

Little Creek Catchment Floodplain Risk Management Study

Final Report Volume 2 of 2: Figures

October 2021

Note: Adopted by Penrith City Council in its Ordinary Meeting on 21 February 2022

Catchment Simulation Solutions



FIGURES

Figure 1:	Little Creek Catchment
• Figure 2:	Ground Surface Elevations
• Figure 3:	Existing Land Use Zones
• Figure 4:	Vulnerable and Critical Facilities
• Figure 5:	Environmental and Heritage Constraints
Floodwater Dep	oth Maps

- Figure 6: Floodwater Depths for the 0.5EY Flood
- Figure 7: Floodwater Depths for the 20% AEP Flood
- Figure 8: Floodwater Depths for the 10% AEP Flood
- Figure 9: Floodwater Depths for the 5% AEP Flood
- Figure 10: Floodwater Depths for the 2% AEP Flood
- 6 Figure 11: Floodwater Depths for the 1% AEP Flood
- Figure 12: Floodwater Depths for the 0.5% AEP Flood
- Figure 13: Floodwater Depths for the 0.2% AEP Flood
- Floodwater Depths for the PMF Figure 14:

Floodwater Level Maps

- Figure 15: Floodwater Levels for the 0.5EY Flood
- Figure 16: Floodwater Levels for the 20% AEP Flood
- Figure 17: Floodwater Levels for the 10% AEP Flood
- Figure 18: Floodwater Levels for the 5% AEP Flood
- Figure 19: Floodwater Levels for the 2% AEP Flood
- Figure 20: Floodwater Levels for the 1% AEP Flood

- Figure 21: Floodwater Levels for the 0.5% AEP Figure 22: Floodwater Levels for the 0.2% AEP Figure 23: Floodwater Levels for the PMF Floodwater Velocity Maps Figure 24: Floodwater Velocities for the 0.5EY Flood Figure 25: Floodwater Velocities for the 20% AEP Flood
- Figure 26: Floodwater Velocities for the 10% AEP Flood
- Figure 27: Floodwater Velocities for the 5% AEP Flood
- Figure 28: Floodwater Velocities for the 2% AEP Flood
- Figure 29: Floodwater Velocities for the 1% AEP Flood
- Figure 30: Floodwater Velocities for the 0.5% AEP Flood
- Figure 31: Floodwater Velocities for the 0.2% AEP Flood
- Figure 32: Floodwater Velocities for the PMF

Flood Hazard Maps

- Figure 33: Flood Hazard for the 5% AEP Flood
- Figure 34: Flood Hazard for the 1% AEP Flood
- Figure 35: Flood Hazard for the 0.5% AEP Flood
- Figure 36: Flood Hazard for the 0.2% AEP Flood
- Figure 37: Flood Hazard for the PMF

Hydraulic Category Maps

- Figure 38: Hydraulic Categories for the 5% AEP Flood
- Figure 39: Hydraulic Categories for the 1% AEP Flood
- Figure 40: Hydraulic Categories for the 0.5% AEP Flood

P Flood		
P Flood		

- Figure 41: Hydraulic Categories for the 0.2% AEP Flood
- Figure 42: Hydraulic Categories for the PMF

Emergency Response Precinct Classifications

- Figure 43: Emergency Response Classifications for the 5% AEP Flood
- Emergency Response Classifications for the 1% AEP Flood 6 Figure 44:
- 6 Figure 45: Emergency Response Classifications for the 0.5% AEP Flood
- Emergency Response Classifications for the 0.2% AEP Flood 6 Figure 46:
- Figure 47: Emergency Response Classifications for the PMF

Miscellaneous Maps

- Figure 48: Frequency of Above Floor Flooding
- Flood Affectation of Vulnerable and Critical Facilities Figure 49:
- Potential Future Catchment Land Use Figure 50:
- Figure 51: Complying Development Areas
- Flood Planning Area Figure 52:
- Land Use Zones with 1%AEP National Hazards 6 Figure 53:
- Figure 54: Land Use Zones with PMF National Hazards
- Figure 55: Flood Planning Constraints Mapping
- Figure 56: Flood Planning Constraints Mapping with Land Use Zones

Preliminary Concept Designs for Flood Risk Management Options

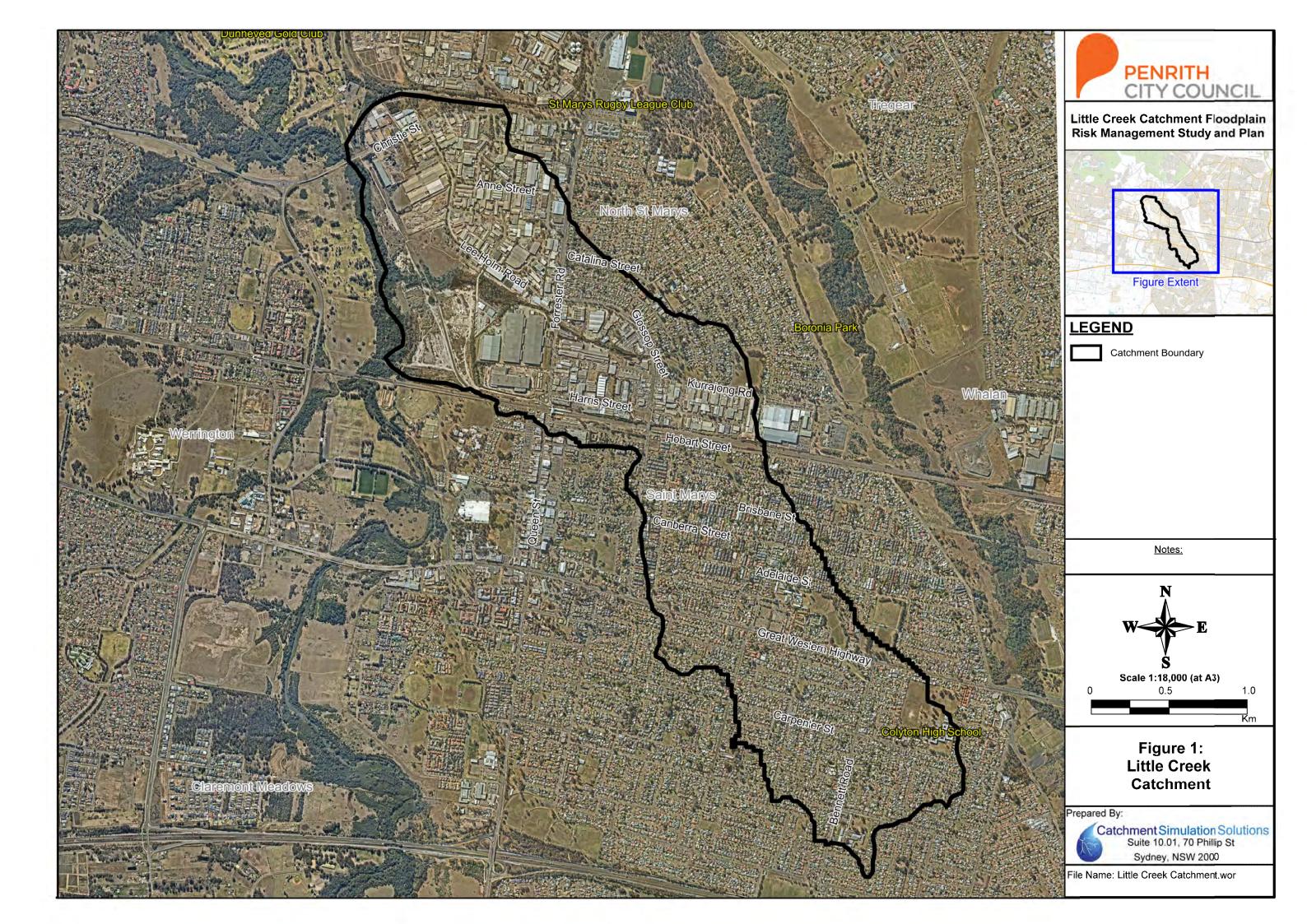
- Figure 57: FM1: Great Western Highway Culvert Upgrade
- Figure 58: FM2: Railway/Hobart Street Culvert Upgrade
- Figure 59: FM3: Glossop Street Culvert Upgrade
- 6 Figure 60: FM4: Canberra, Sydney and Brisbane Streets Stormwater Upgrade

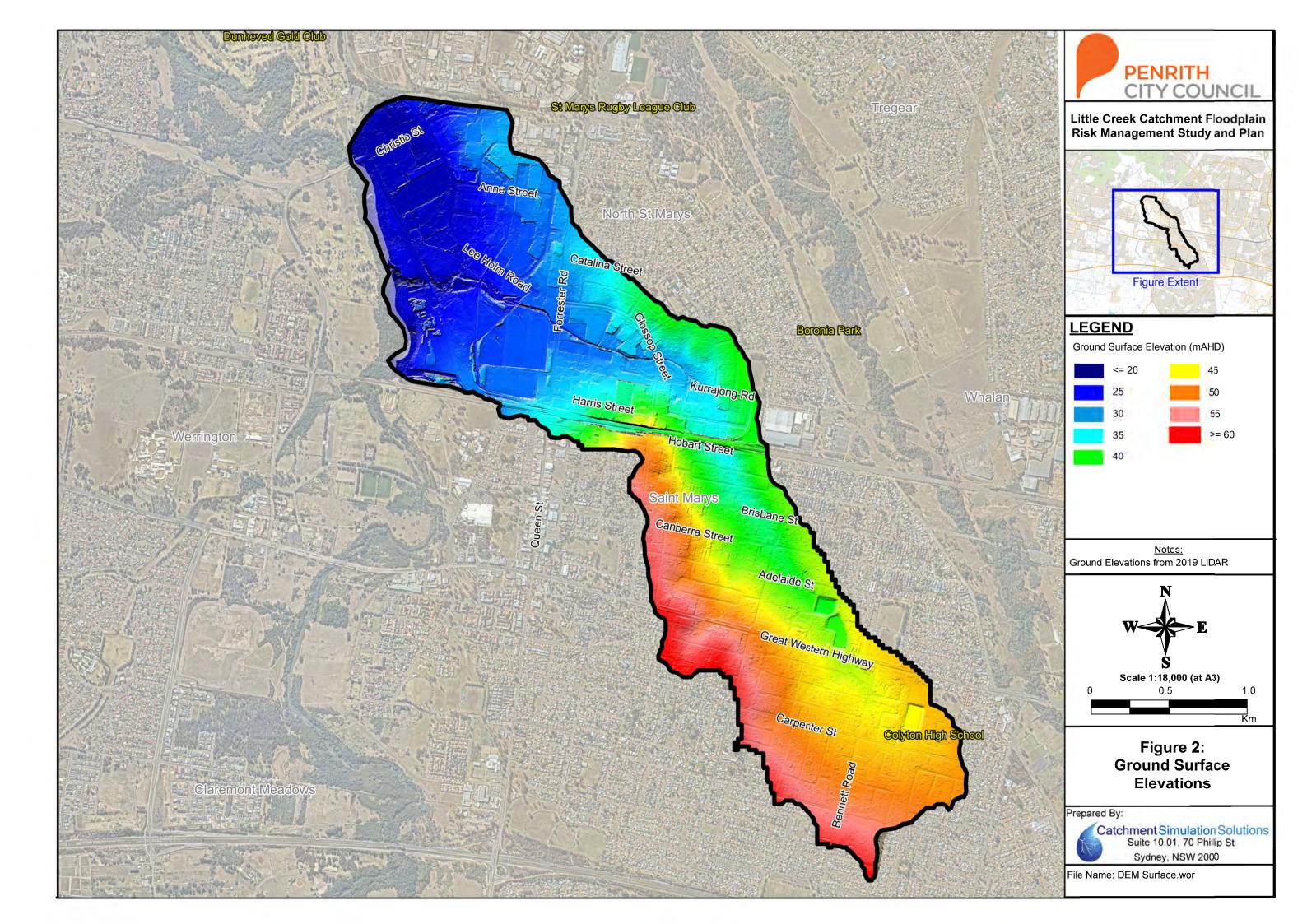
Figure 61:	FM5: Glossop Street Stormwater Upgrade
Figure 62:	FM6: Lee Holm Drive Stormwater Upgrade
Figure 63:	FM7: Colyton High School Basin Augmentation
Figure 64:	FM8: Oxley Park Basin Augmentation
Figure 65:	FM9: Great Western Highway Median Modific
Figure 66:	RM8: Great Western Highway Roadway Modi
Figure 67:	RM9: Glossop Street Roadway modifications

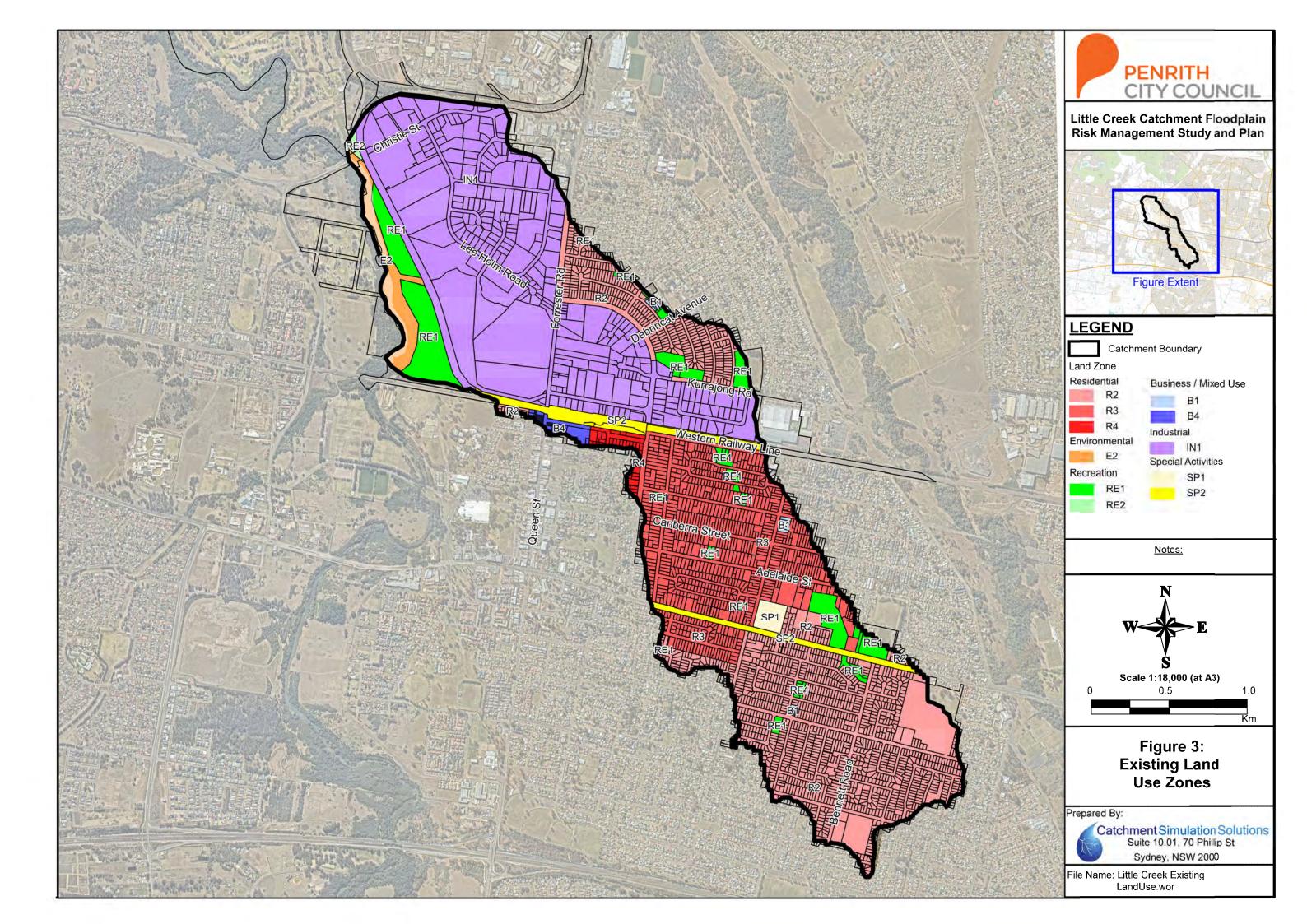
gmentation

an Modifications

way Modifications



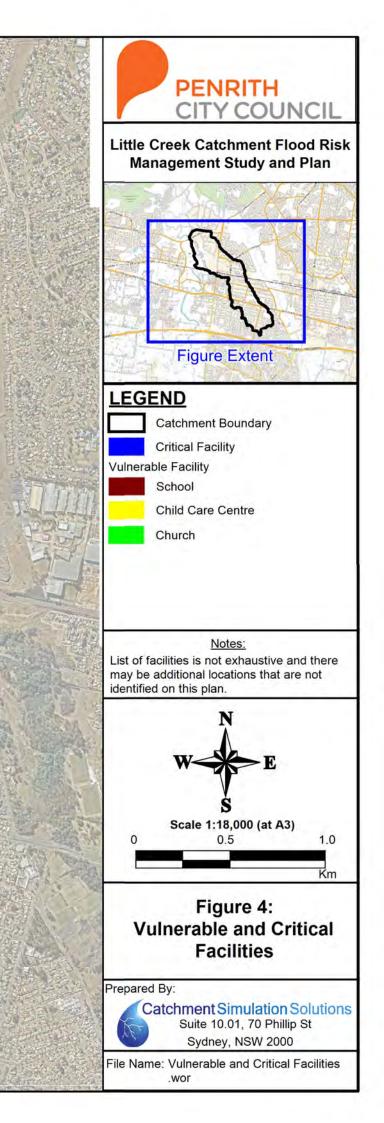


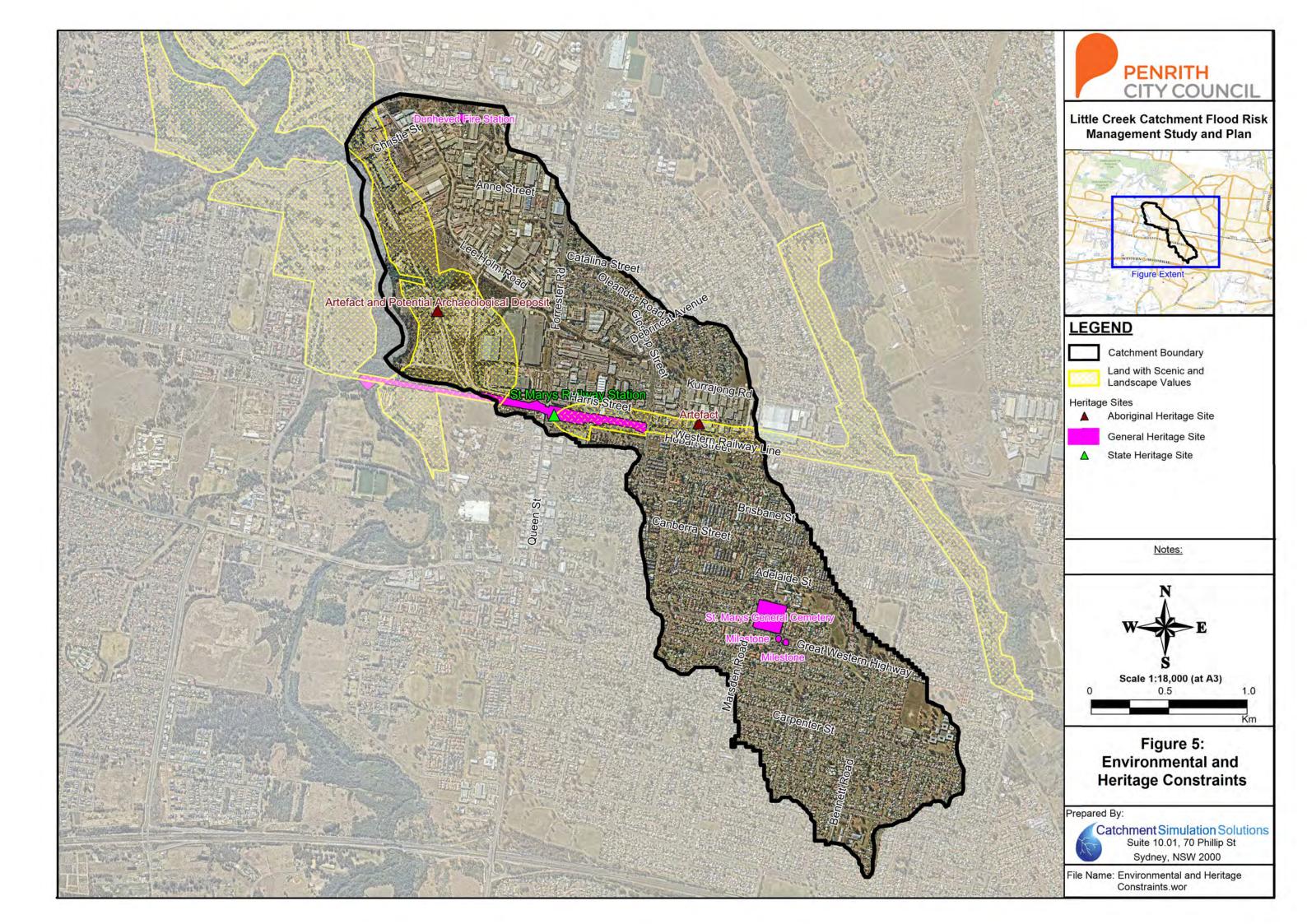


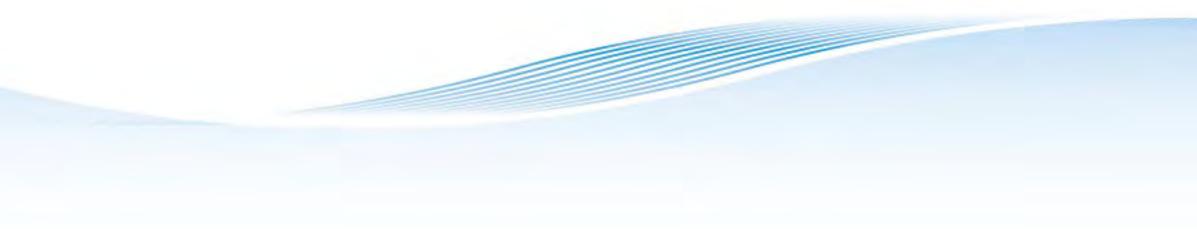
ID	Name	Address
1	Young Explorers Early Learning Centre	143 Adelaide St, St Marys NSW 2760
2	Evergreen Early Education Centres	68 Sydney St, St Marys NSW 2760
3	First Memories Early Learning Centre	54 Ball St, Colyton NSW 2760
4	Five Sense Childcare	14 Bennett Rd, Colyton NSW 2760
5	Ridge-Ee-Didge Child Care Centre	17 Woodland Ave, Oxley Park NSW 2760
6	Keymer Child Care Centre	27-29 Bentley Rd, Colyton NSW 2760
7	Busy Bees Long Day Child Care Centre	146 Glossop St, St Marys NSW 2760
8	St Marys Presbyterian Church	14 Marsden Rd, St Marys NSW 2760
9	St Marys Samoan Seventh Day Adventist Church	253 Great Western Hwy, St Marys NSW 276
10	St Mary's District Baptist Church	253 Great Western Hwy, St Marys NSW 275
11	St. Demetrios' Greek Orthodox Church	47 Hobart St, St Marys NSW 2760
12	Salvation Army	Morris St, St Marys NSW 2760
13	Colyton Church	100/114 Bennett Rd, Colyton NSW 2760
14	Colyton High School	37-53 Carpenter St, Colyton NSW 2760
15	St Marys Blinky Bills Preschool	263 Great Western Hwy, St Marys NSW 276
16	Oxley Park Public School	114-130 Adelaide St, St Mary NSW 2760
17	Bennett Road Public School	100-114 Bennett Rd, Colyton NSW 2760

