Lurline Bay, Matraville, Malabar & Yarra Bay Flood Study

Final Report

Volume 2 of 2: Figures

Revision 1
October 2021

Catchment Simulation Solutions

FIGURES

- Figure 41: Hydraulic Categories for the PMF

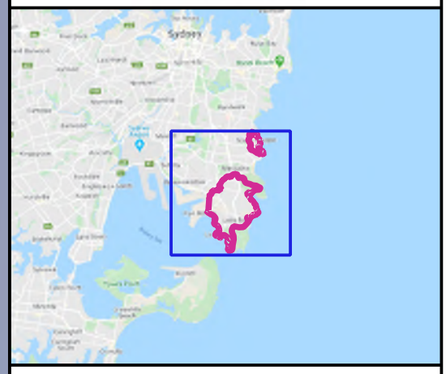
Flood Emergency Response Classification Figures

- Figure 42: Flood Emergency Response Classifications for the 1% AEP Flood
- Figure 43: Flood Emergency Response Classifications for the 0.2% AEP Flood
- Figure 44: Flood Emergency Response Classifications for the PMF

Flood Planning Figures

- Figure 45: Interim Flood Planning Areas and Tagged Properties
- Figure 46: Flood Planning Constraint Categories

Randwick City Council
a sense of community



LEGEND

- Lurline Bay Catchment
- Matraville Catchment
- Yarra Bay Catchment
- Malabar Catchment
- Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:30000 (at A3)

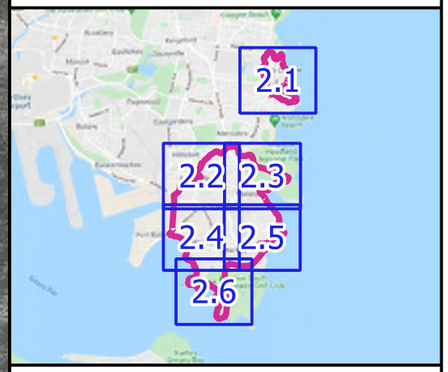
0 300 600 900 1200 m

Figure 1:
Lurline Bay, Matraville, Malabar, Yarra Bay Flood Study Area

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Lurline Bay, Matraville, Malabar, Yarra Bay Flood Study Area.qgz
Using Layout: Figure 1

Randwick City Council
a sense of community



LEGEND

Structures
- Stormwater Pipe/Culvert
- Stormwater Pit
- GPT

Topographic Data
- 2005 ALS/2013 LiDAR
- 2020 LiDAR

Preliminary Flood Extents
- 1%AEP
- PMF
- Critical/Vulnerable Facility

Notes:
Aerial photograph: Google Satellite 2019.
Preliminary flood extents extracted from 'Simplified Flood Modelling for Lurline Bay, Matraville, Malabar, Yarra Bay and Clovelly Catchments' (BMT, 2018).

N
W E
S

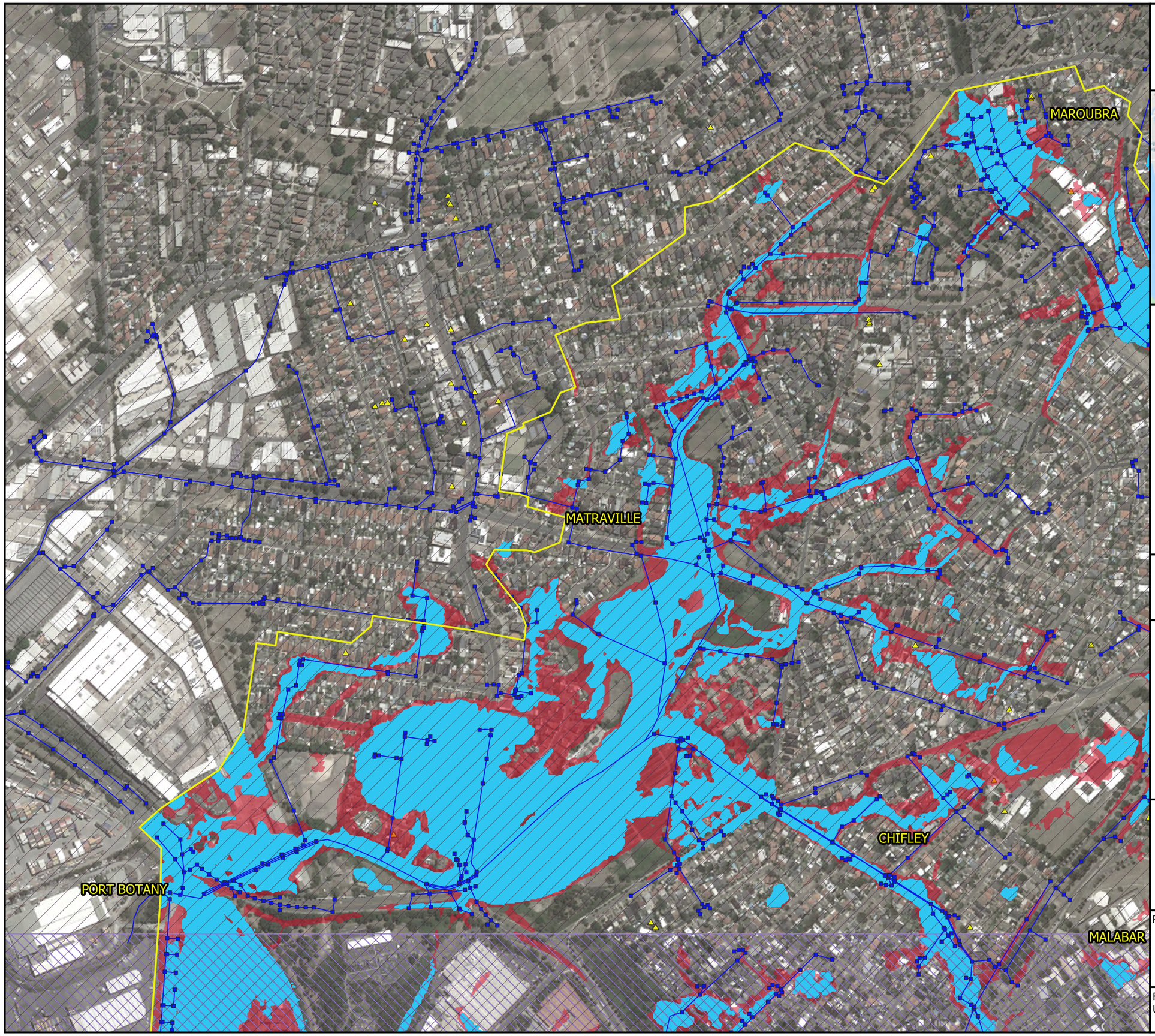
Scale: 1:7000 (at A3)

