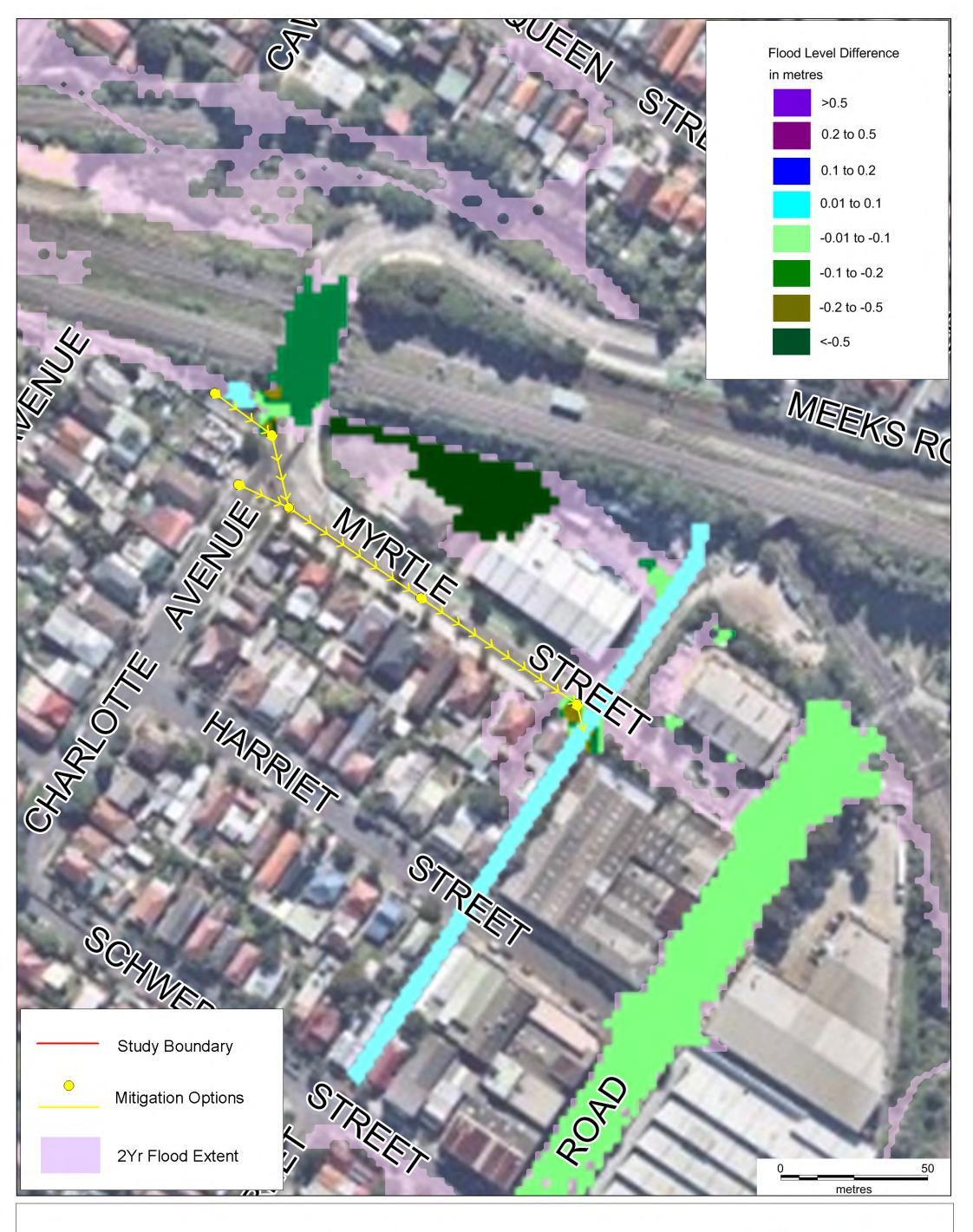


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## Water Level Difference 1% AEP Option FM10.1