Queen St

anber

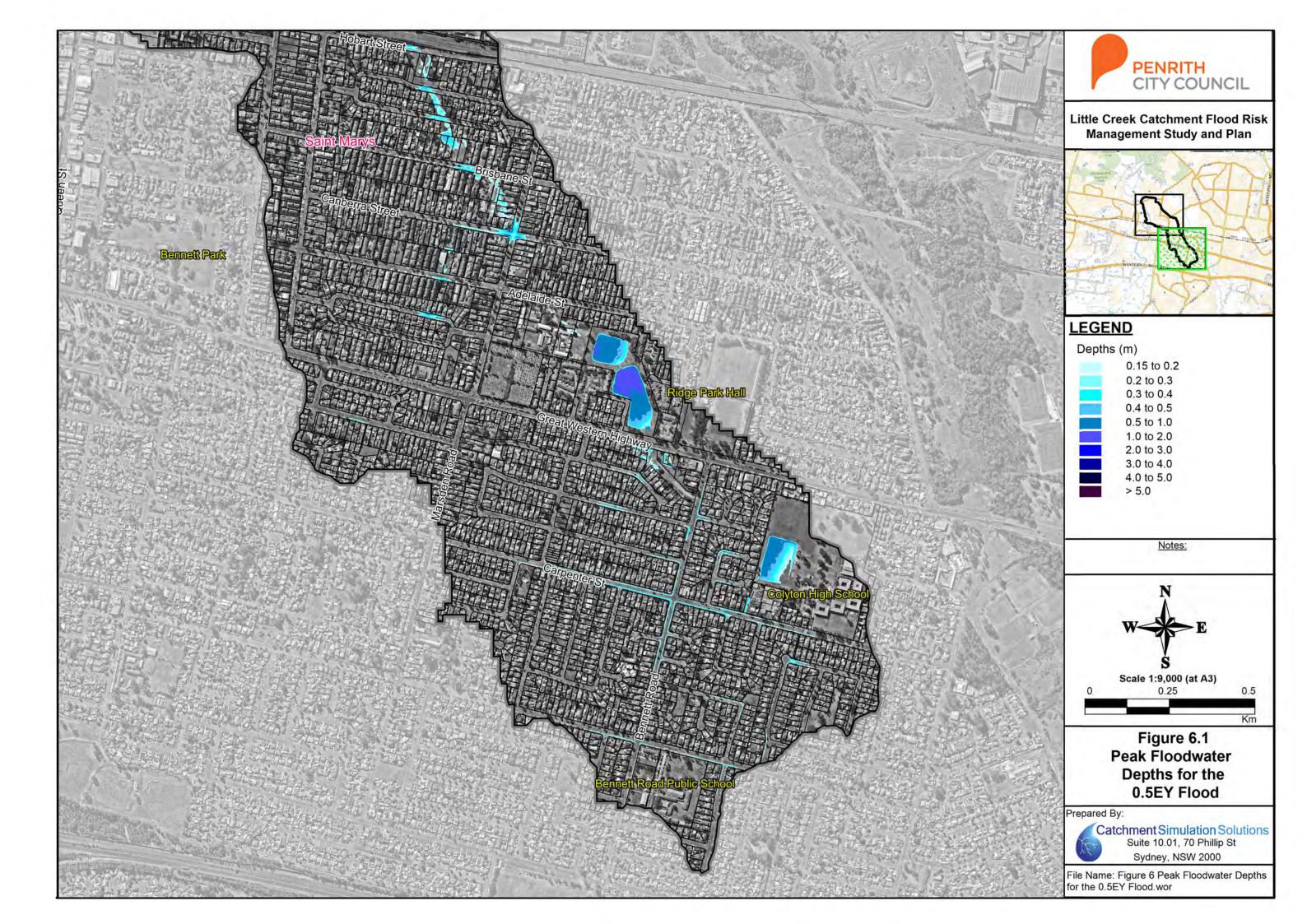


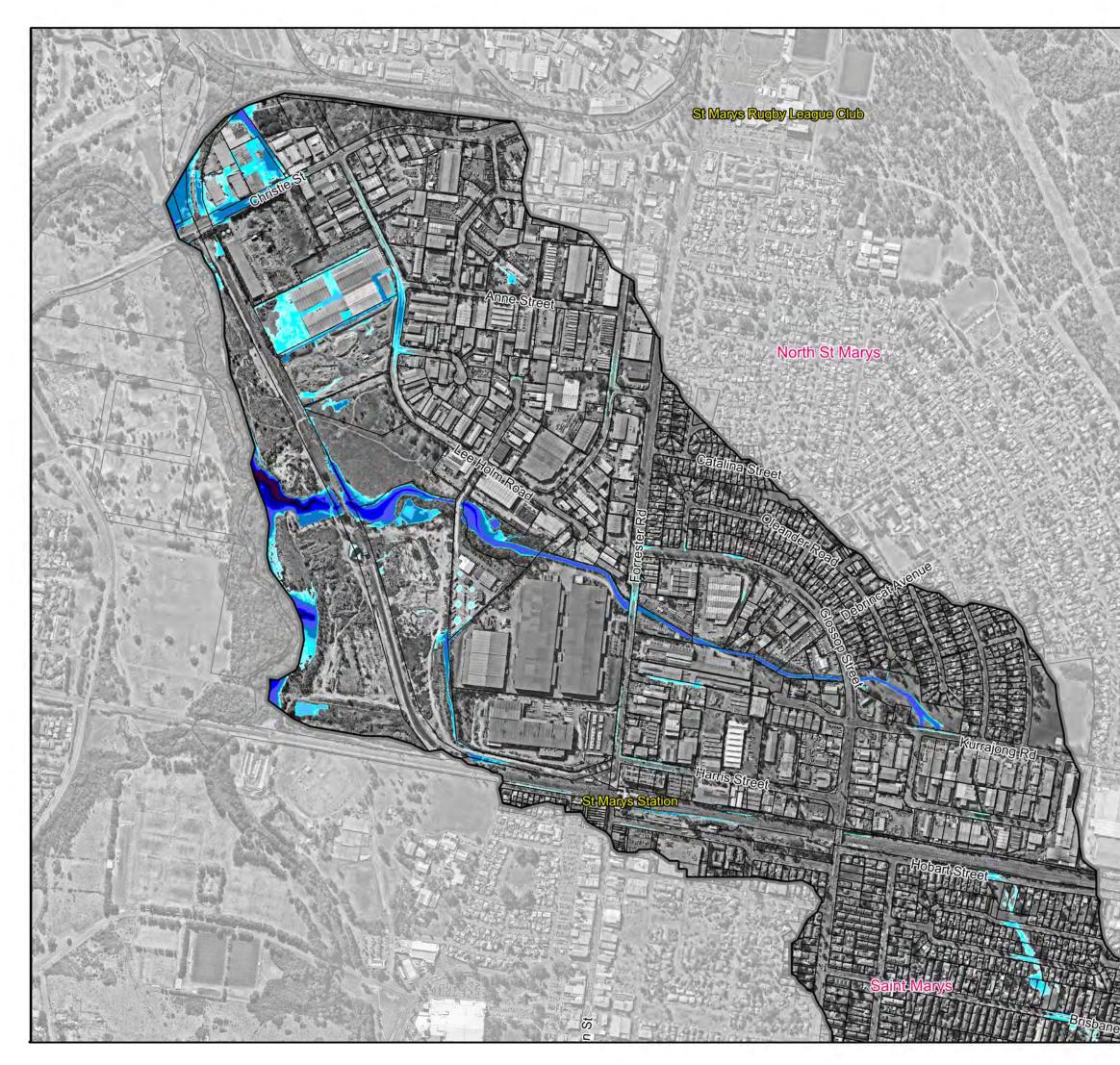


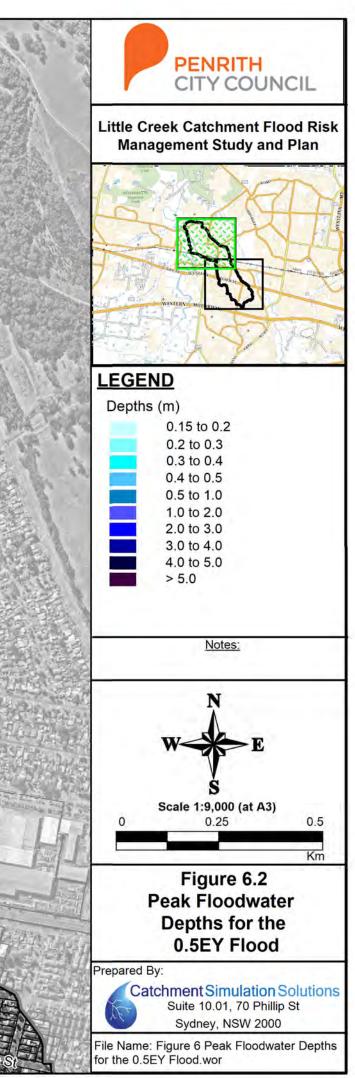


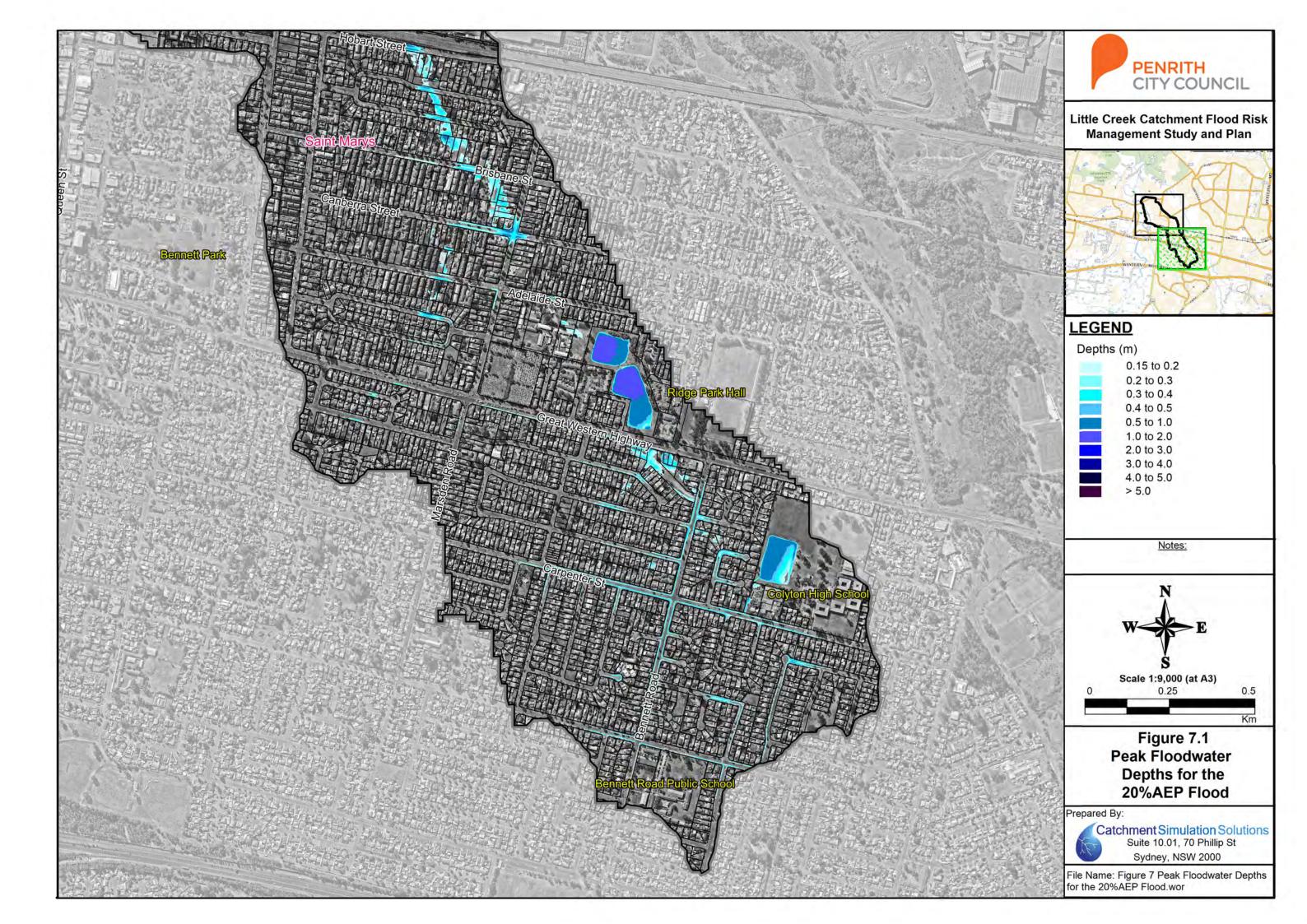
FLOODWATER DEPTH MAPS

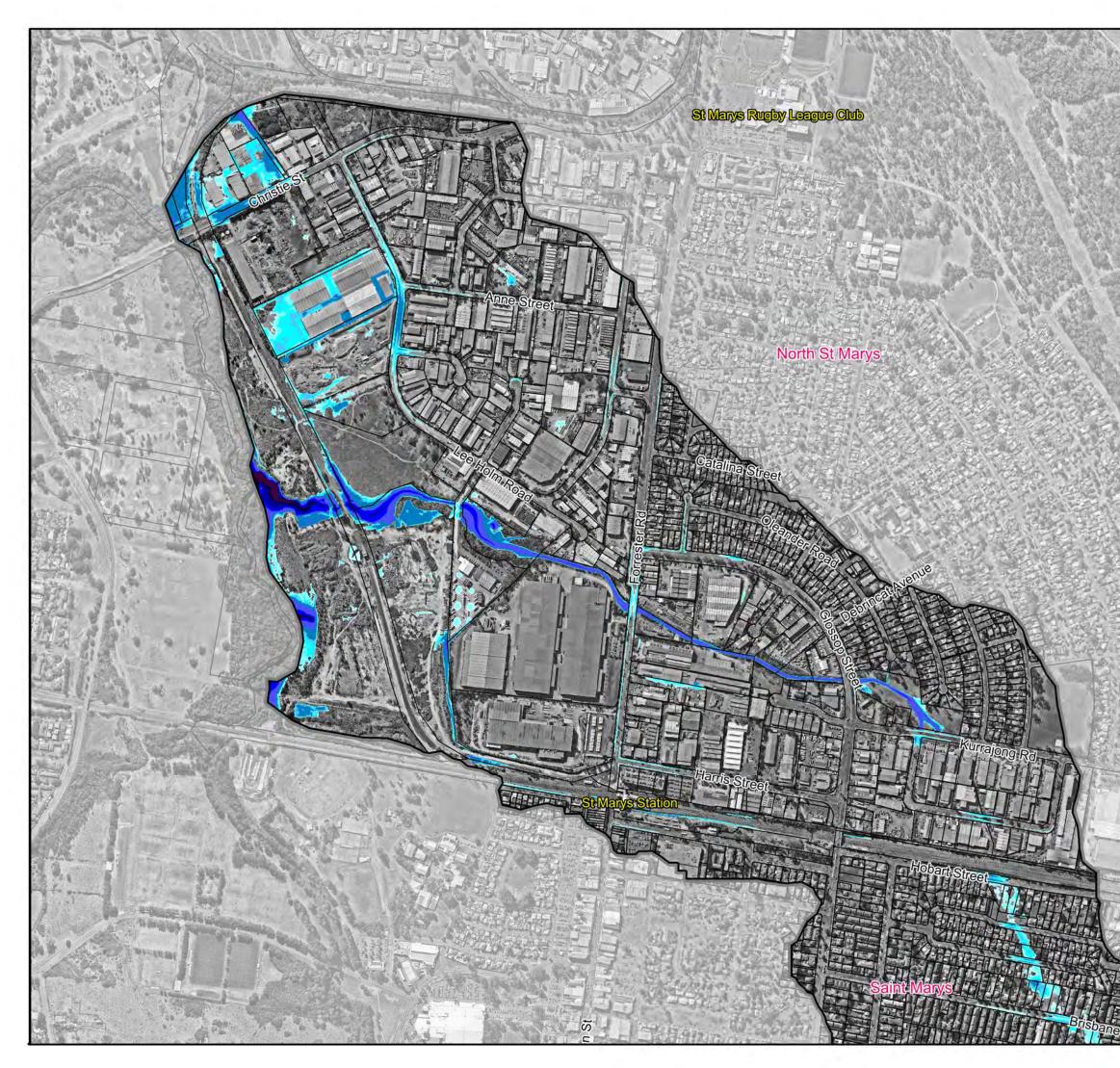


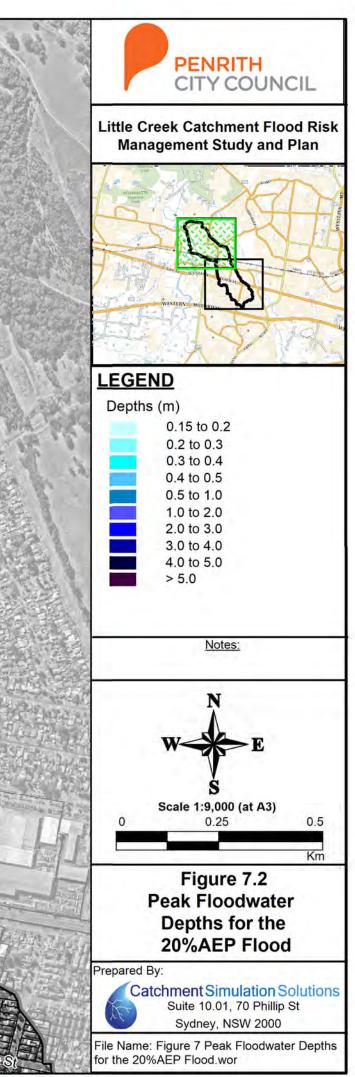


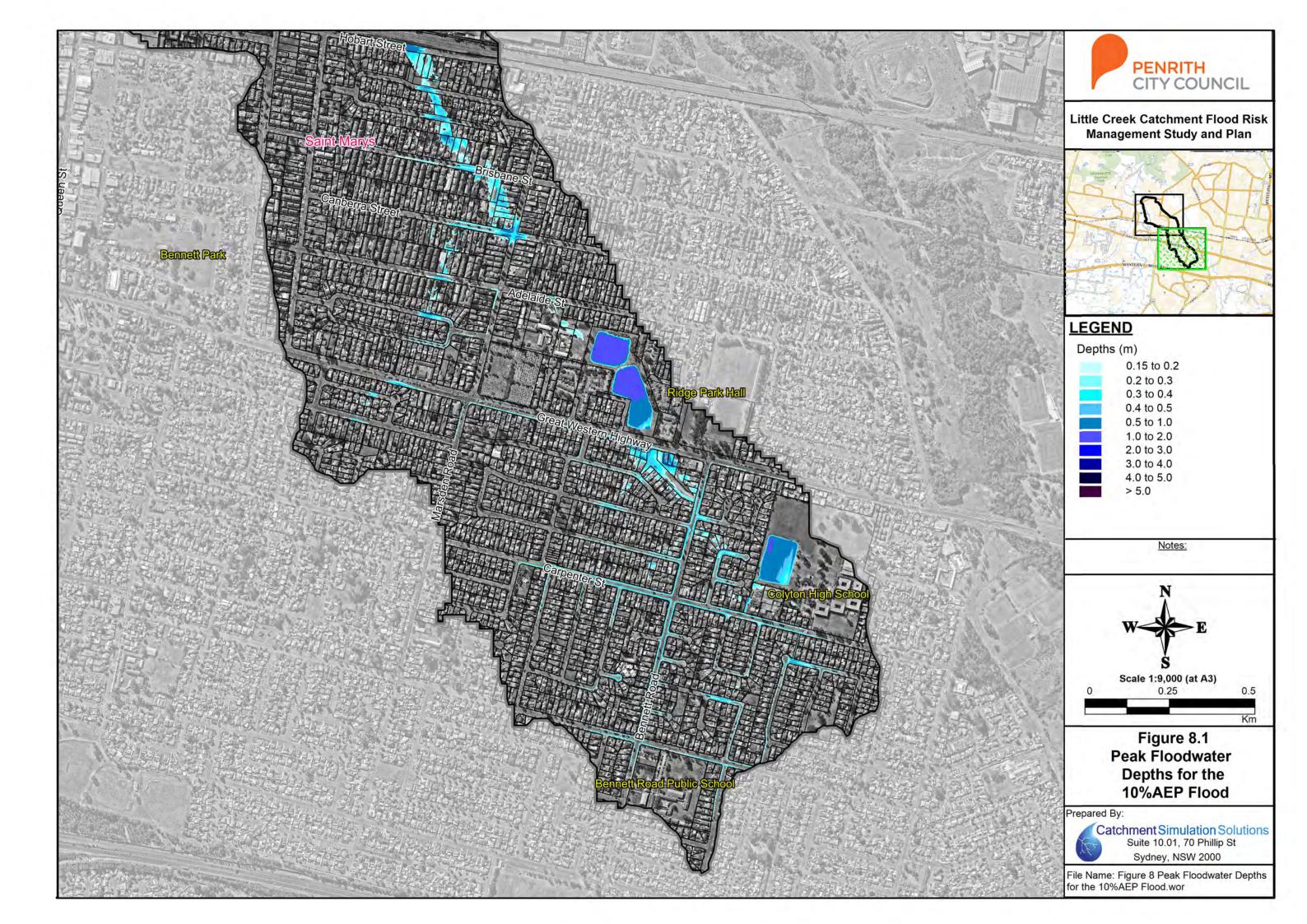


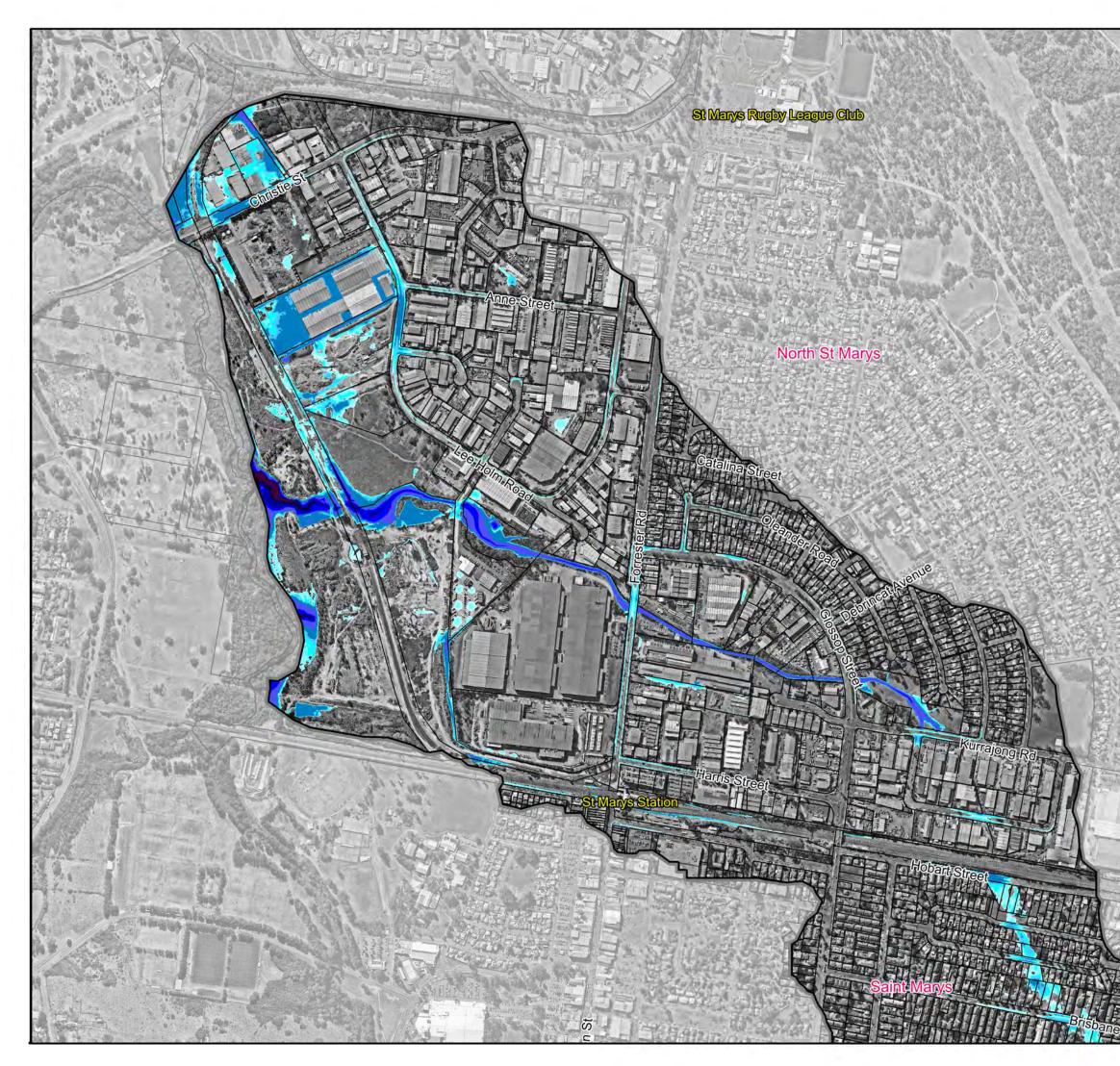


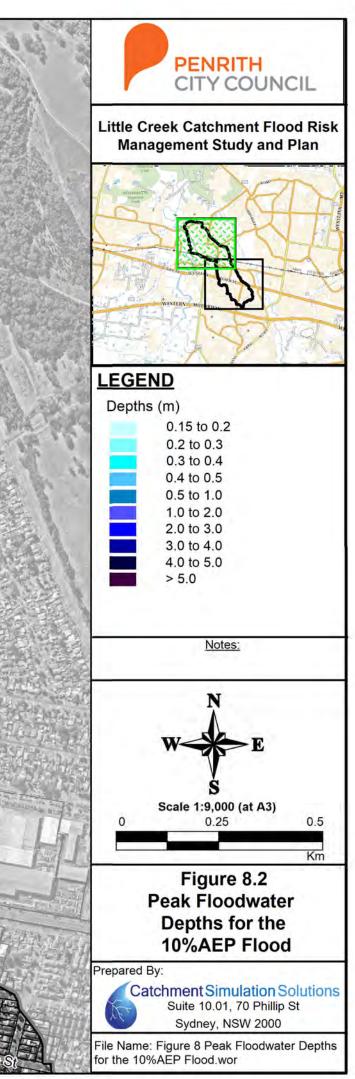


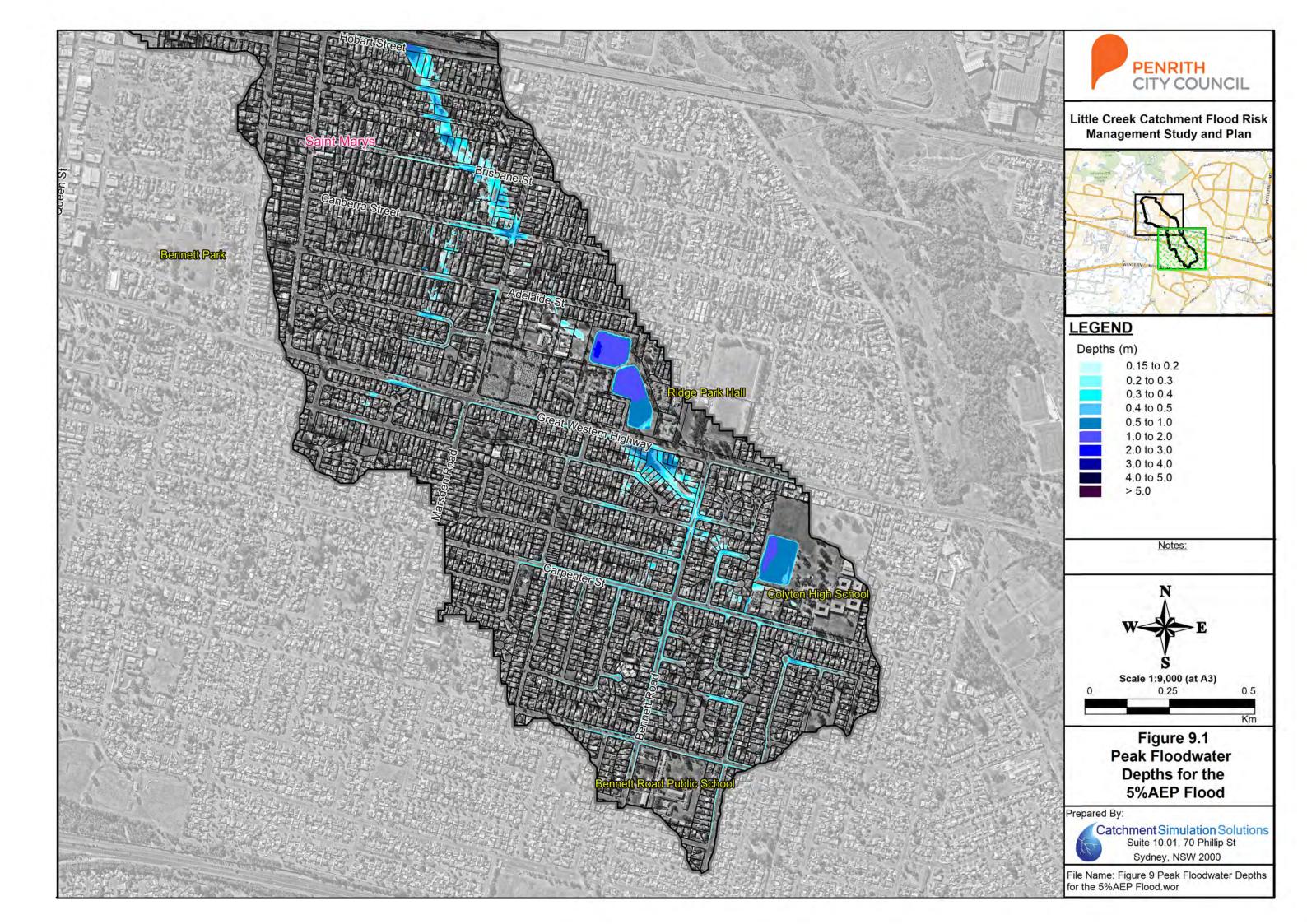


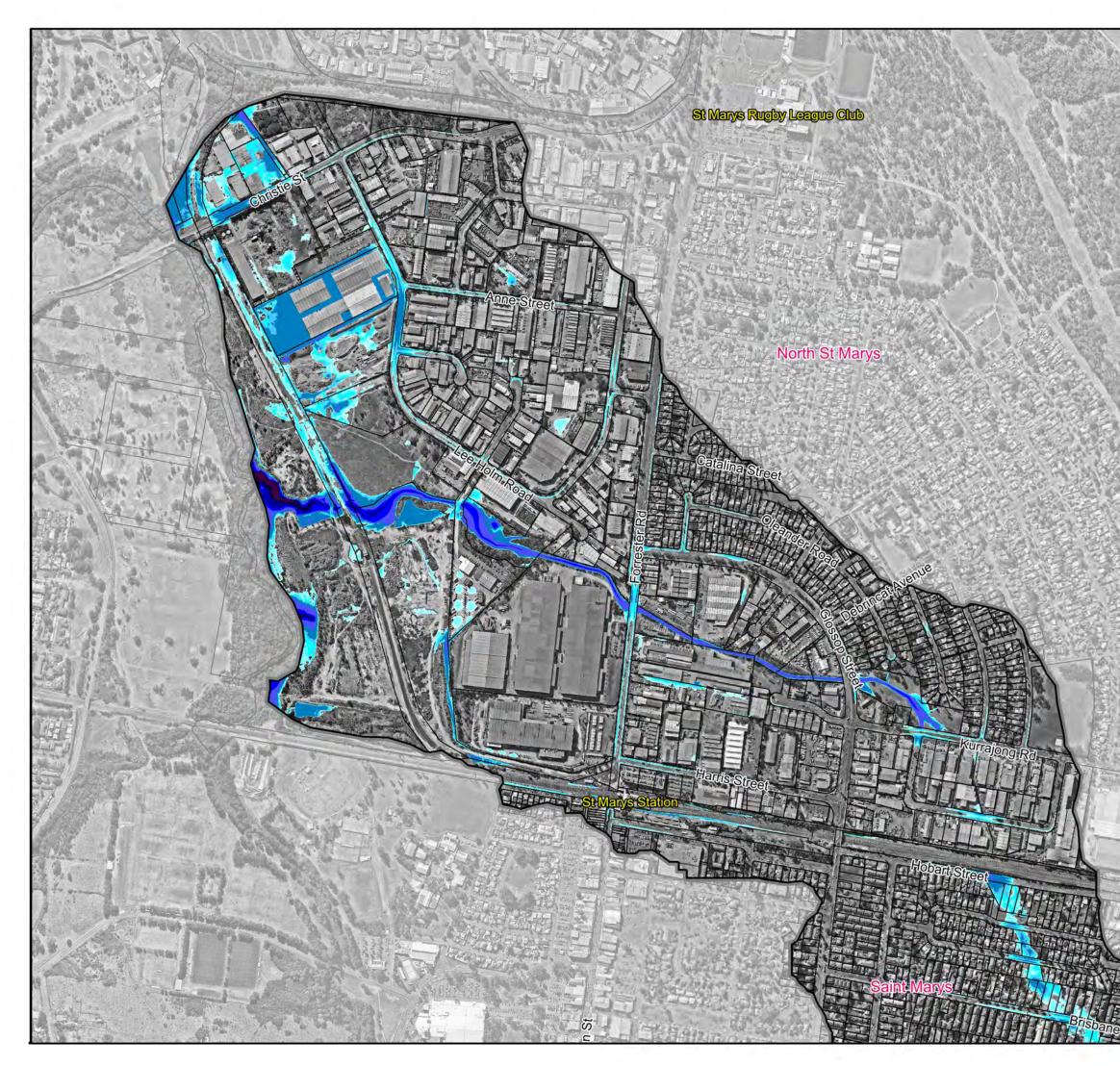


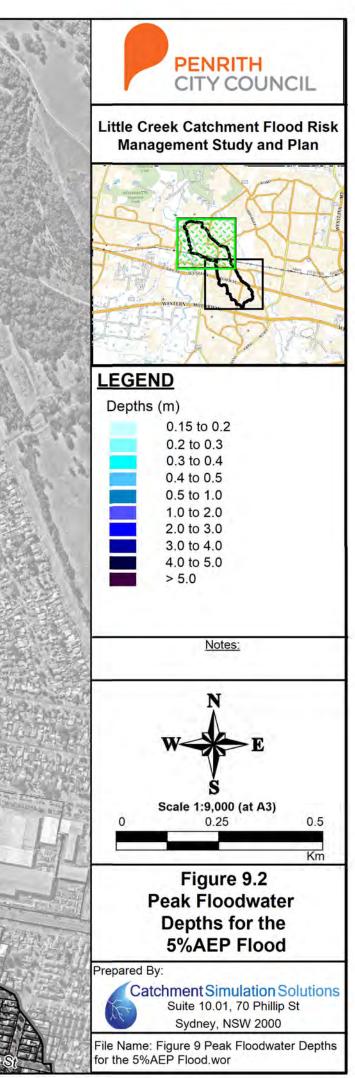


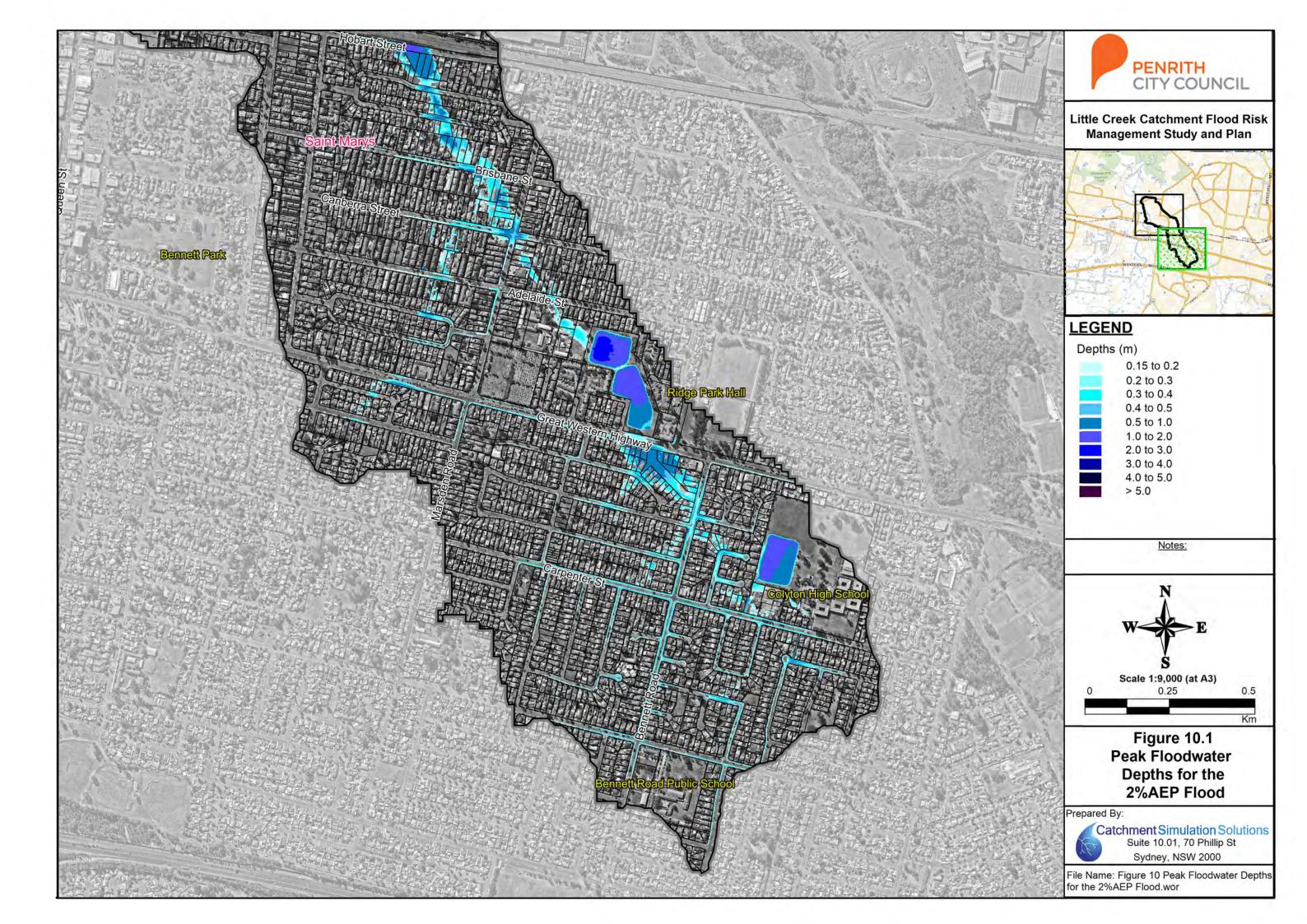


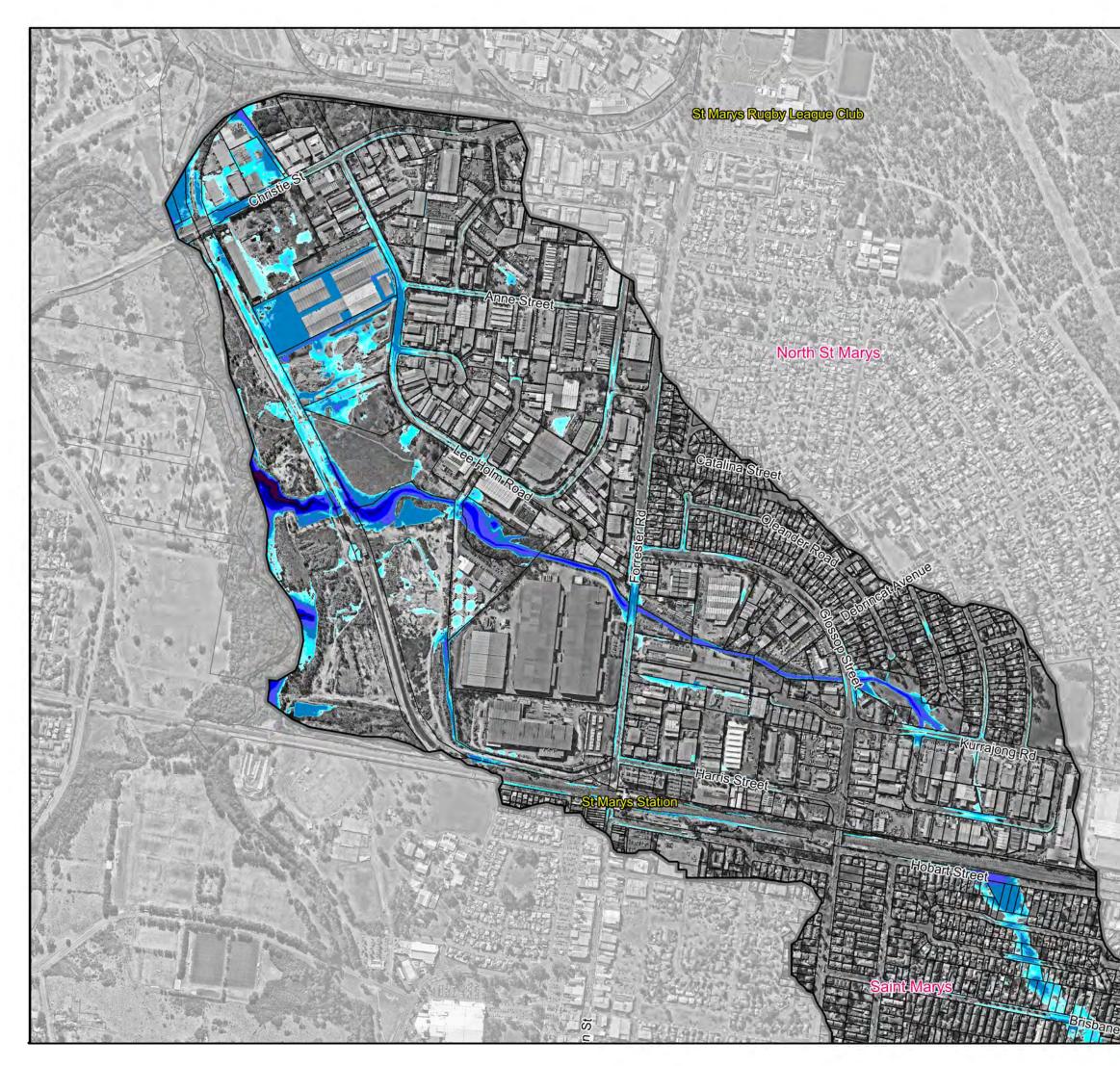


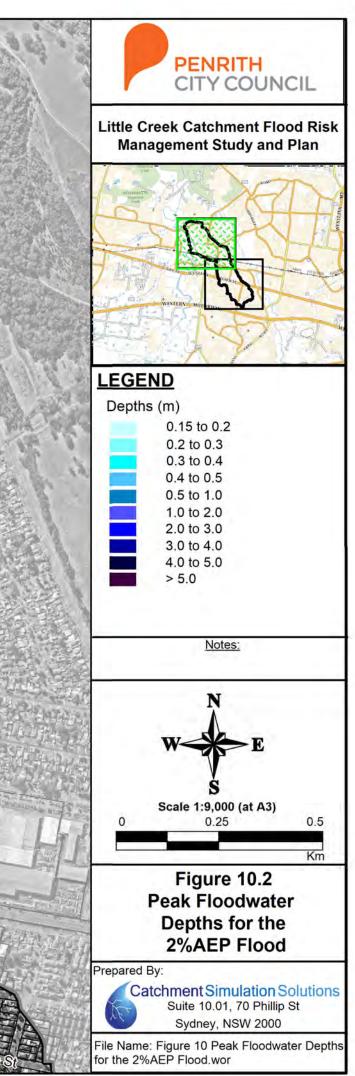


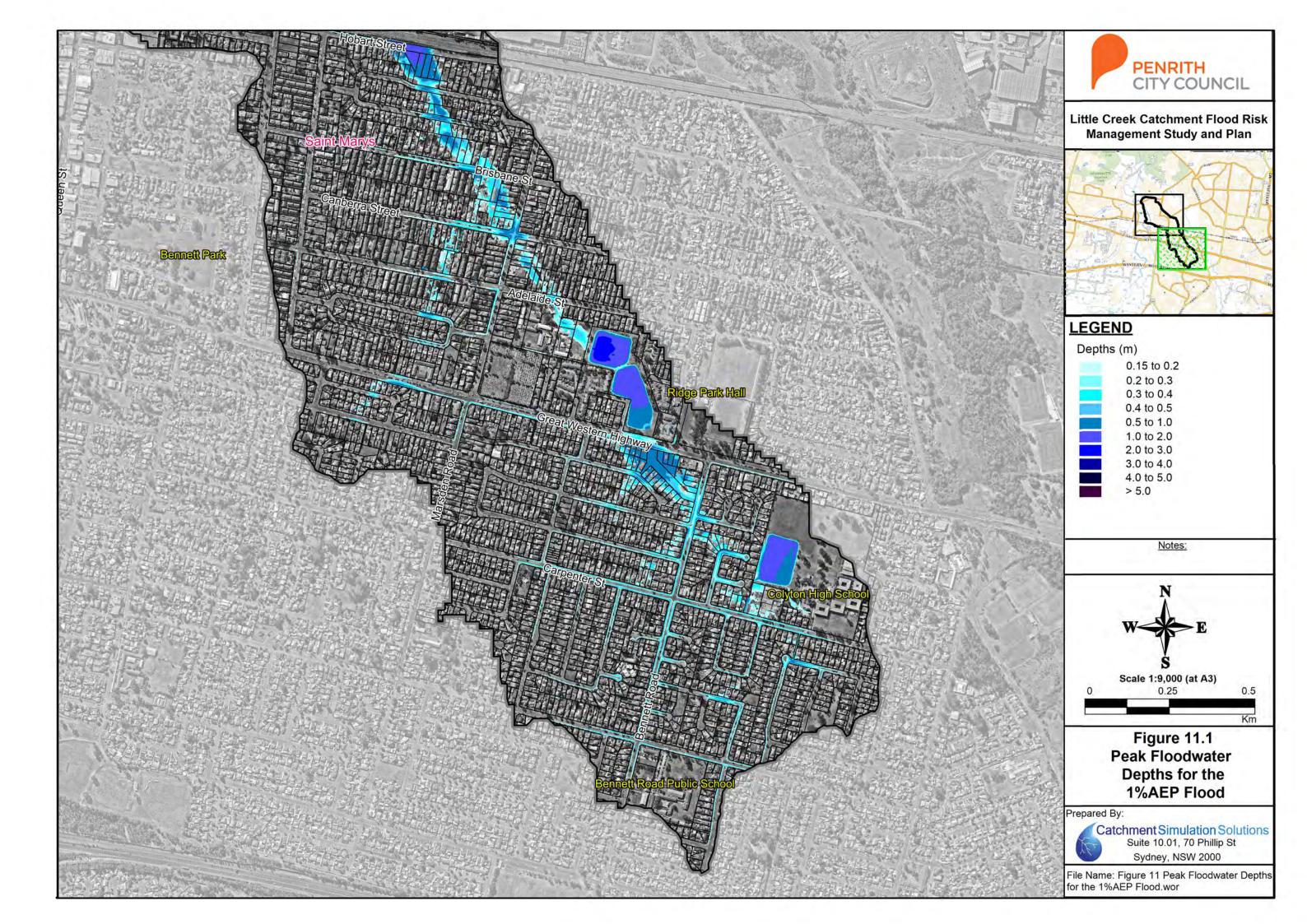


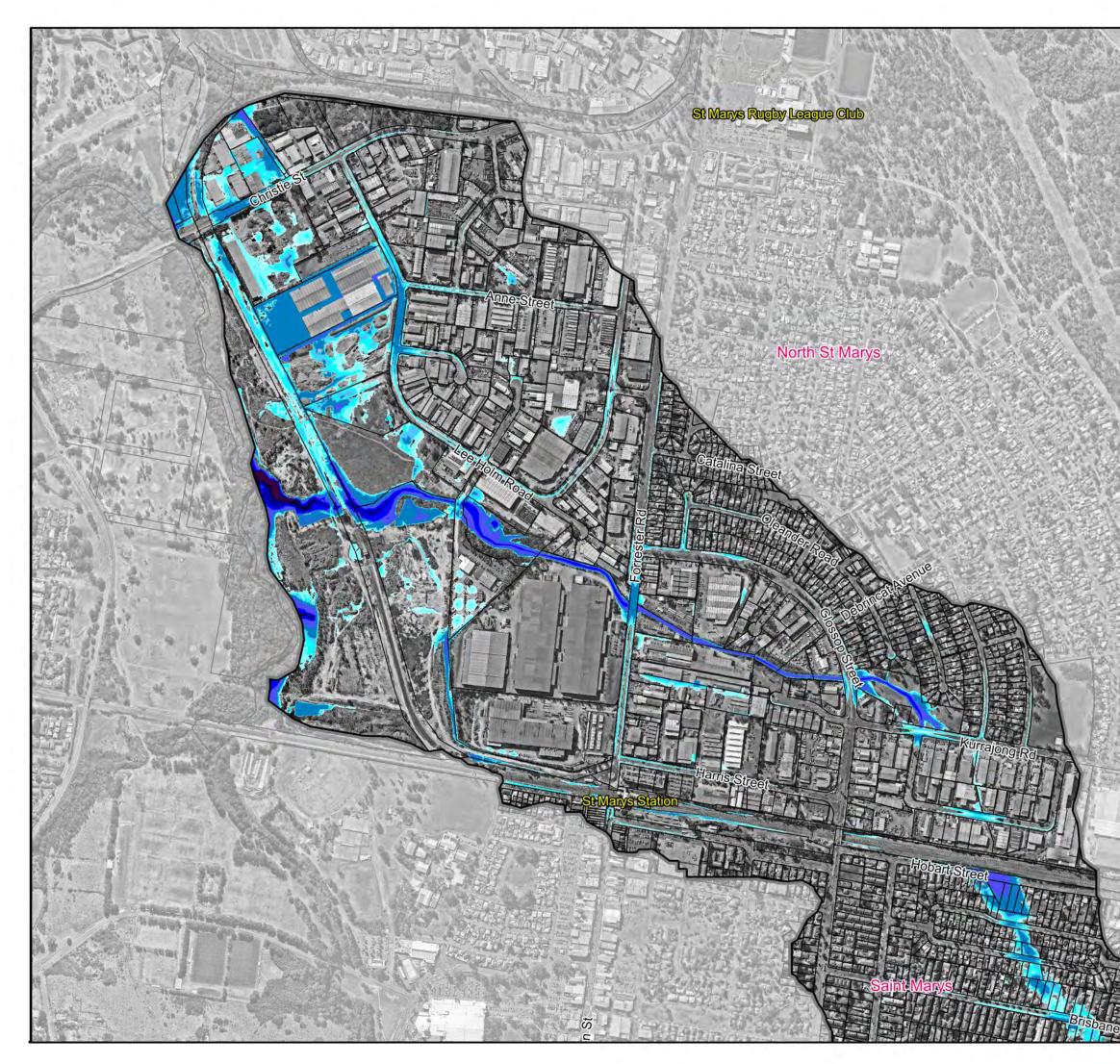


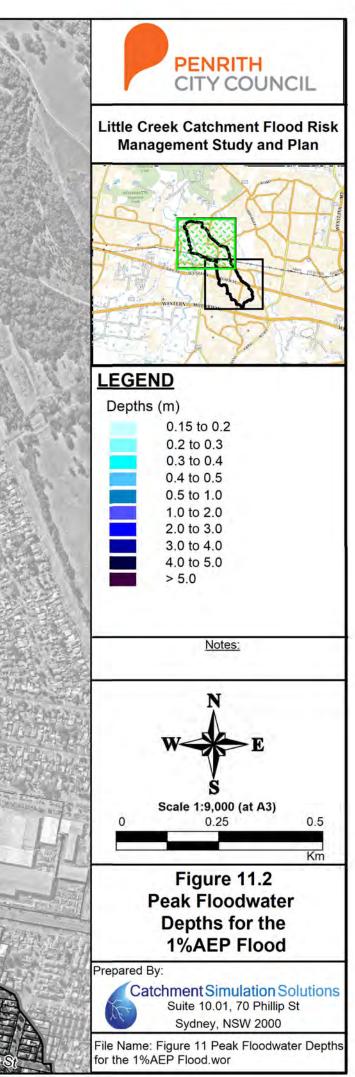


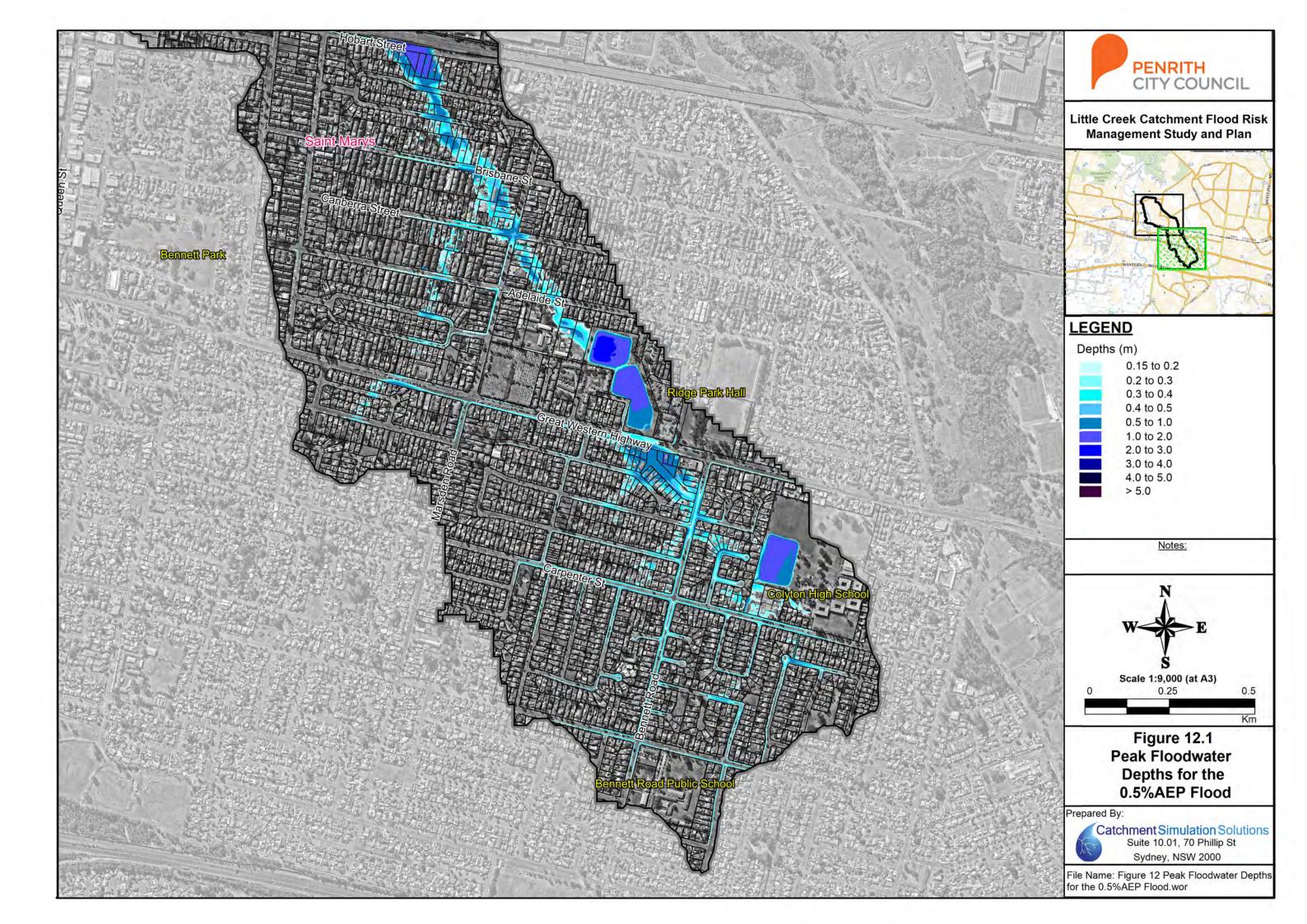


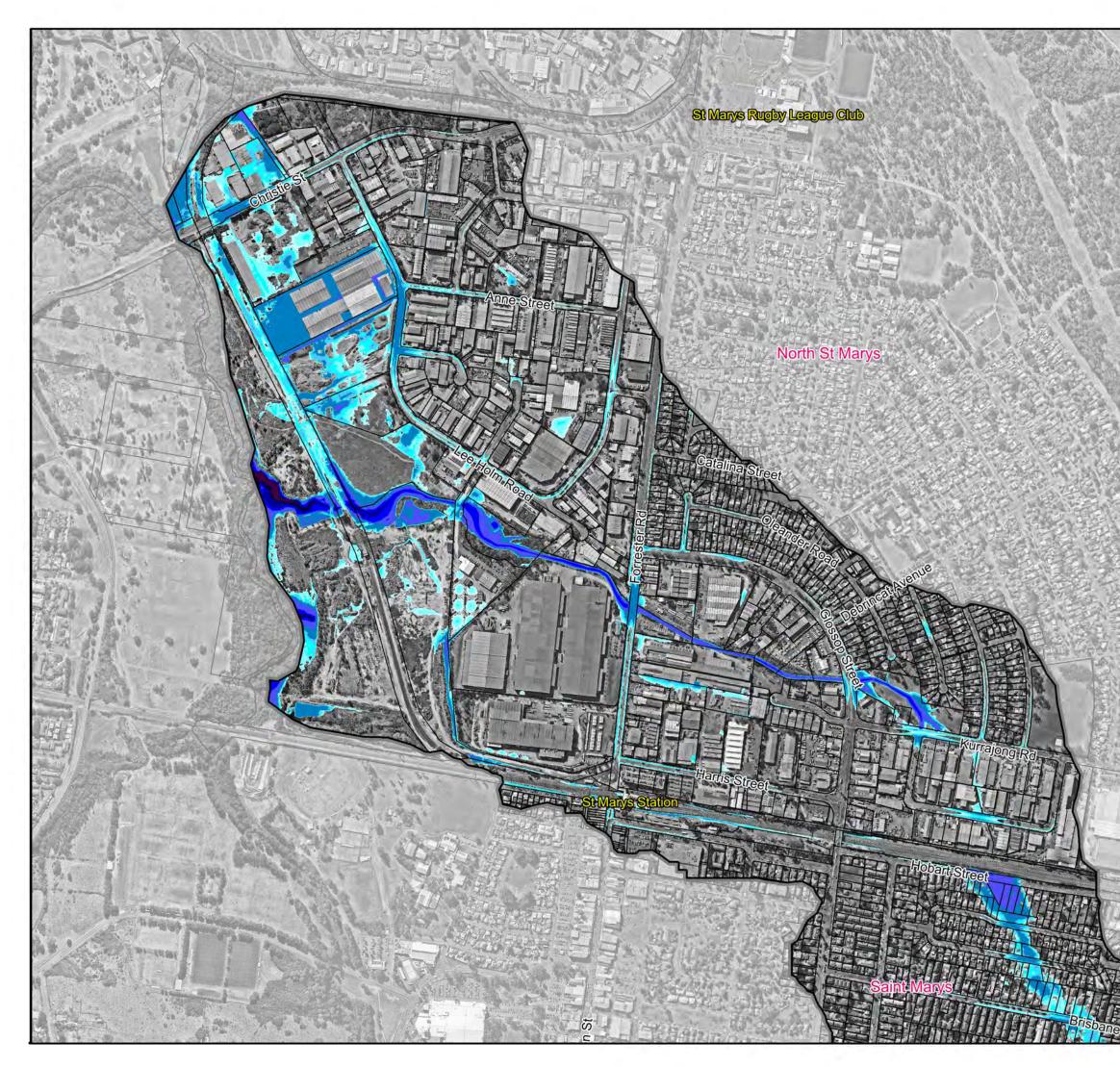


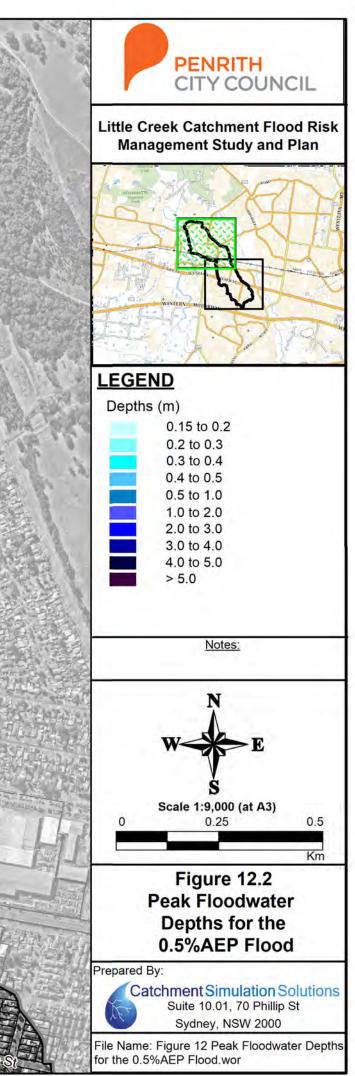


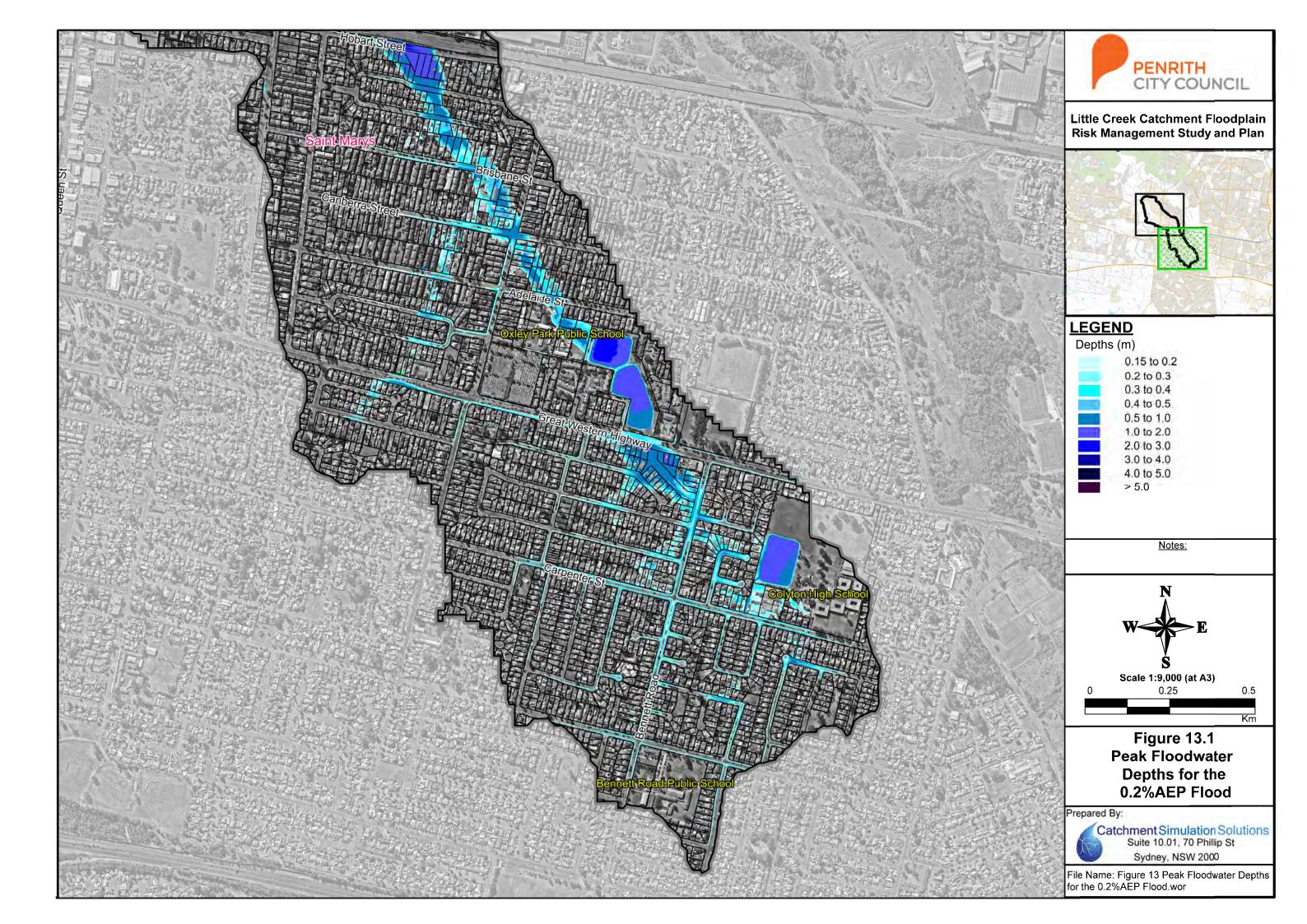


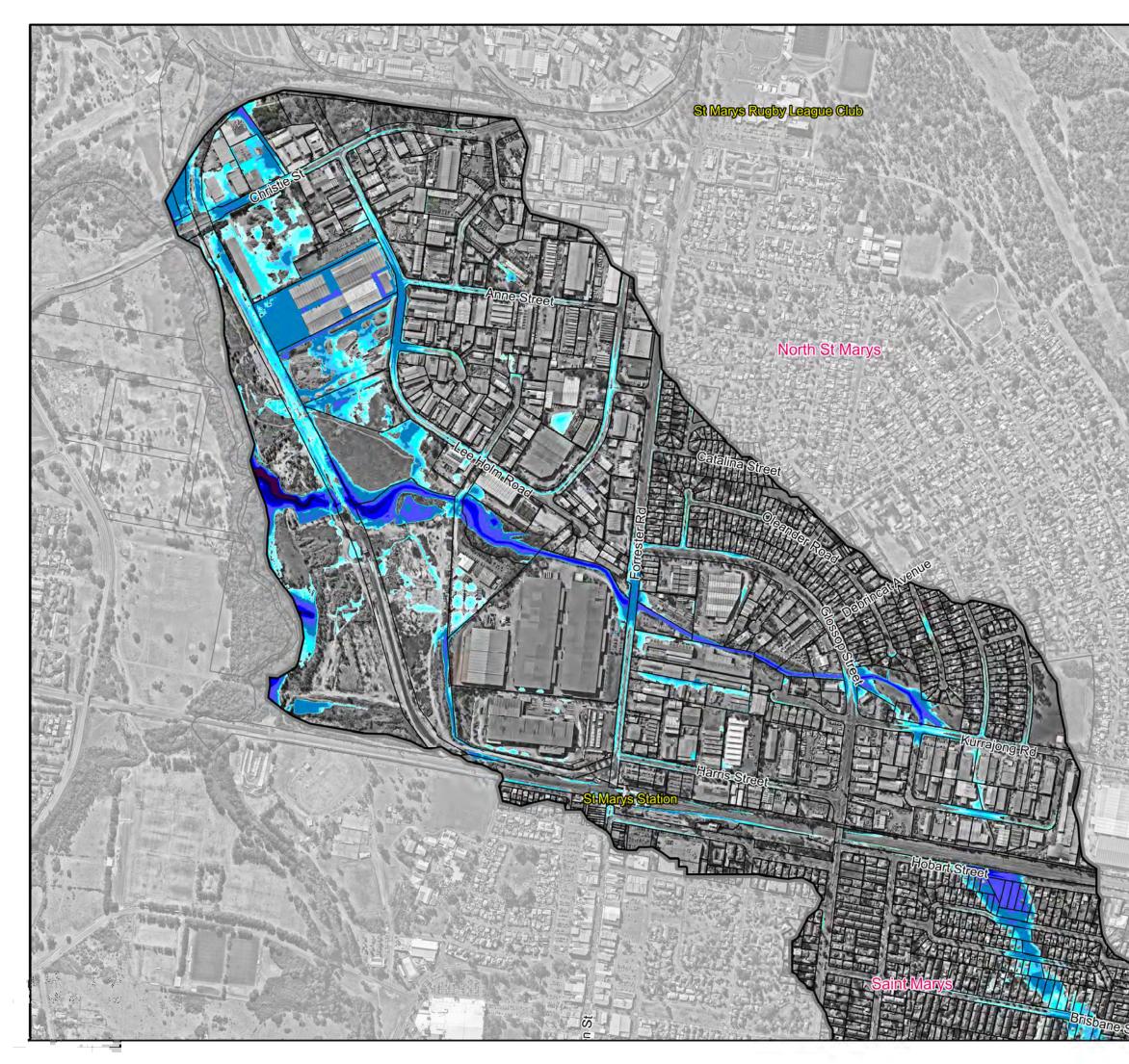


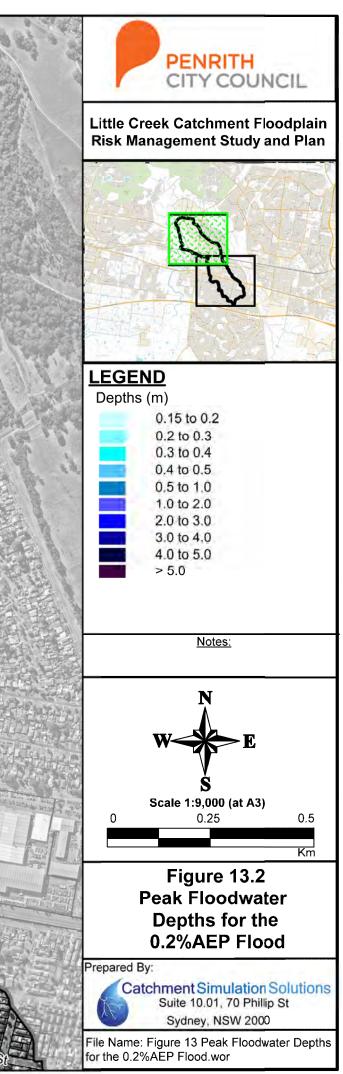


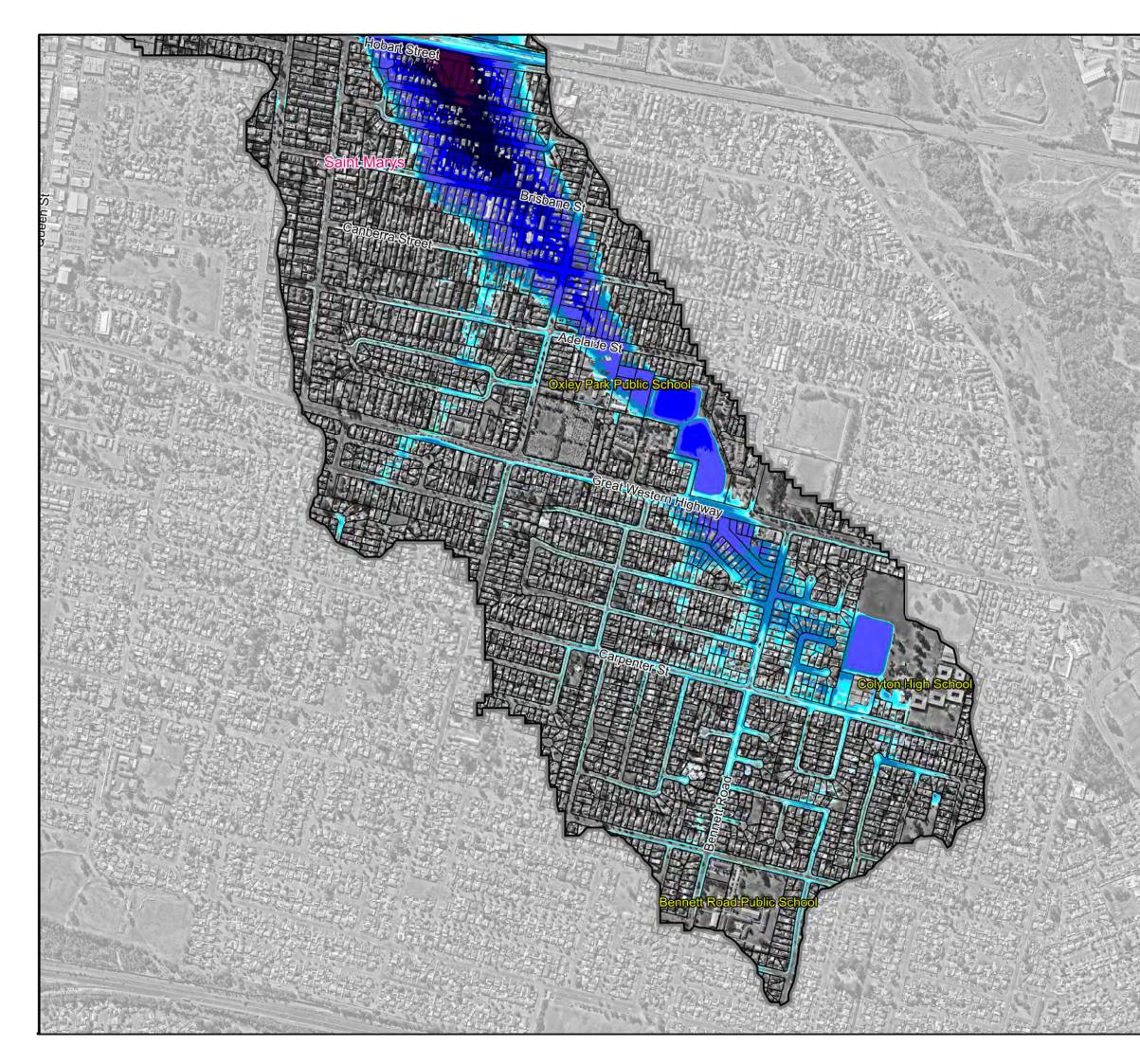


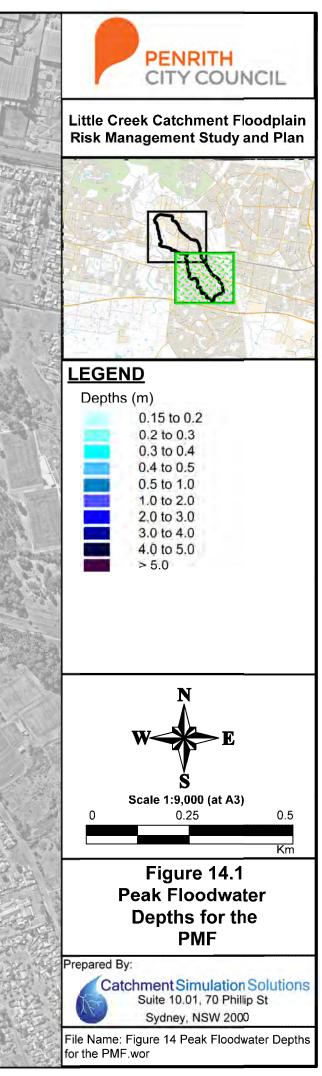


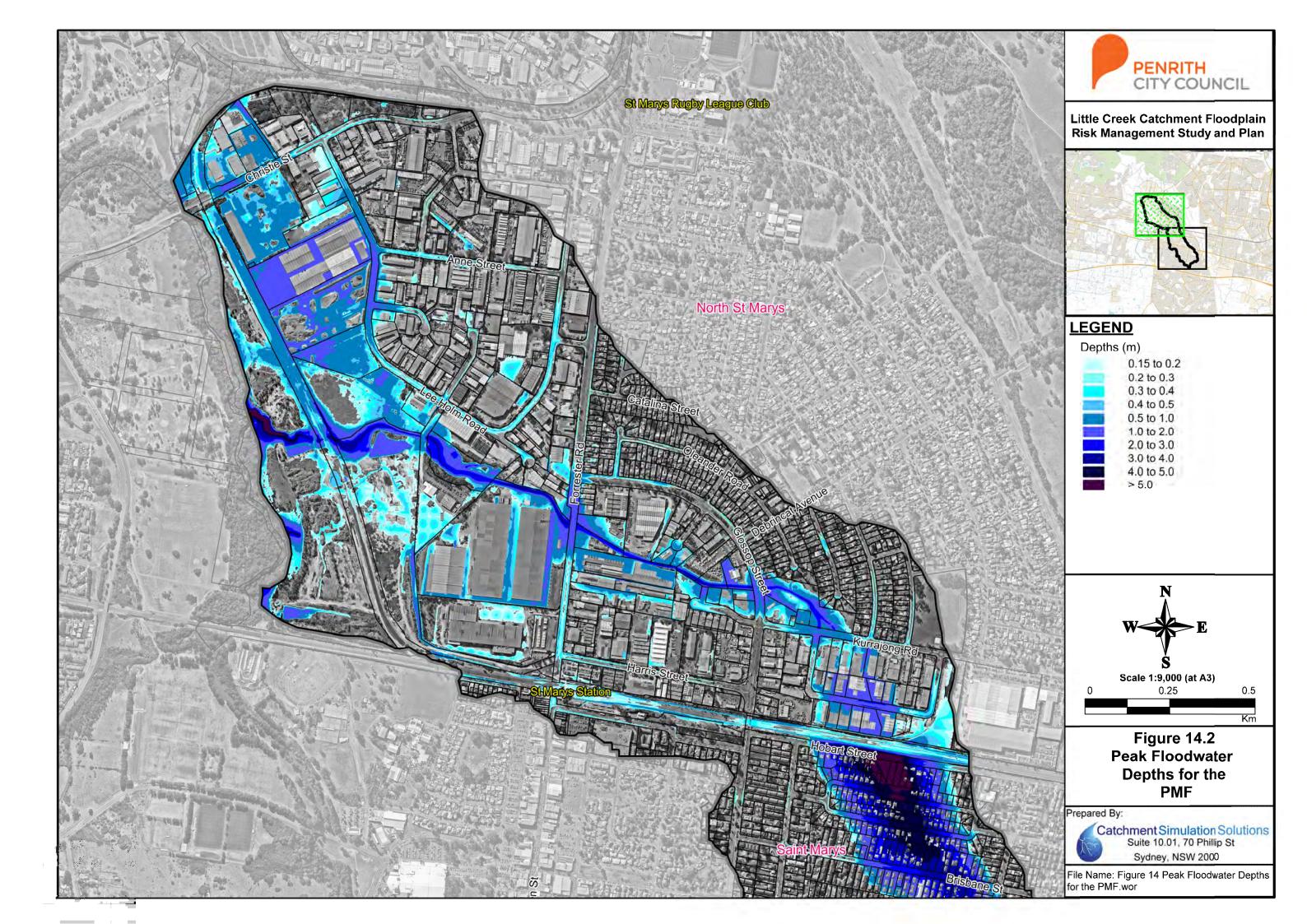


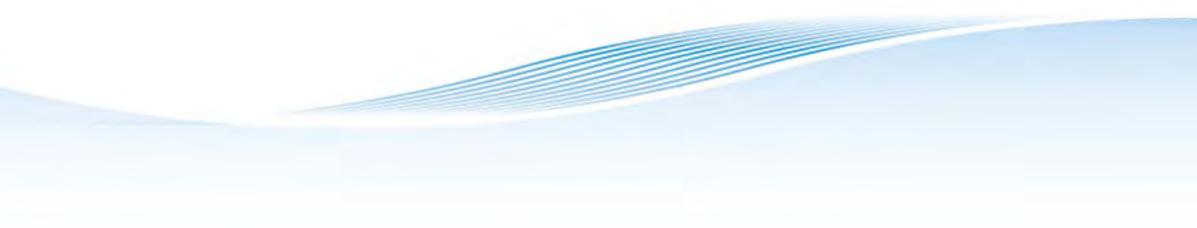






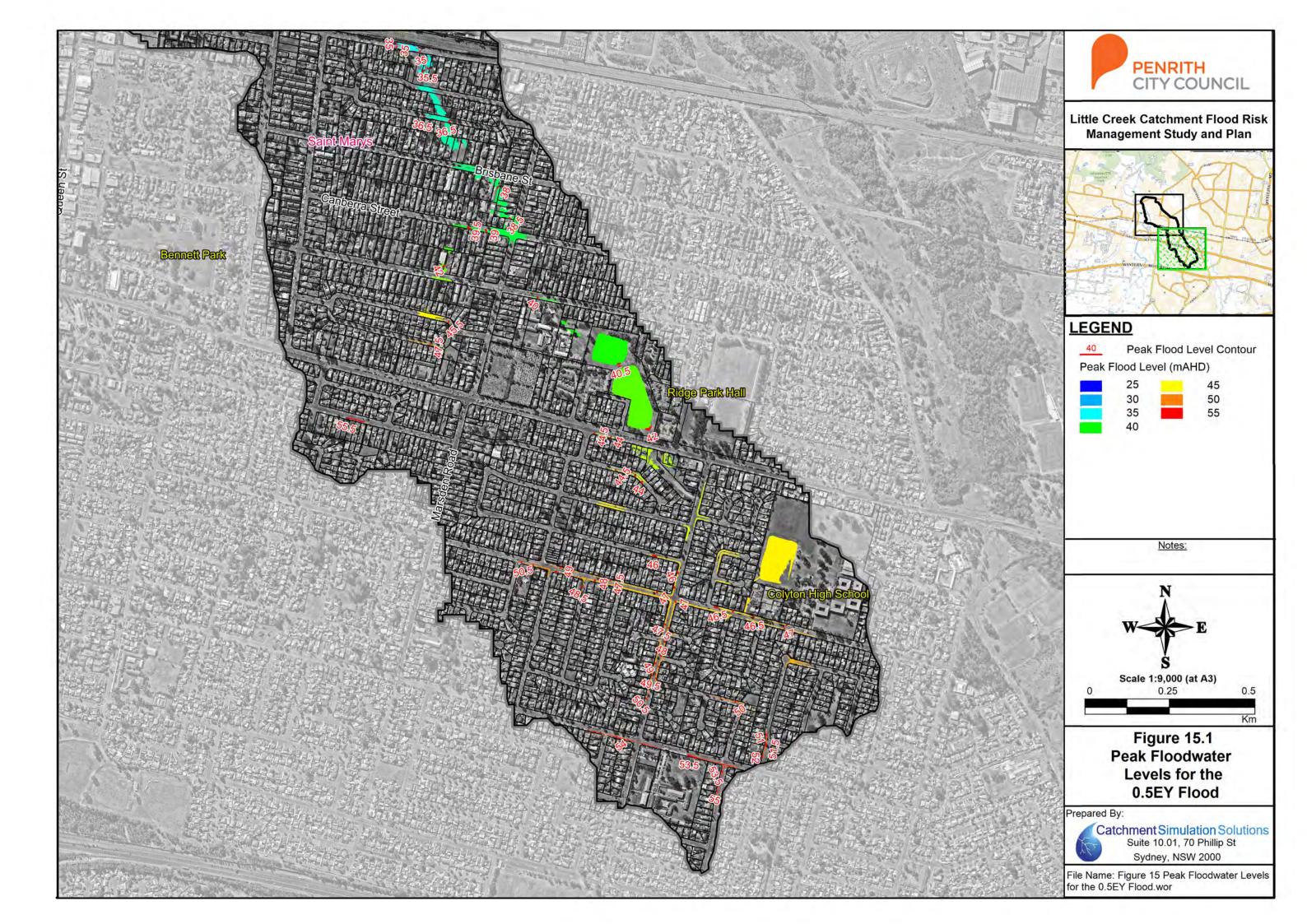


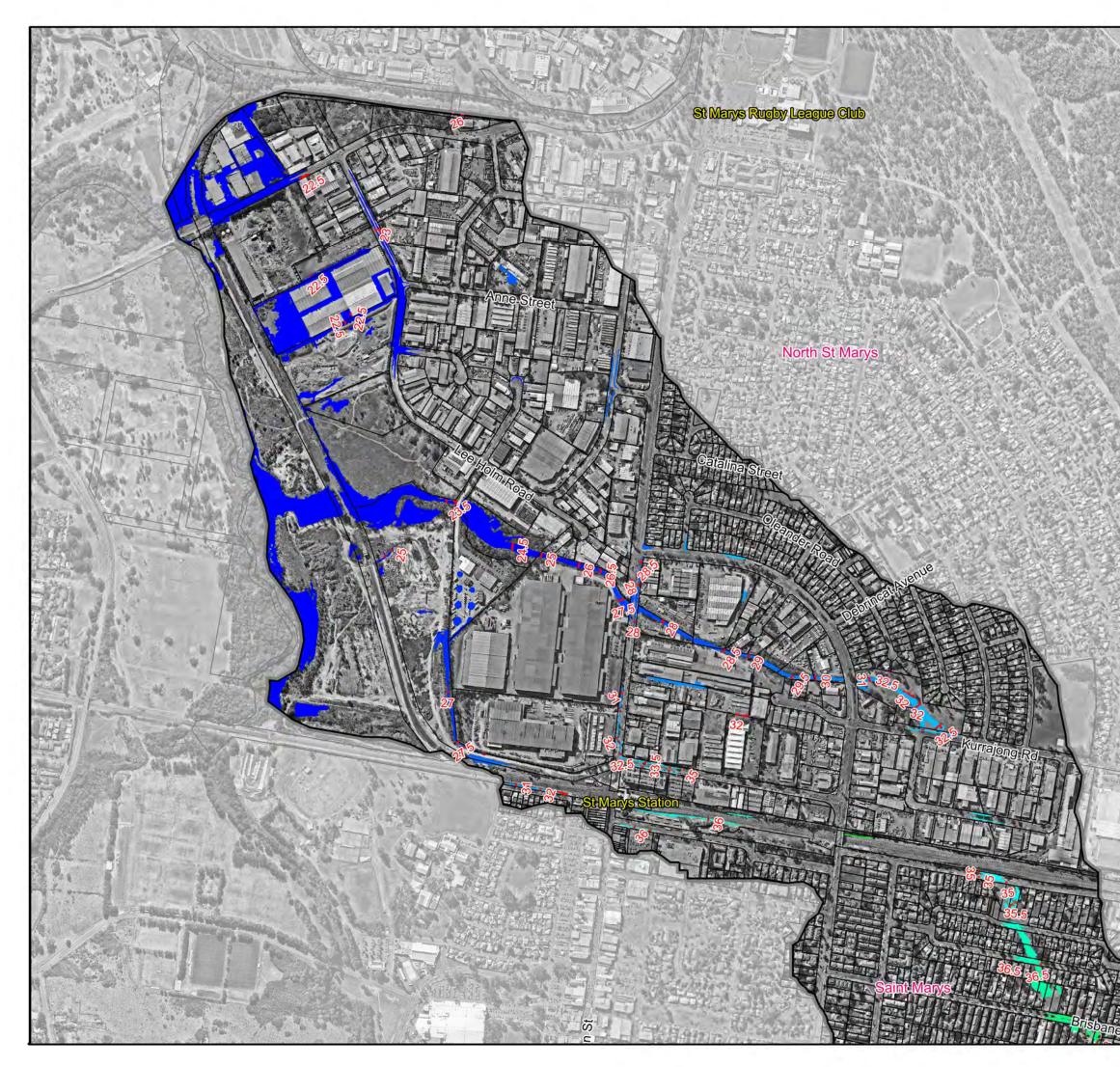


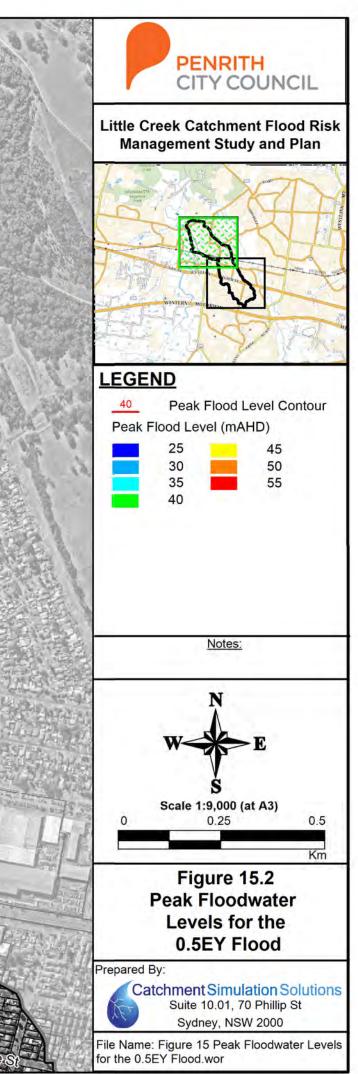


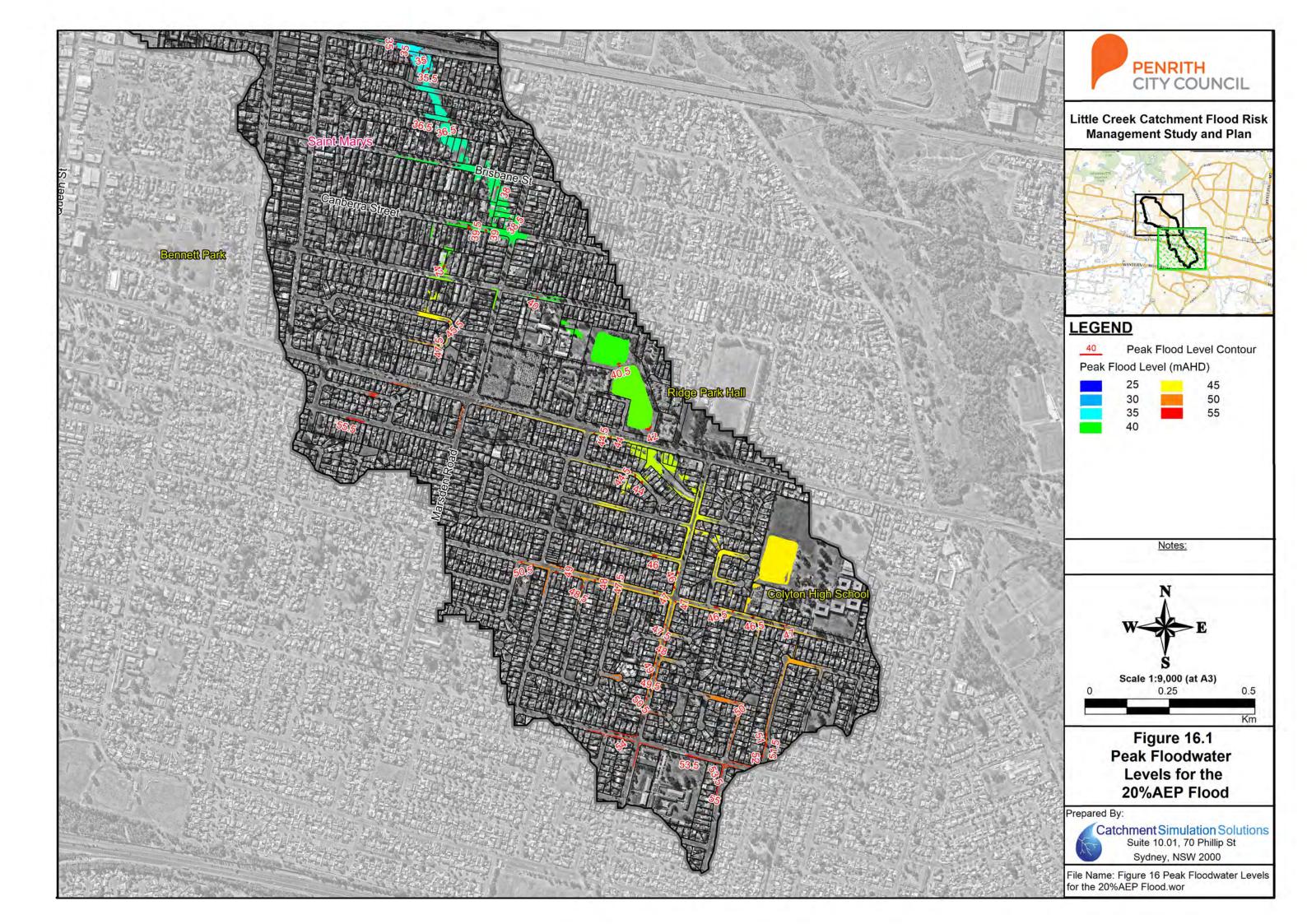
FLOODWATER LEVEL MAPS

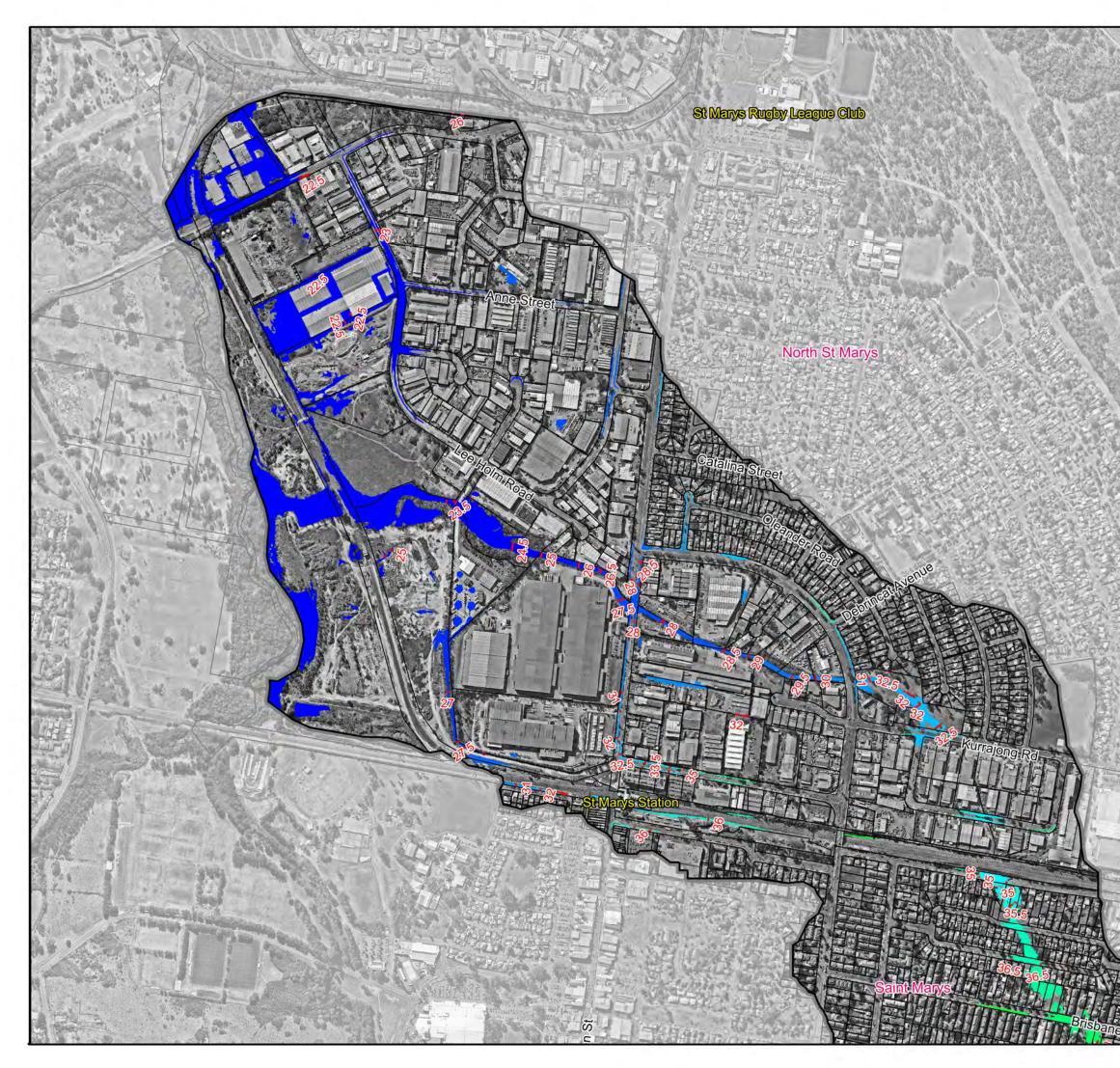


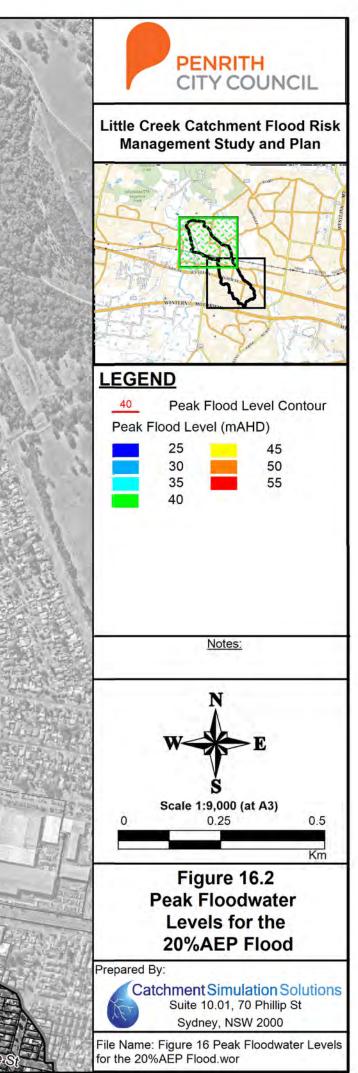


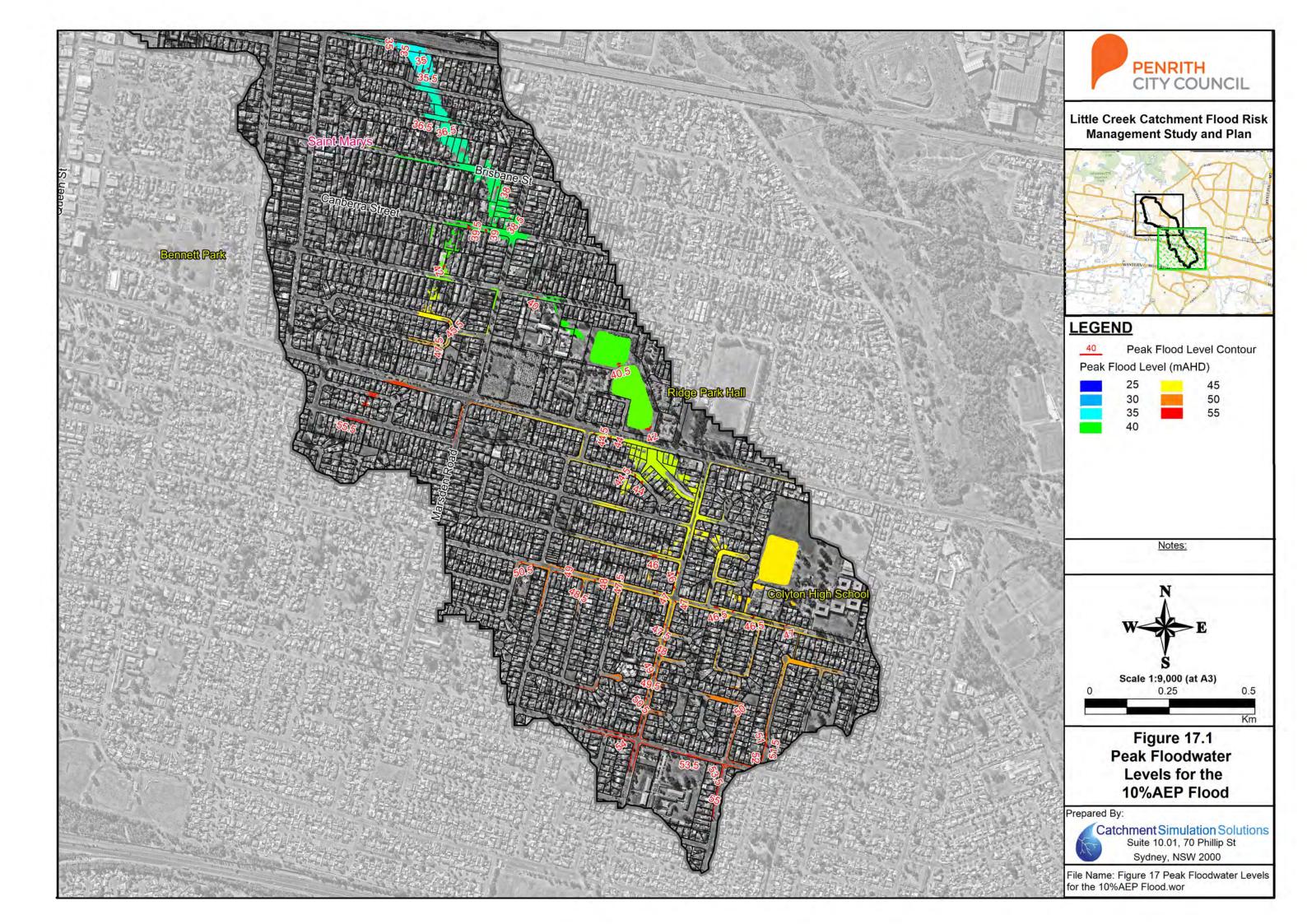


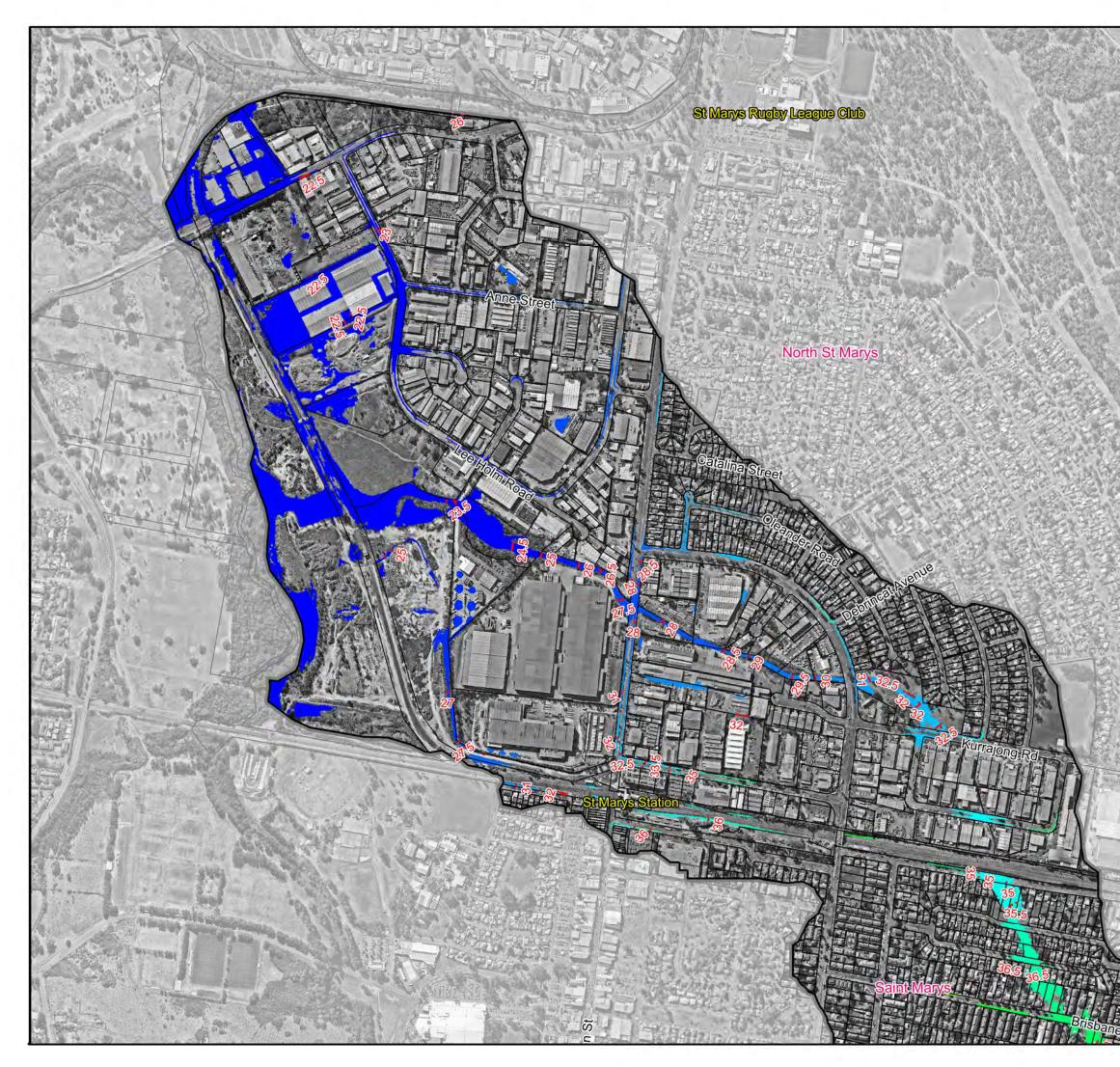


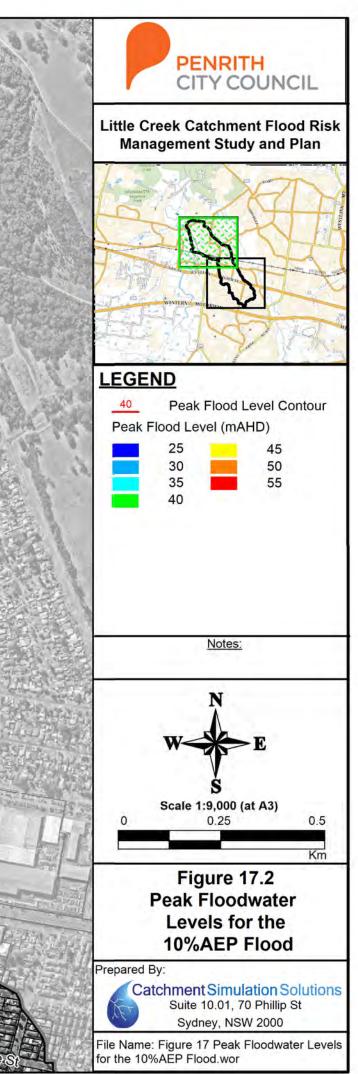


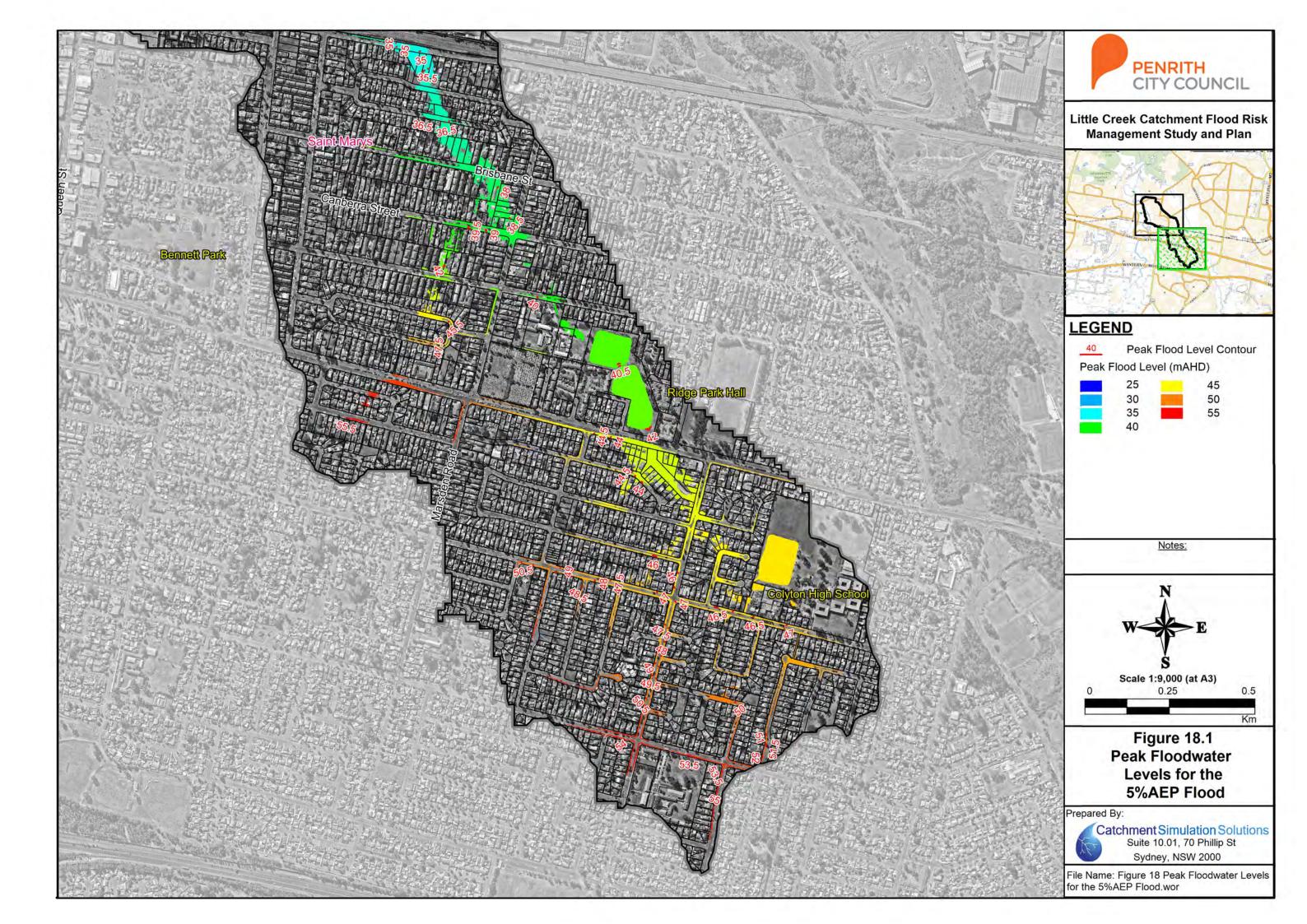


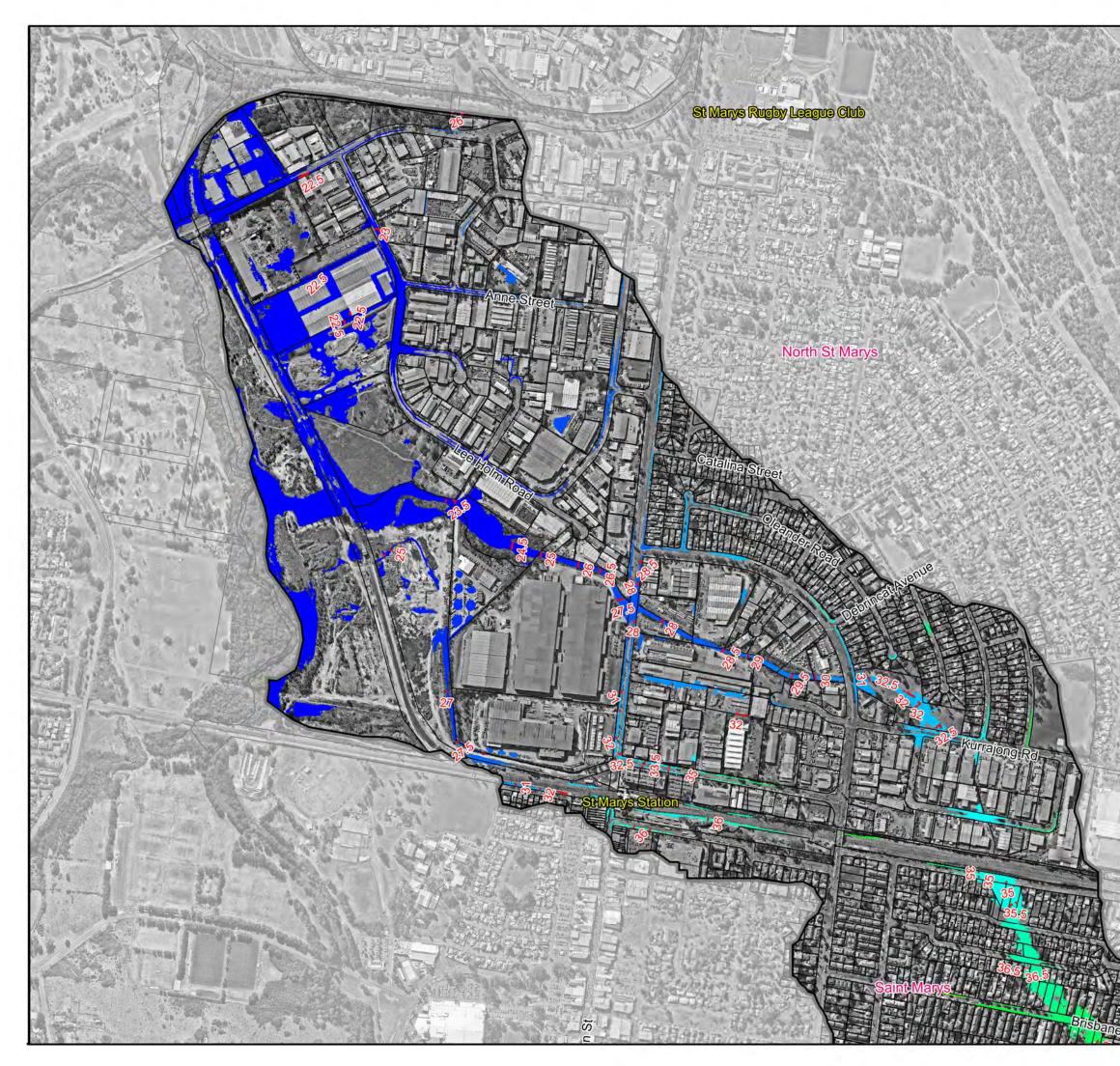


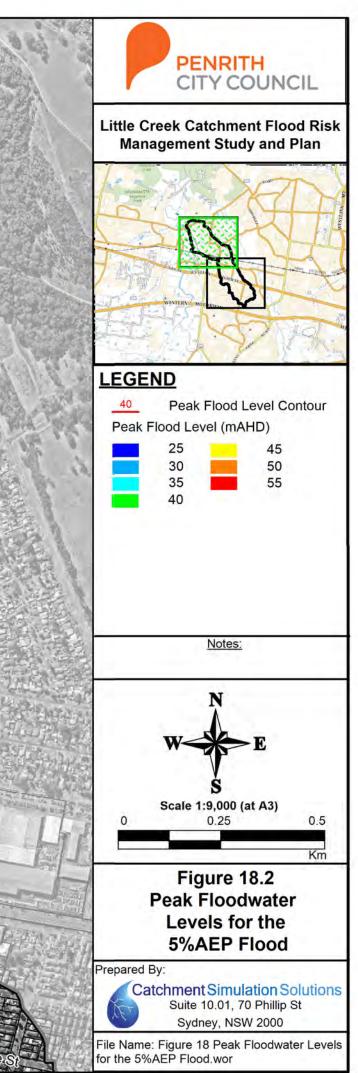


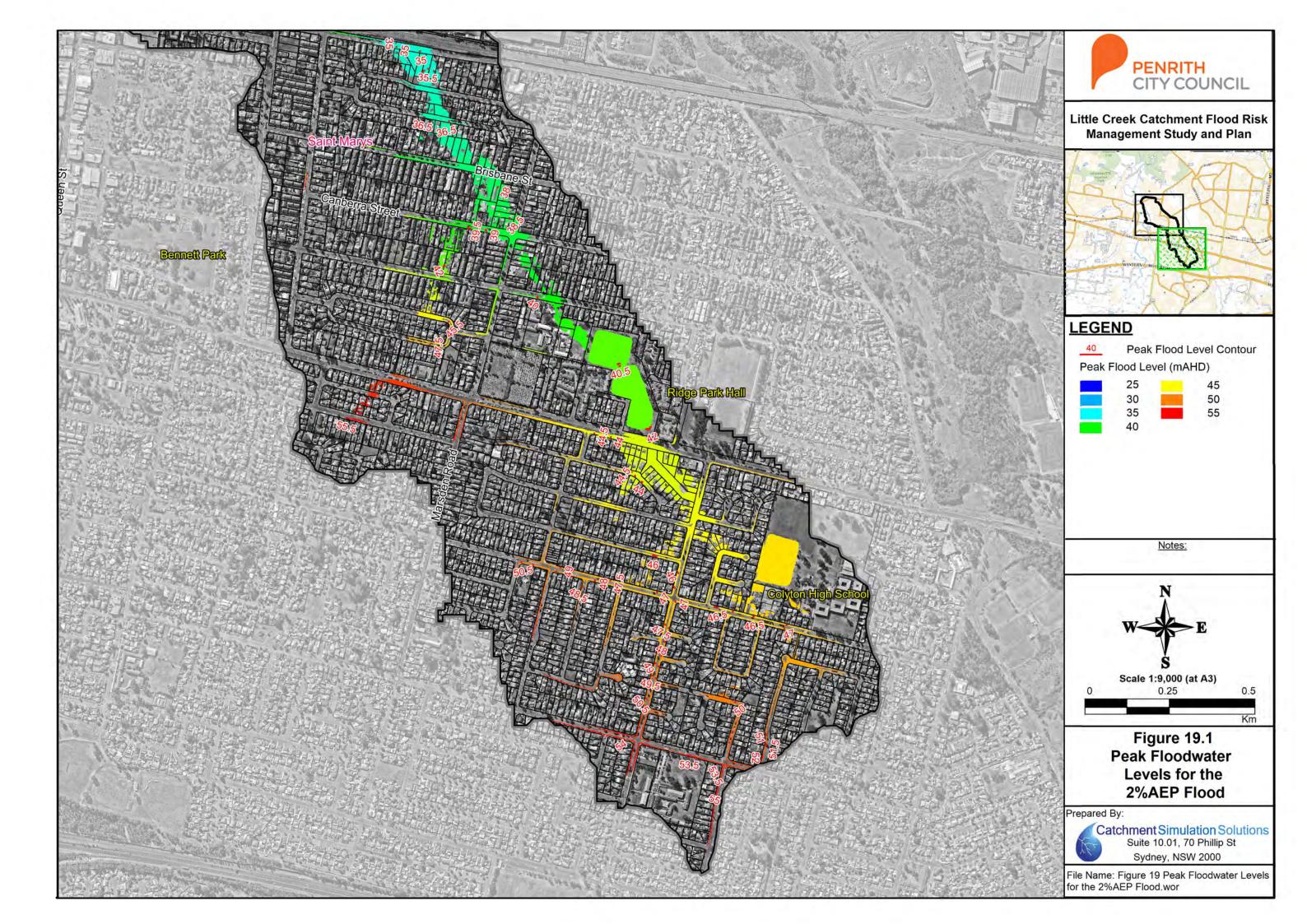


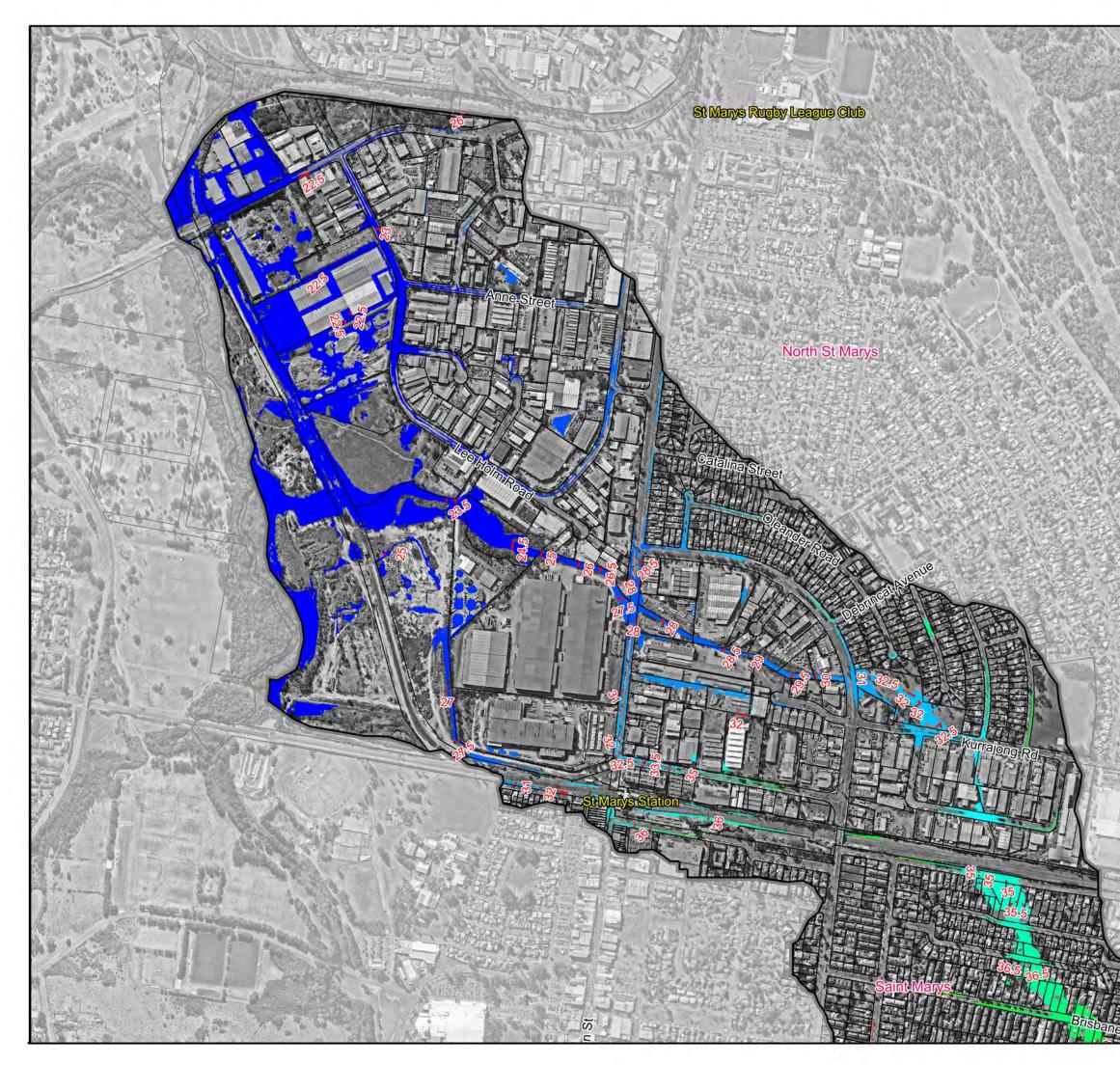


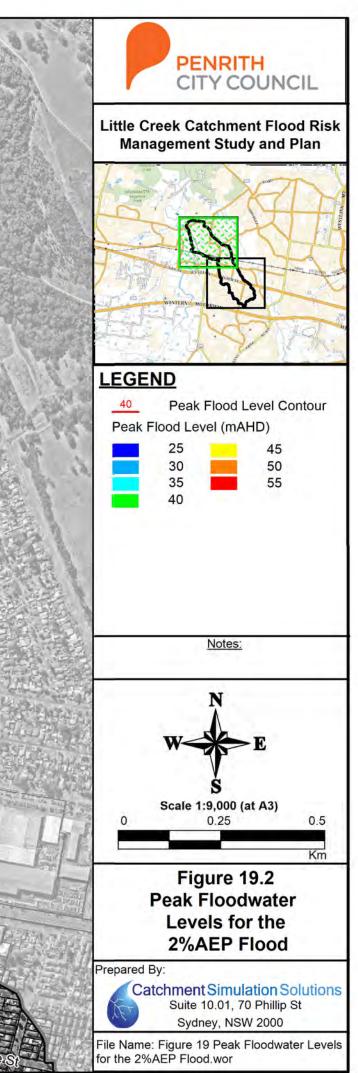


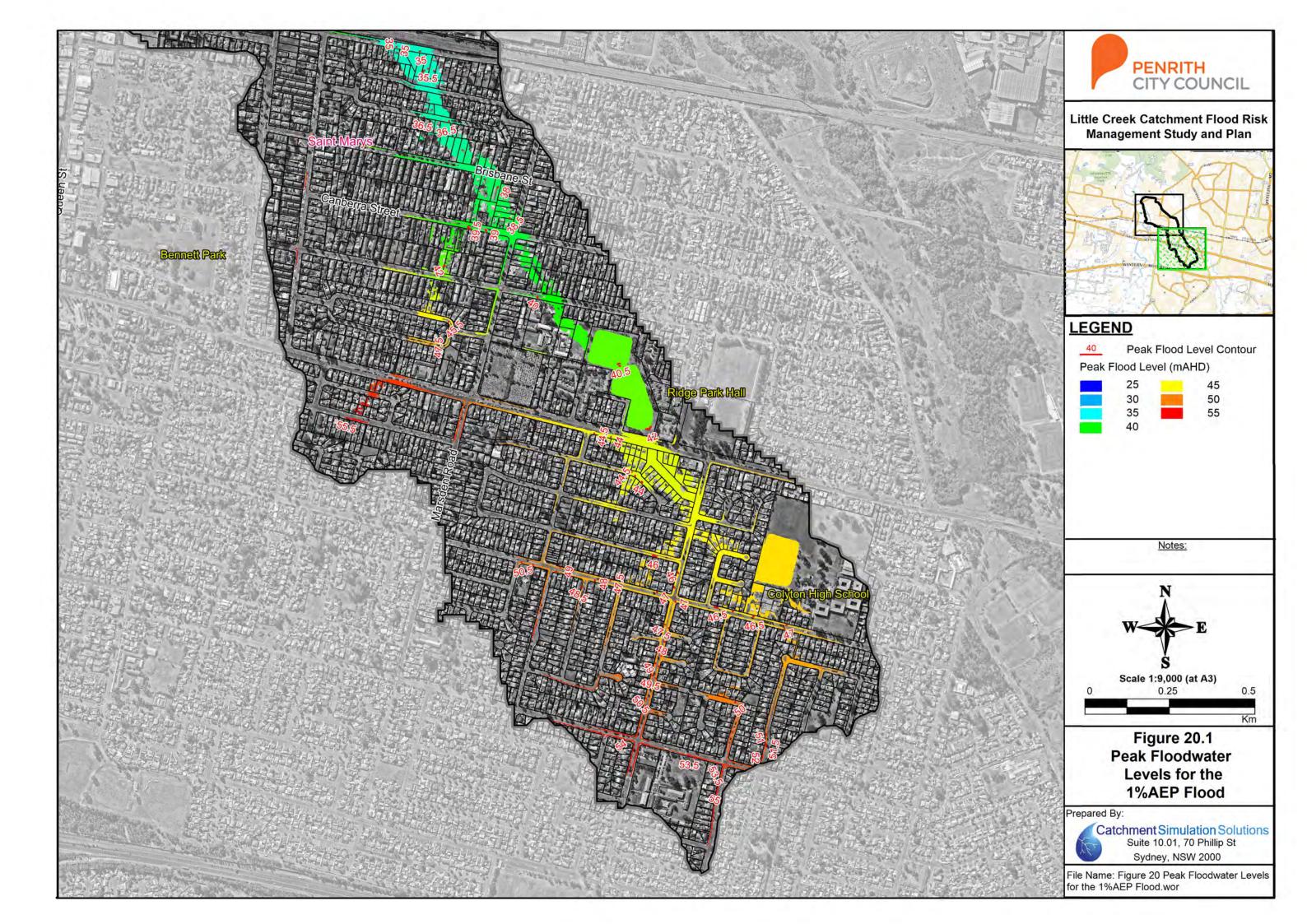


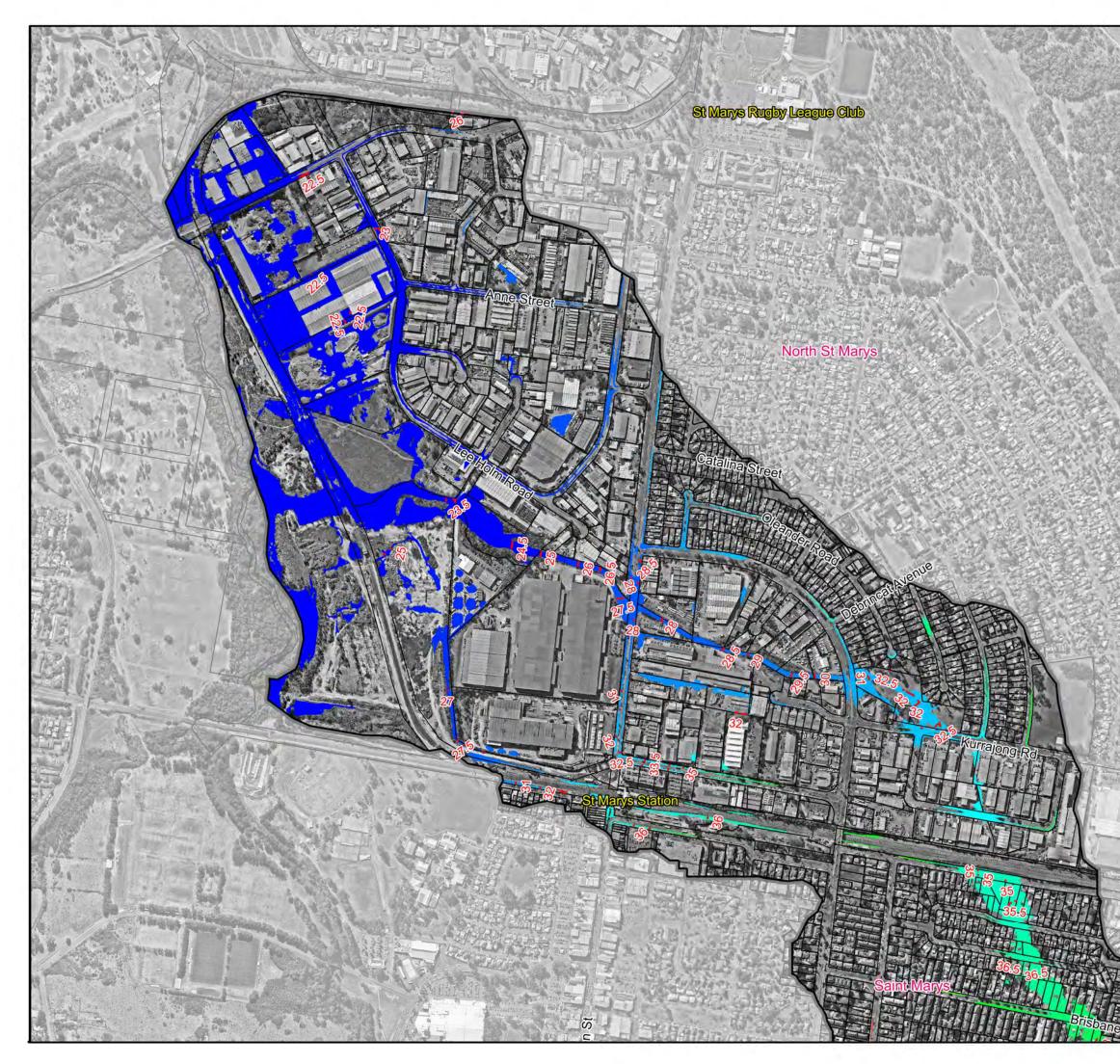


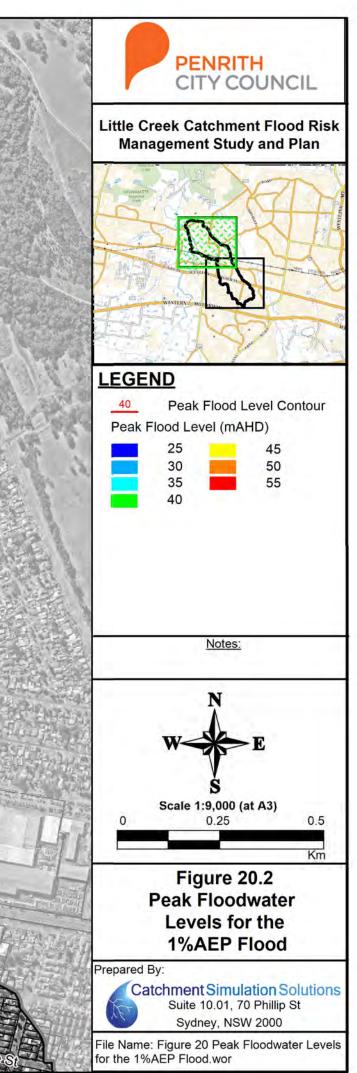