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MARRICKVILLE VALLEY FRMS&P







MARRICKVILLE VALLEY FRMS&P

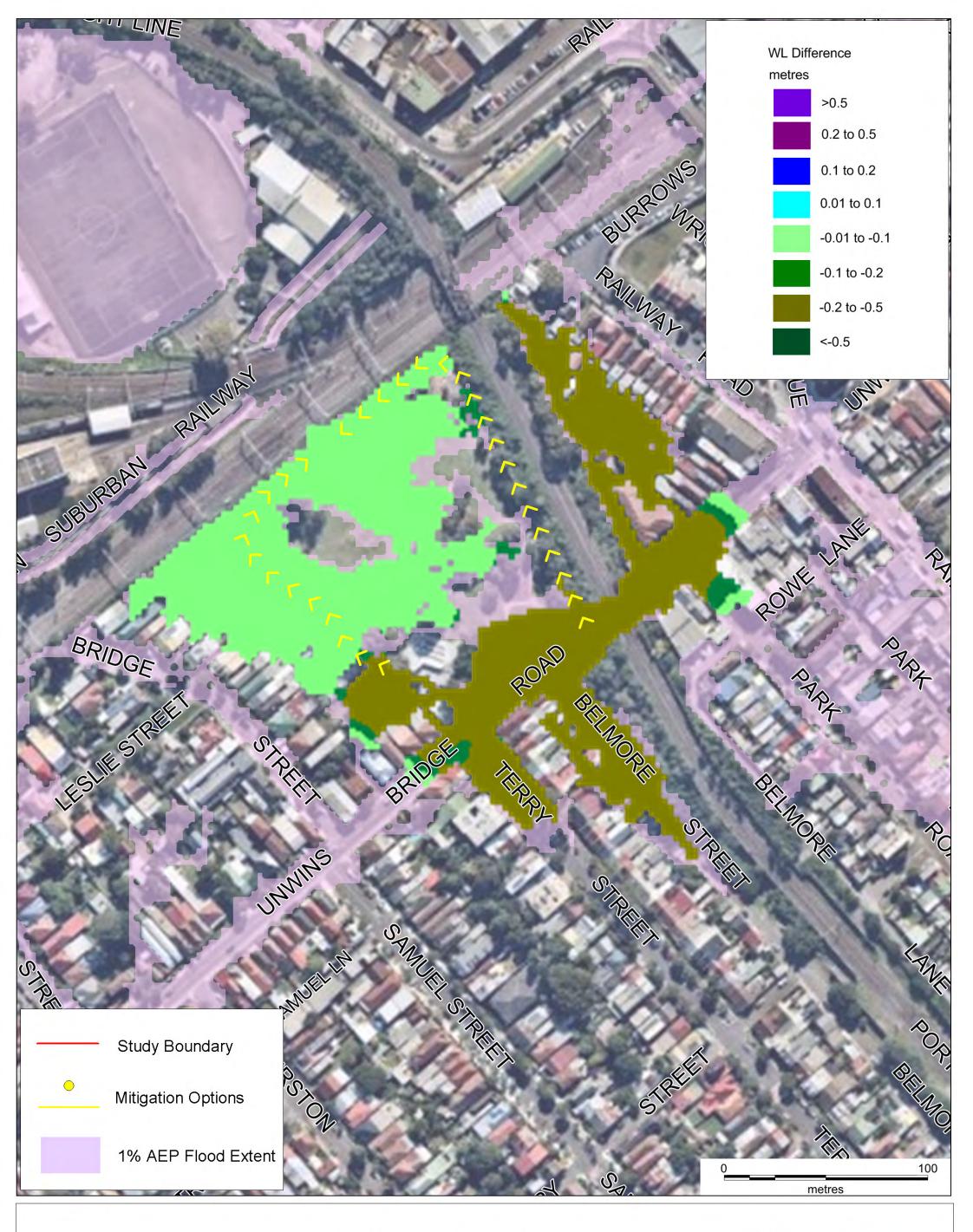




Water Level Difference 2 Yr Option FM11.1 & FM11.2

MARRICKVILLE VALLEY FRMS&P

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

MARRICKVILLE VALLEY FRMS&P

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