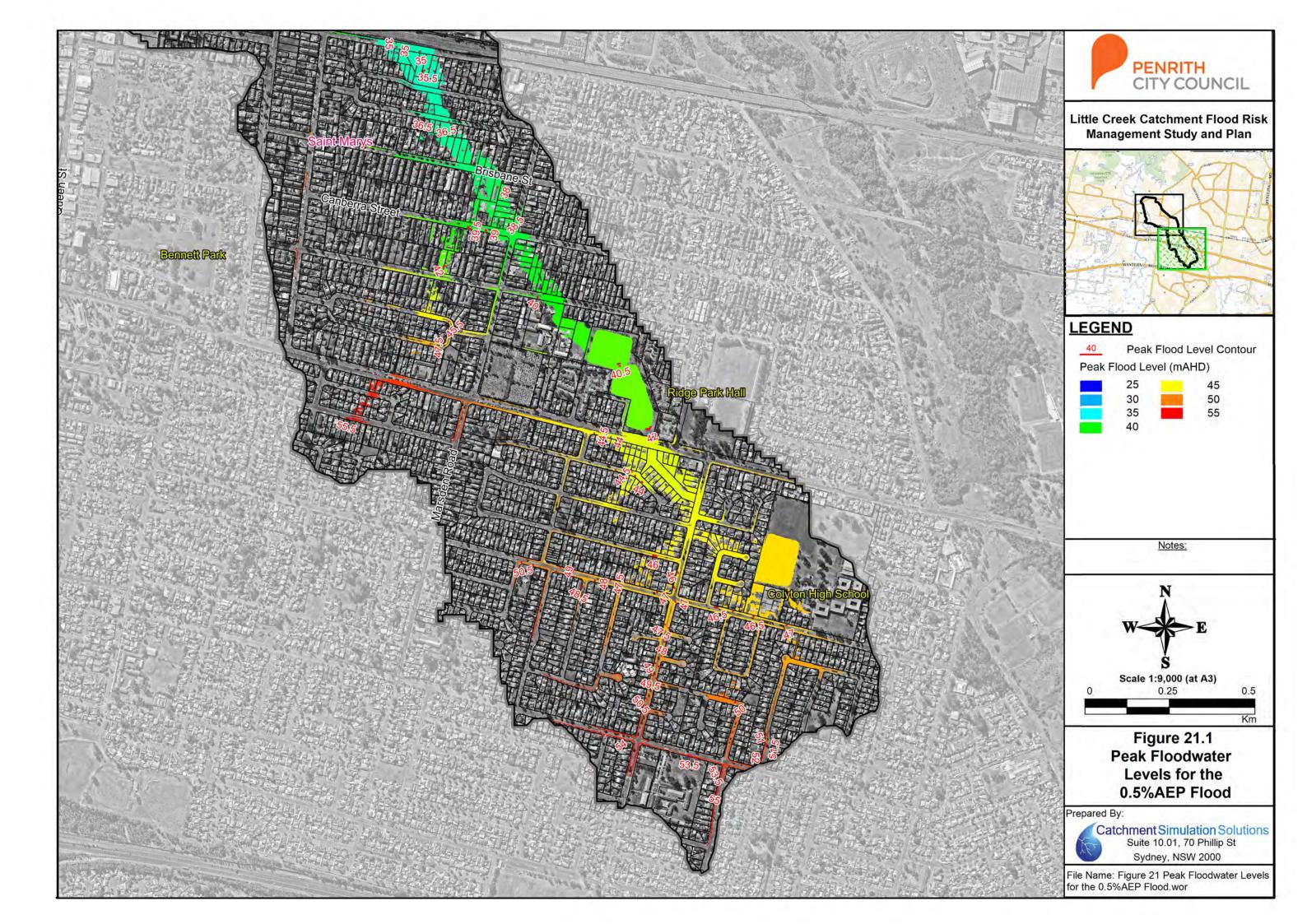




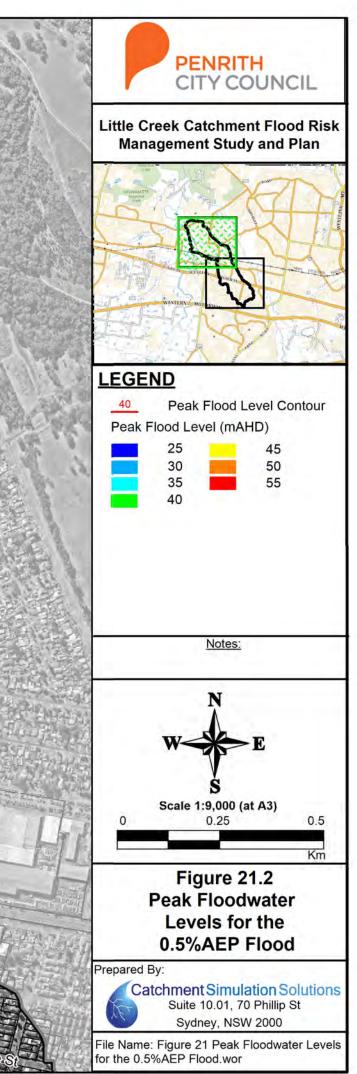


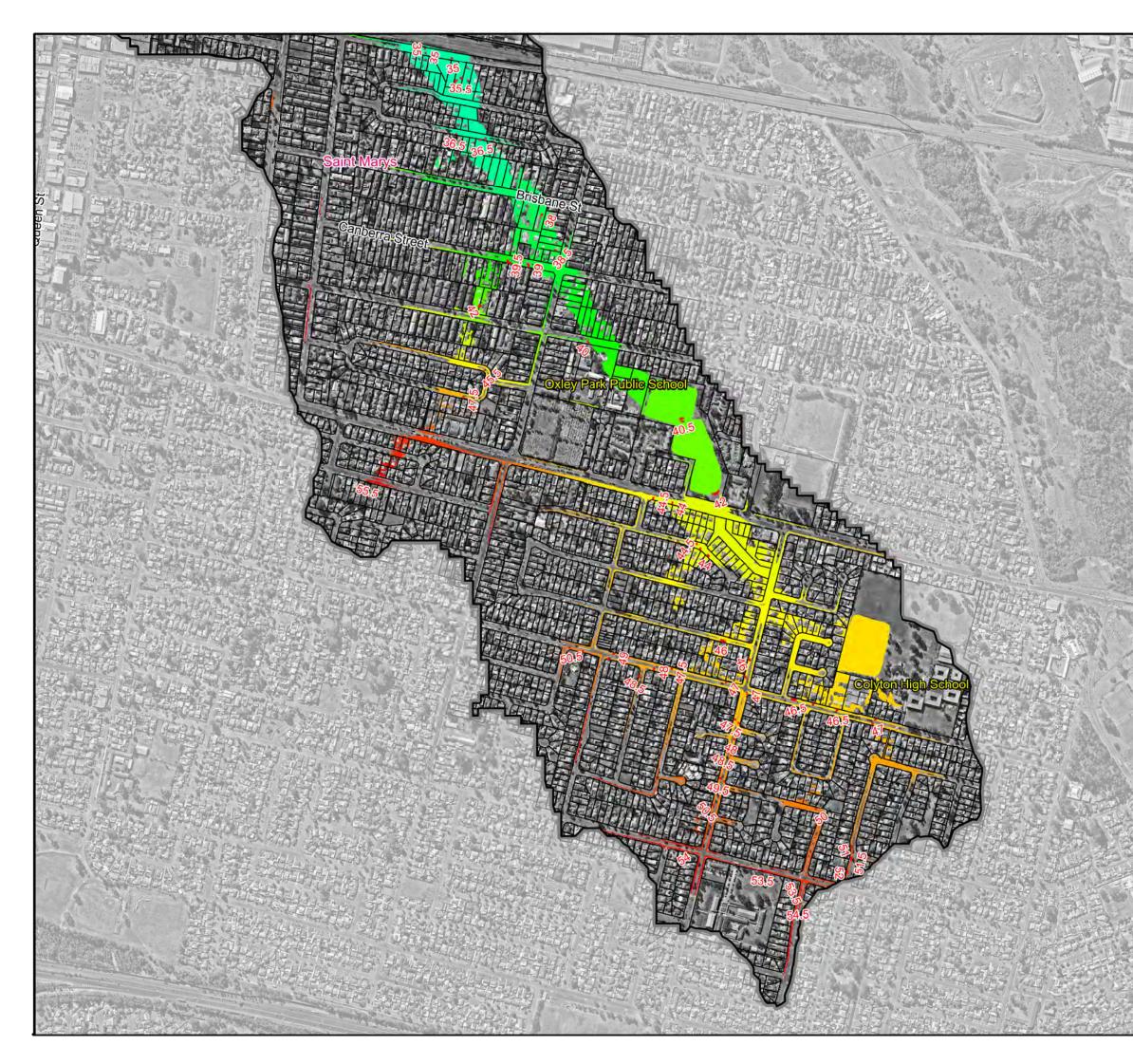


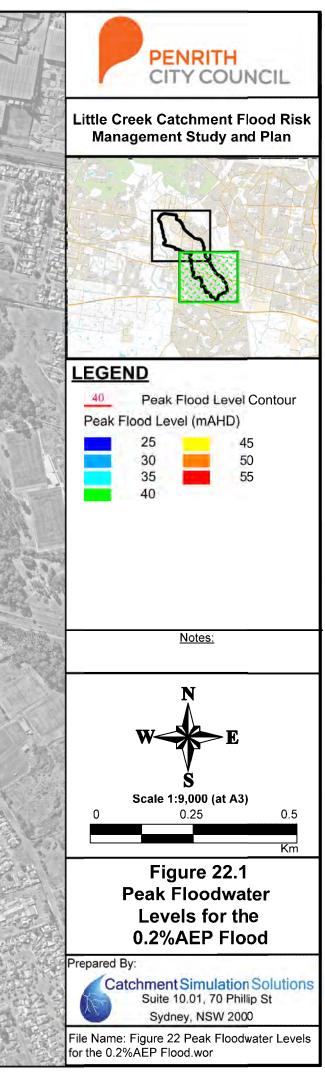


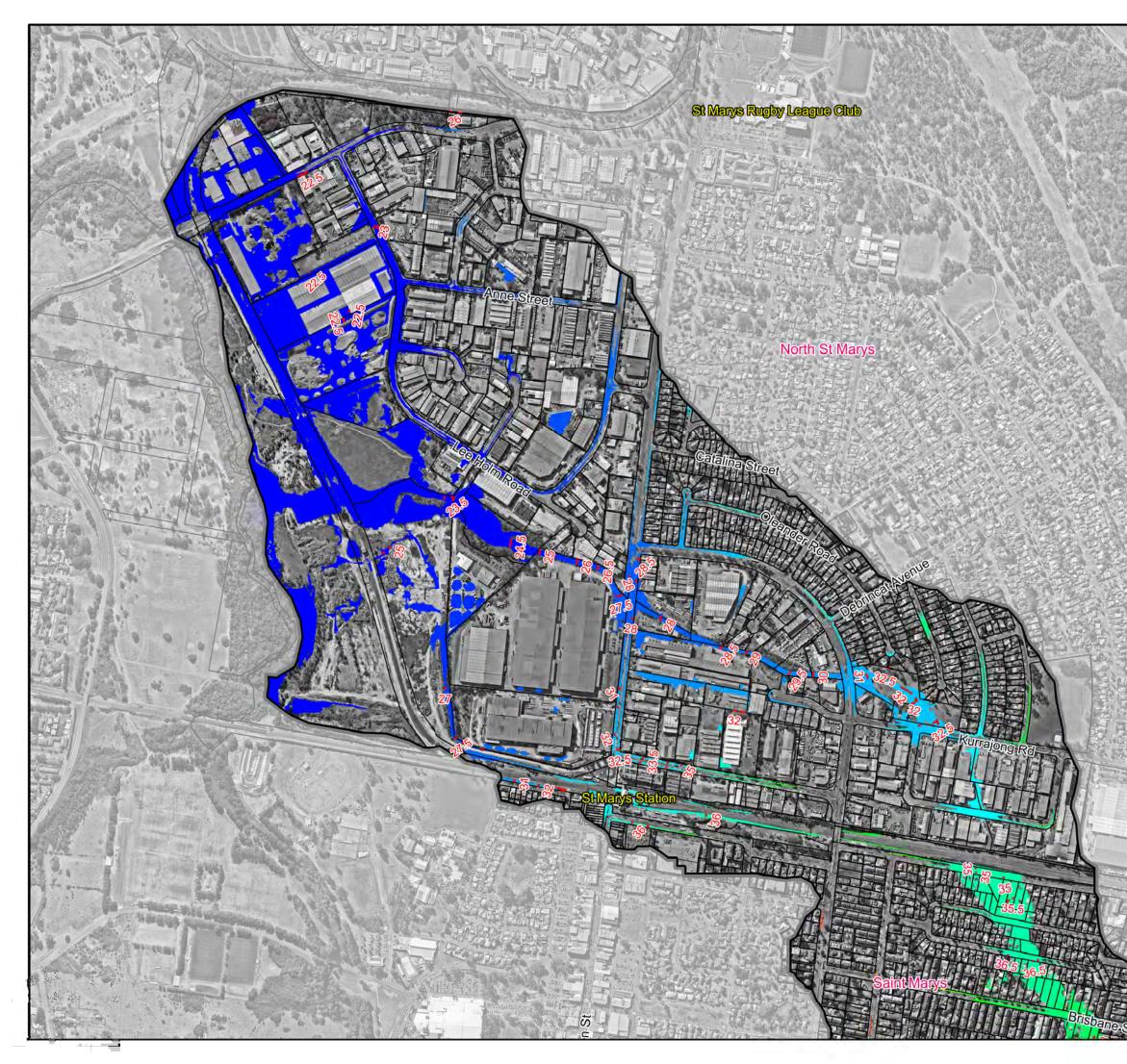


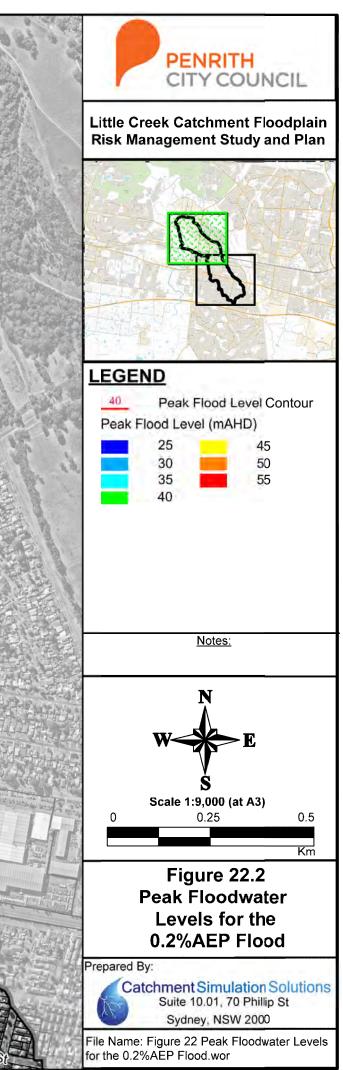


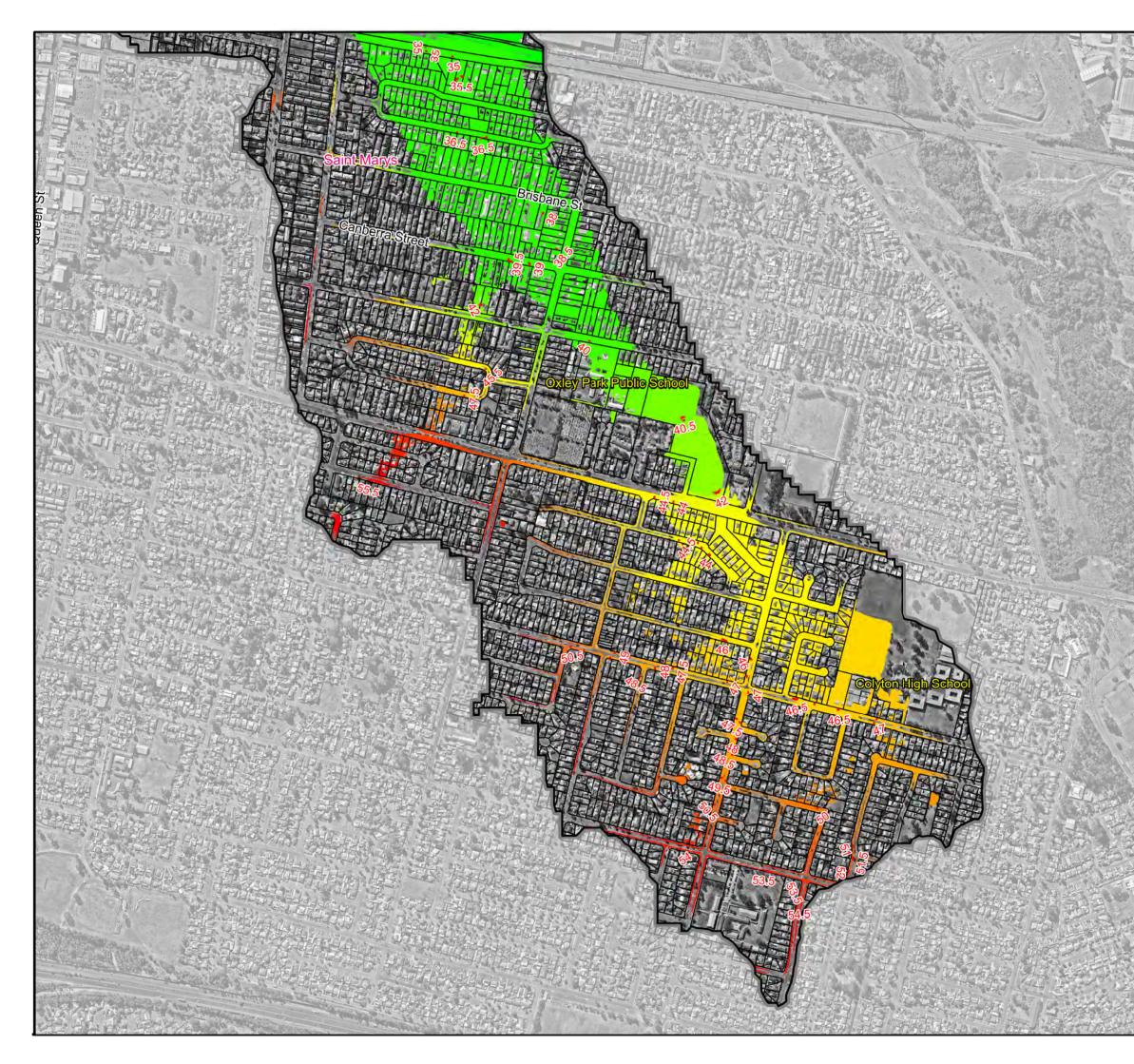


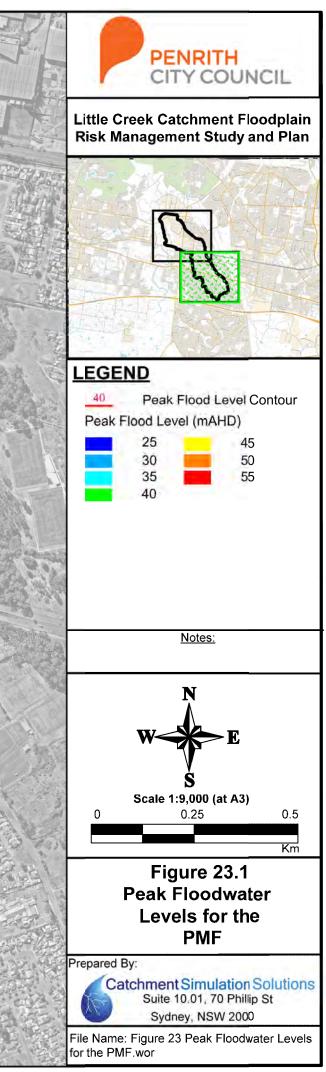


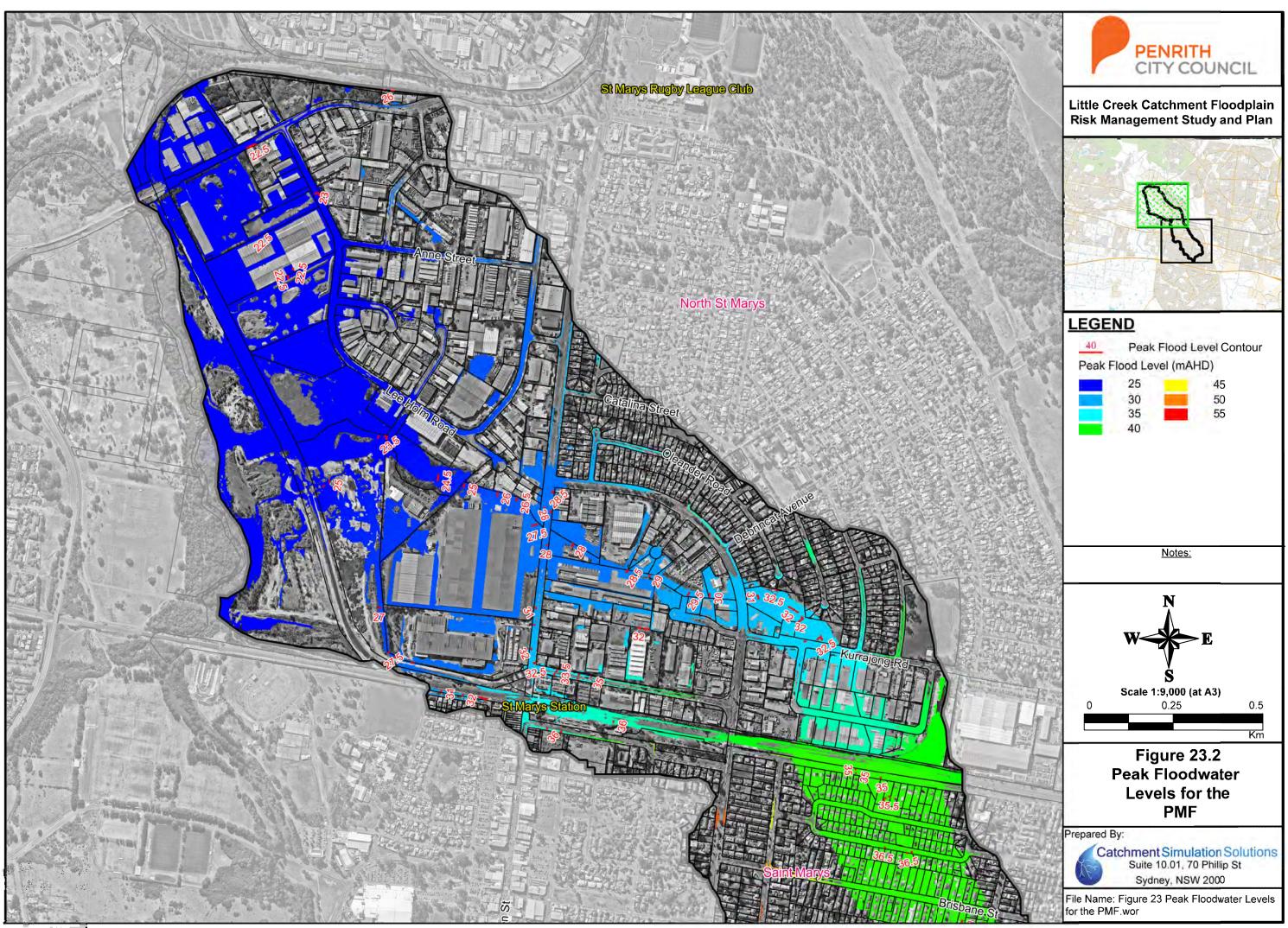


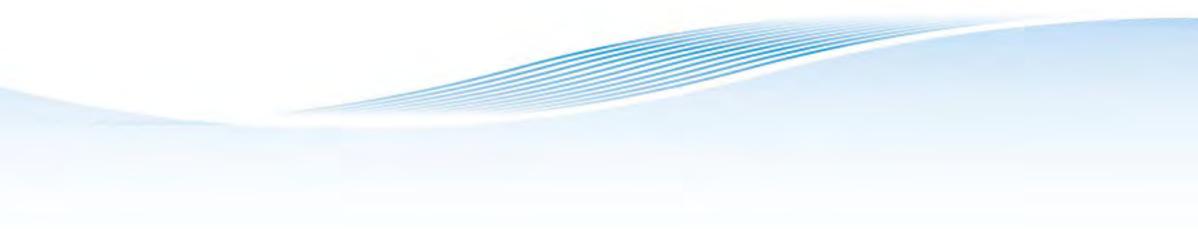








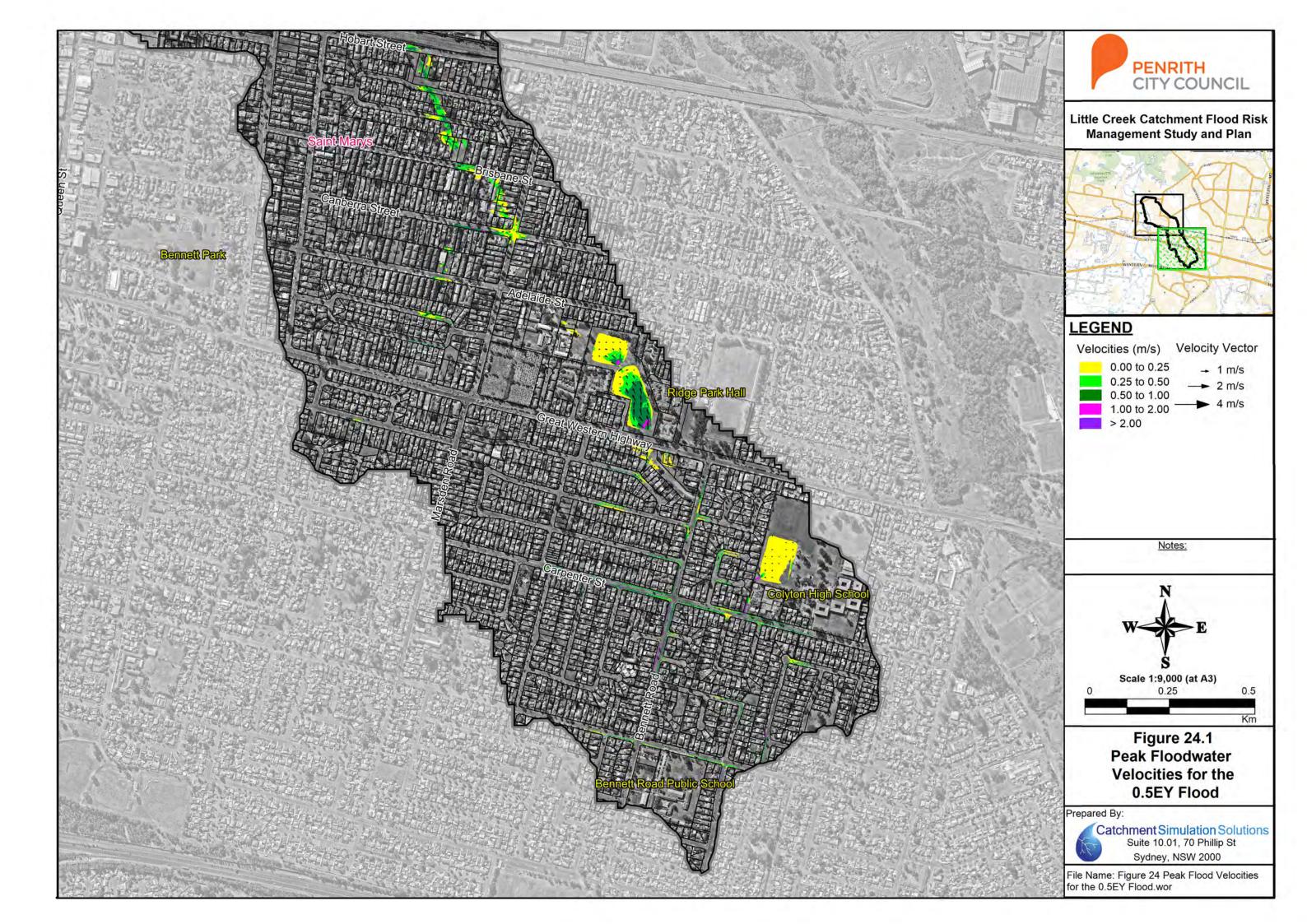


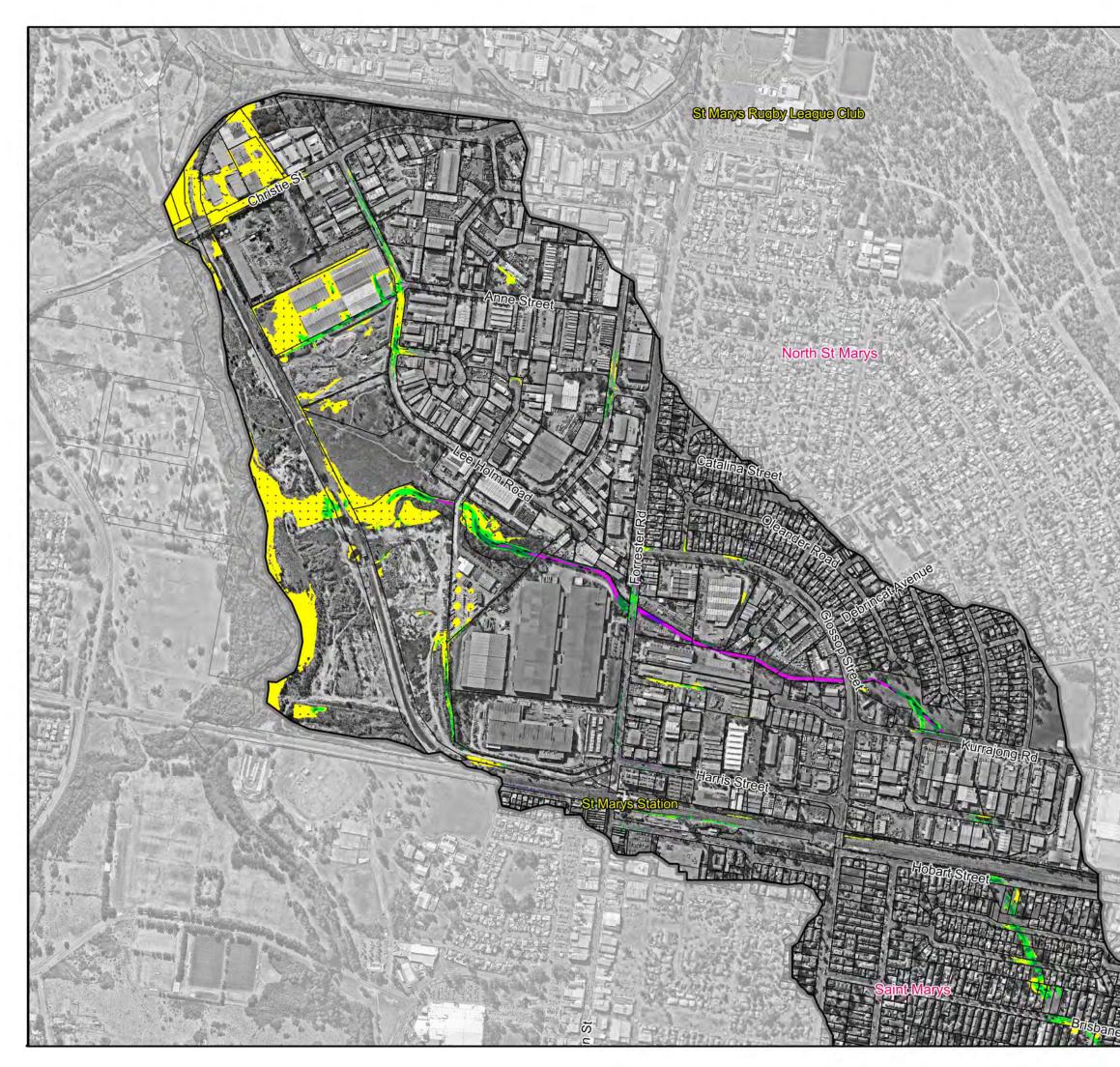


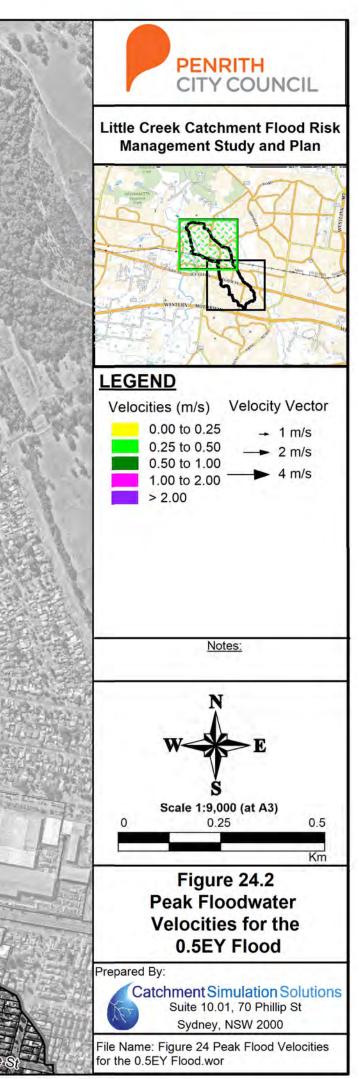
FLOODWATER VELOCITY MAPS

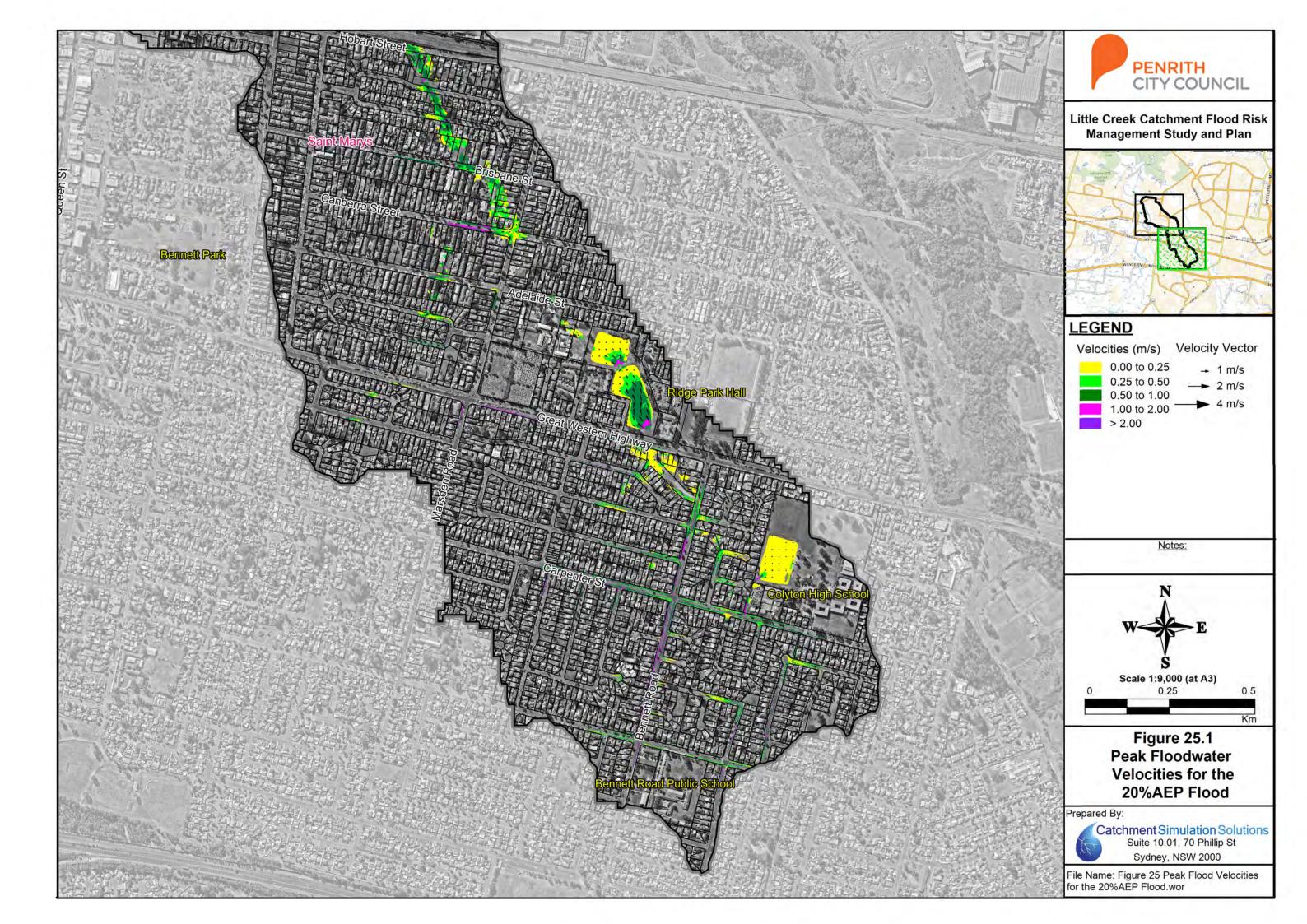
Catchment Simulation Solutions

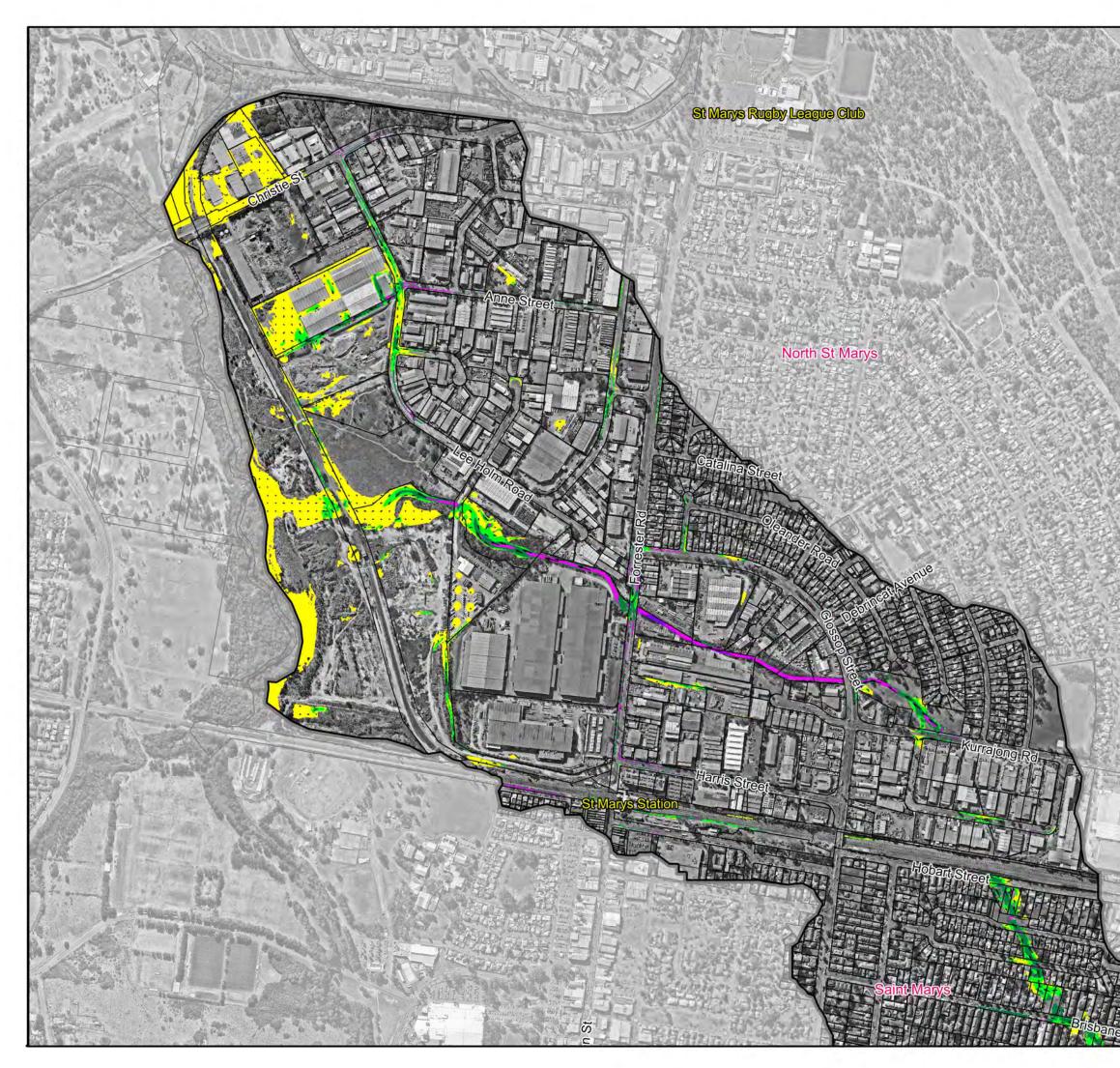


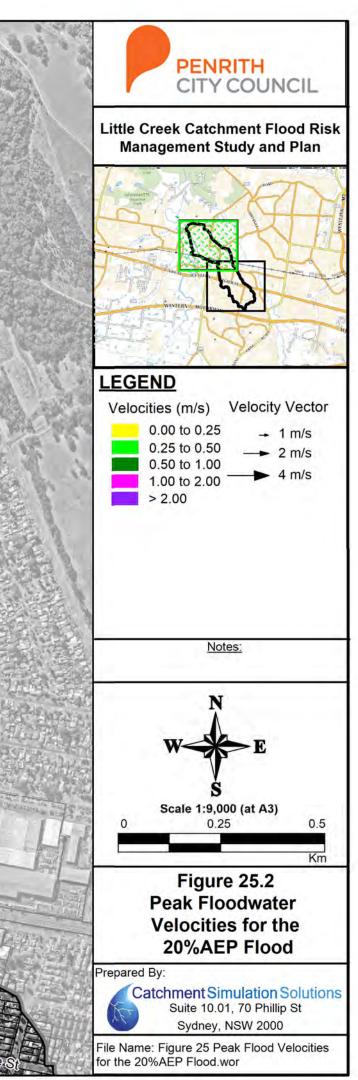


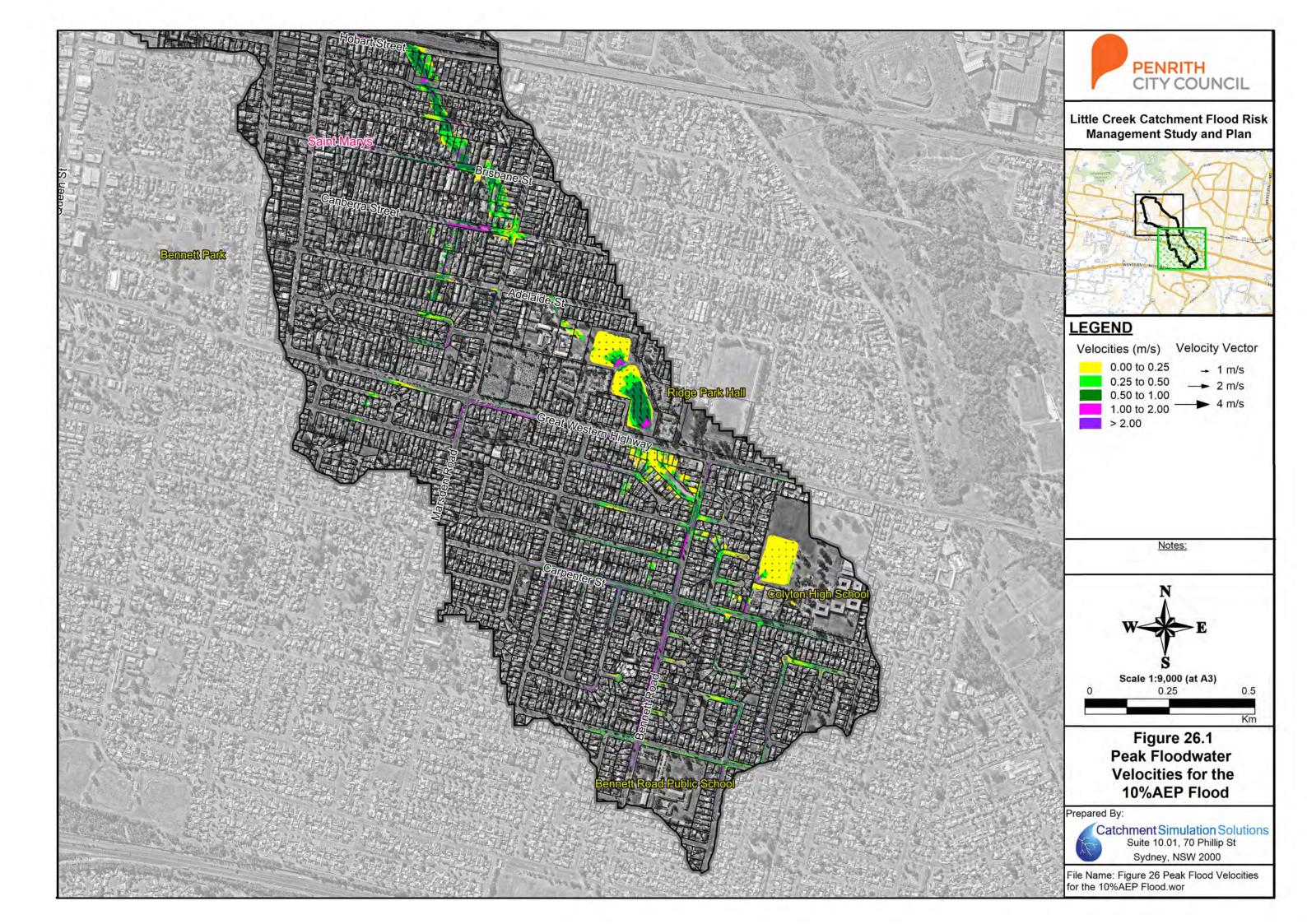




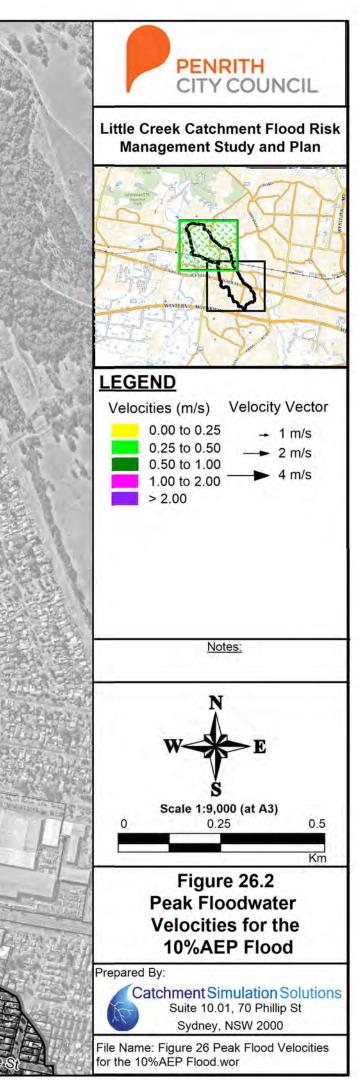


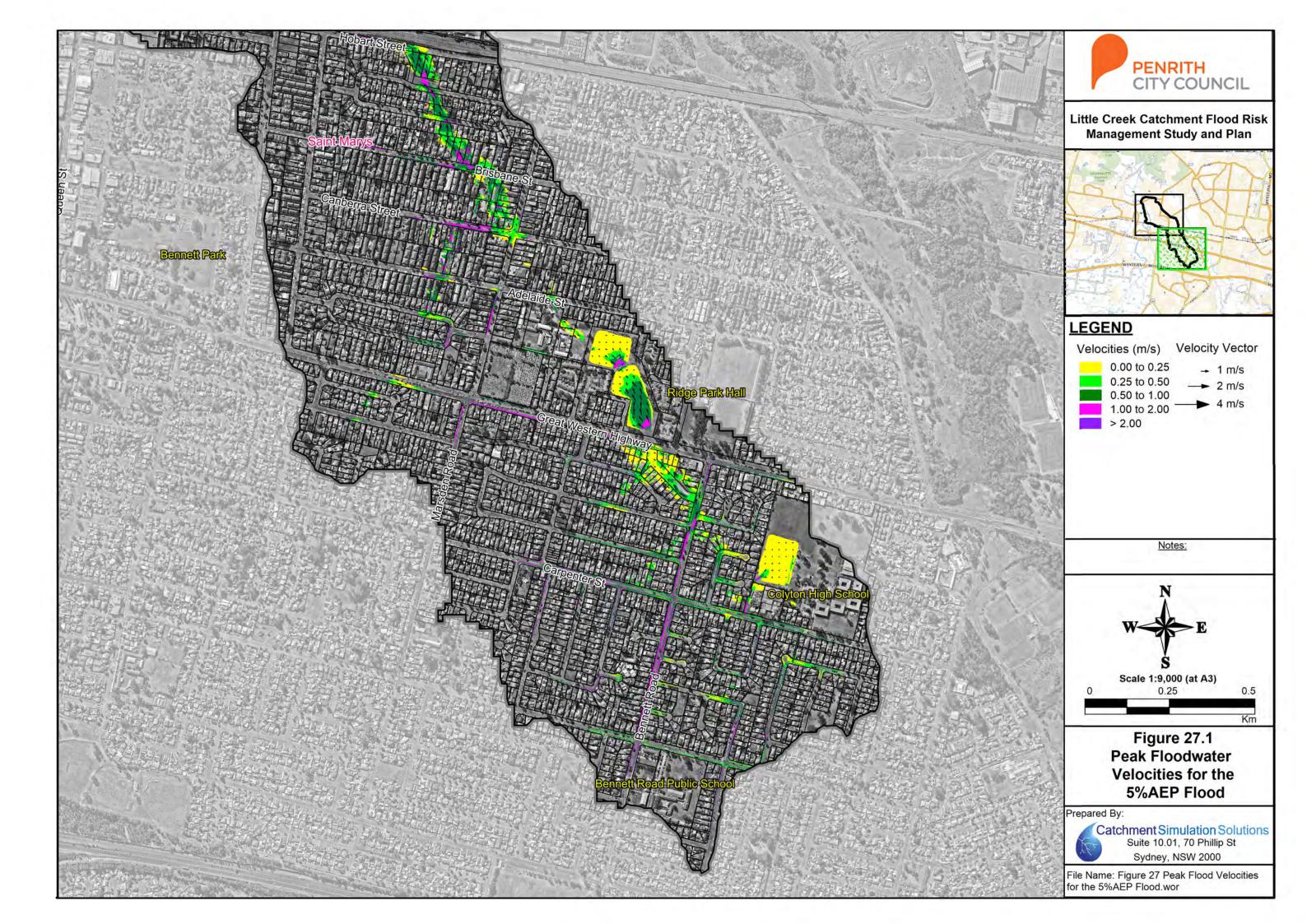




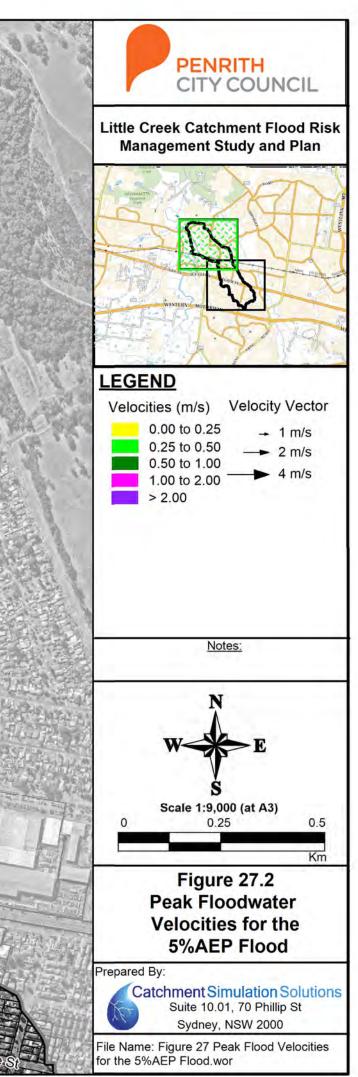


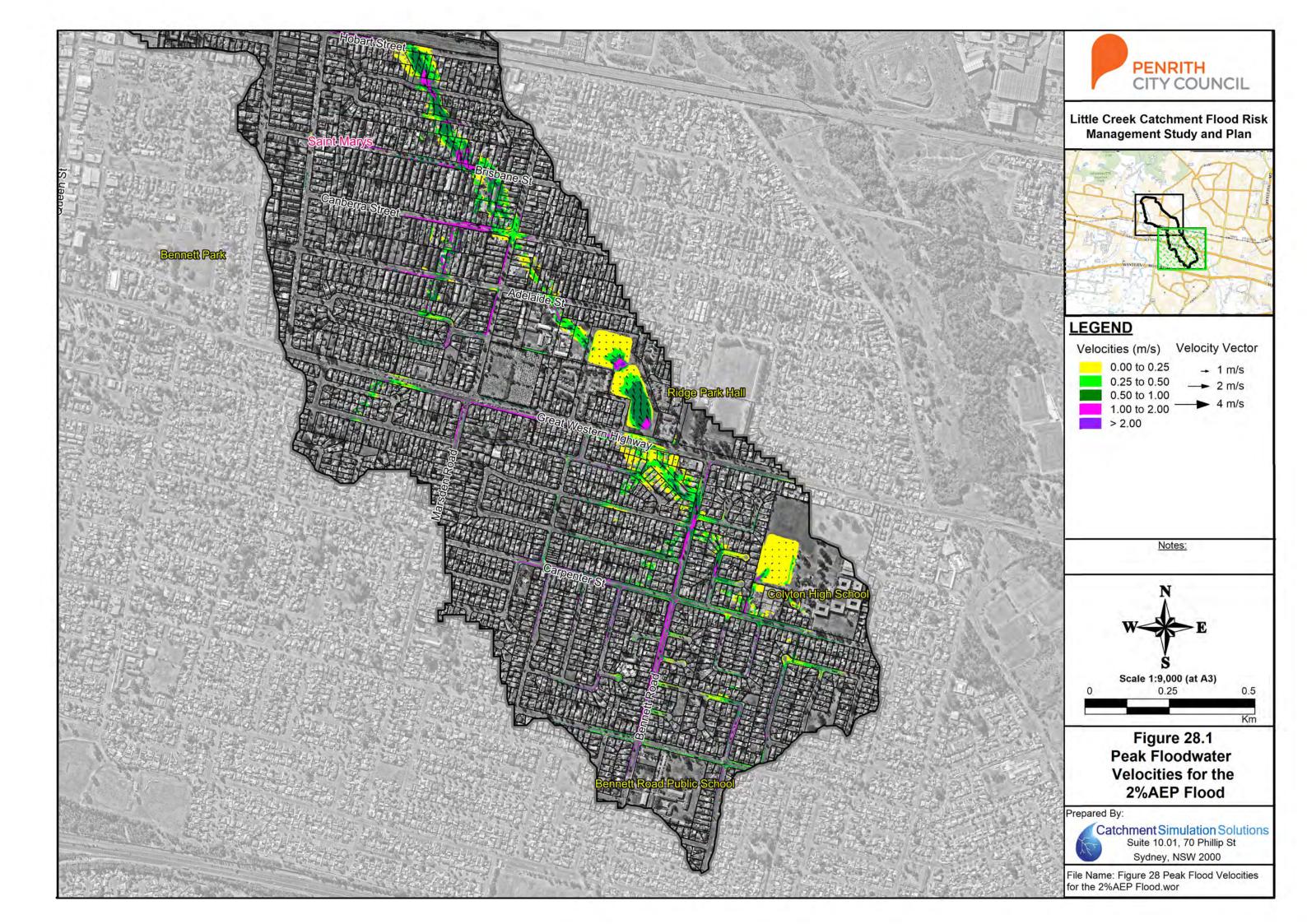




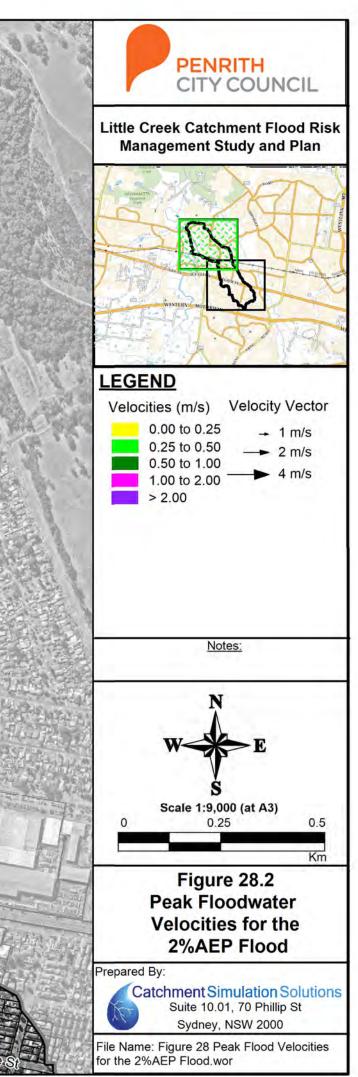


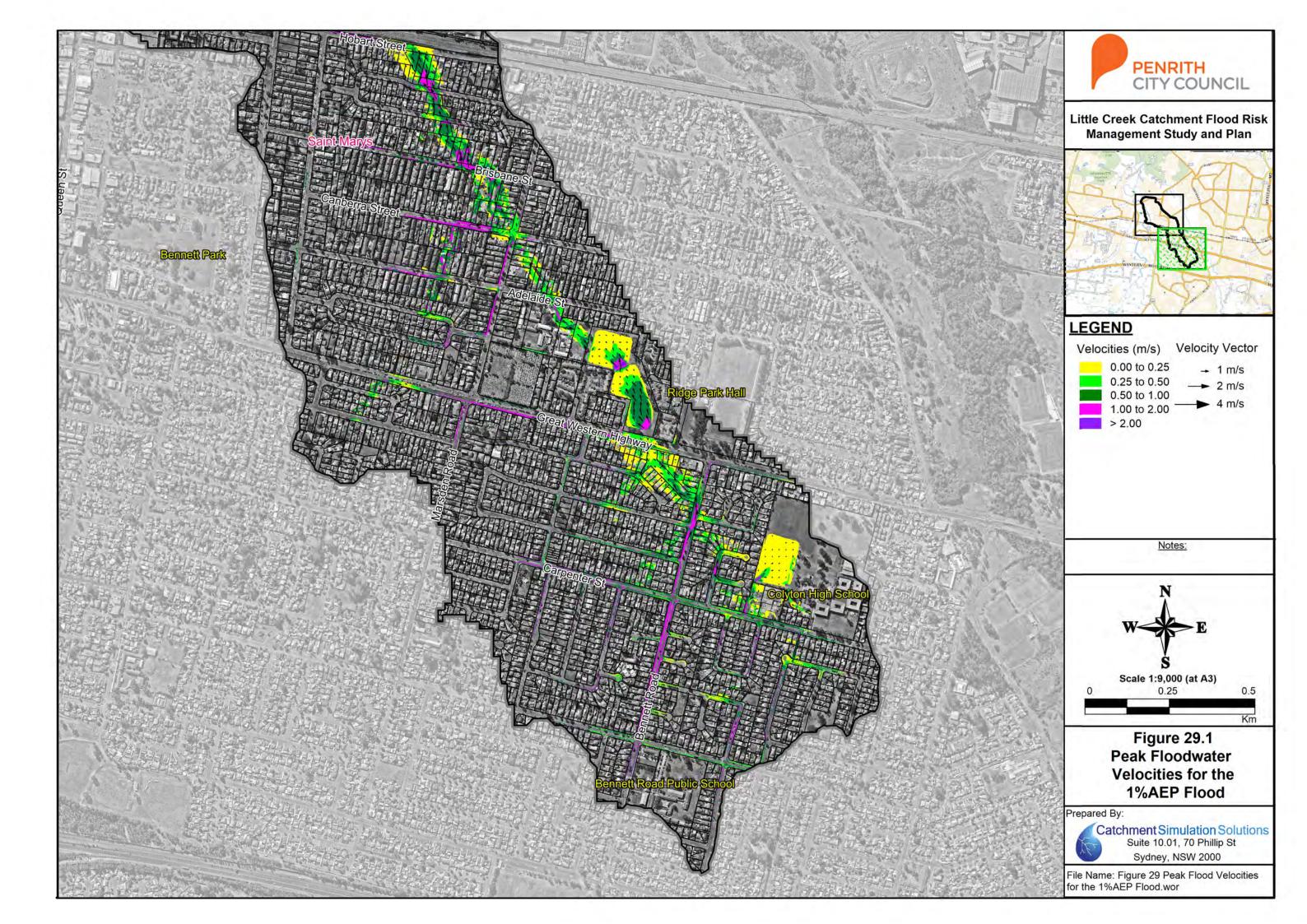




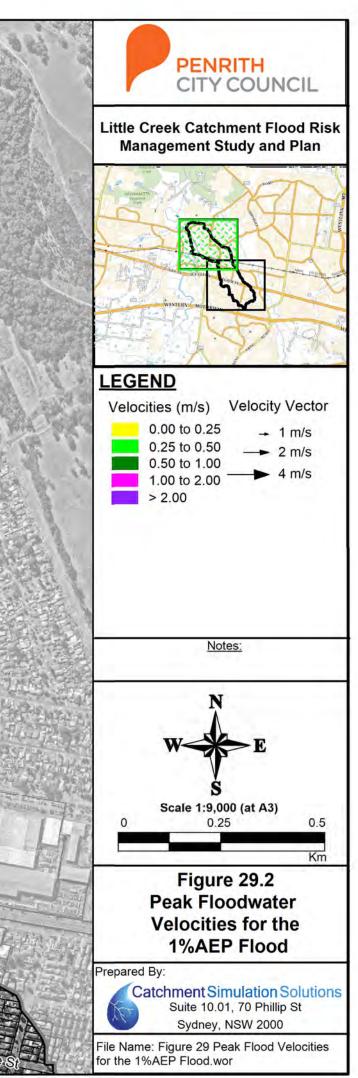


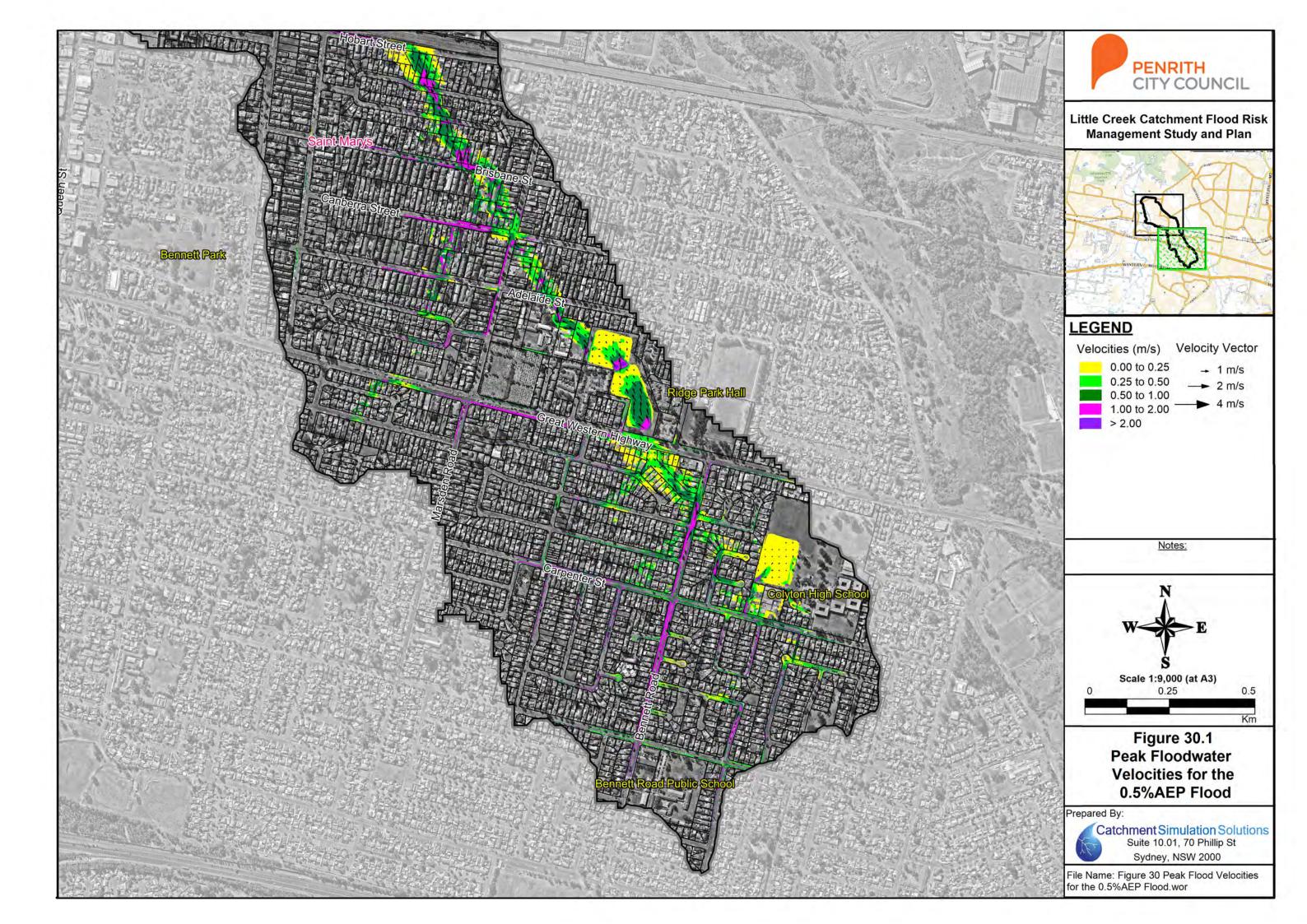




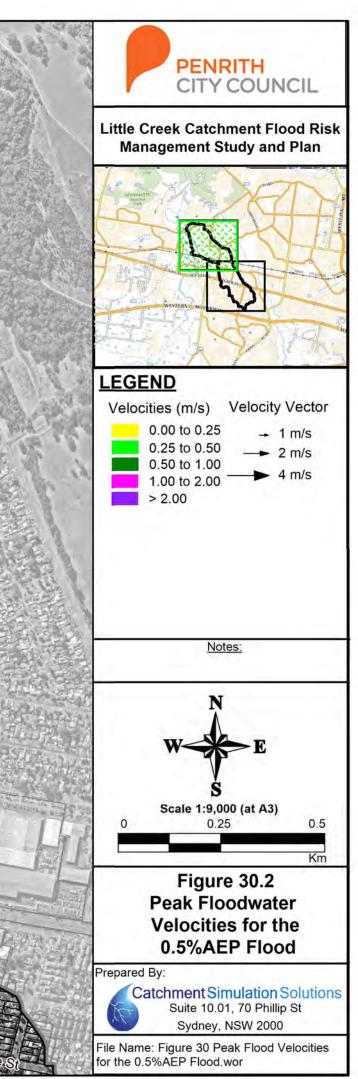


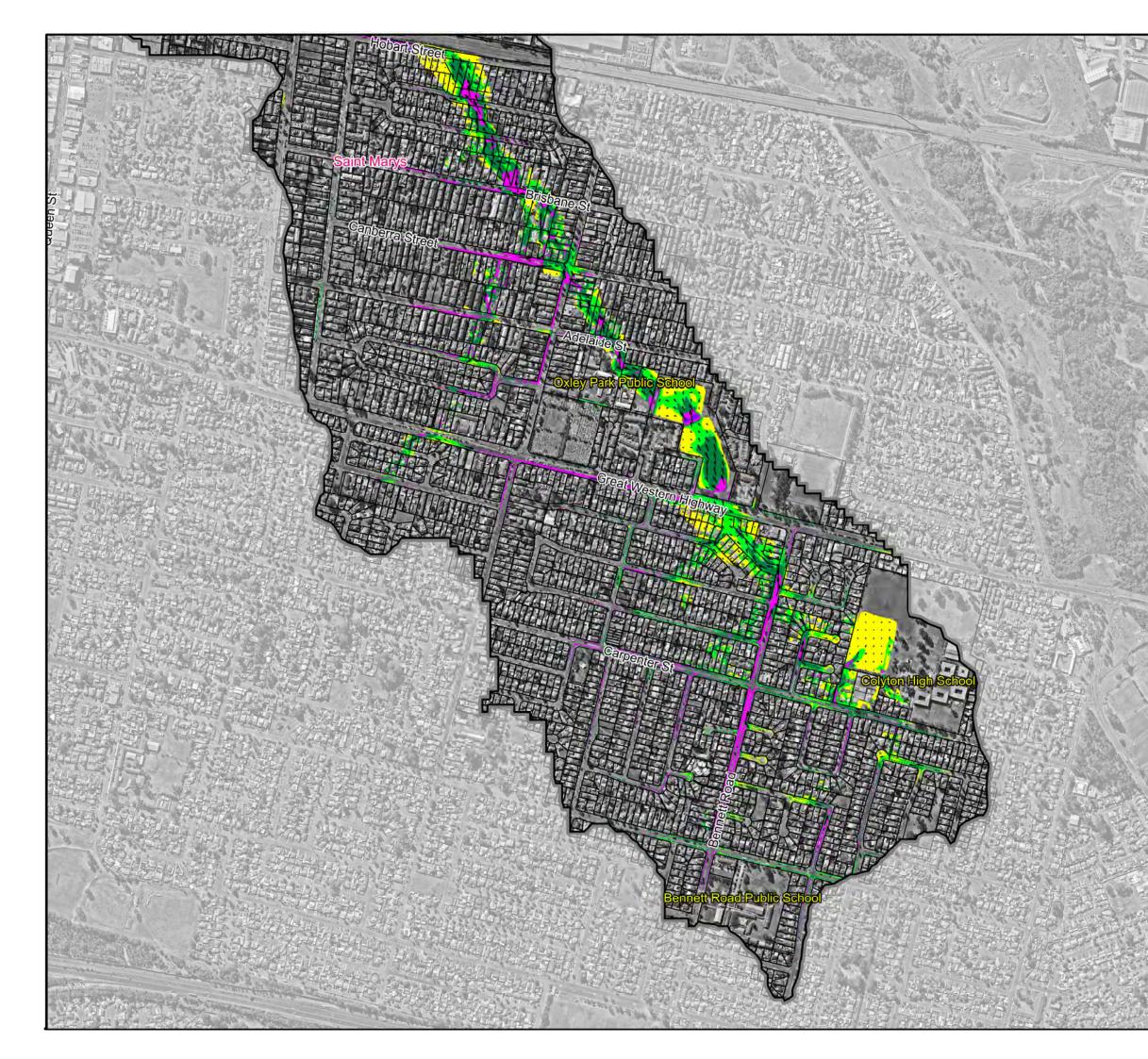


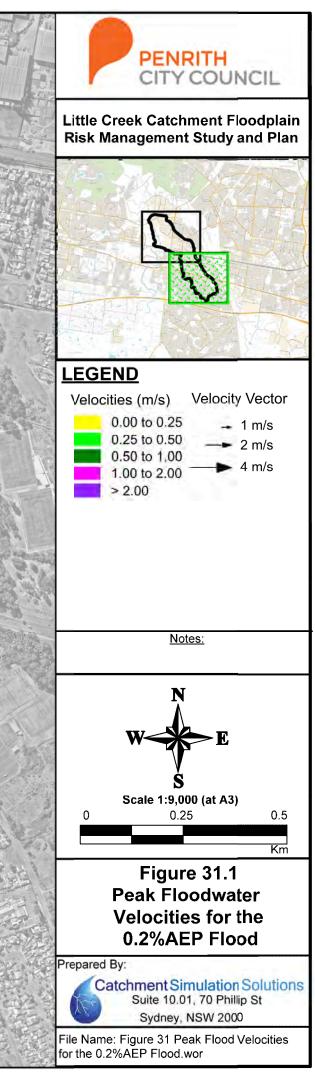




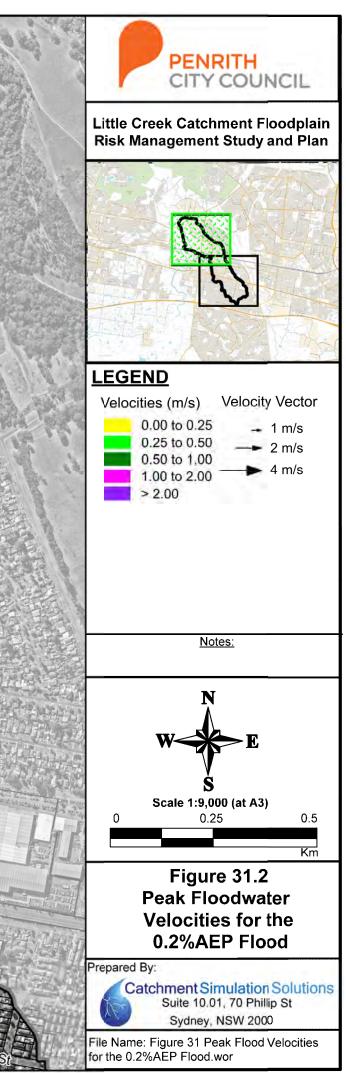




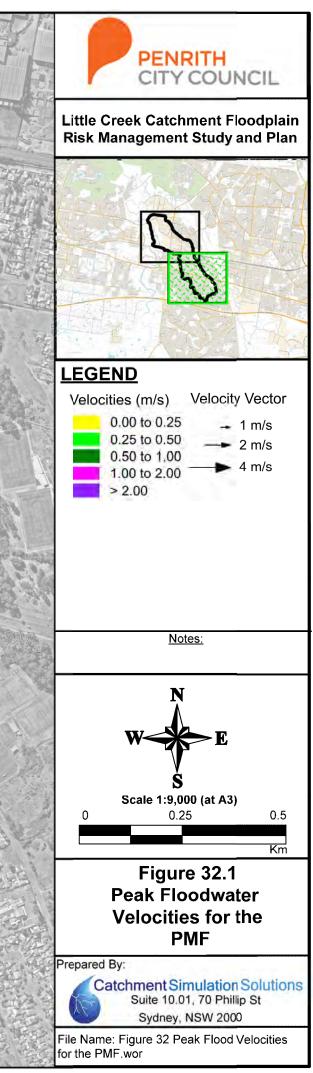




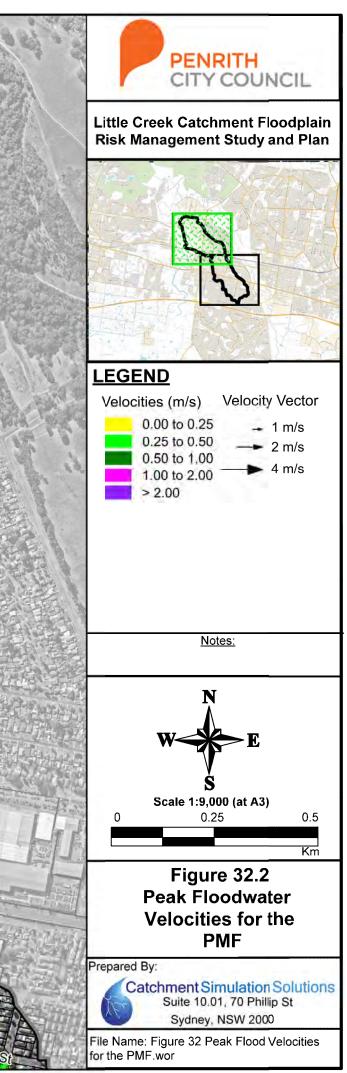


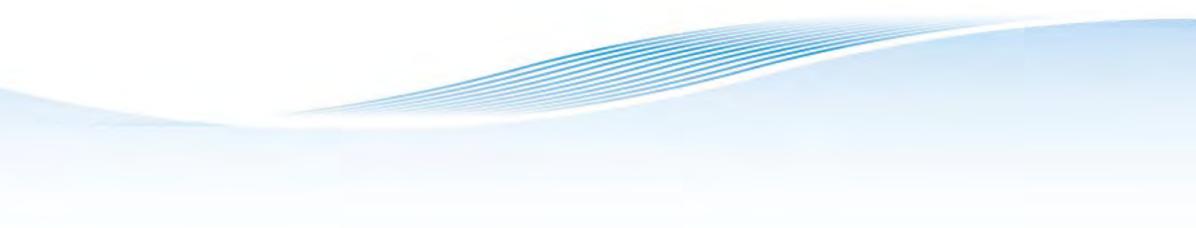






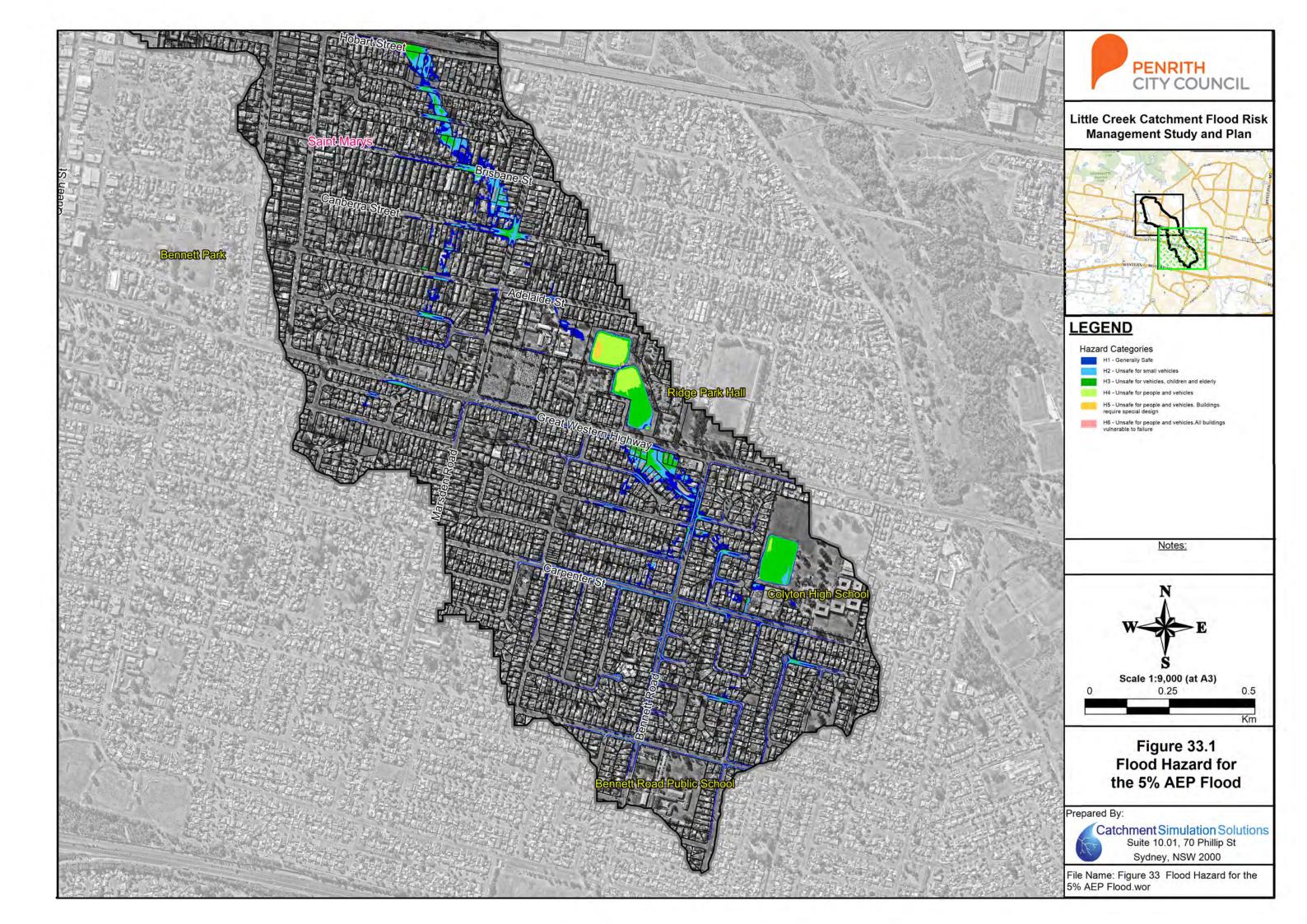






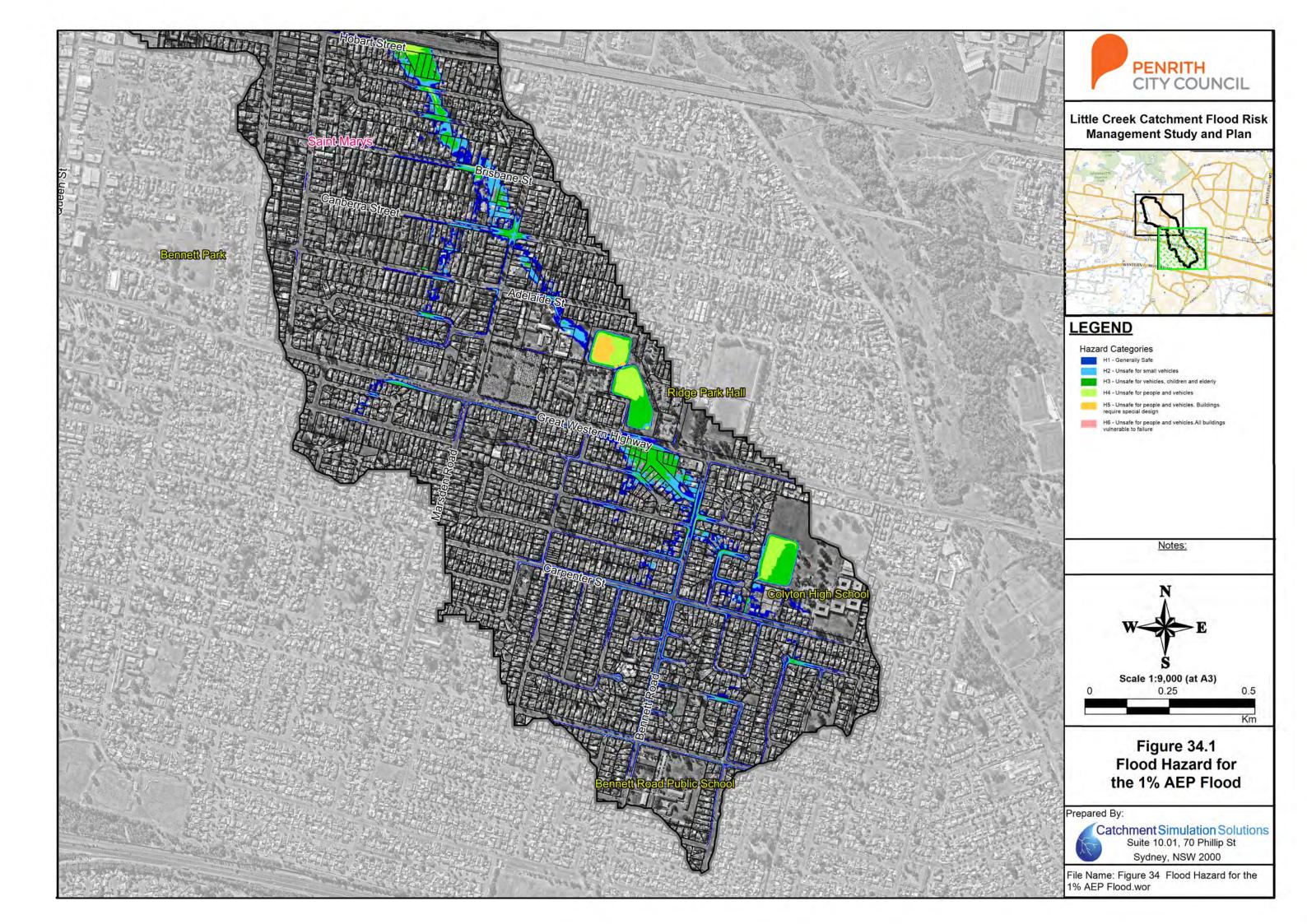
FLOOD HAZARD MAPS

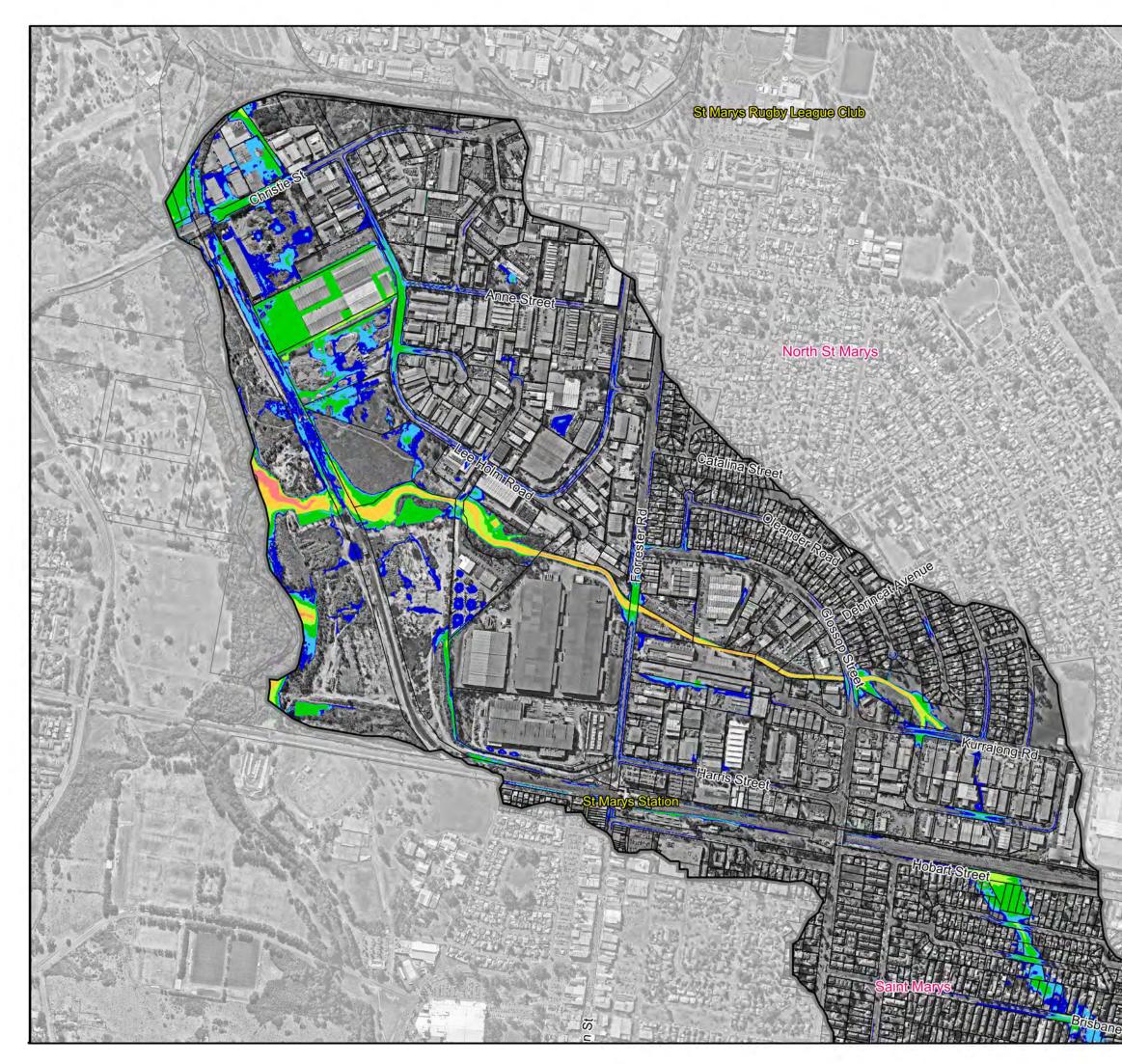










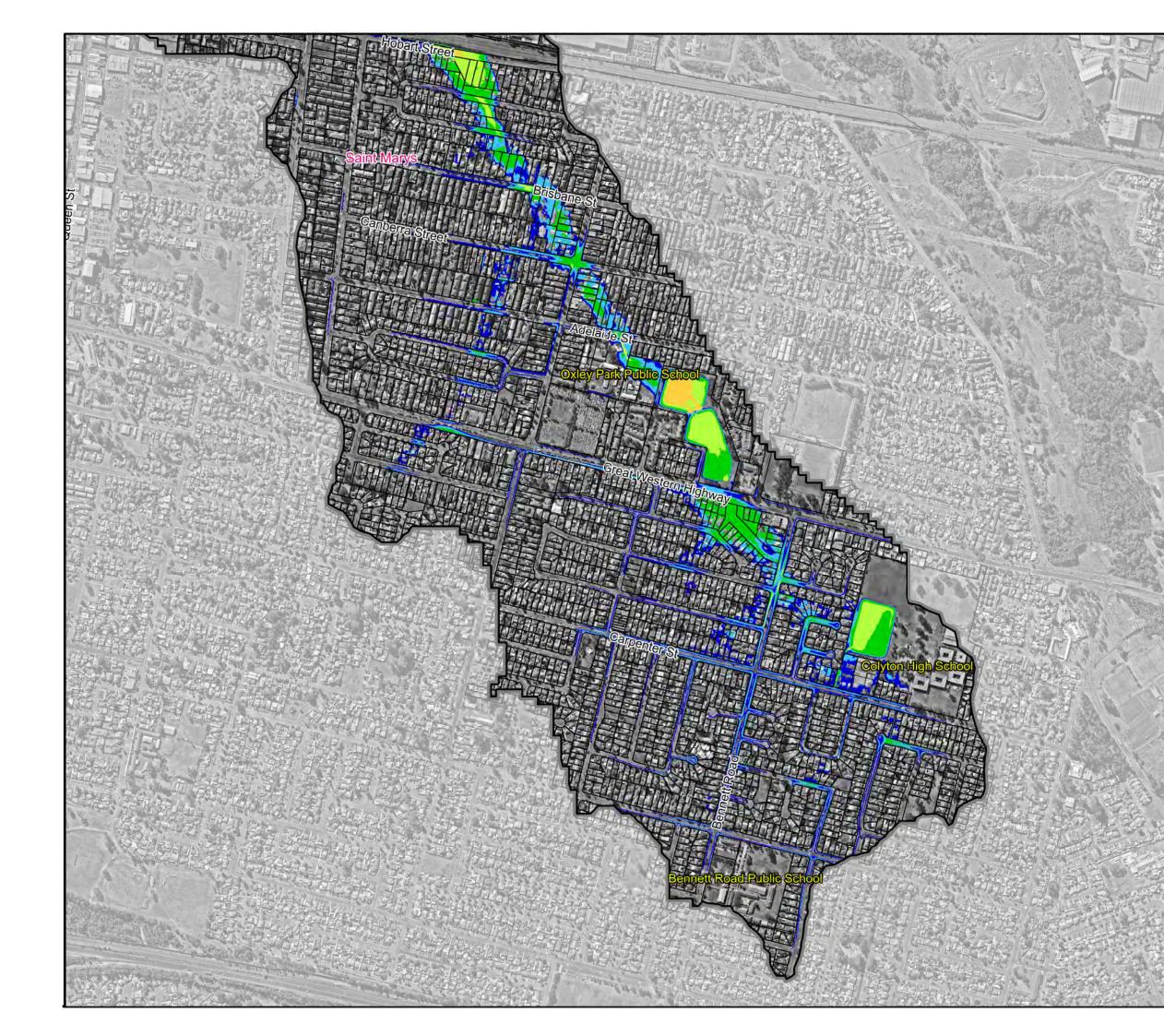






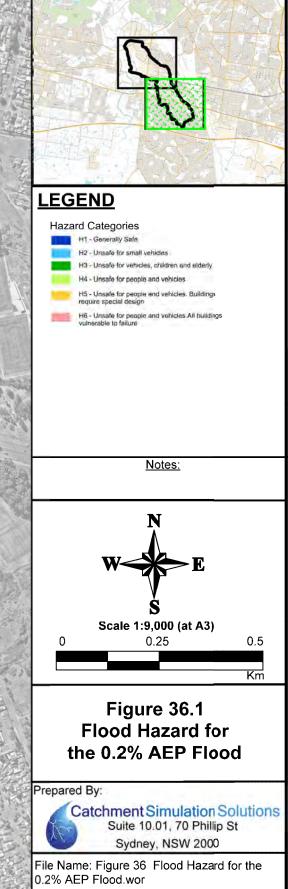


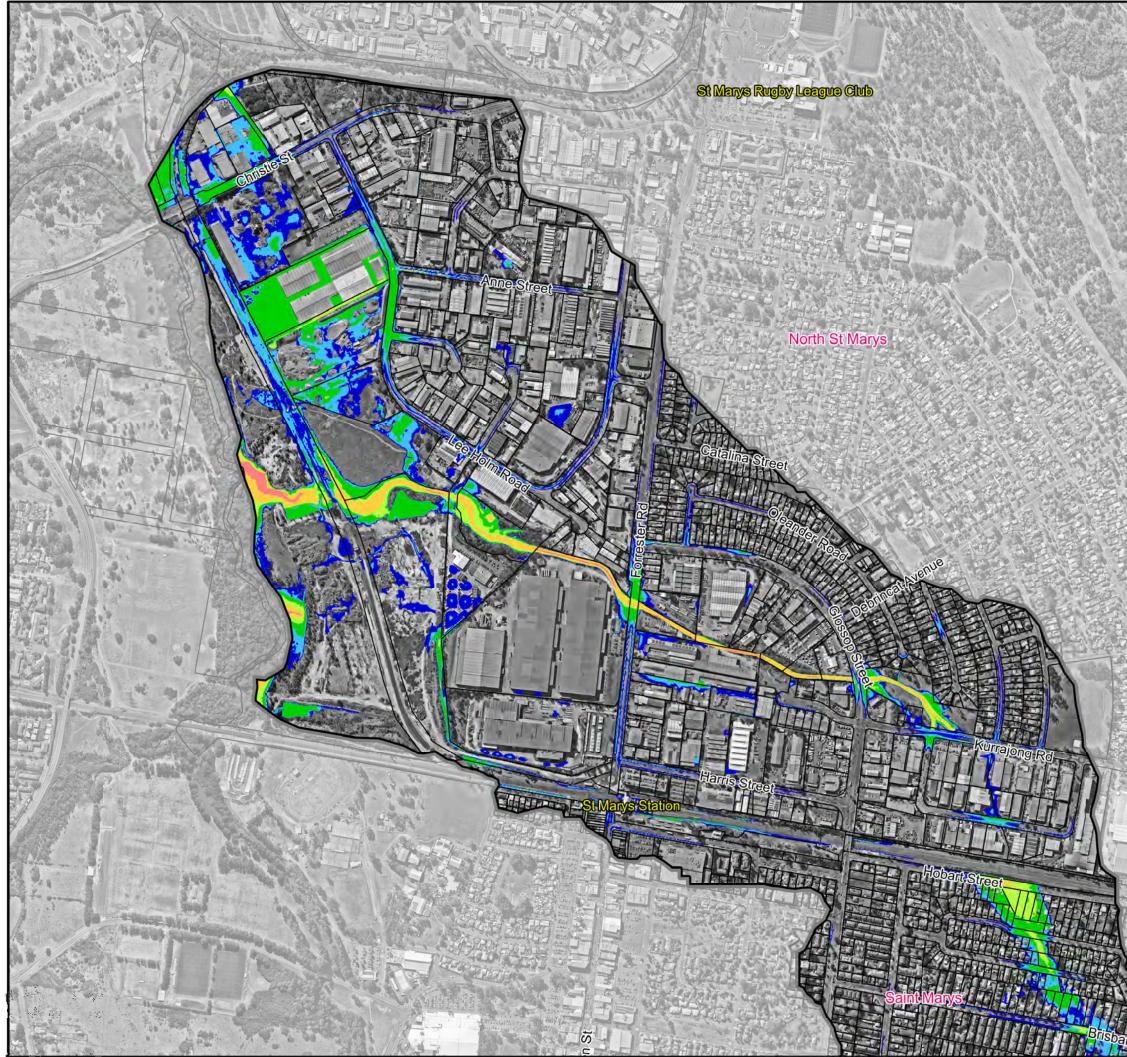


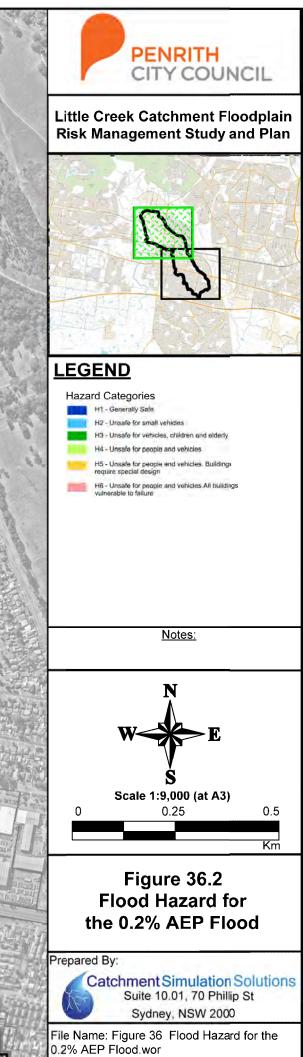


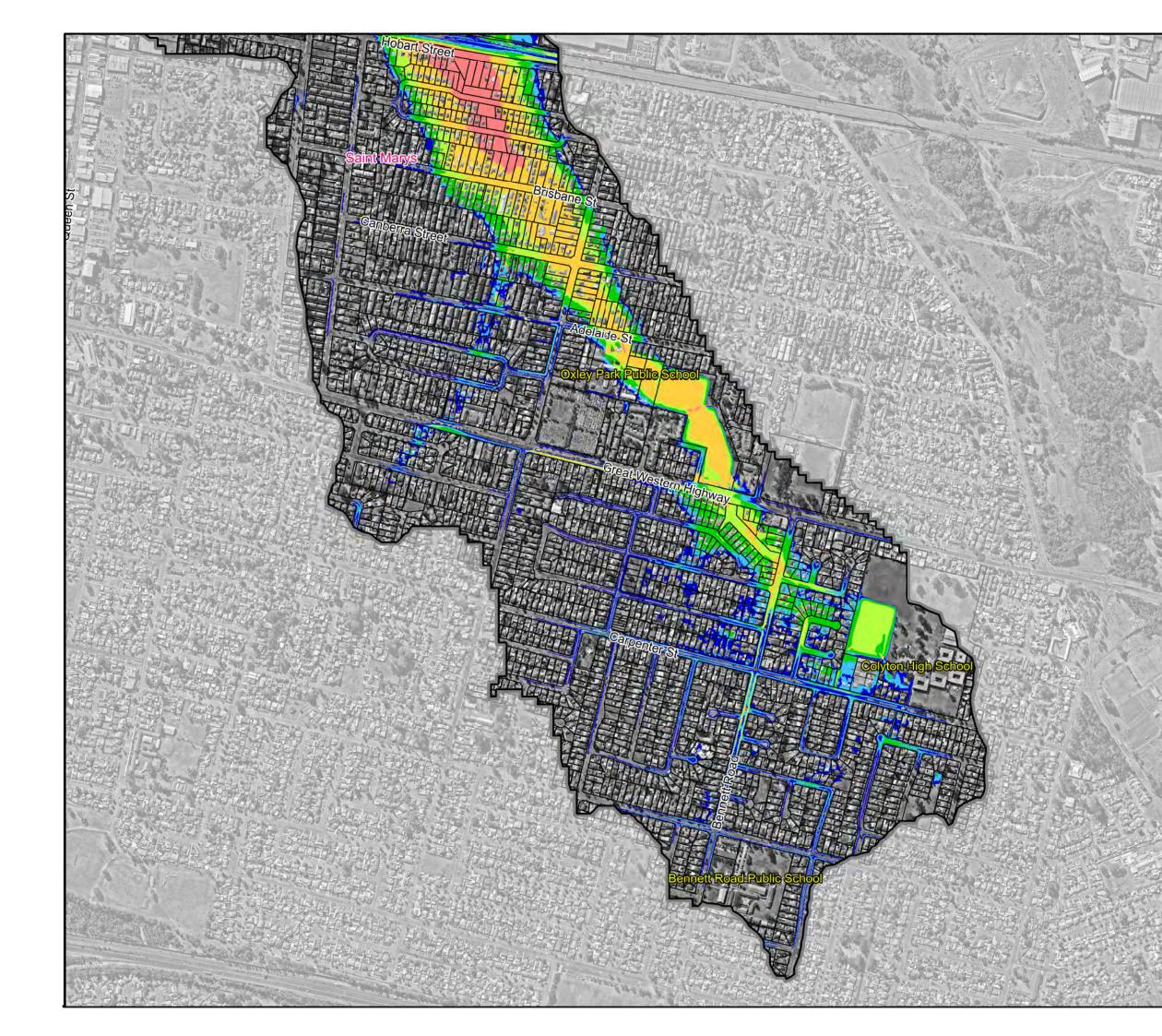


Little Creek Catchment Floodplain Risk Management Study and Plan



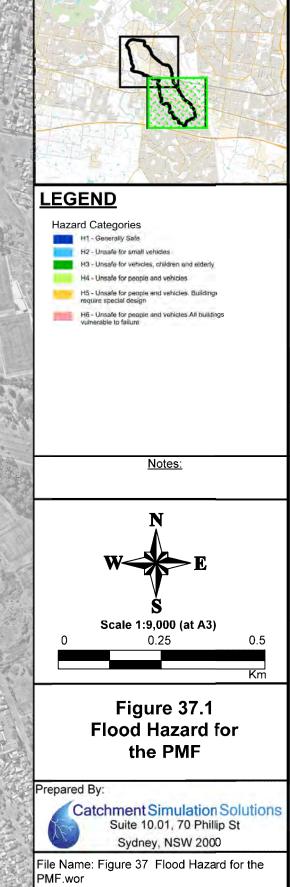


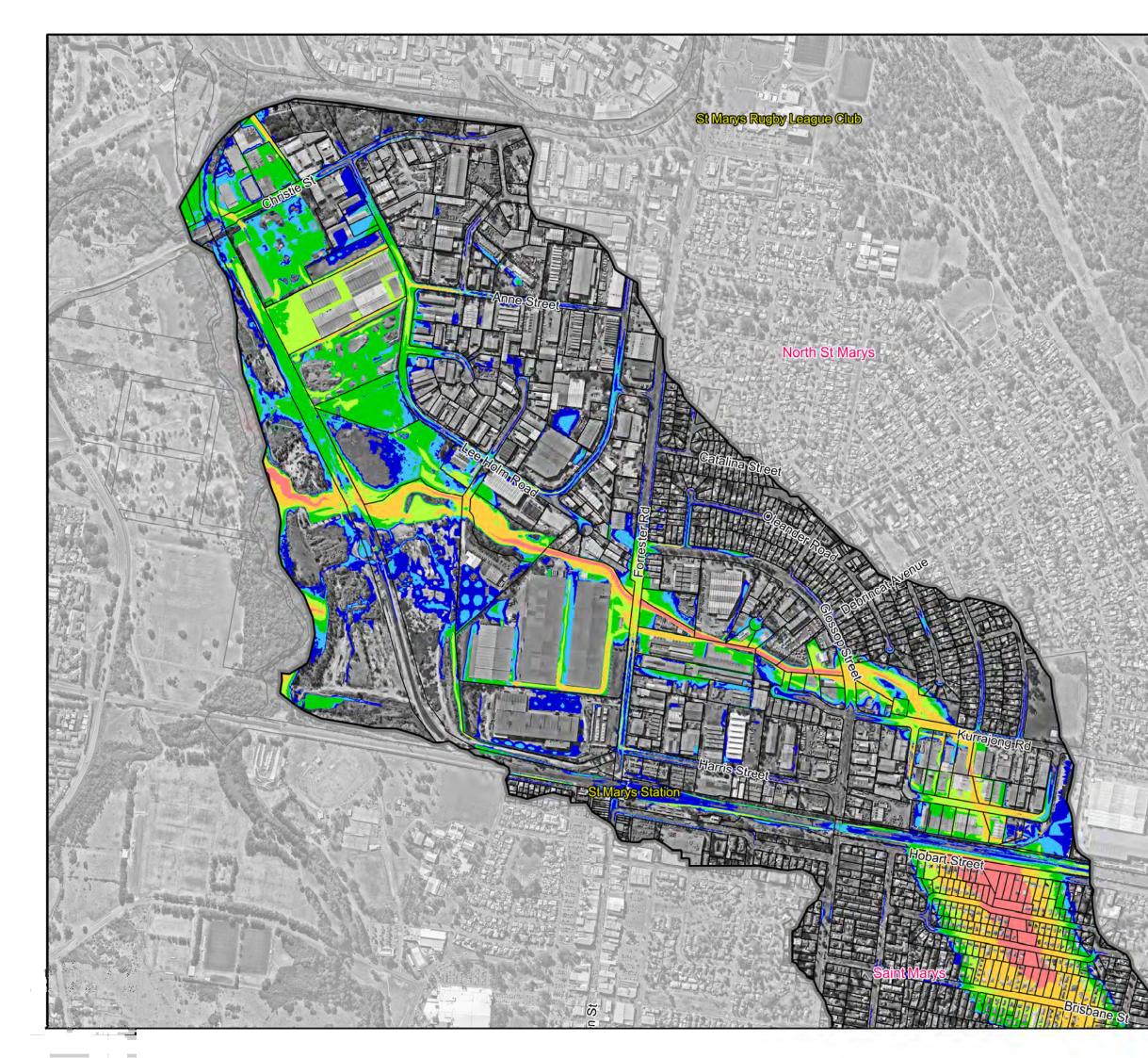


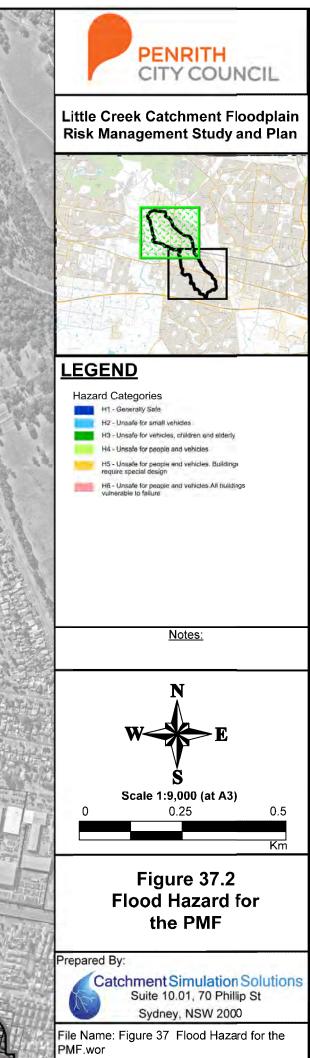


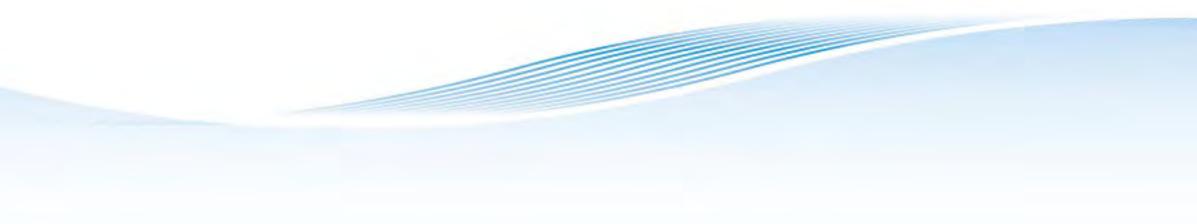


Little Creek Catchment Floodplain Risk Management Study and Plan



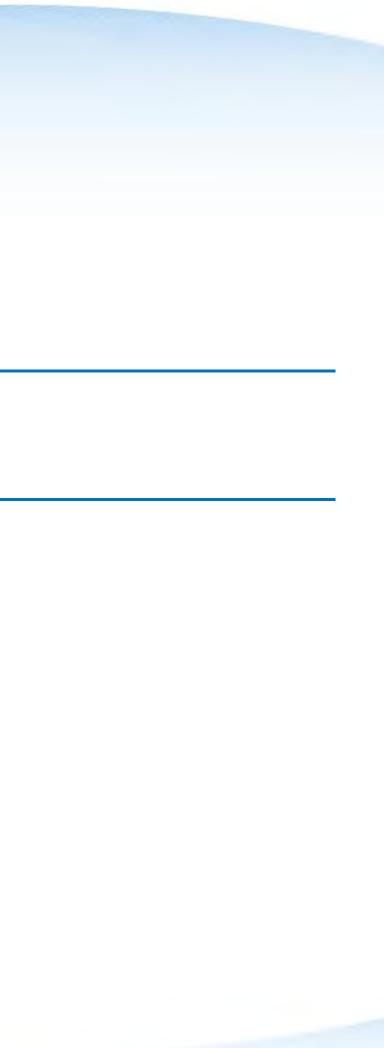


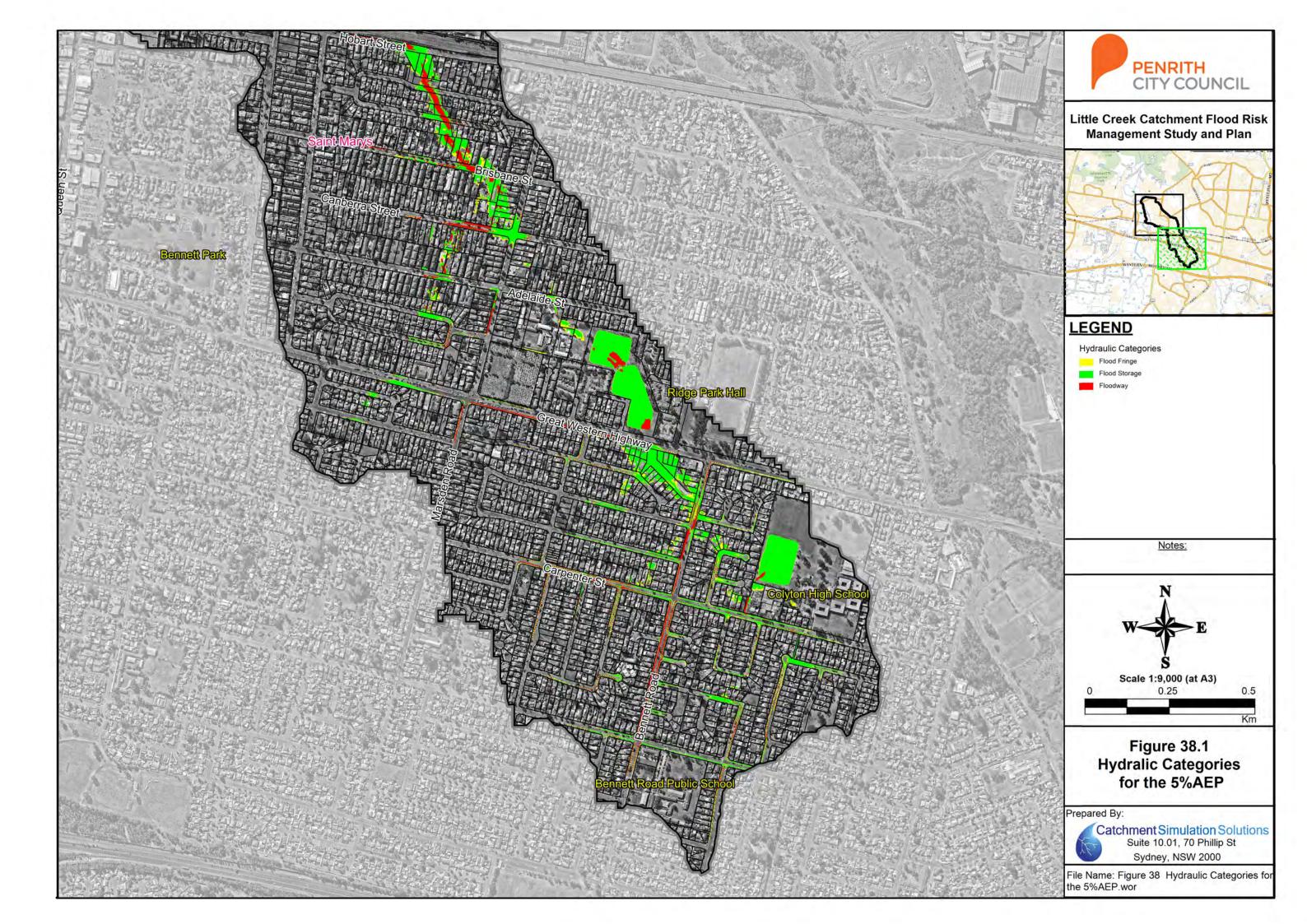




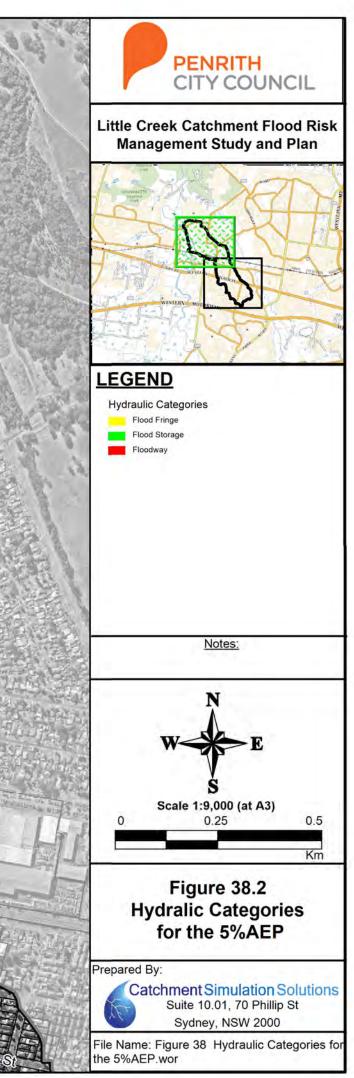
HYDRAULIC CATEGORY MAPS

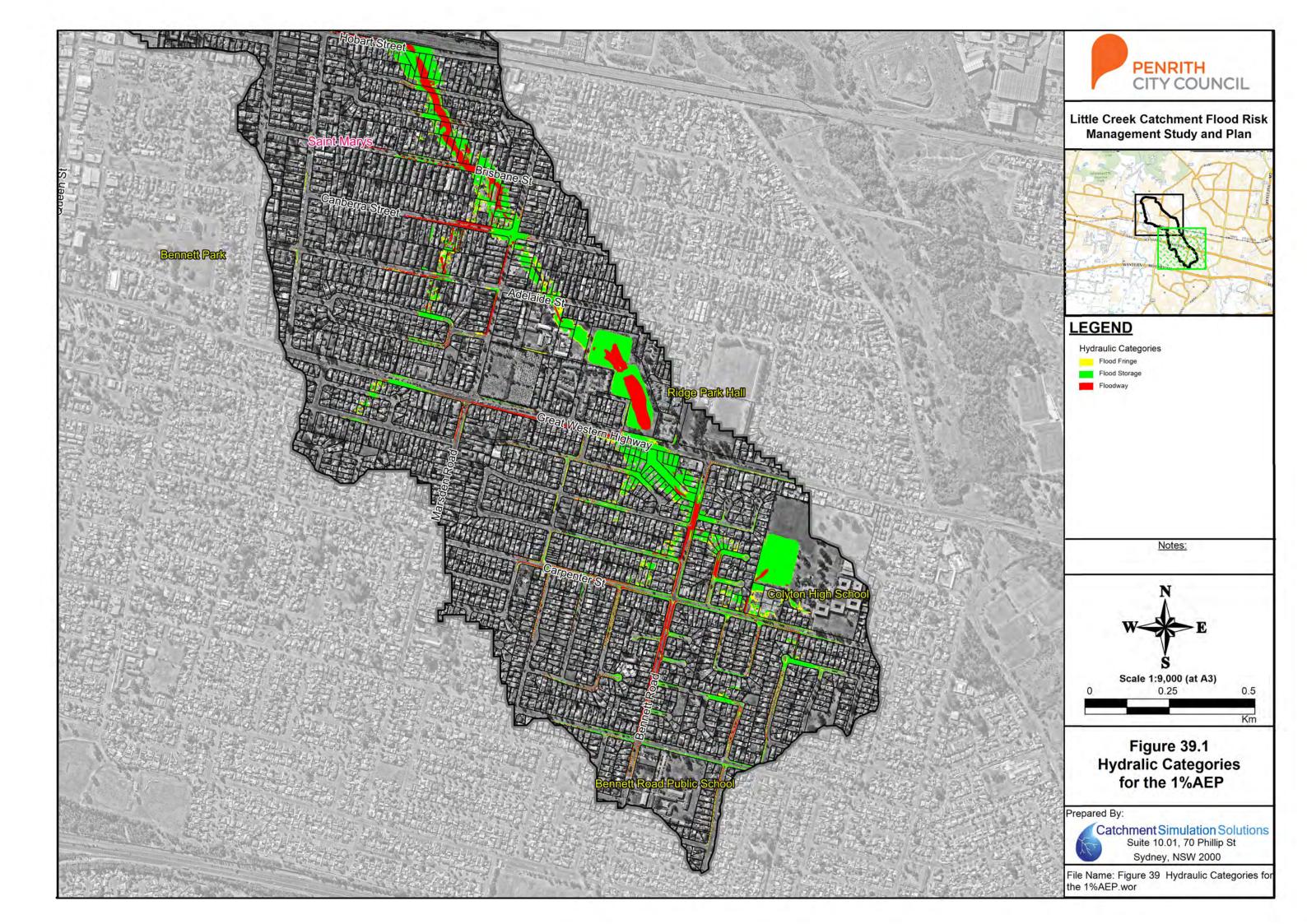
Catchment Simulation Solutions



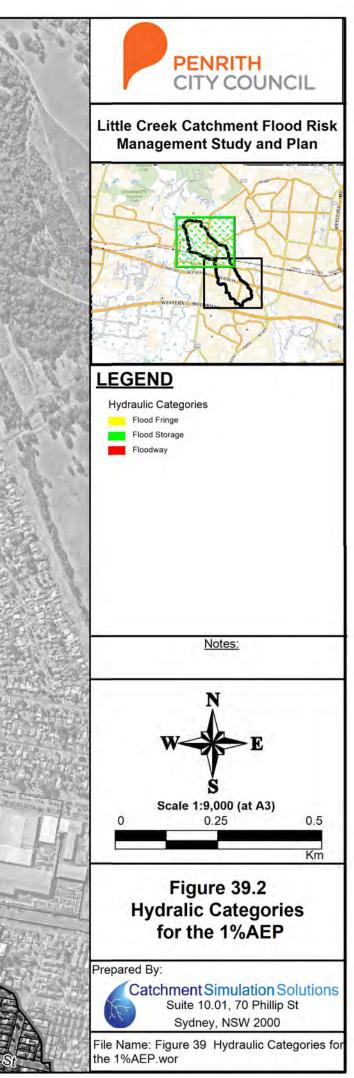


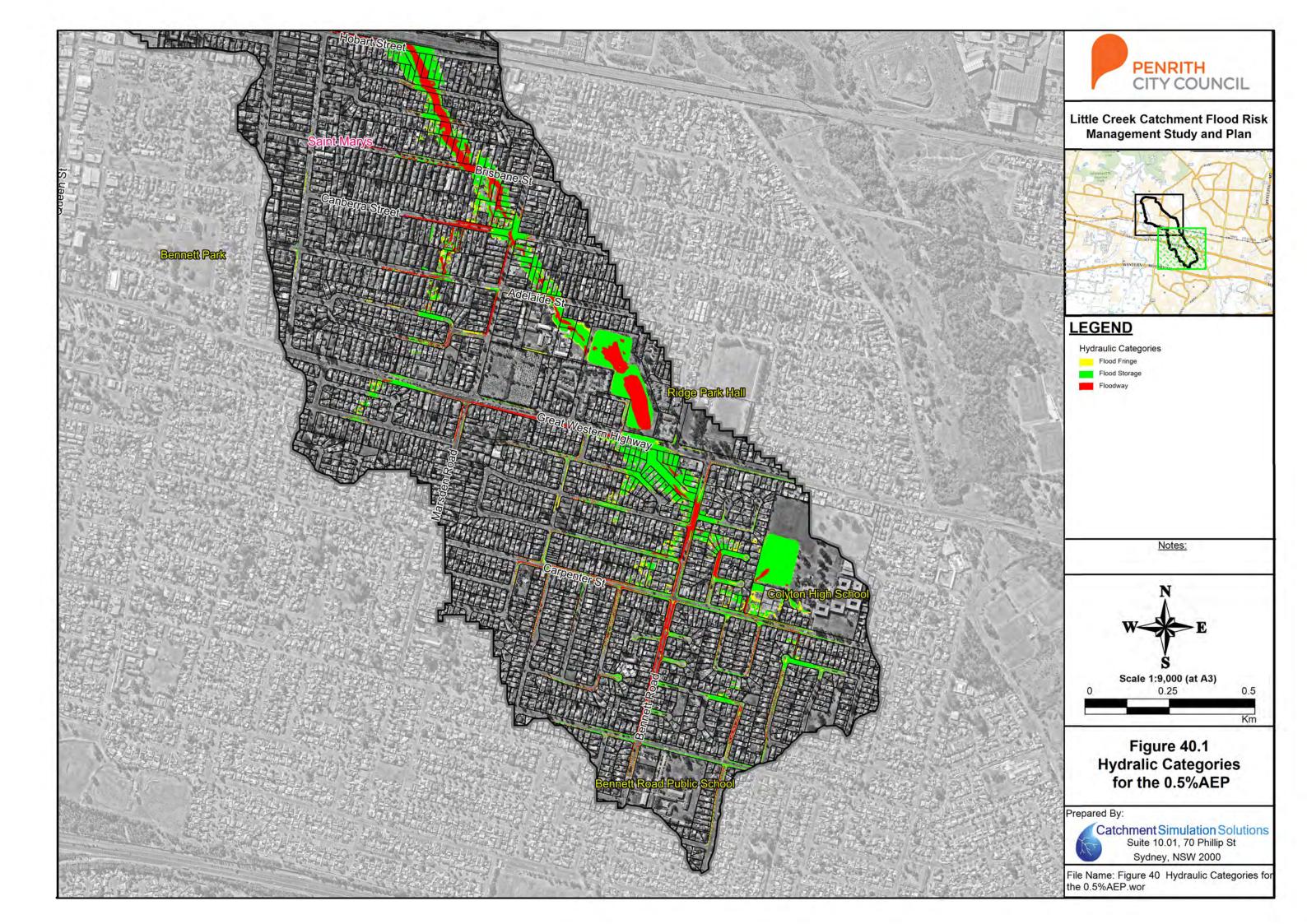




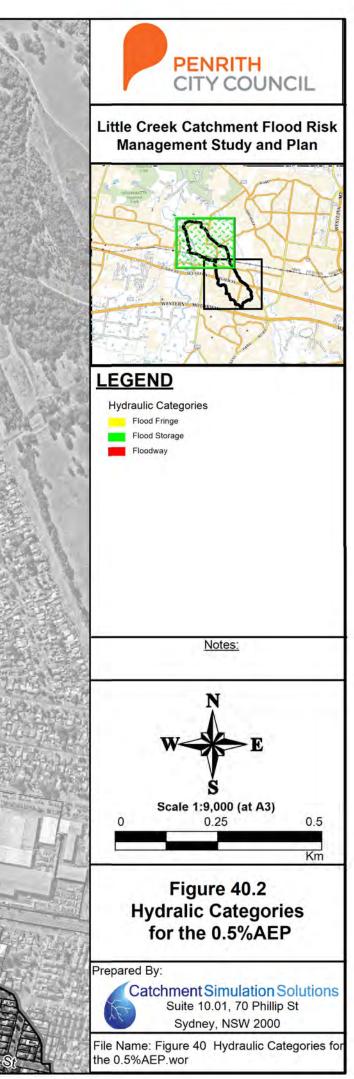


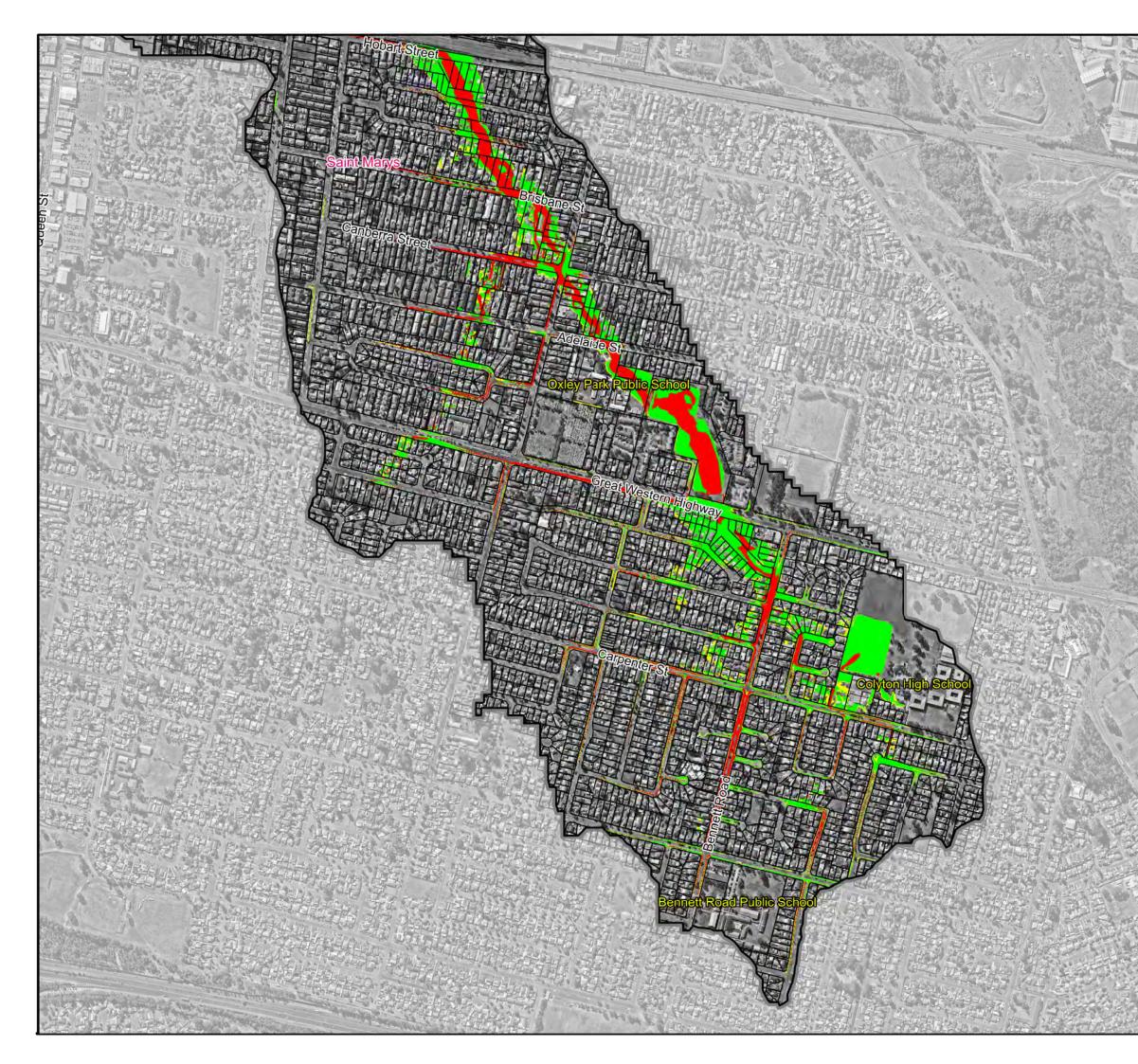


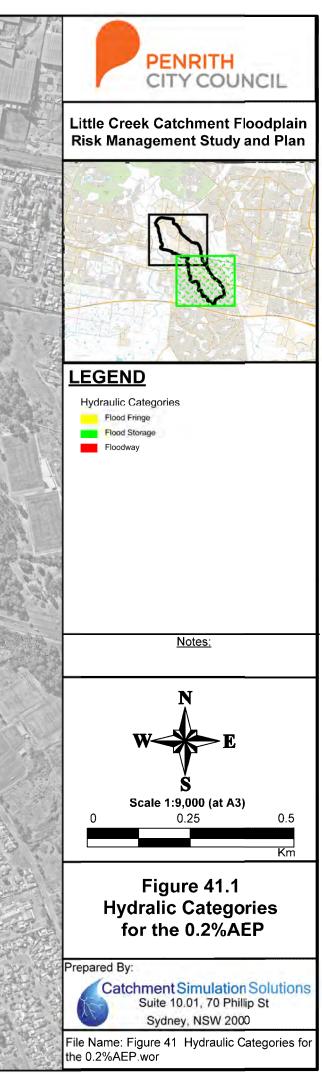


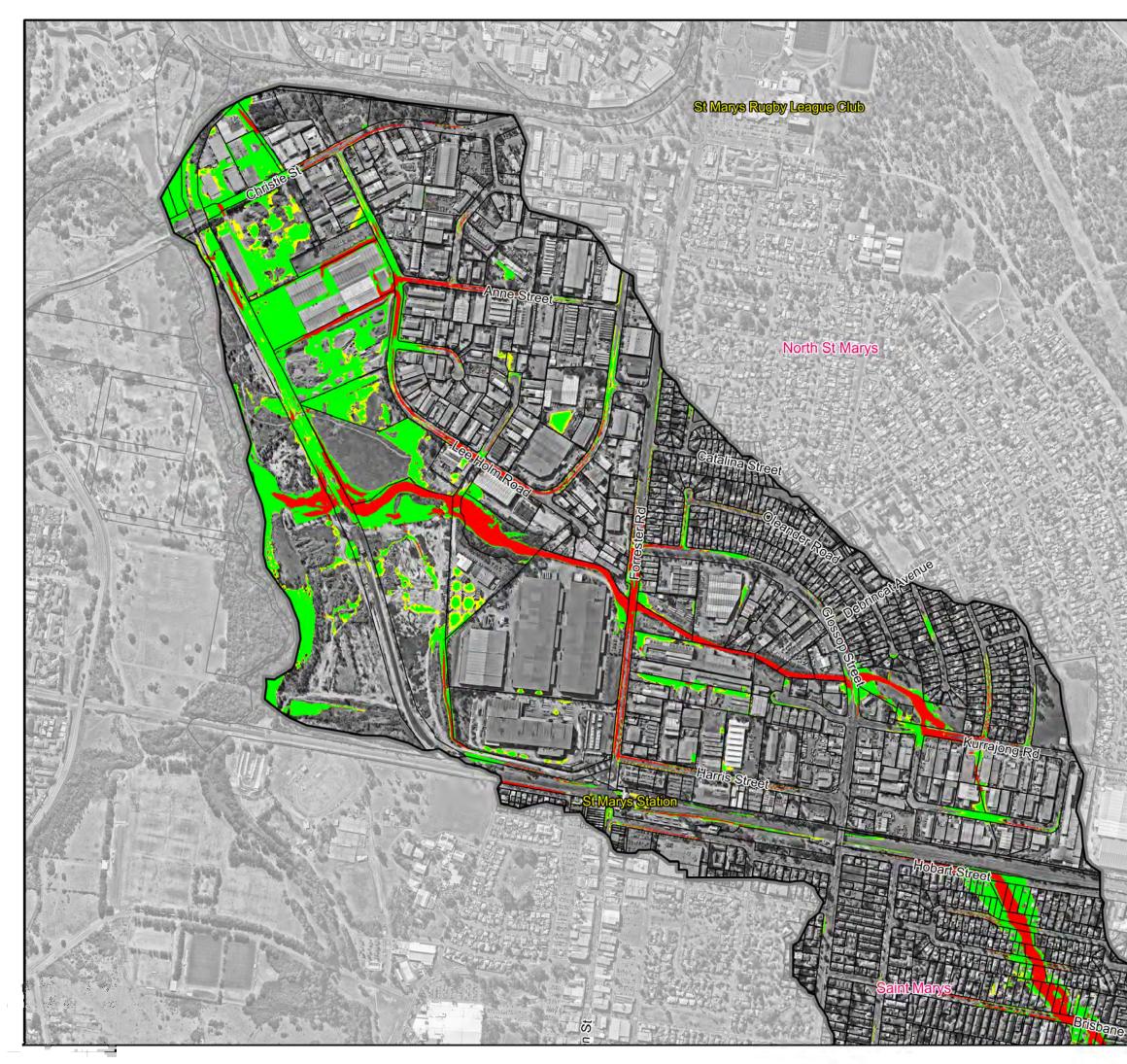


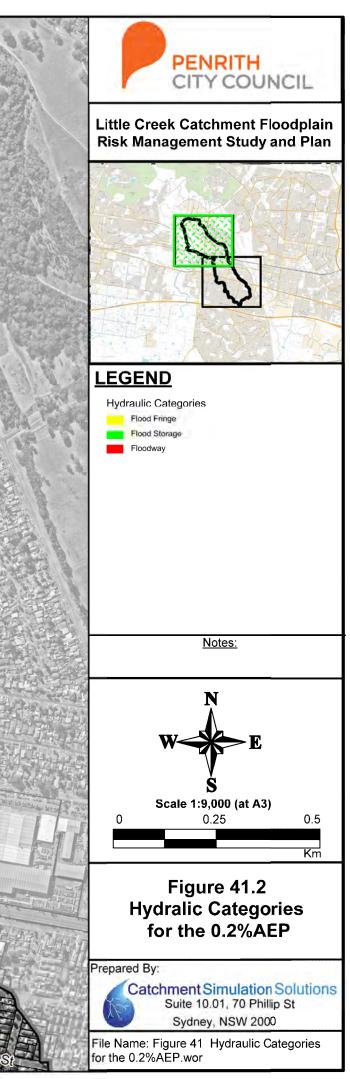


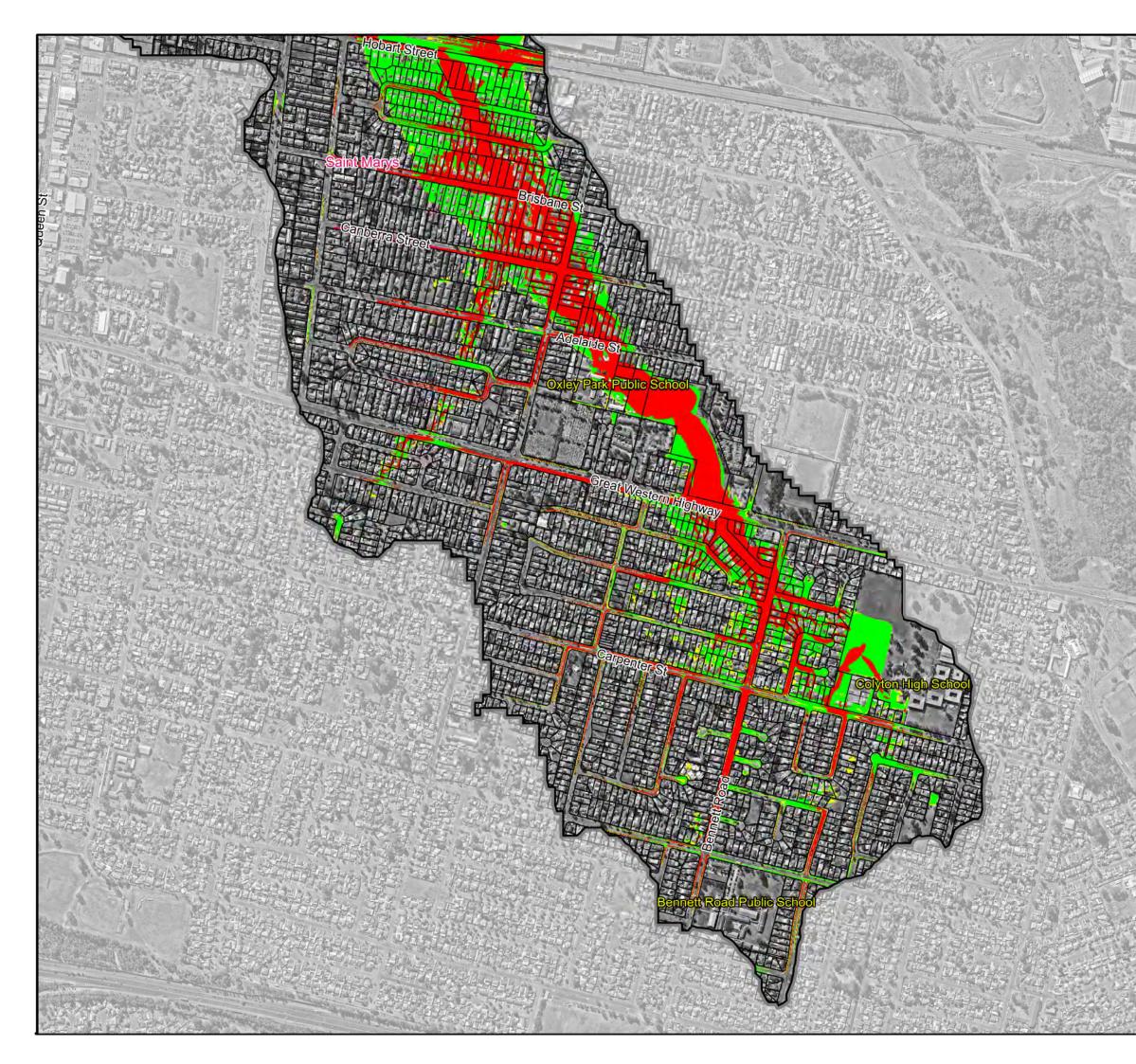


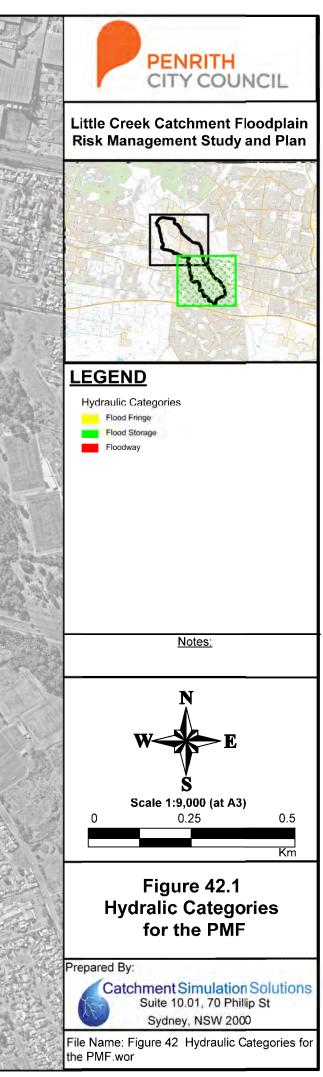


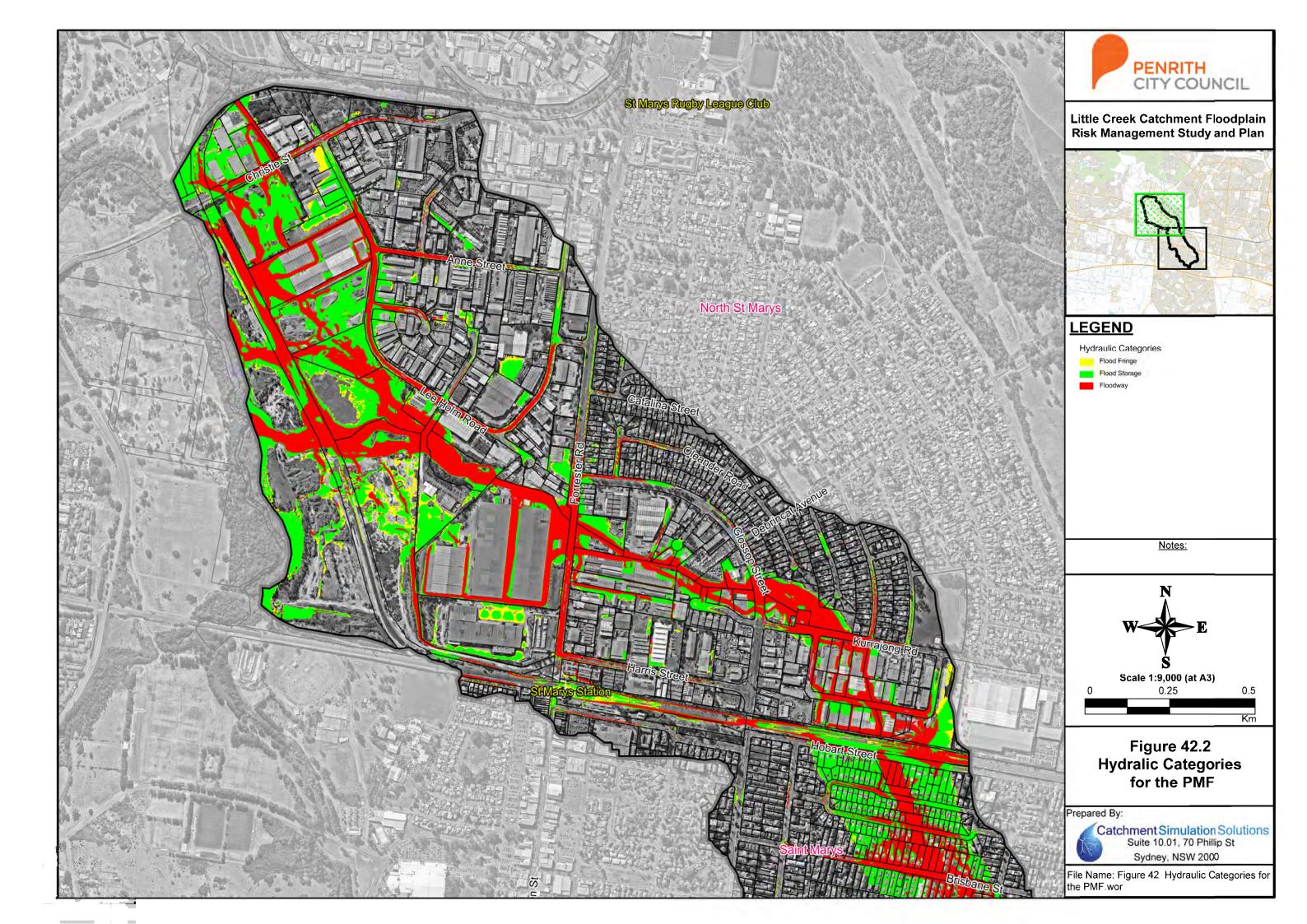


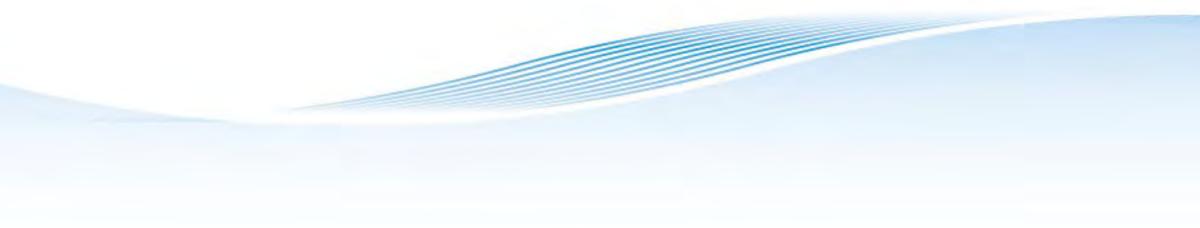




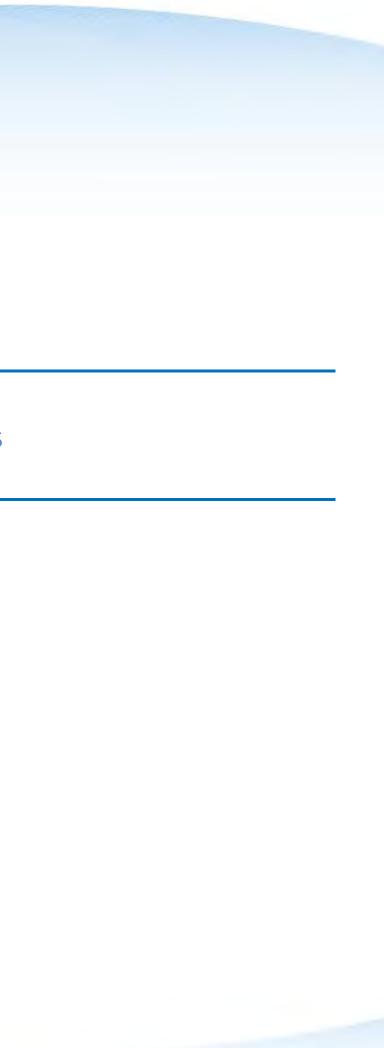


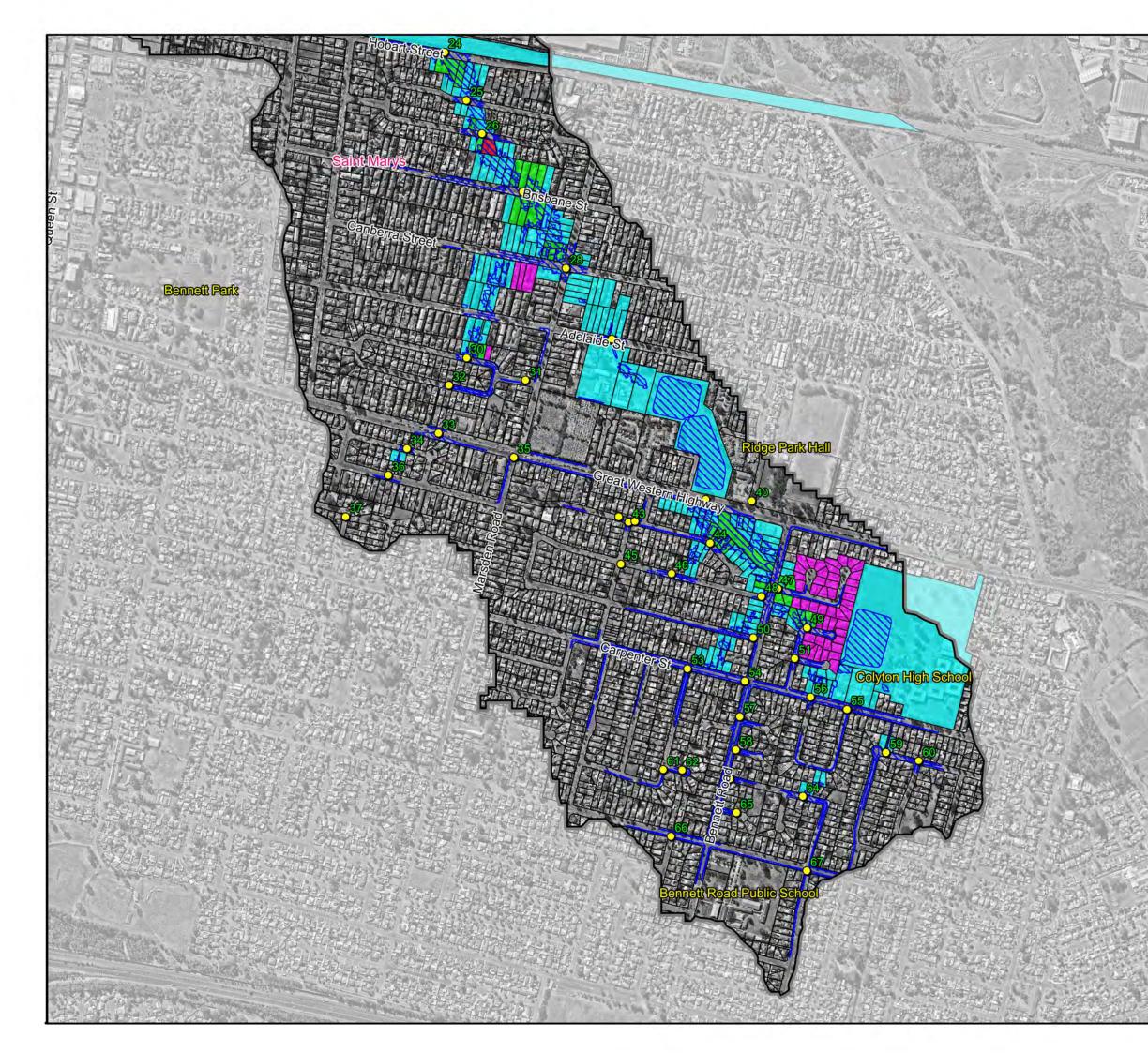


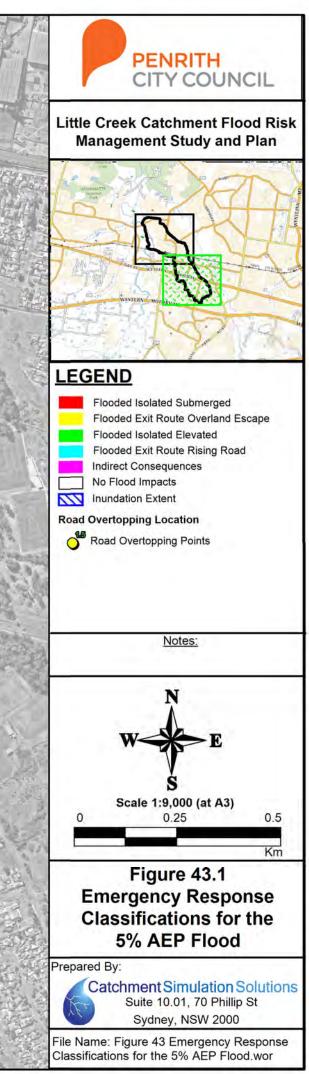




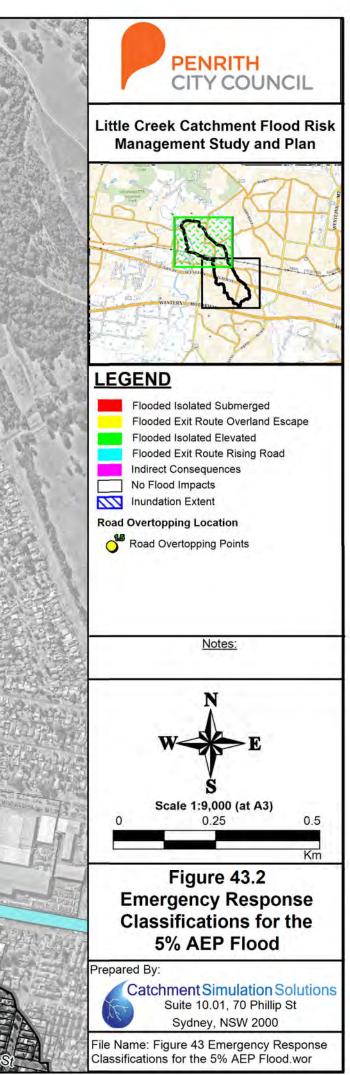
EMERGENCY RESPONSE PRECINCT CLASSIFICATIONS

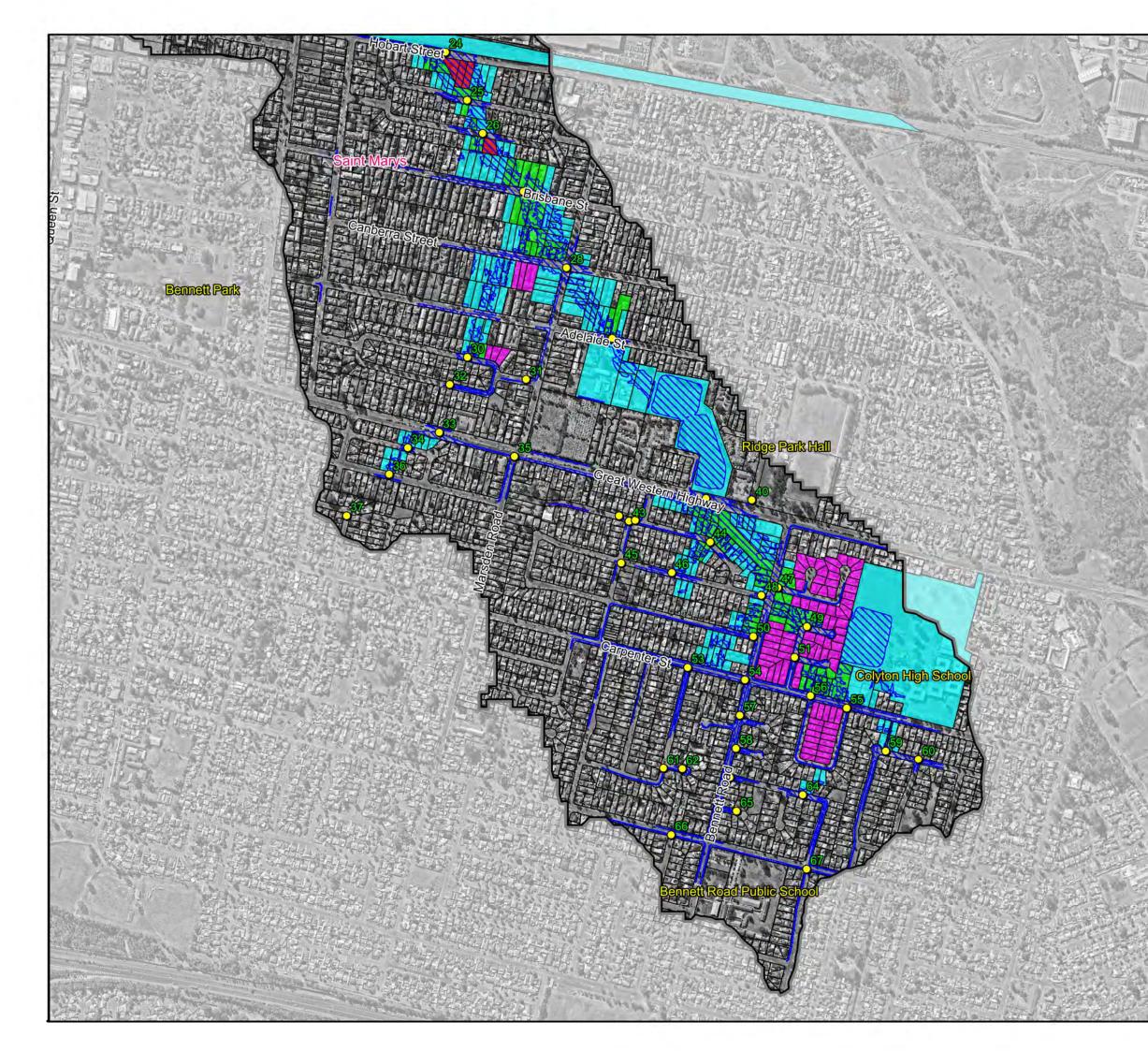


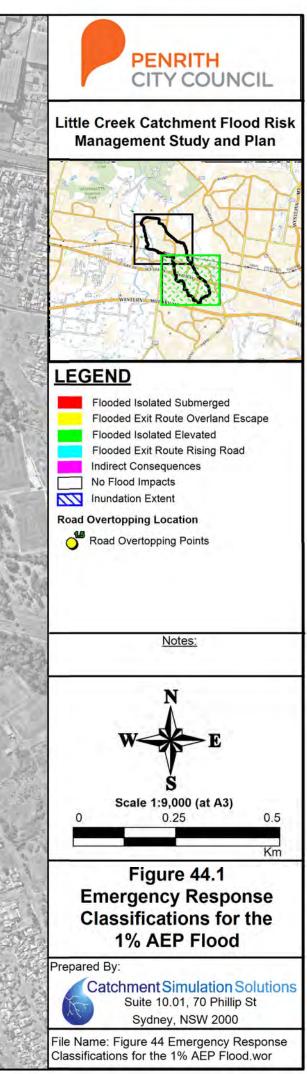


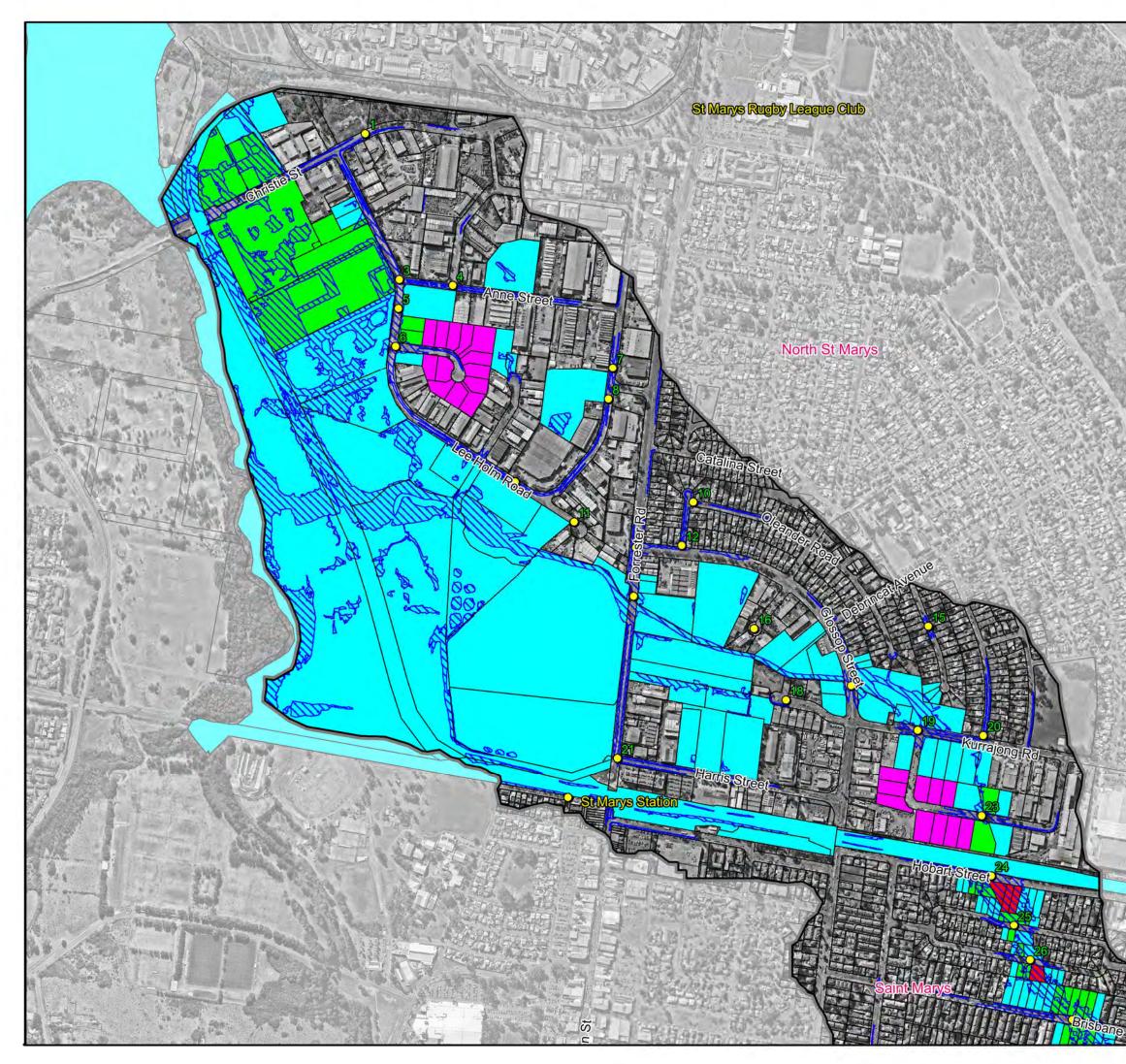




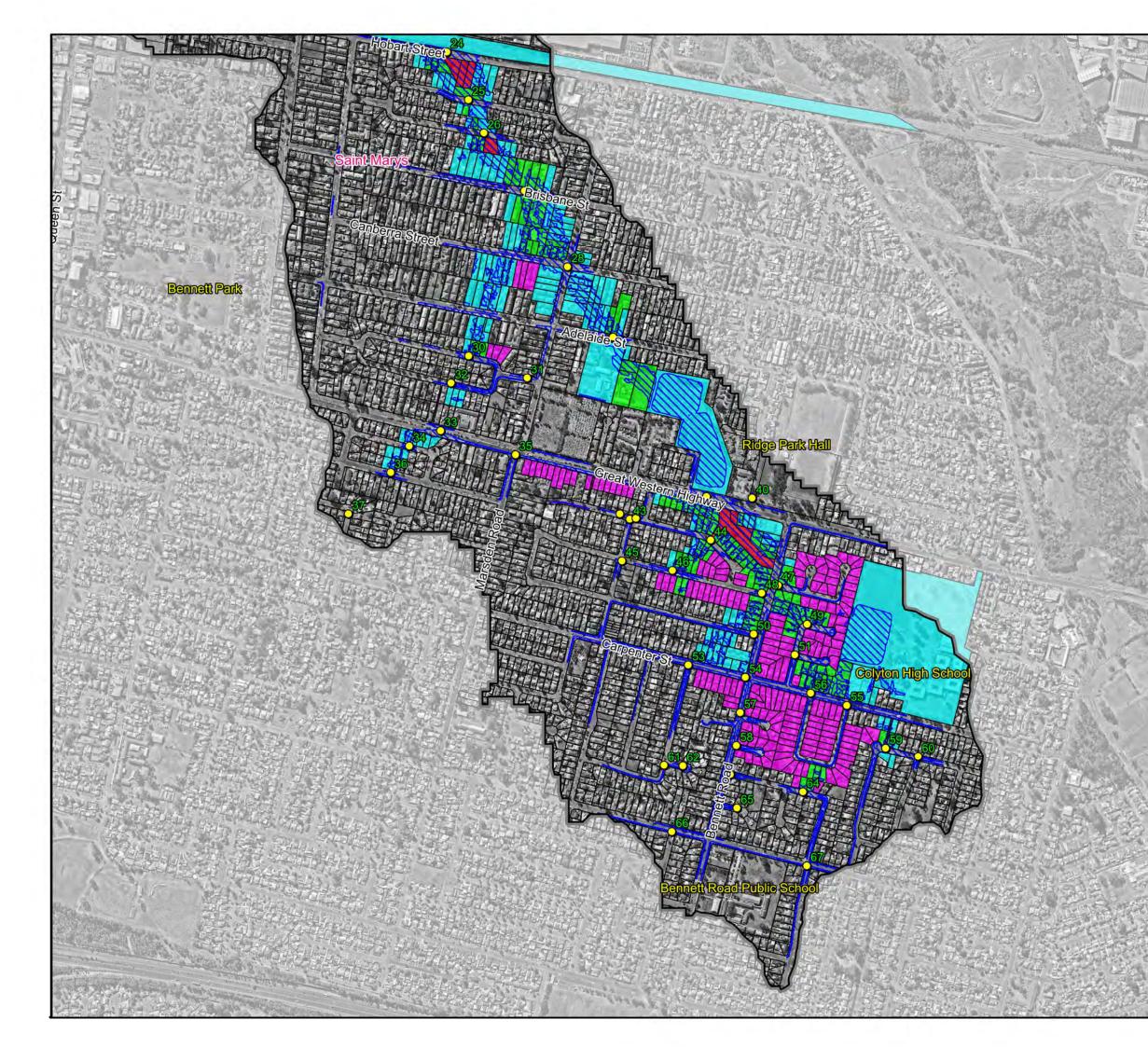


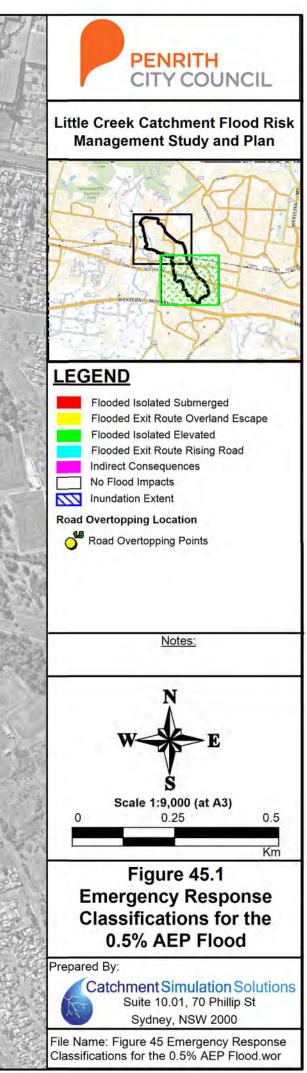


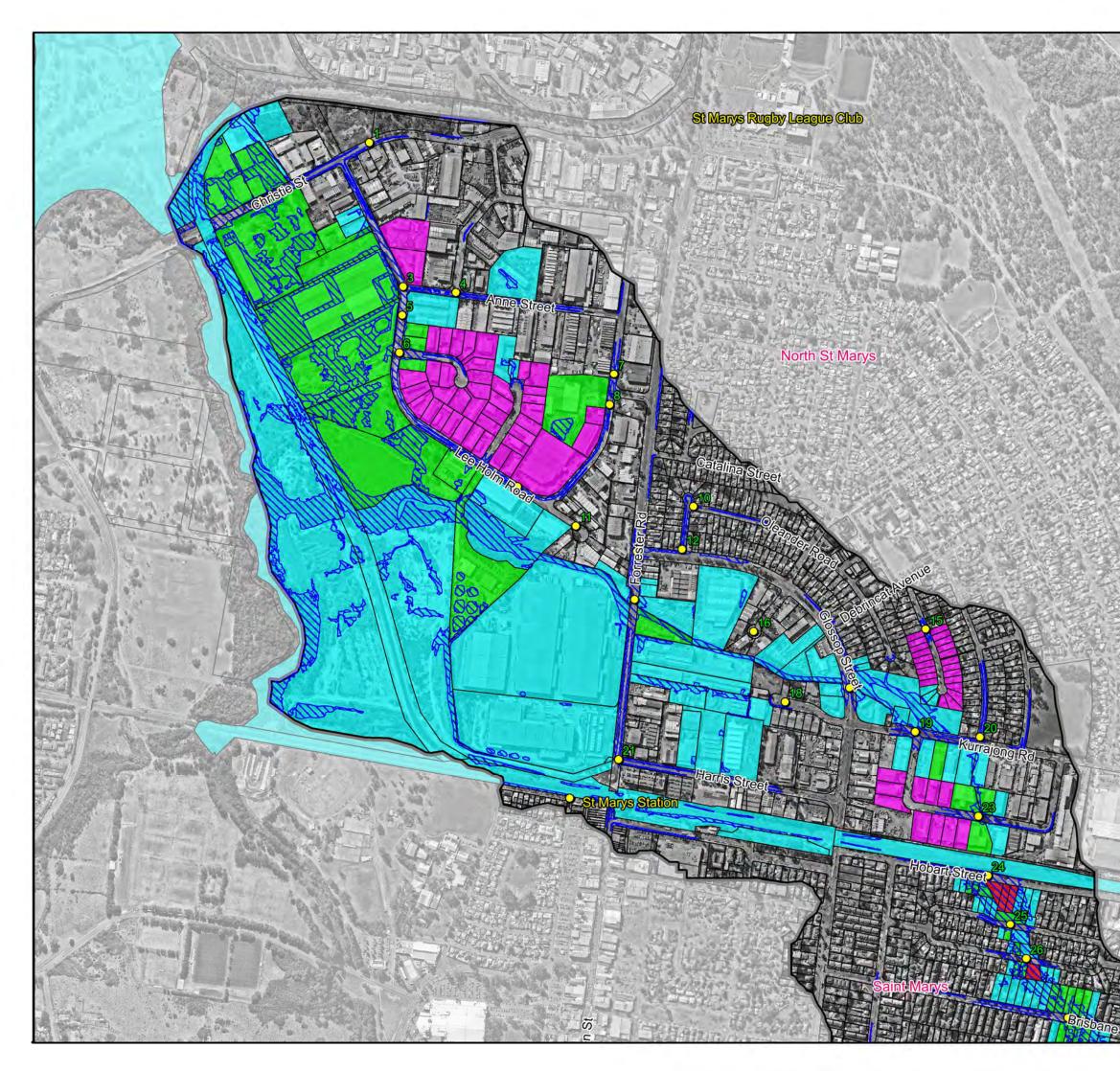


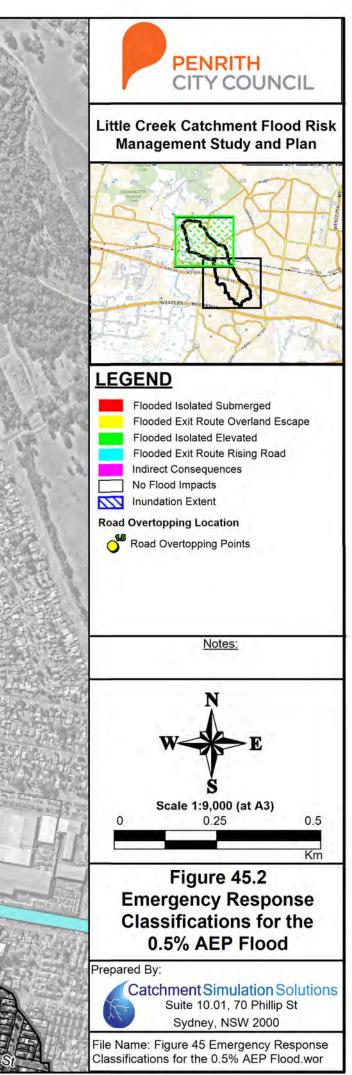


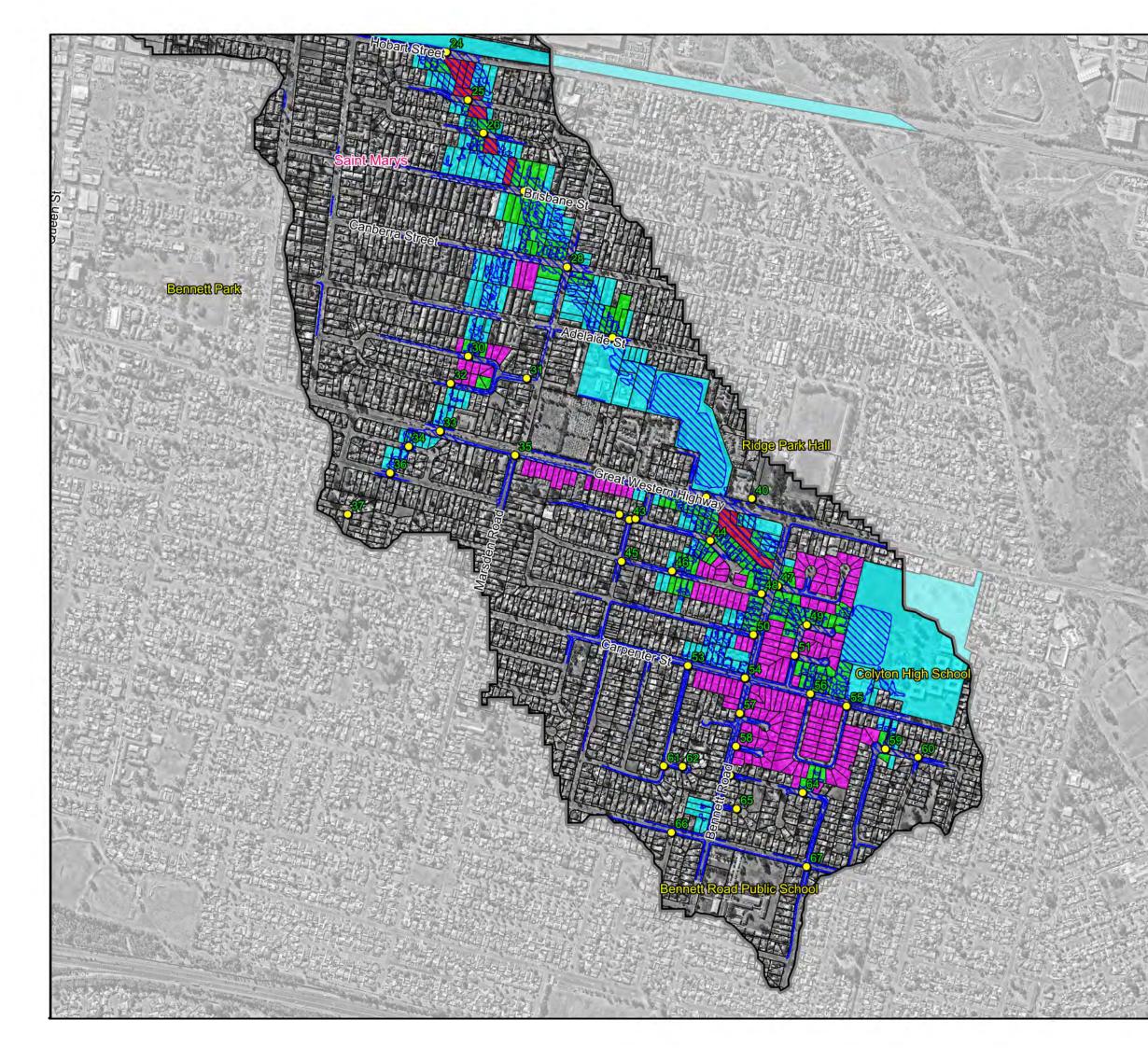


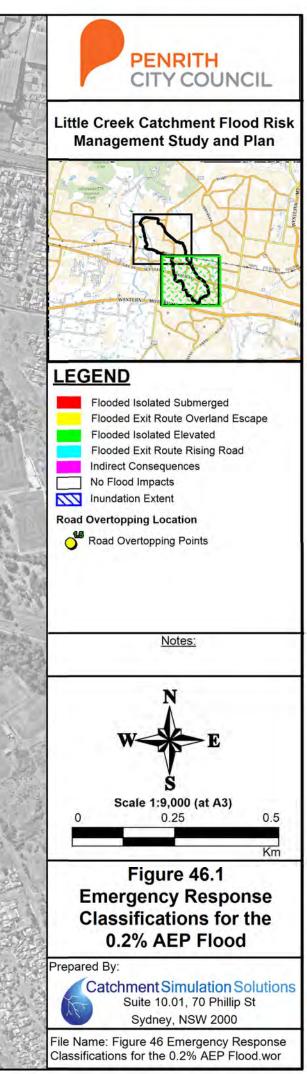


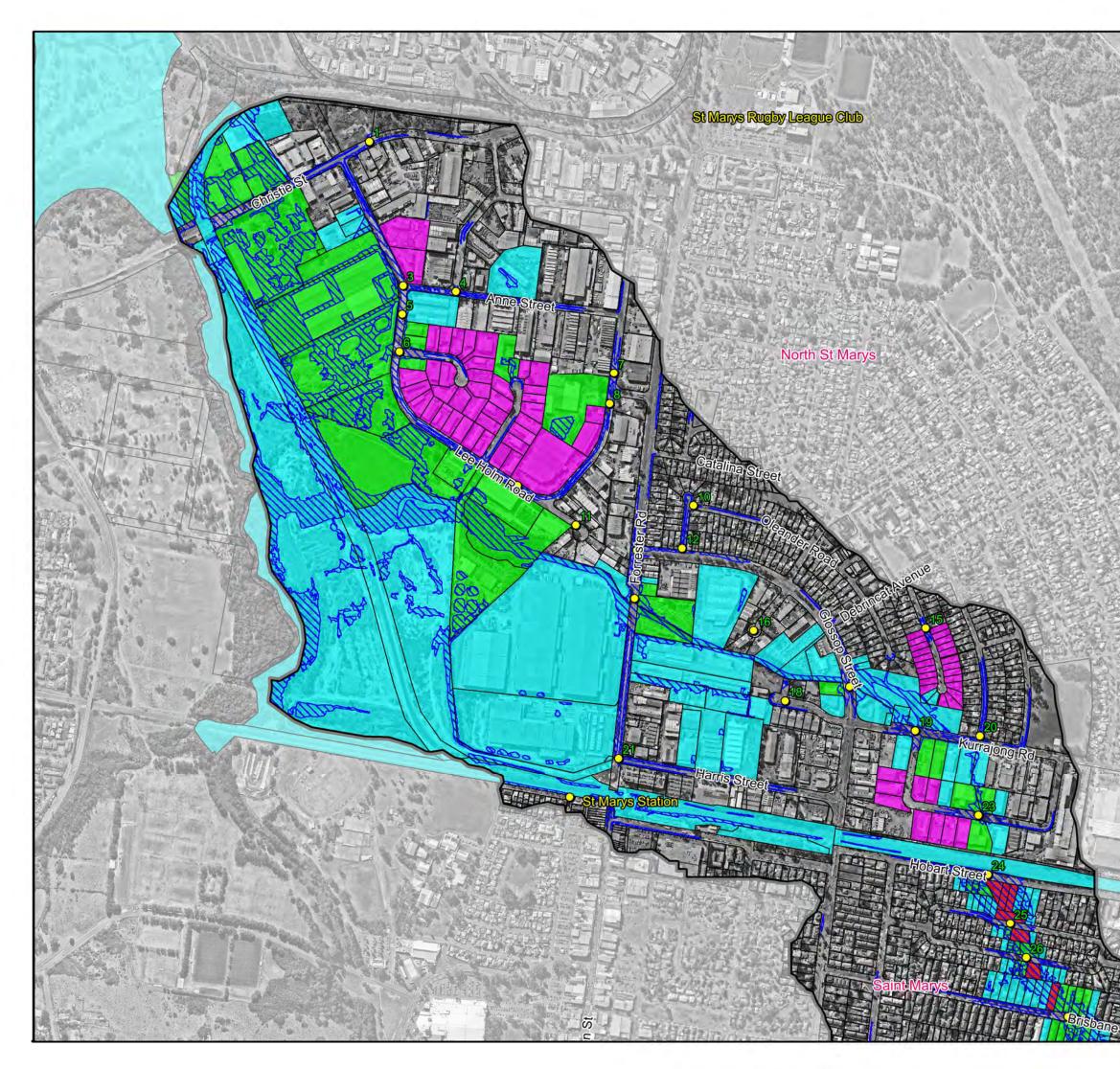


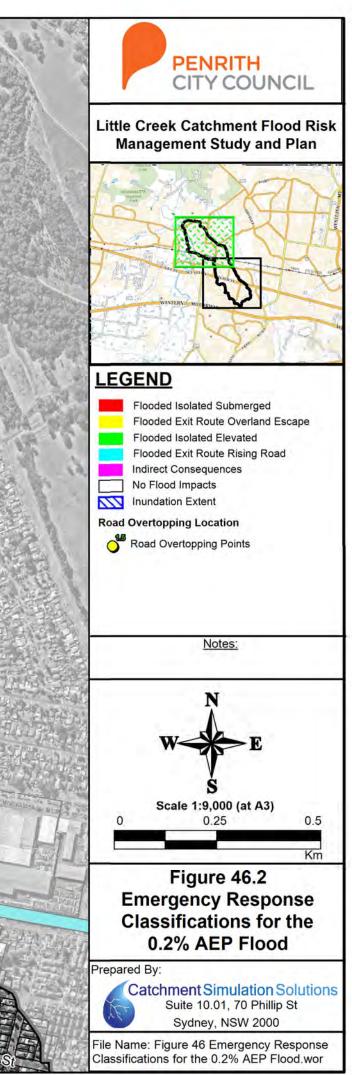


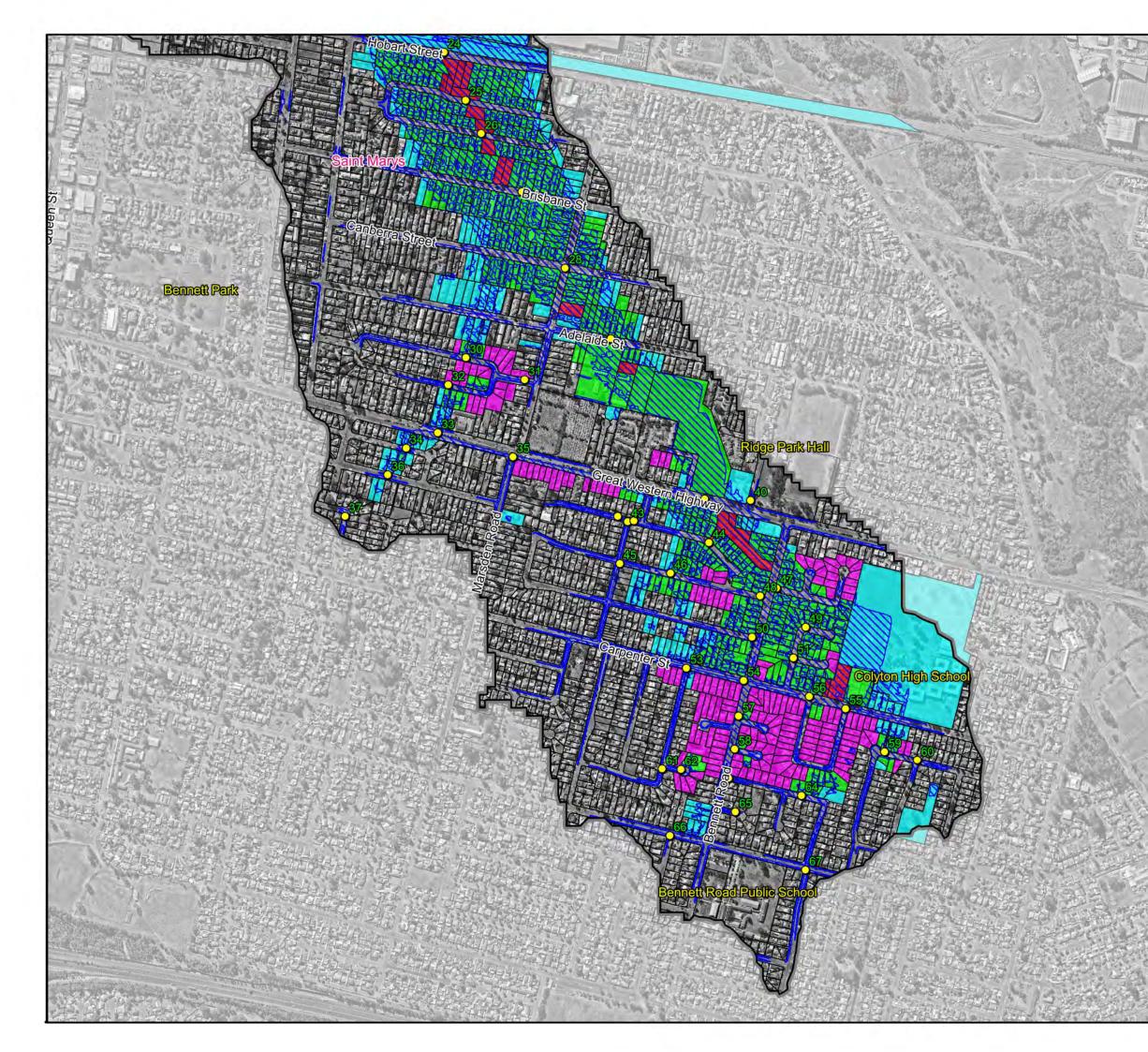


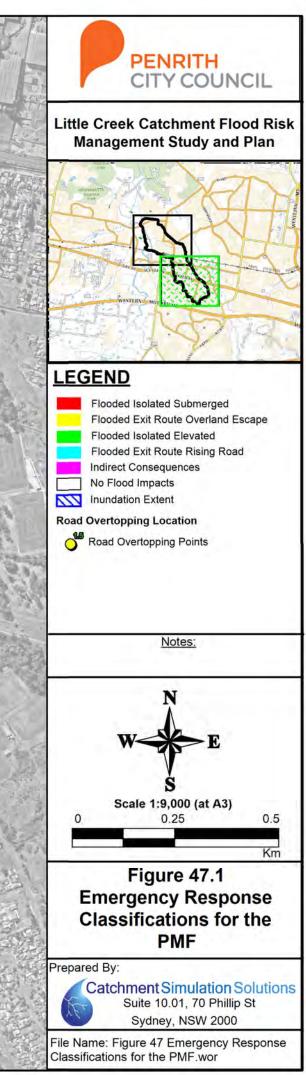


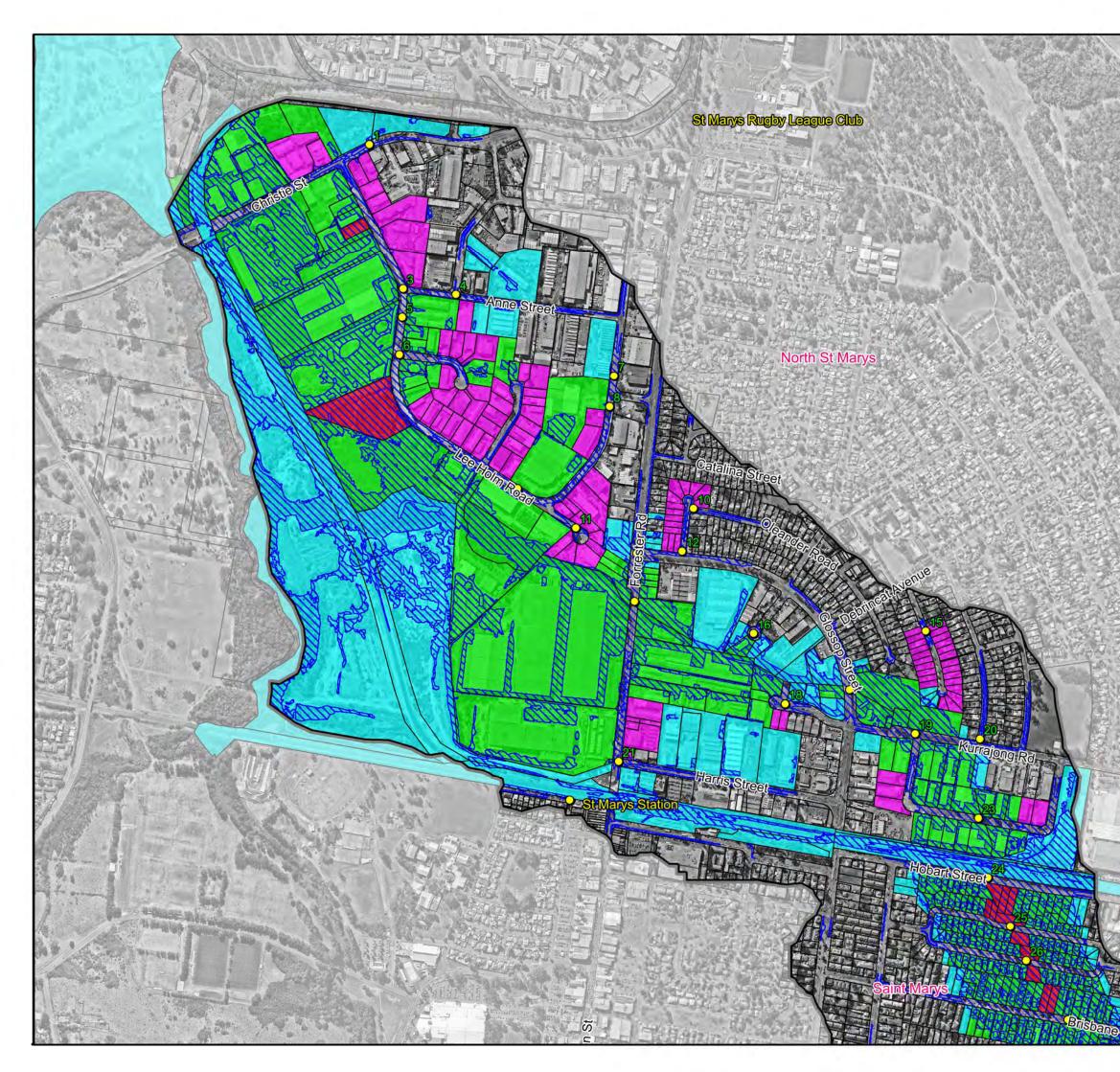


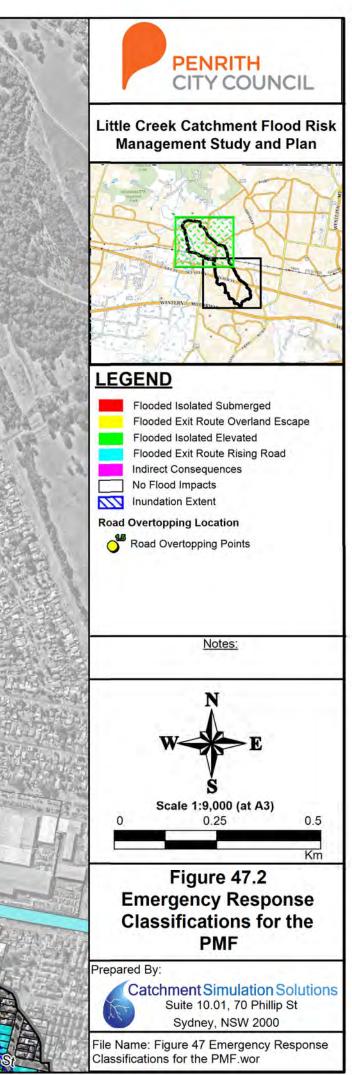


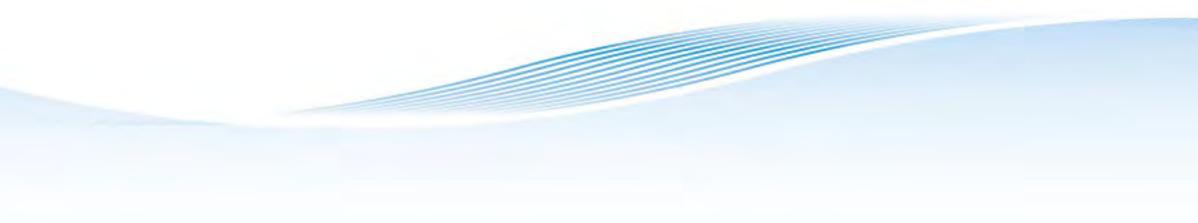




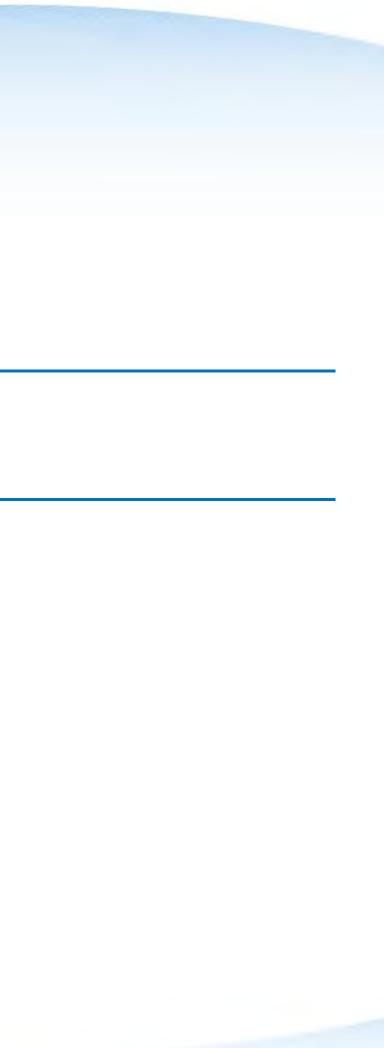


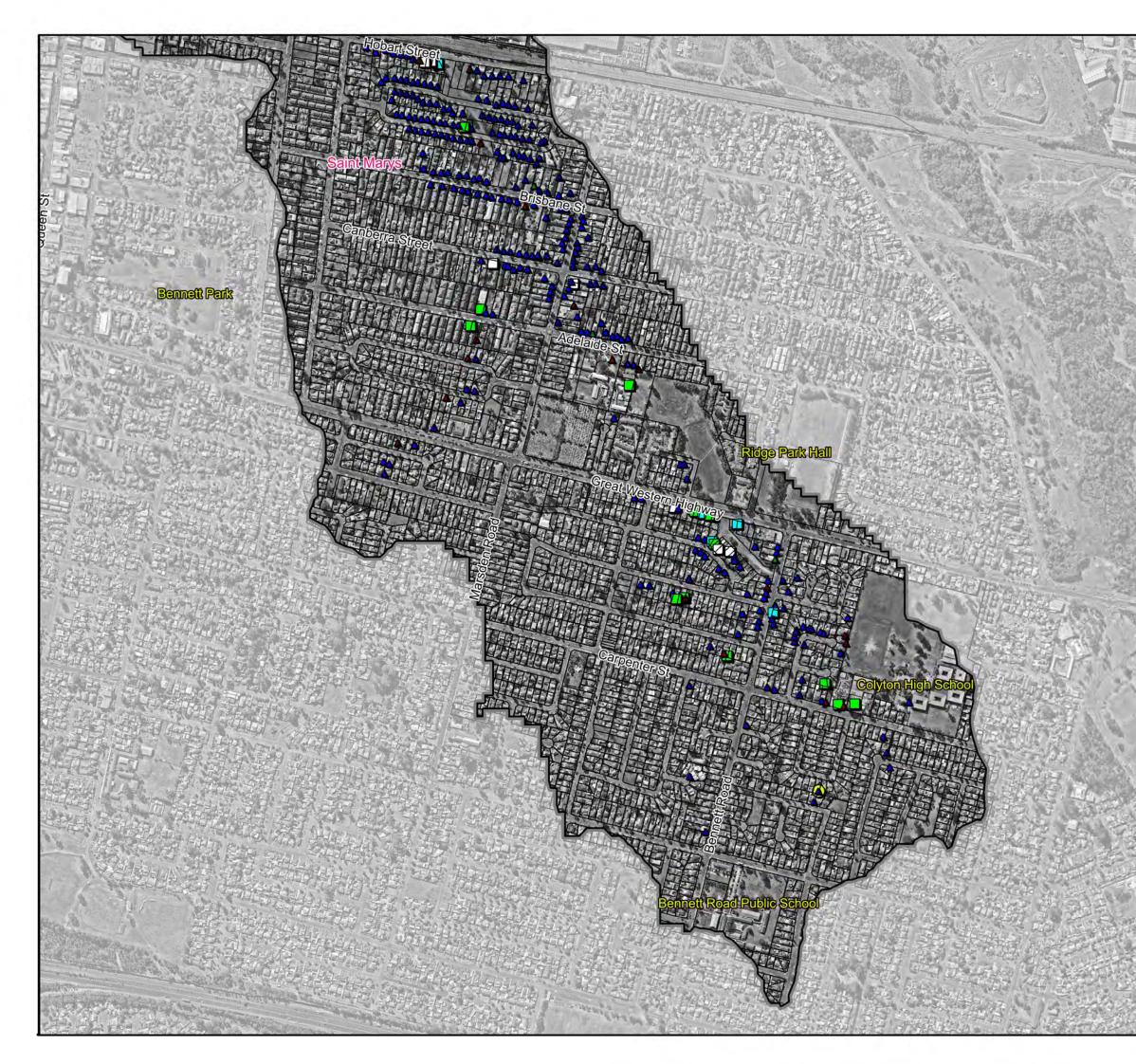


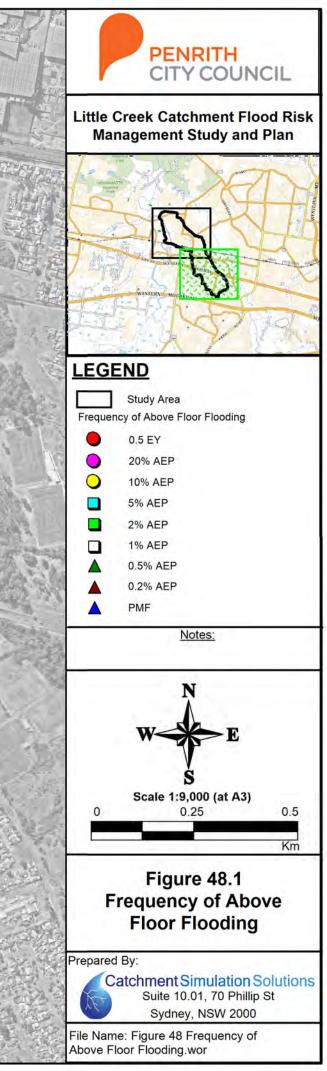


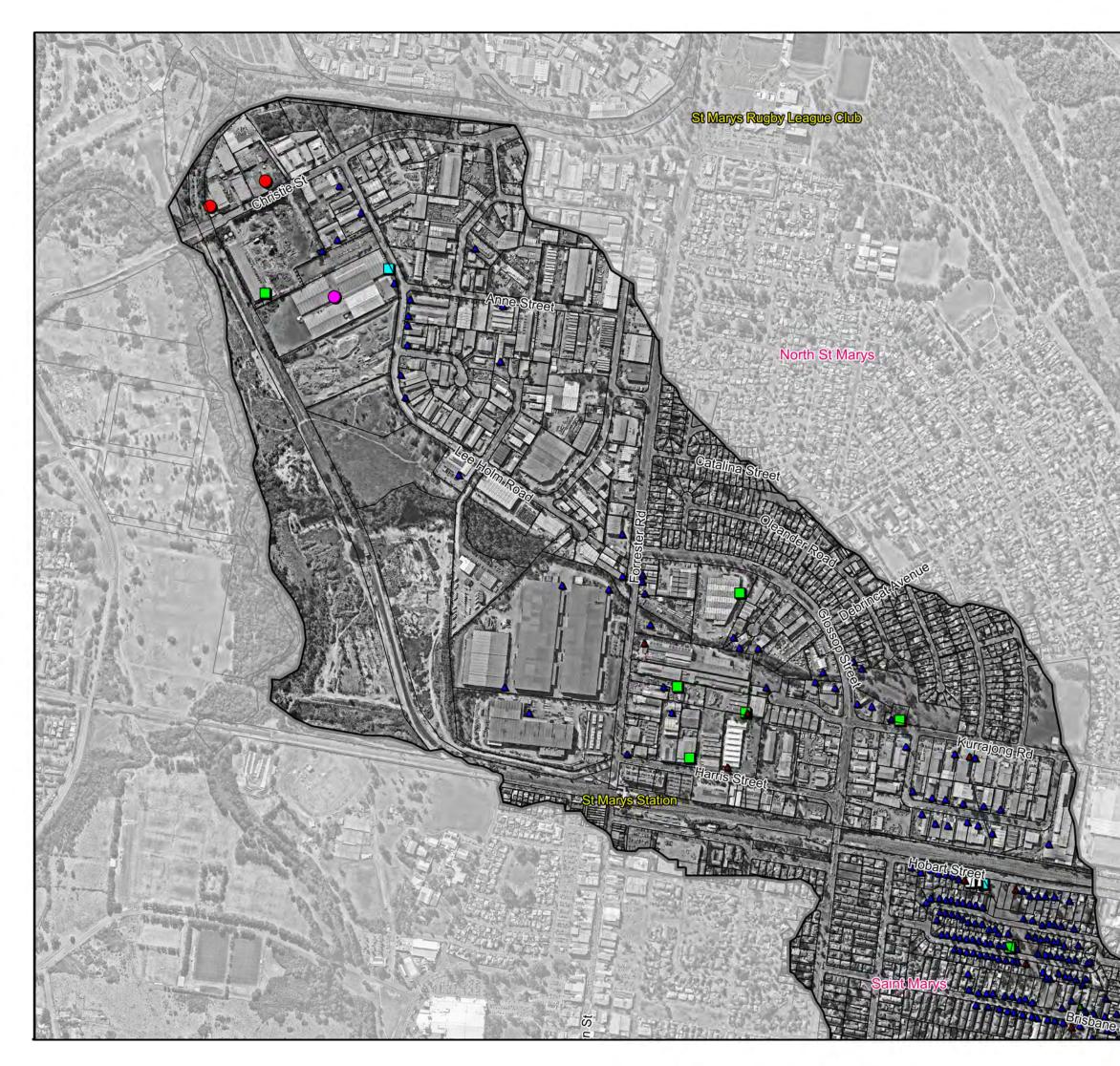


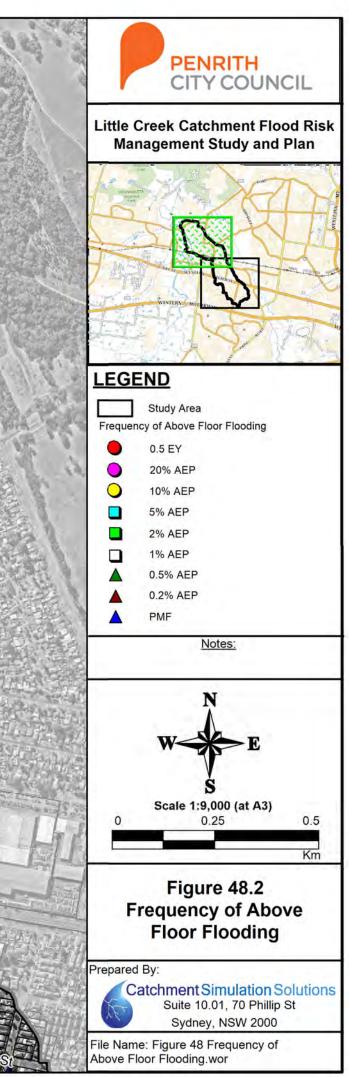
MISCELLANEOUS MAPS

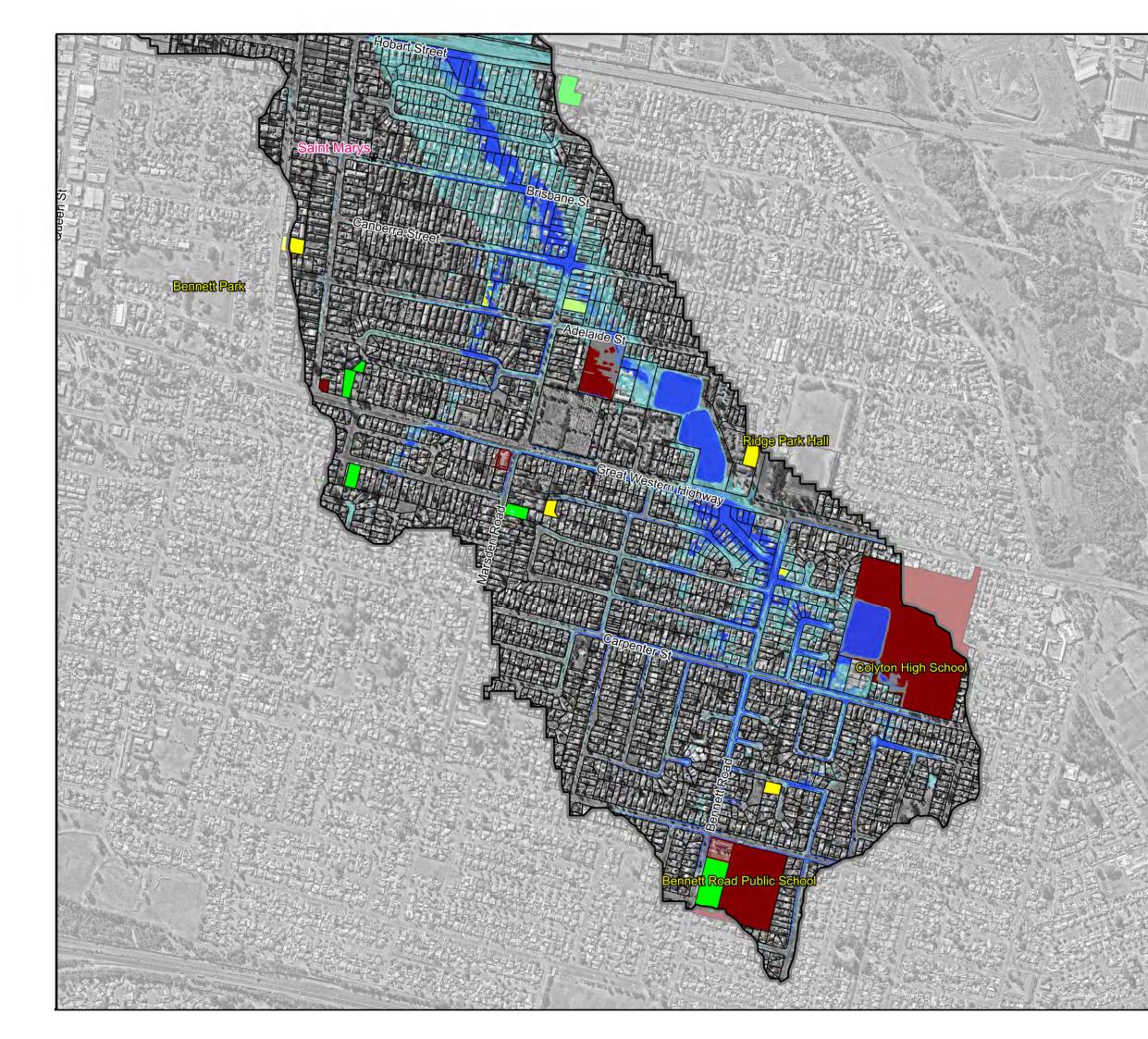


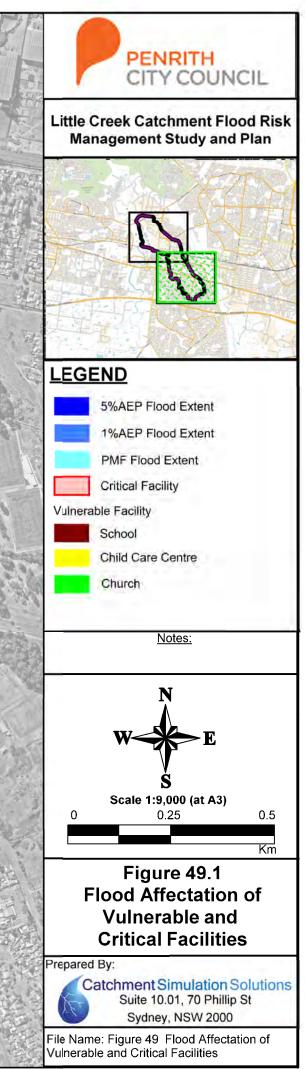


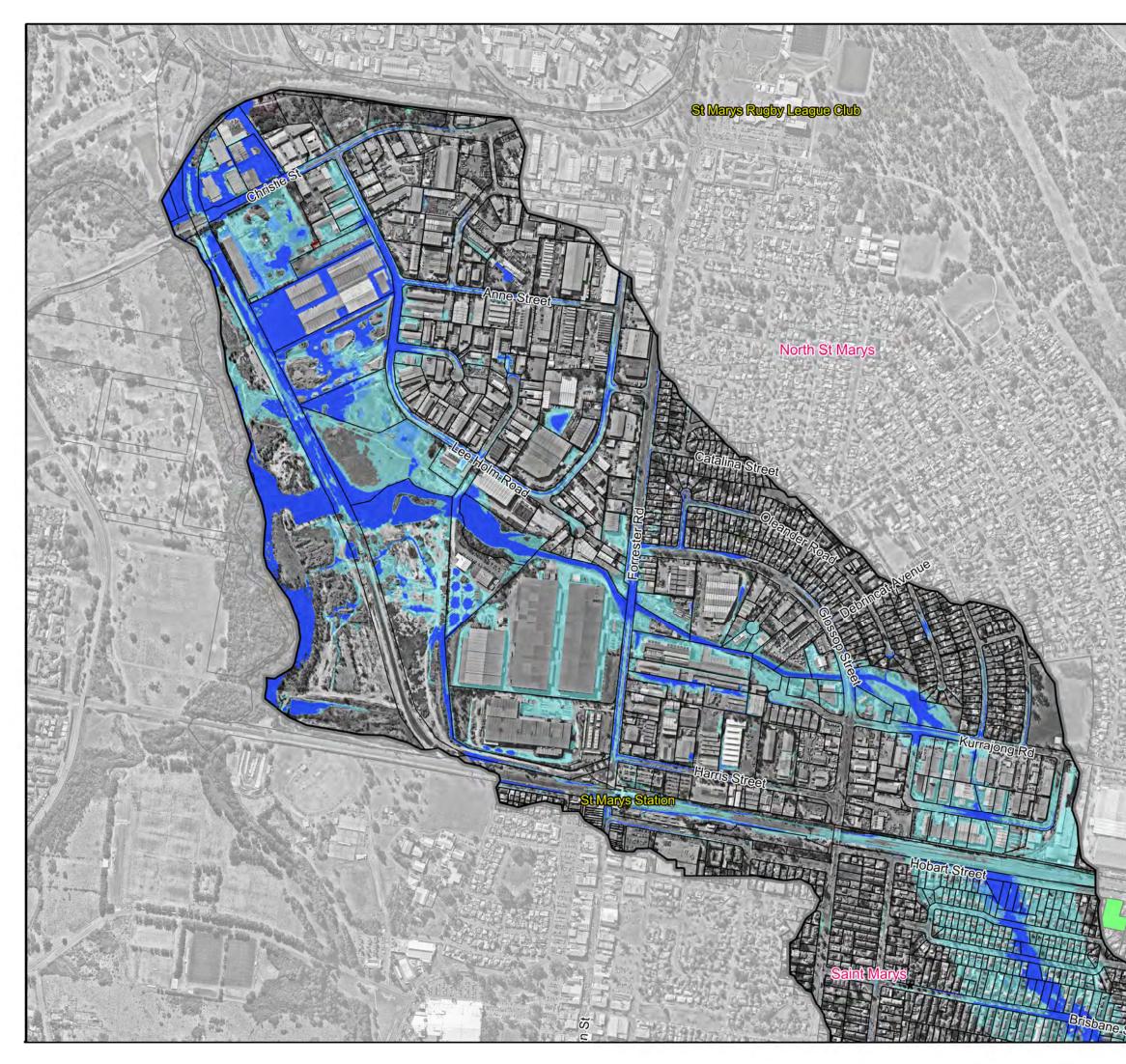


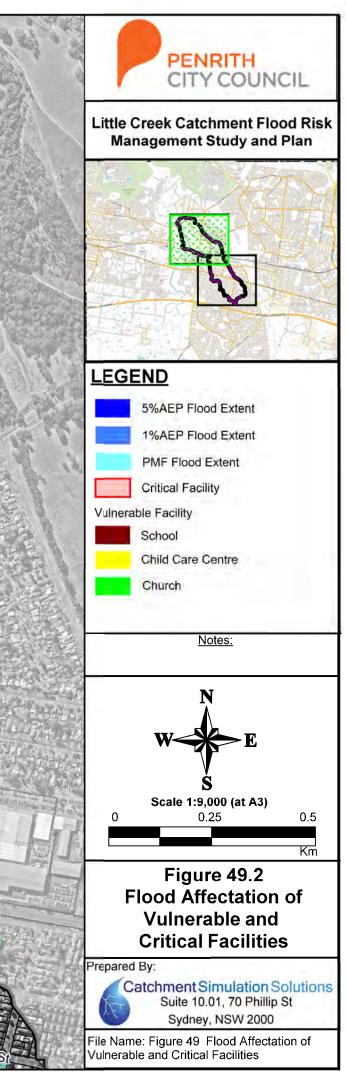


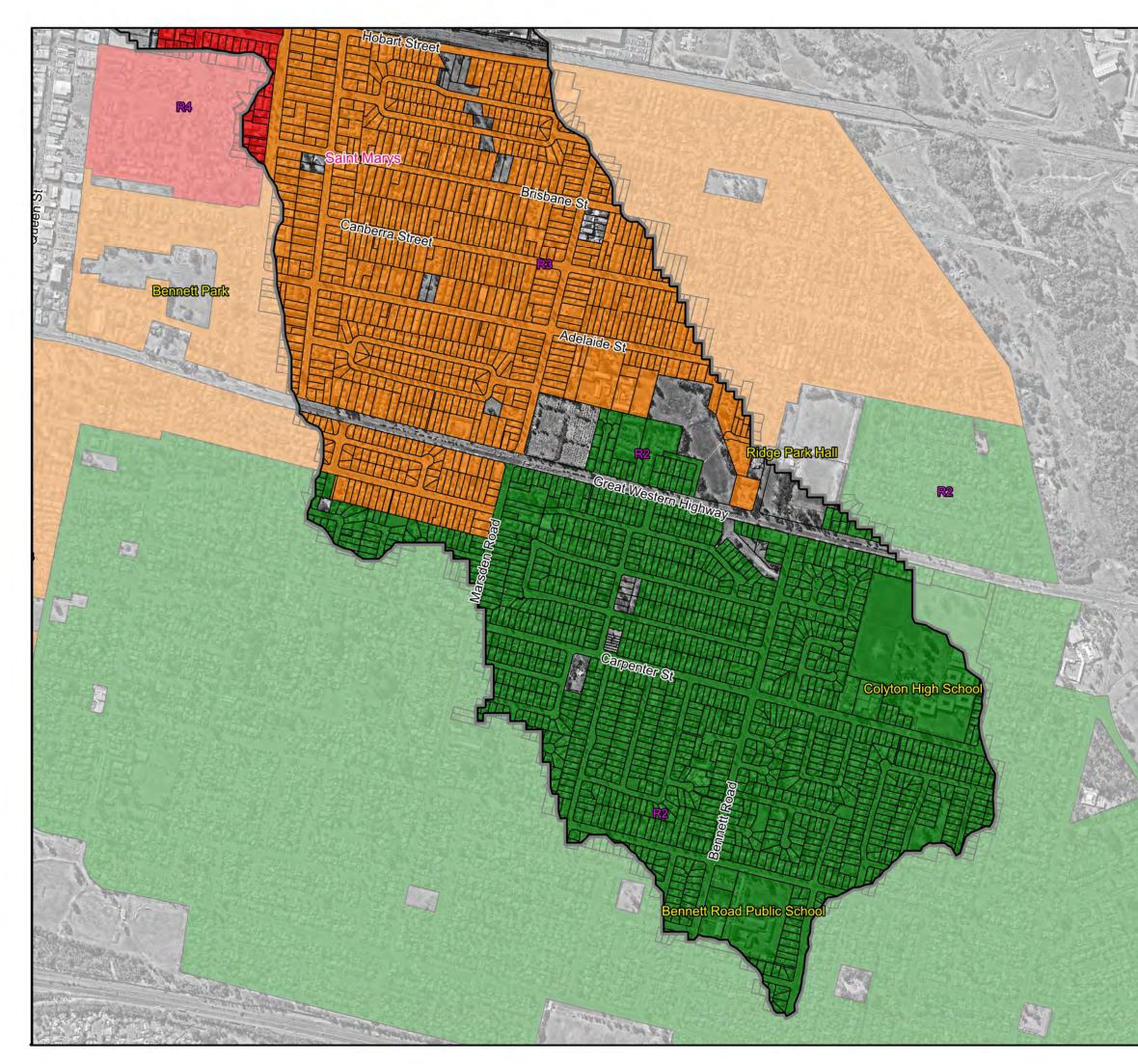


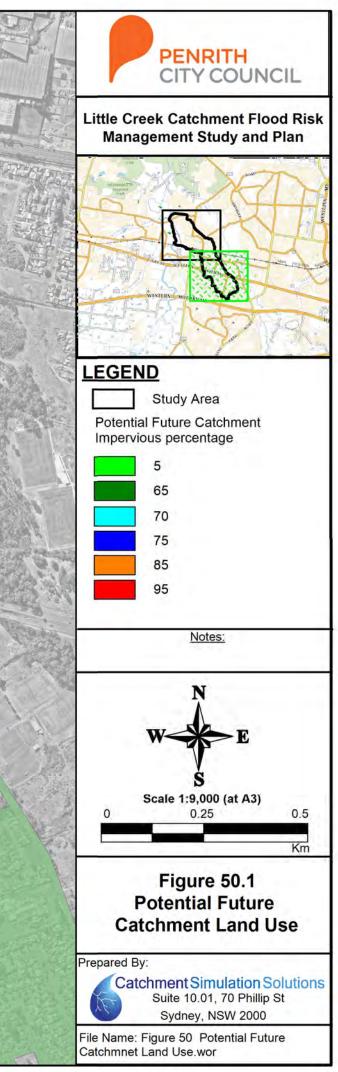


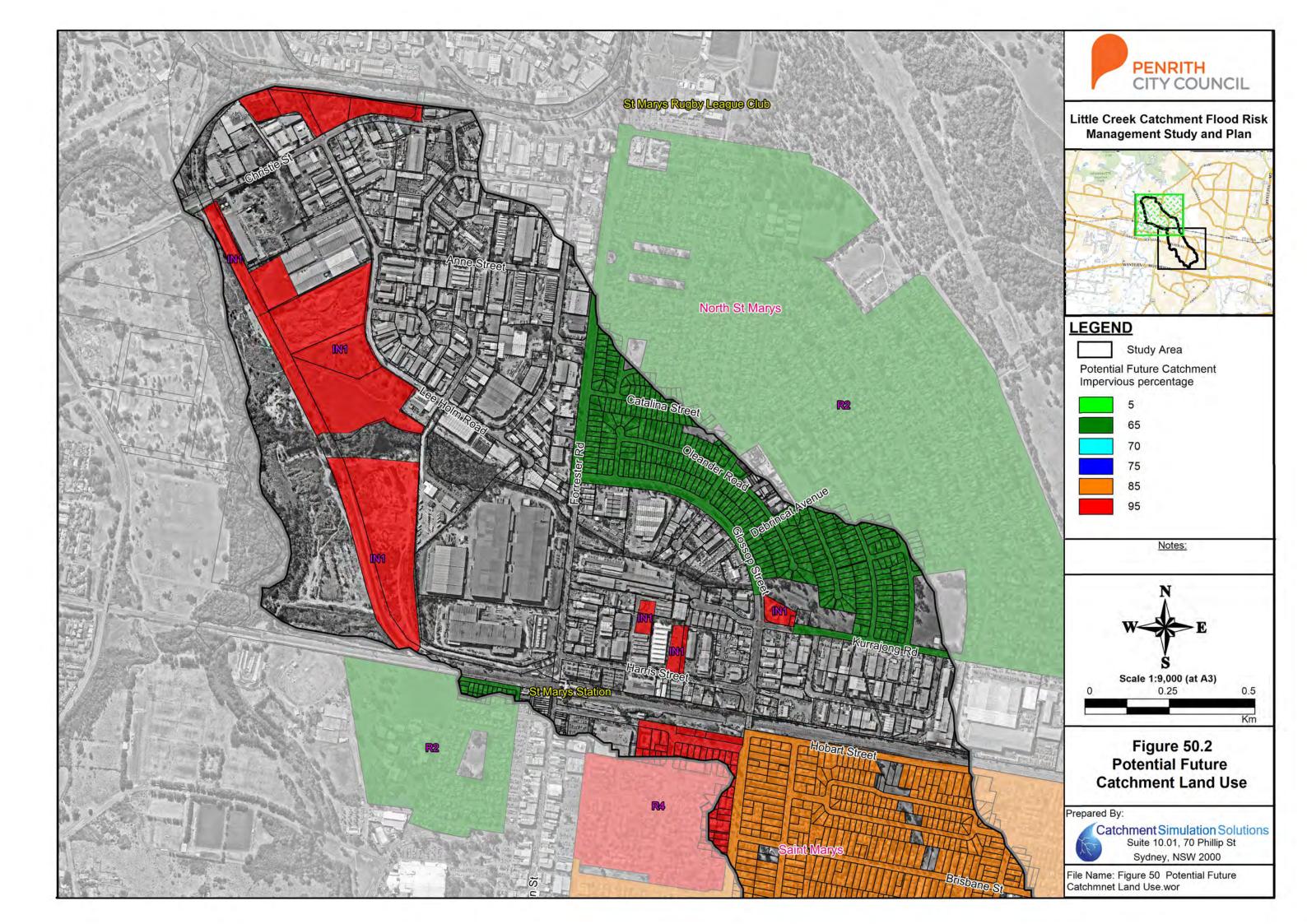


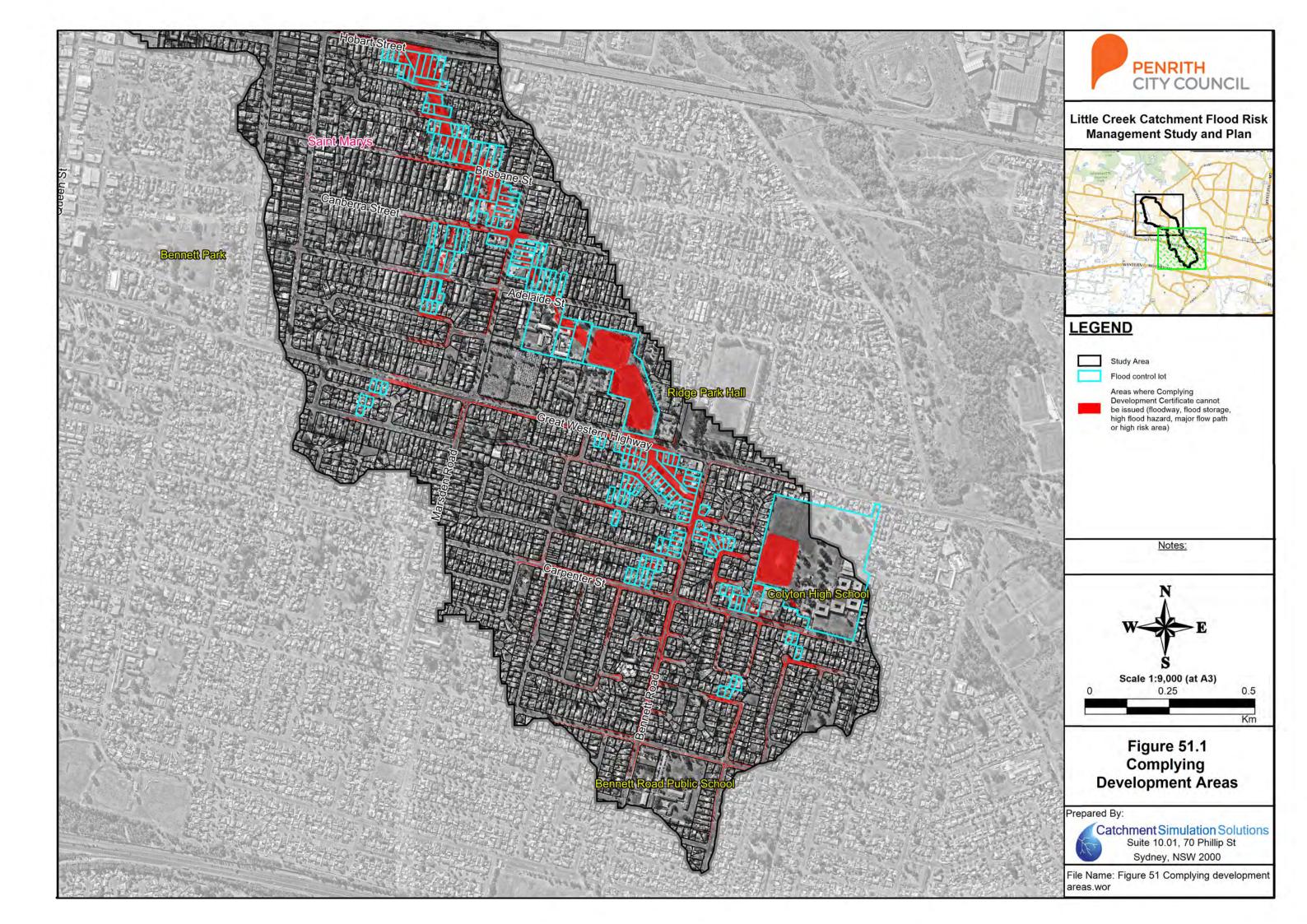




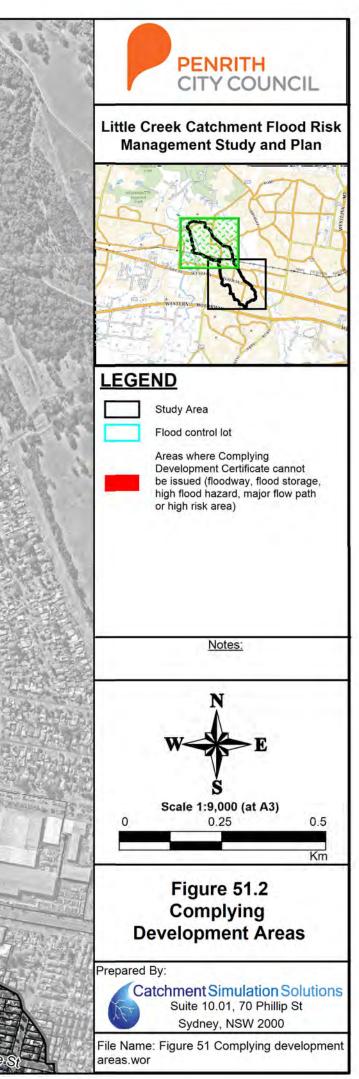


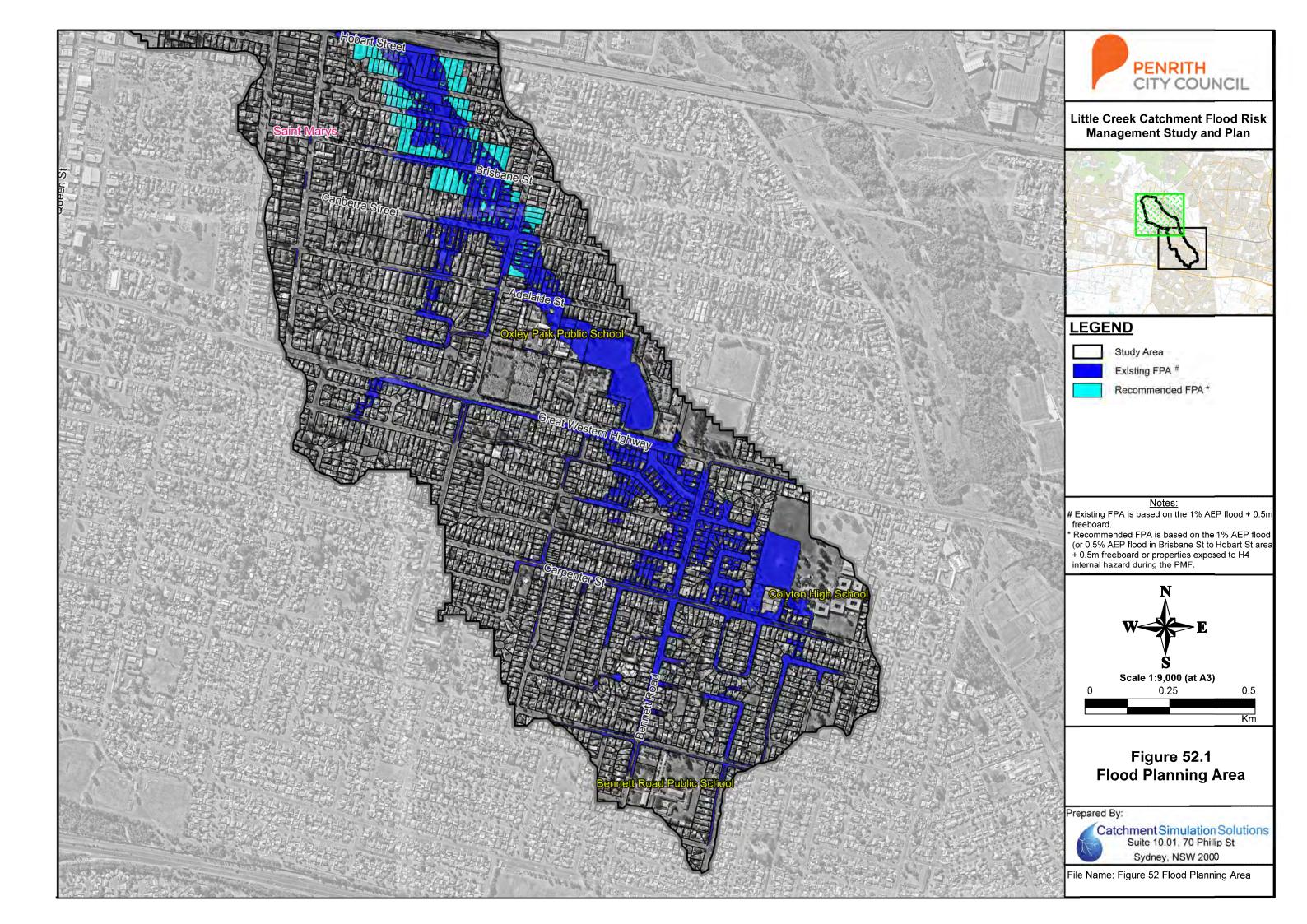


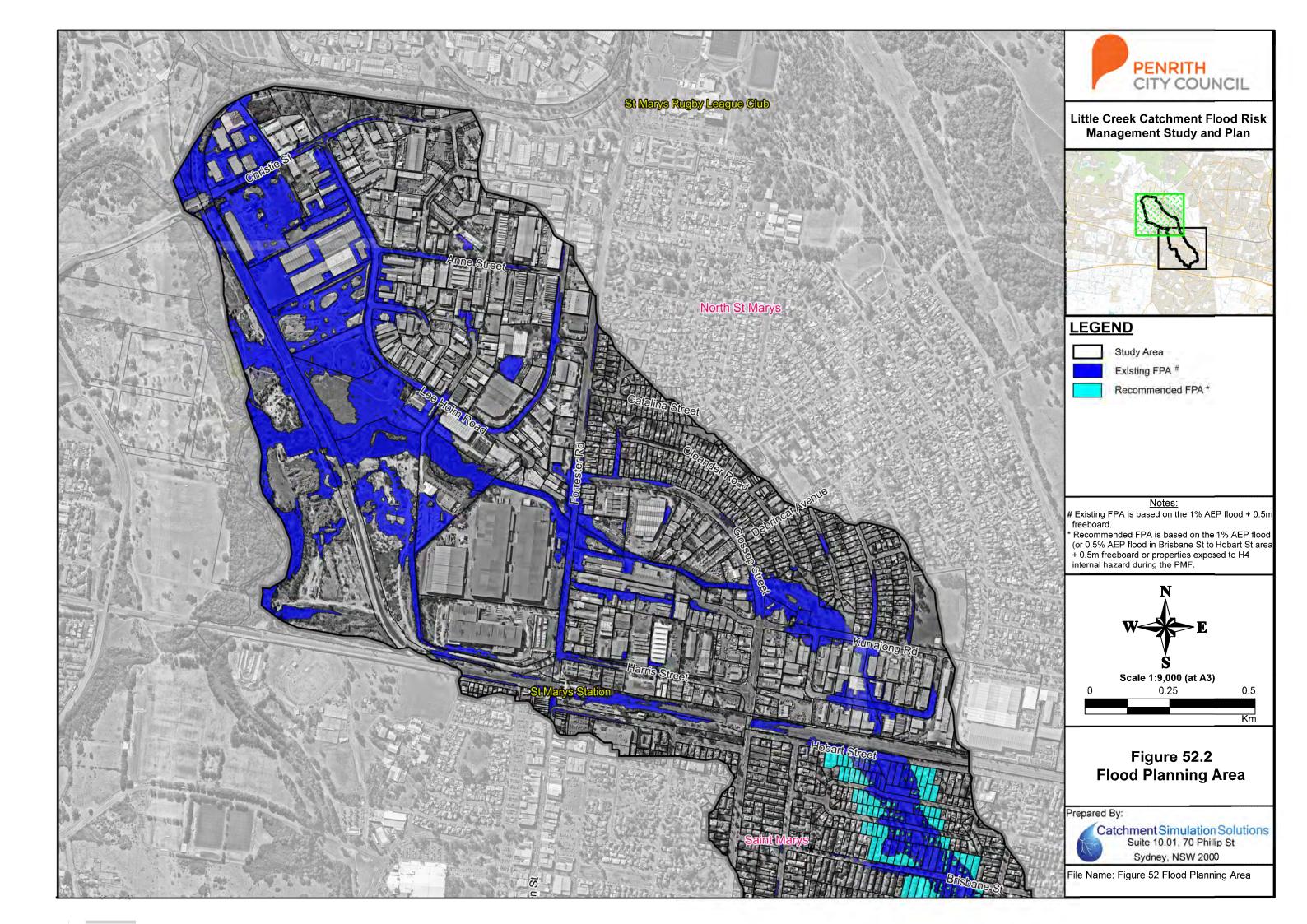


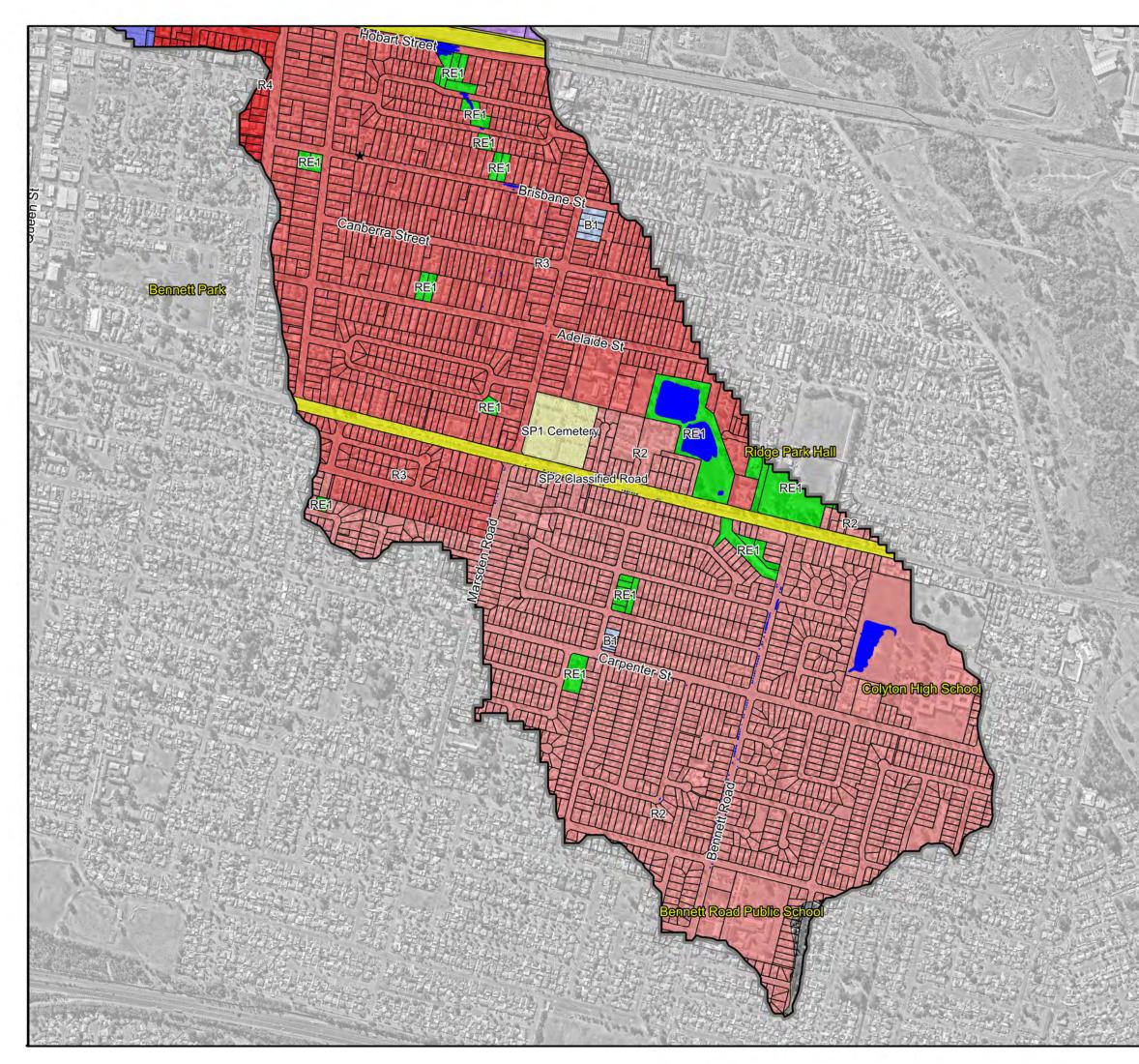


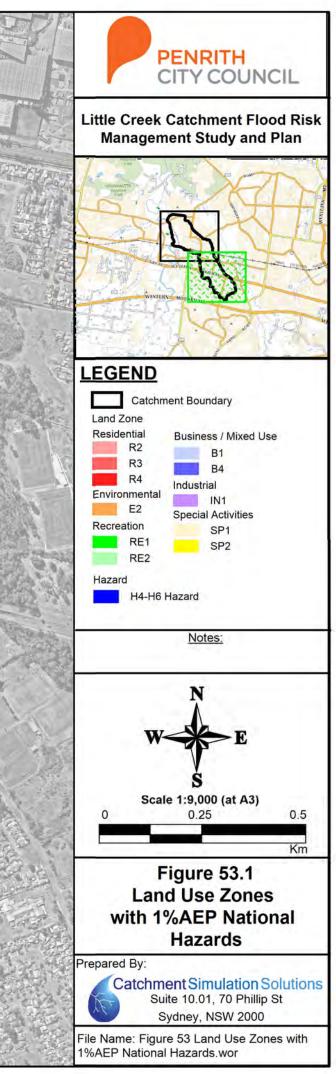


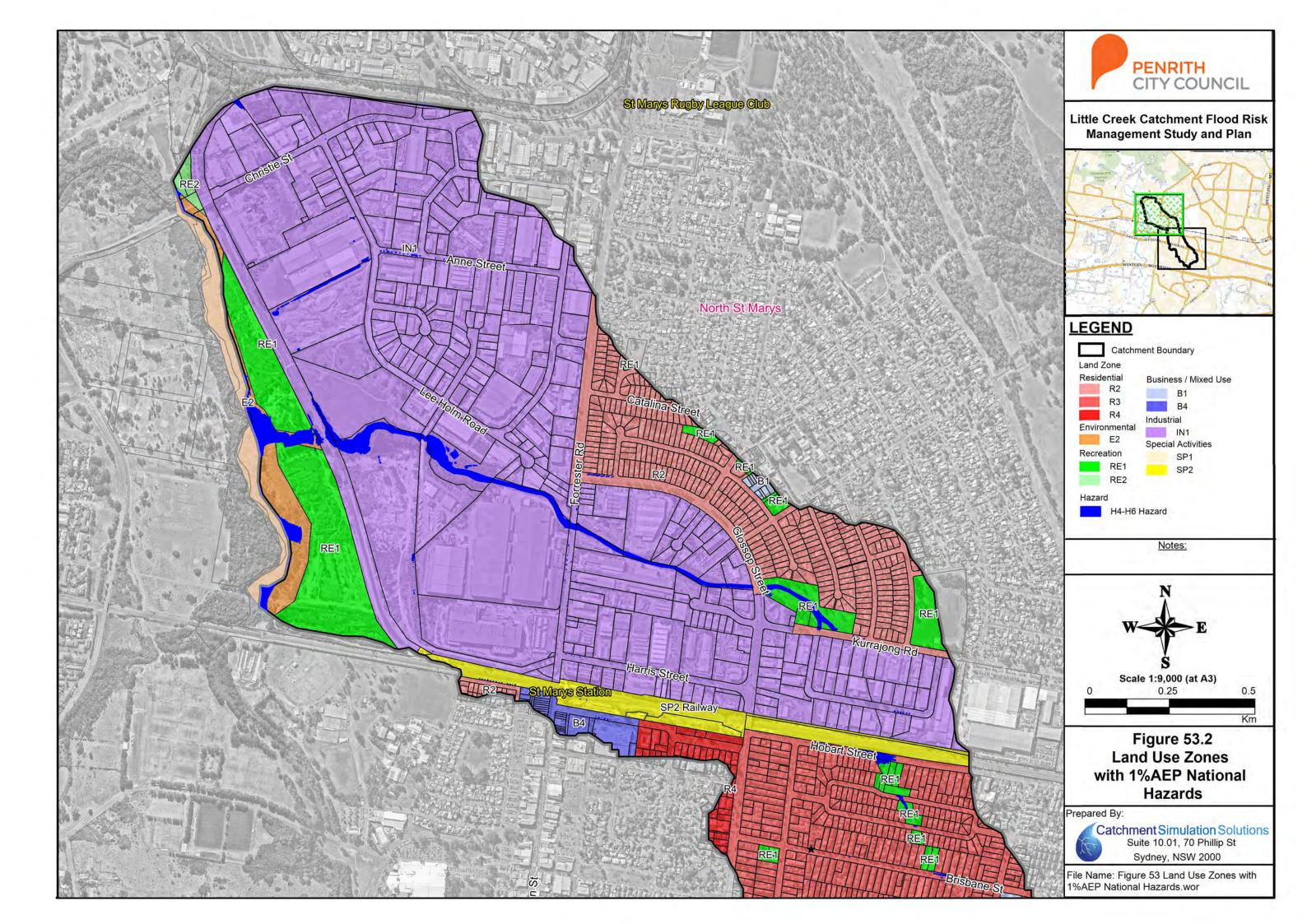


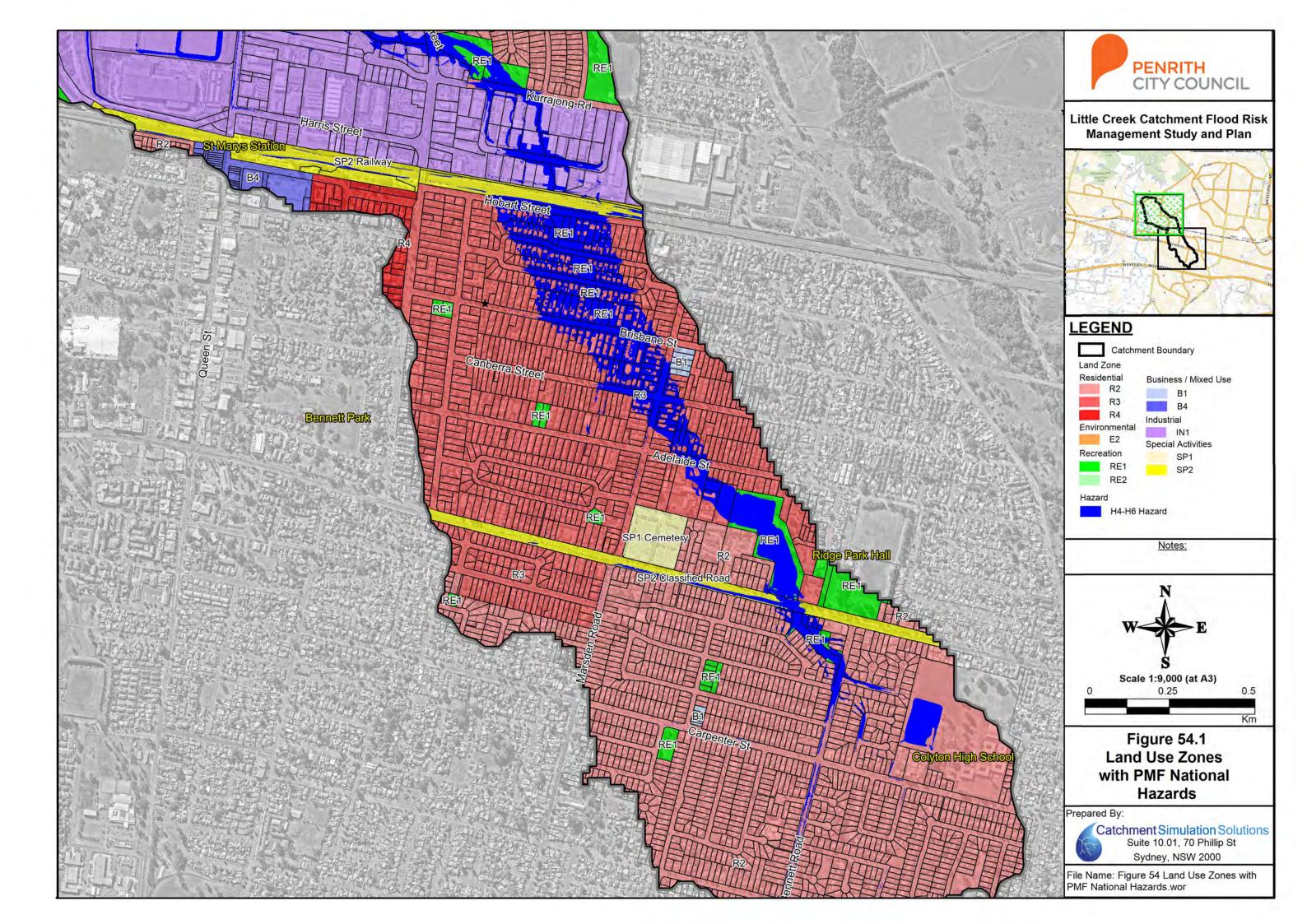


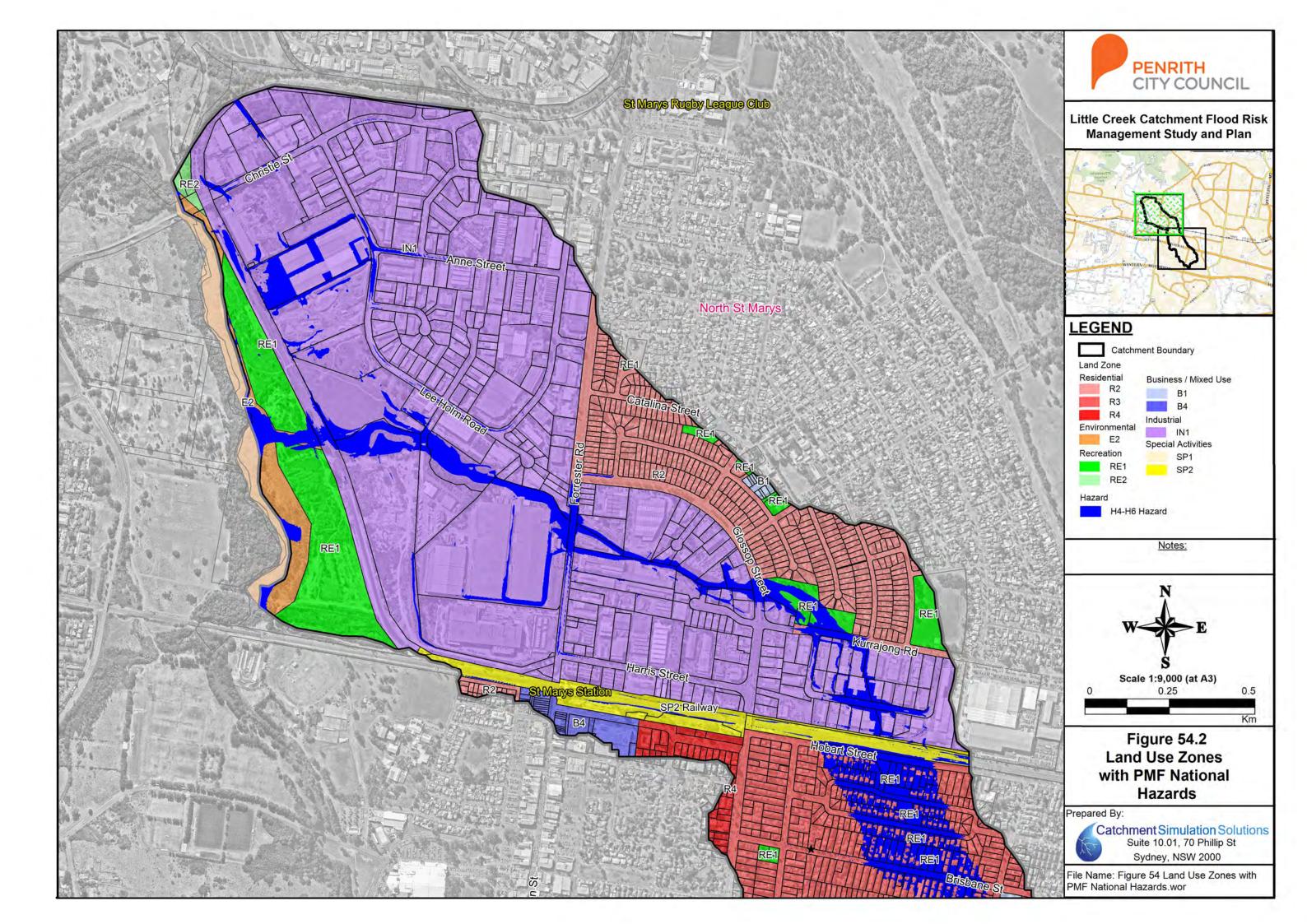


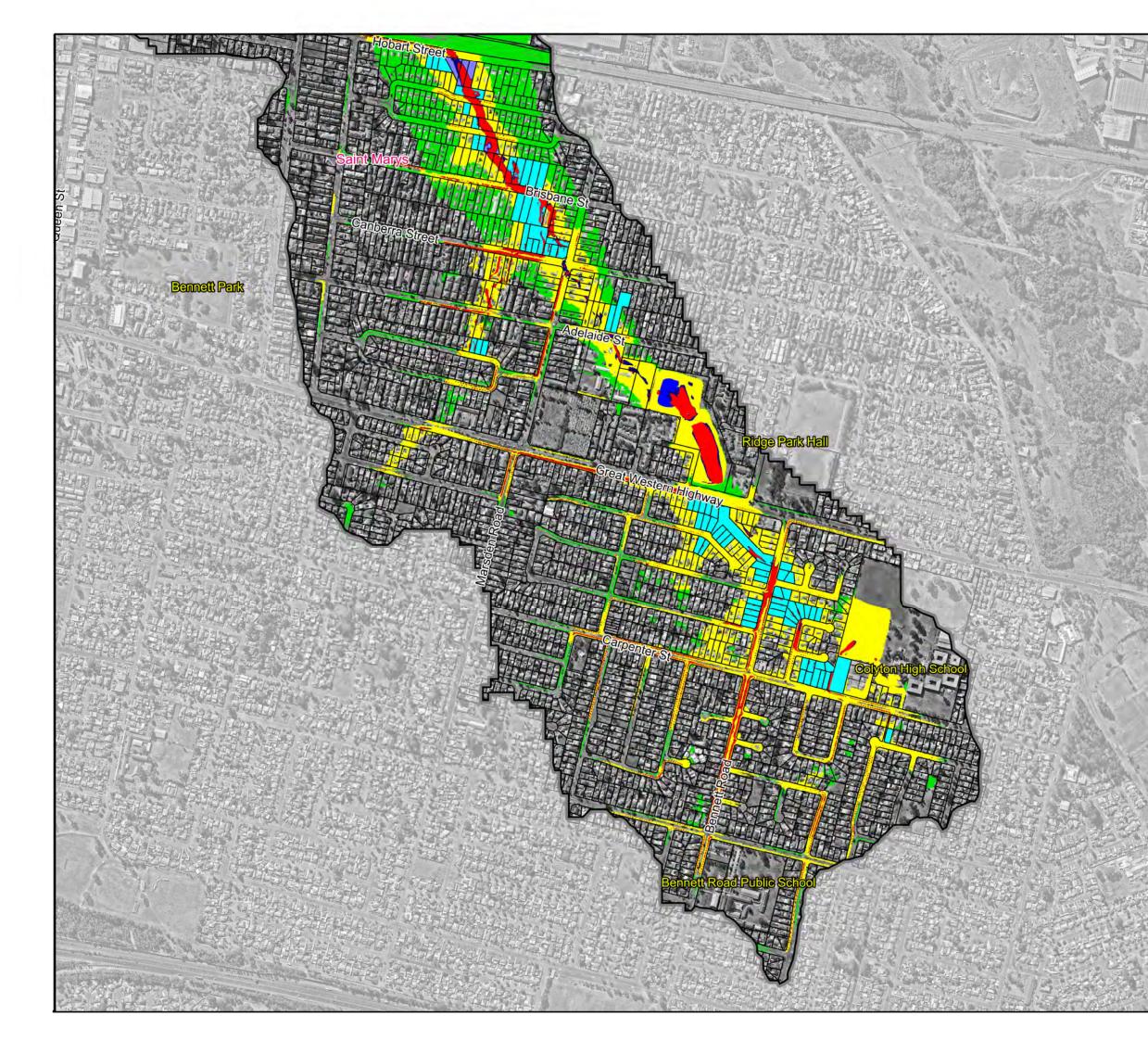


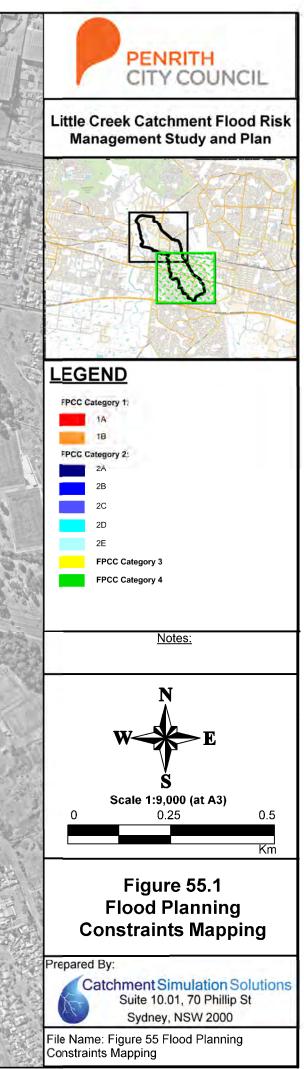




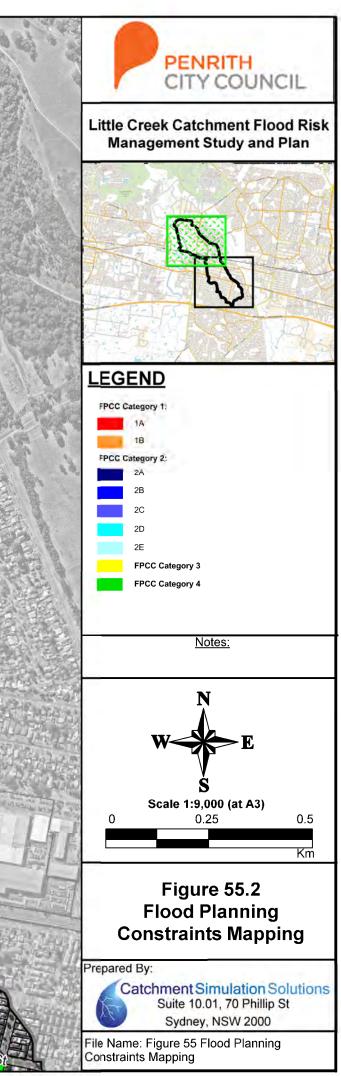


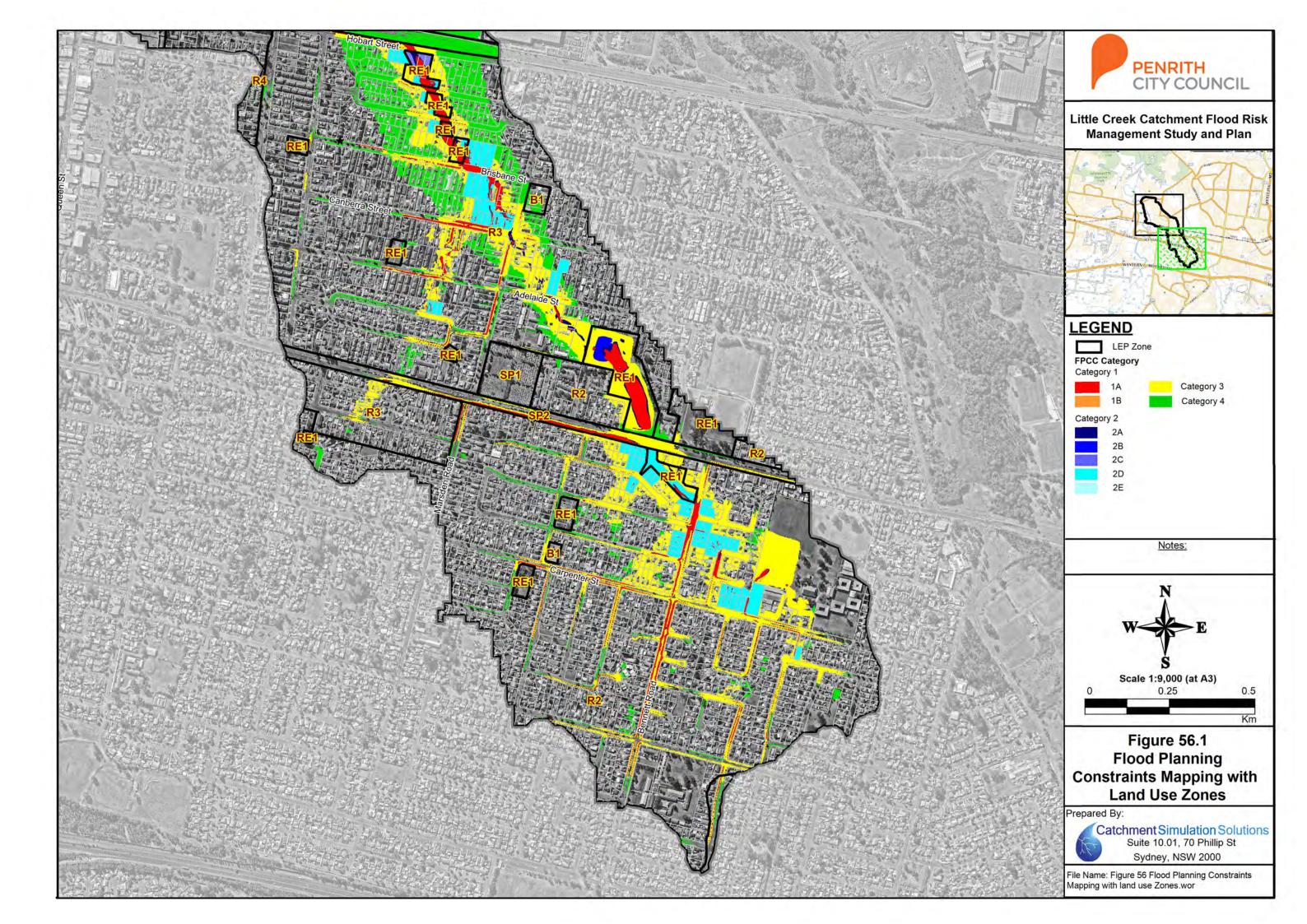


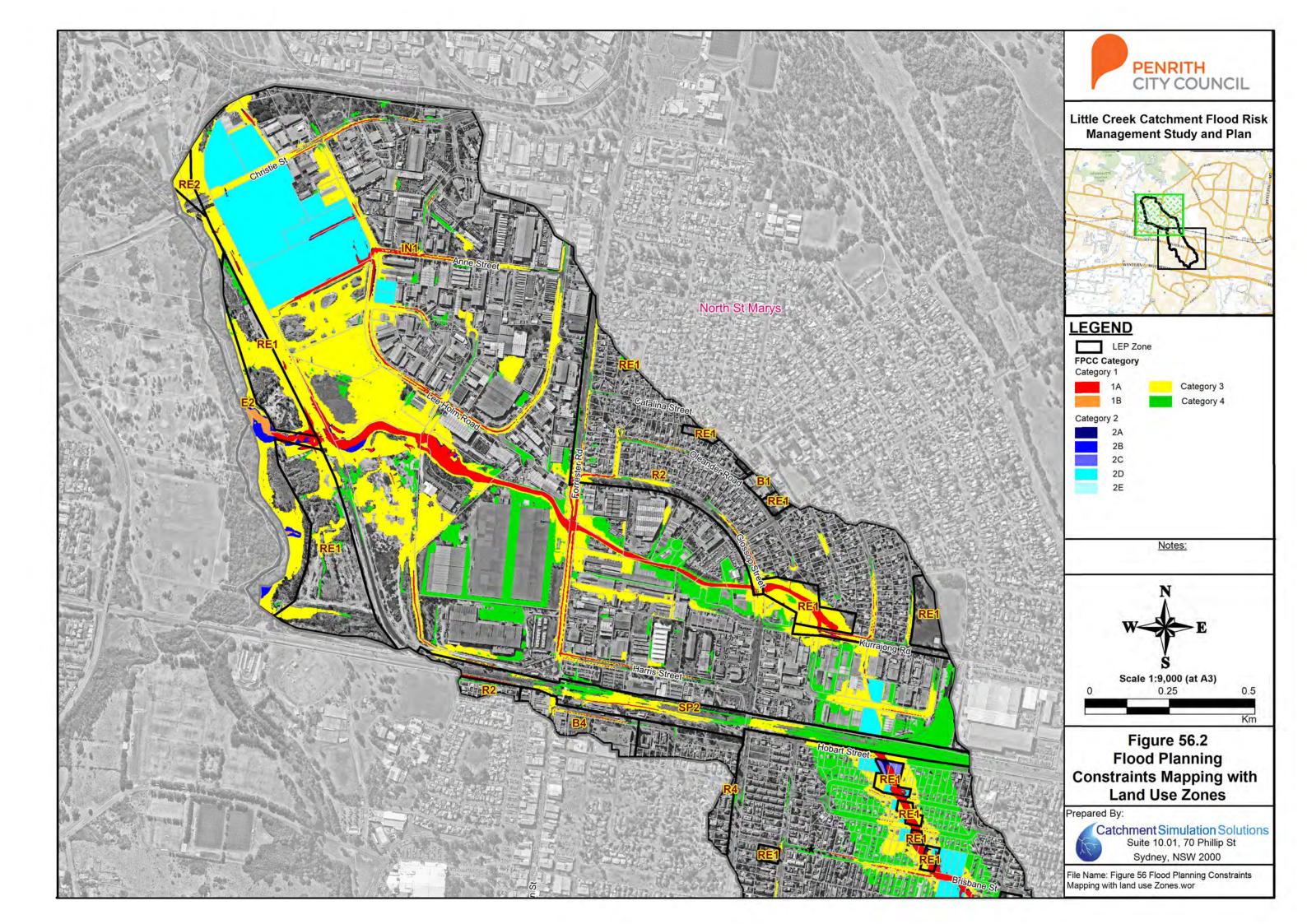


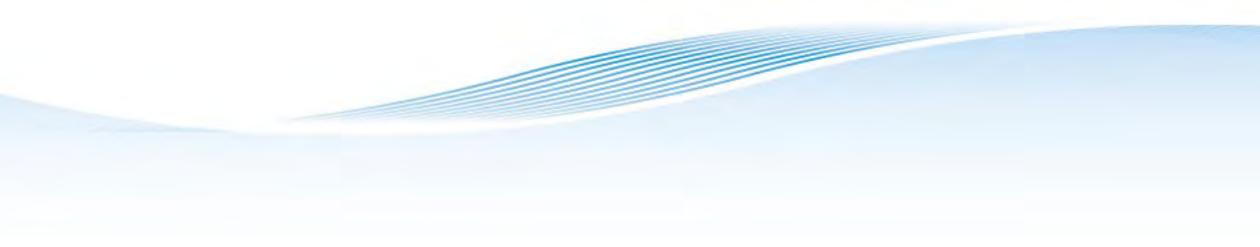








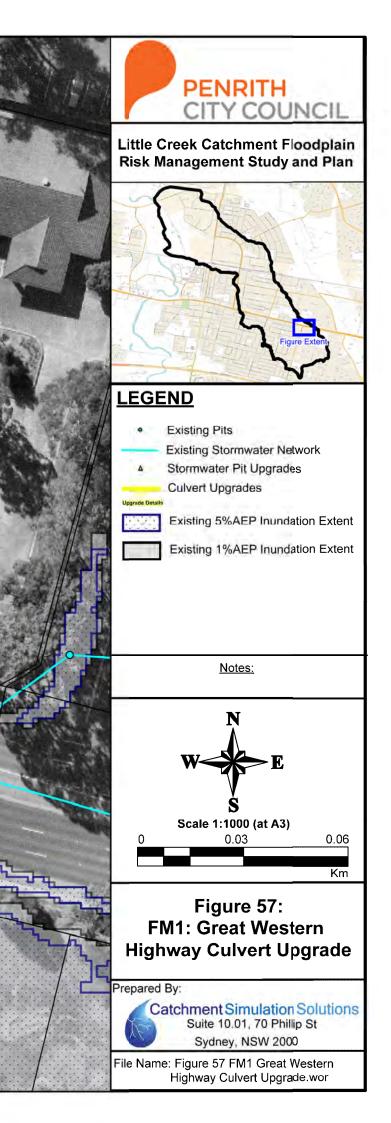




PRELIMINARY CONCEPT DESIGNS FOR FLOOD RISK MANAGEMENT OPTIONS

Upgrade from three 1.5m diameter circular culverts to three 1.5m wide by 1.8 high box culverts

ESTERN HWY



Upgrade from an irregular-shaped culvert to a 2.7m wide by 2.1m high box culvert

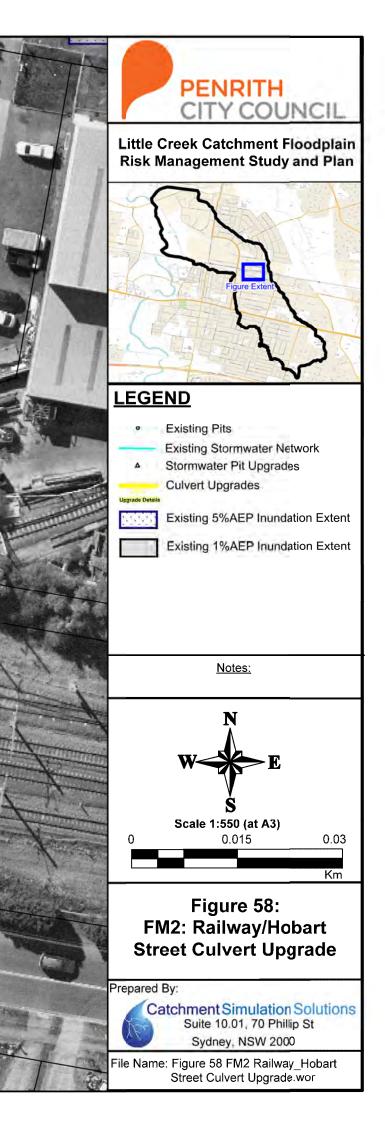
Upgrade from a 2.44m diameter circular culvert to a 2.7m wide by 2.1m high box culvert

Lower elevation to gutter level.

Upgrade from four 1.2m diameter to four 1.35m diameter circular culverts

HOBART ST

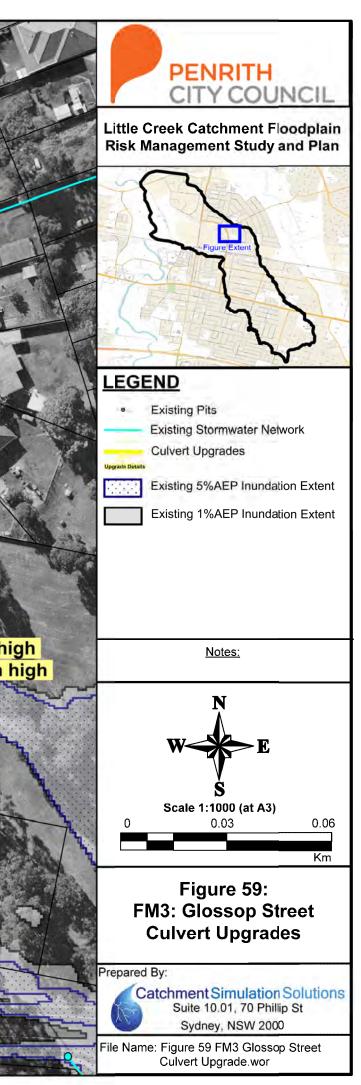
Western Railway Line

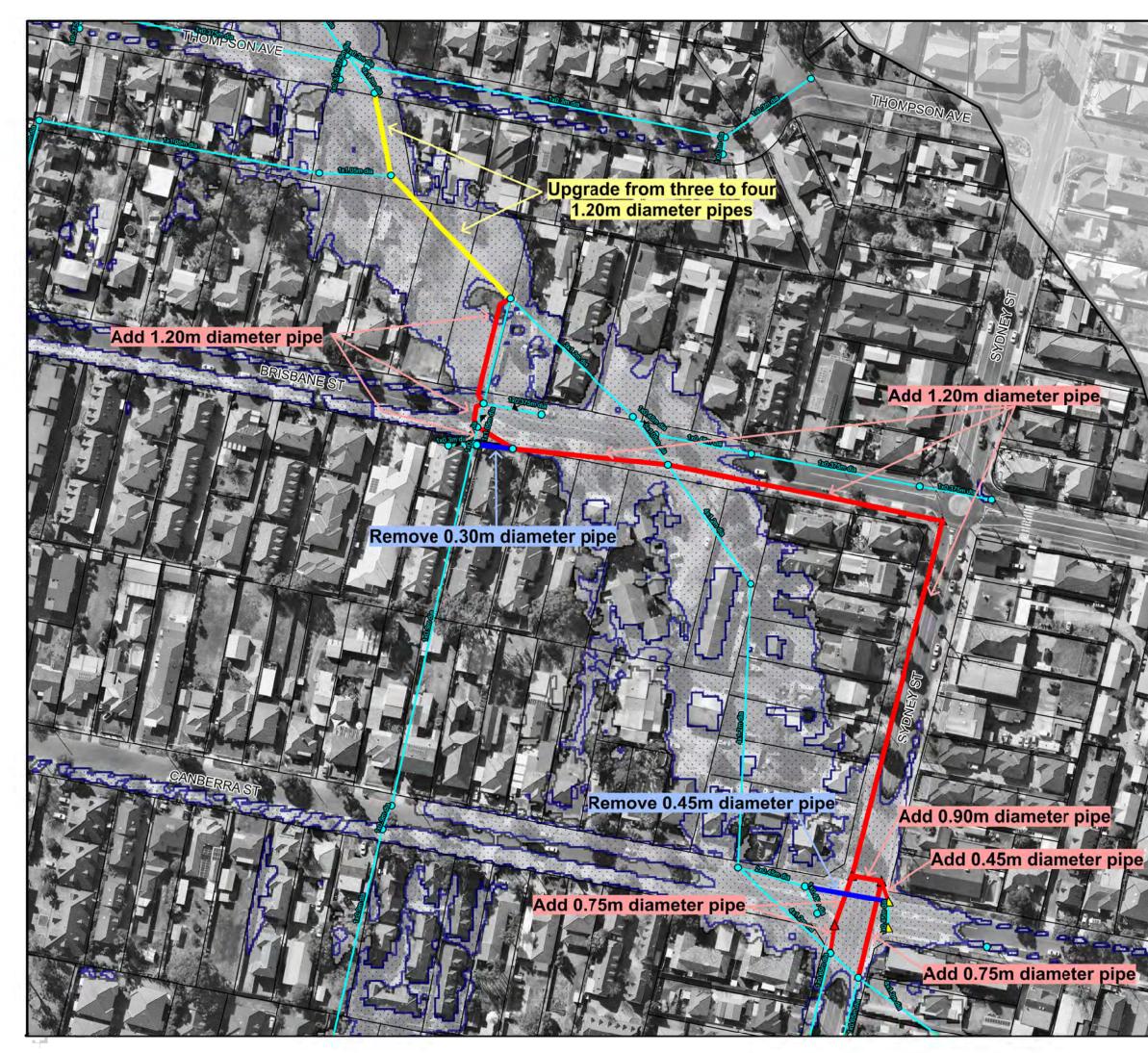


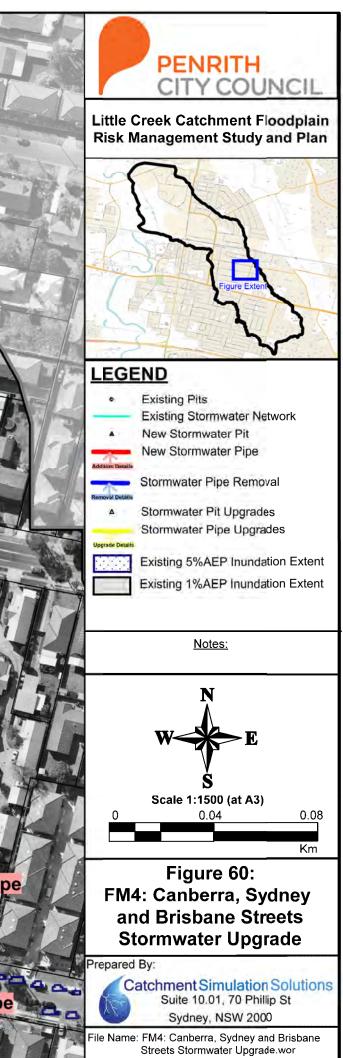
Upgrade from five 1.5m wide by 0.9m high box culverts to three 4.2m wide by 1.2m high box culverts

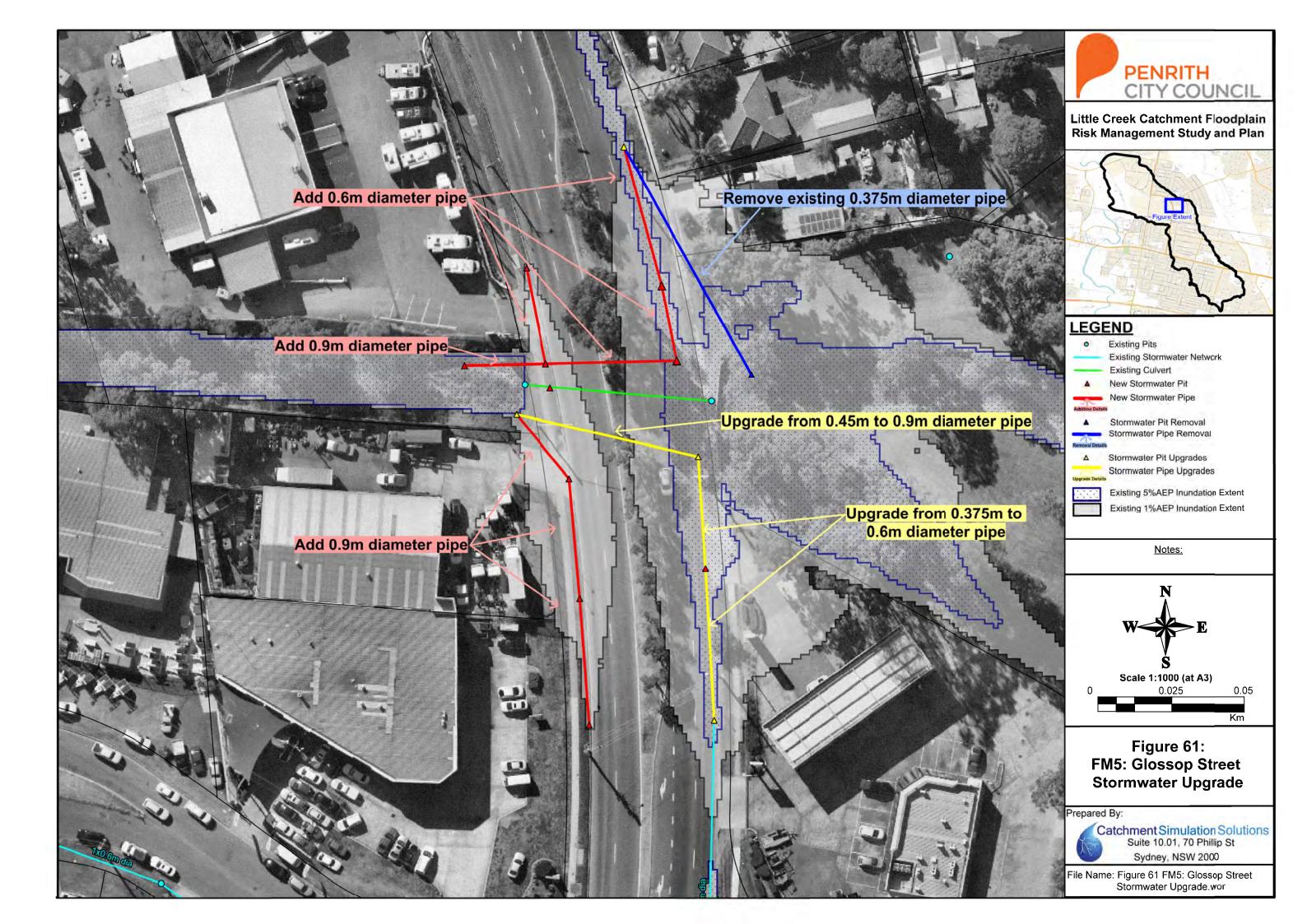
KURRAJONG RD

FORTHORN PLE F









Add 0.45m diameter pipe

Upgrade from one to two 1.44m diameter pipes

Upgrade from two to four 1.50m diameter pipes

Upgrade from one to two 2.34m diameter pipes

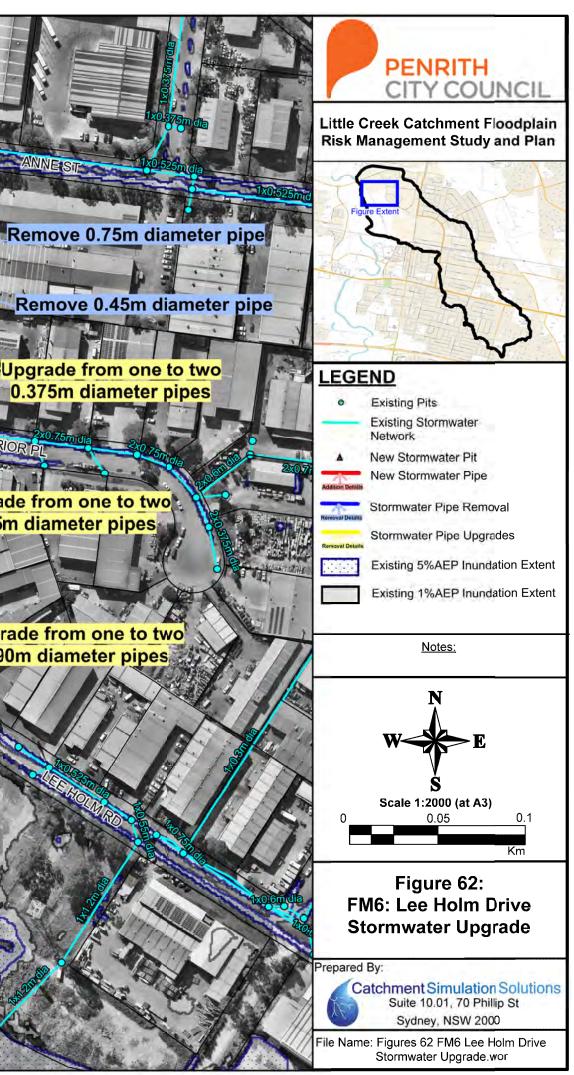
0.375m diameter pipes

Remove 0.45m diameter pipe 4 Upgrade from one to two

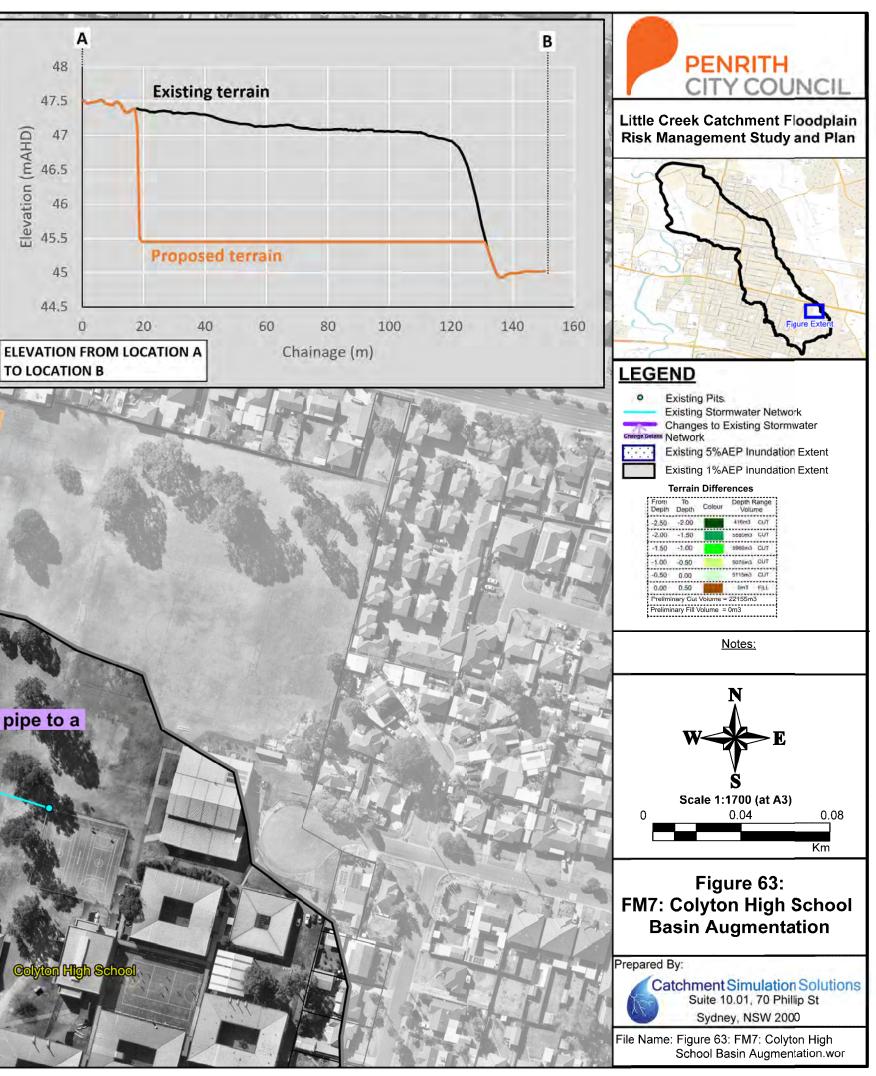
1

Upgrade from one to two 0.75m diameter pipes

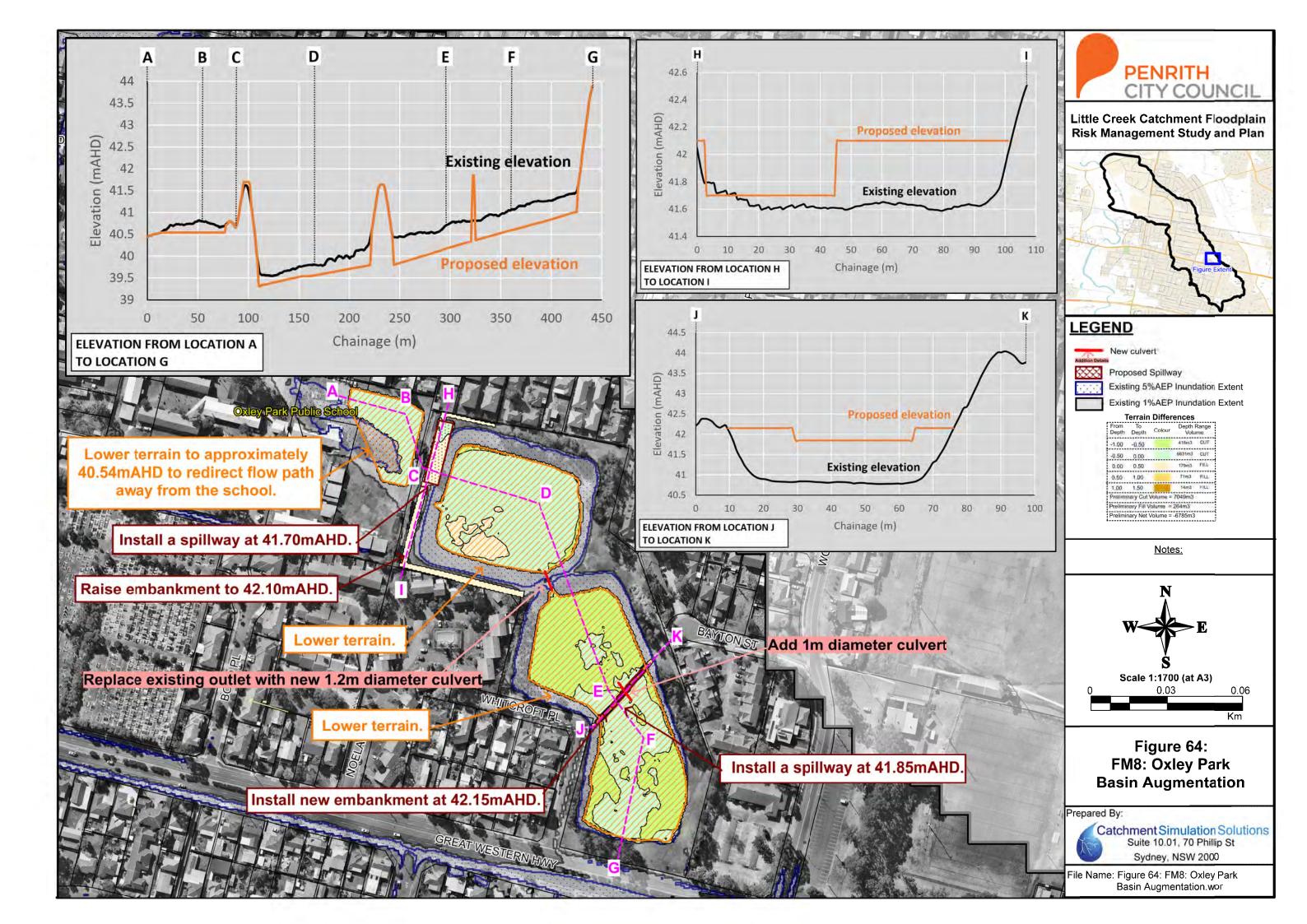
Upgrade from one to two 0.90m diameter pipes

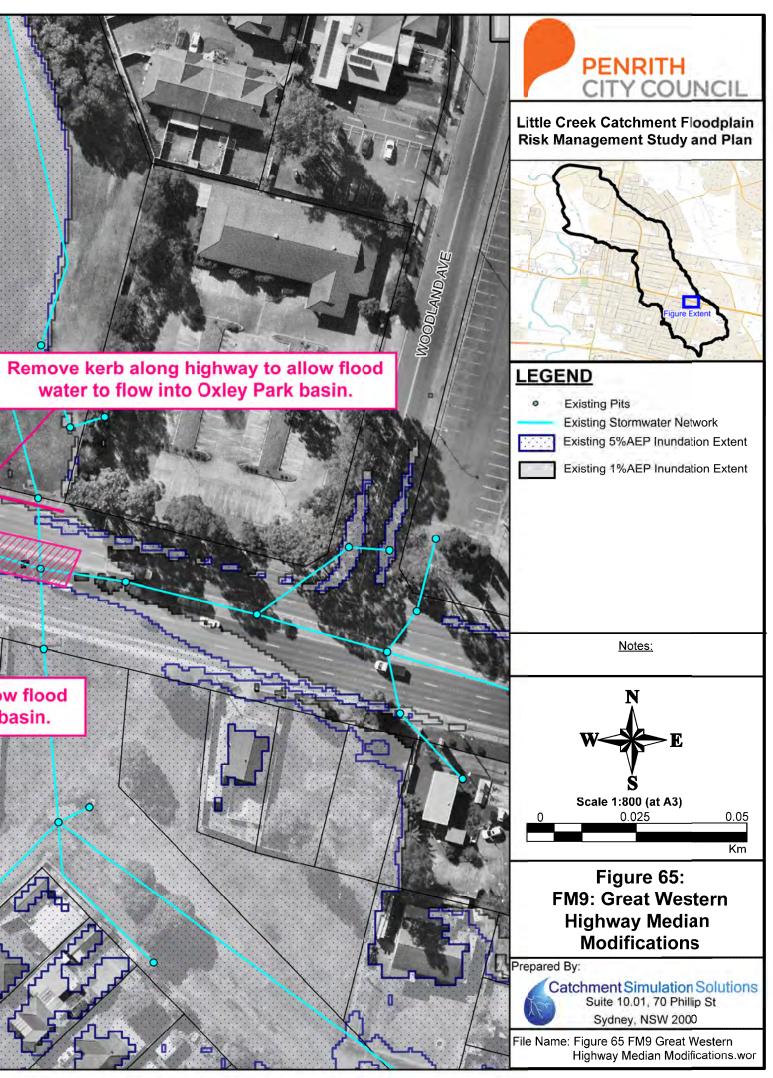


Lower terrain to approximately 45.45mAHD to increase storage capacity of basin for flood events larger than 20%AEP.



Decrease from a 0.375m diameter pipe to a 0.15m diameter pipe

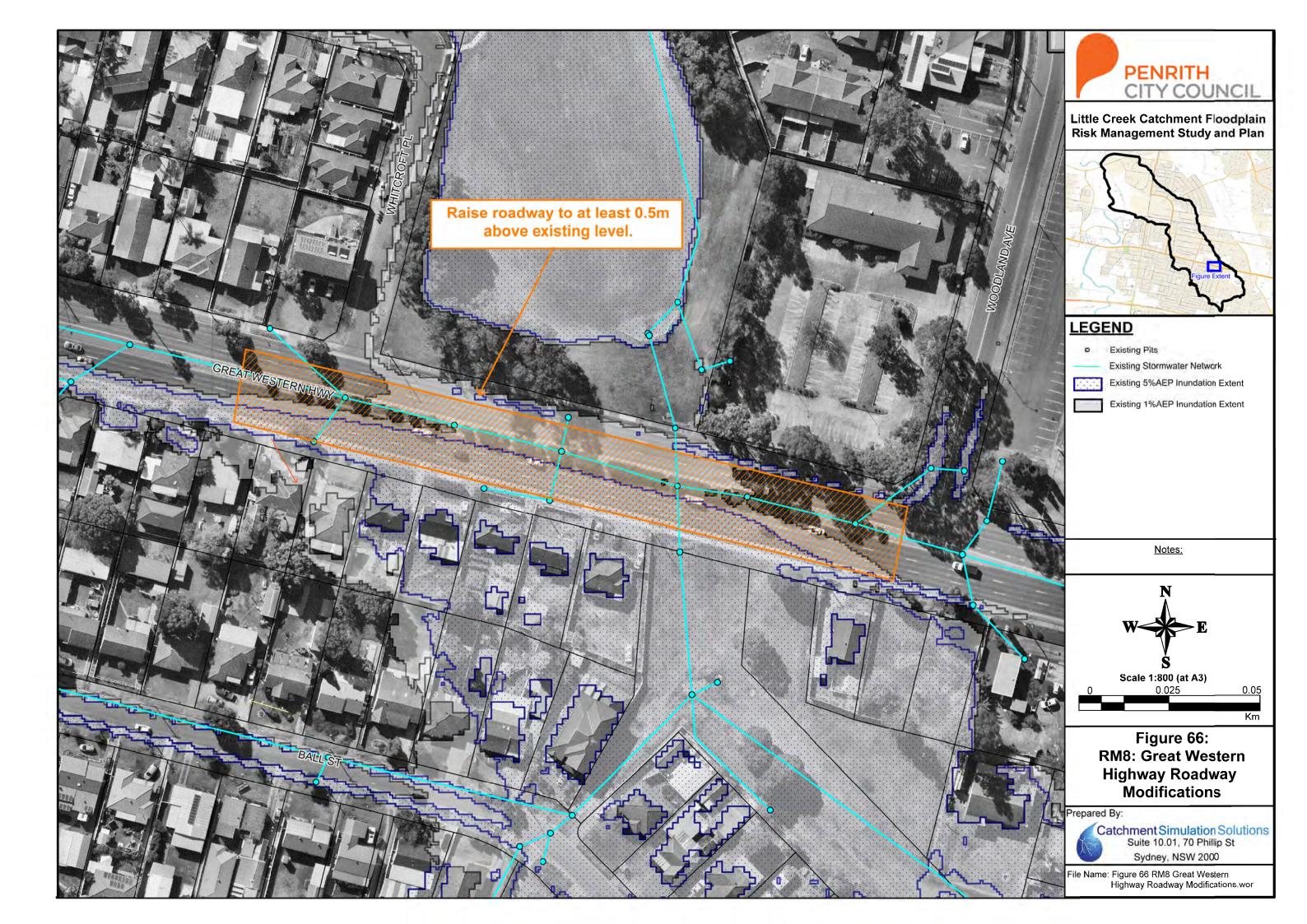




water to flow into Oxley Park basin.

Remove highway median to allow flood water to flow into Oxley Park basin.

GREATWESTERNH



Raise roadway to at least 0.15m above existing level.

KURRAJONG RD

FORTHORN PLE