0 80 160 240 320 m

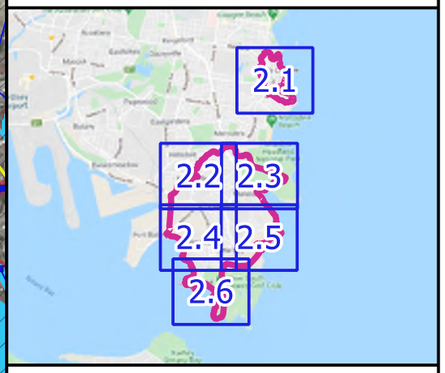
Figure 2.1:
Existing Datasets

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Existing Datasets.qgz
Using Layout: Figure 2.1



Randwick City Council
a sense of community



LEGEND

Structures
- Stormwater Pipe/Culvert
- Stormwater Pit
- GPT

Topographic Data
- 2005 ALS/2013 LiDAR
- 2020 LiDAR

Preliminary Flood Extents
- 1%AEP
- PMF
- Critical/Vulnerable Facility

Notes:
Aerial photograph: Google Satellite 2019.
Preliminary flood extents extracted from 'Simplified Flood Modelling for Lurline Bay, Matraville, Malabar, Yarra Bay and Clovelly Catchments' (BMT, 2018).

N
W E
S

Scale: 1:7000 (at A3)

0 80 160 240 320 m

Figure 2.2:
Existing Datasets

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Existing Datasets.qgz
Using Layout: Figure 2.2

MAROUBRA

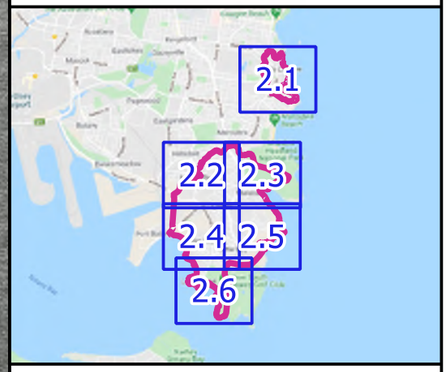
MATRAVILLE

MALABAR

CHIFLEY

Malabar Beach

Randwick City Council
a sense of community



LEGEND

Structures

- Stormwater Pipe/Culvert
- Stormwater Pit
- GPT

Topographic Data

- 2005 ALS/2013 LiDAR
- 2020 LiDAR

Preliminary Flood Extents

- 1%AEP
- PMF
- Critical/Vulnerable Facility

Notes:
Aerial photograph: Google Satellite 2019.
Preliminary flood extents extracted from 'Simplified Flood Modelling for Lurline Bay, Matraville, Malabar, Yarra Bay and Clovelly Catchments' (BMT, 2018).

N
W E
S

Scale: 1:7000 (at A3)

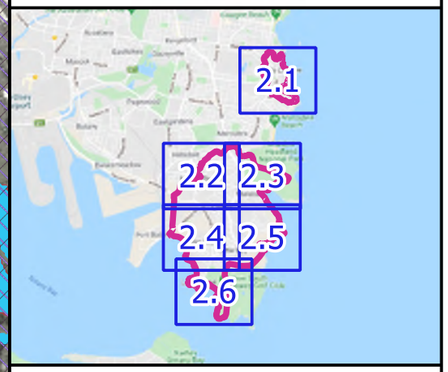
0 80 160 240 320 m

Figure 2.3:
Existing Datasets

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Existing Datasets.qgz
Using Layout: Figure 2.3

Randwick City Council
a sense of community



LEGEND

Structures
- Stormwater Pipe/Culvert
- Stormwater Pit
- GPT

Topographic Data
- 2005 ALS/2013 LiDAR
- 2020 LiDAR

Preliminary Flood Extents
- 1%AEP
- PMF
- Critical/Vulnerable Facility

Notes:
Aerial photograph: Google Satellite 2019.
Preliminary flood extents extracted from 'Simplified Flood Modelling for Lurline Bay, Matraville, Malabar, Yarra Bay and Clovelly Catchments' (BMT, 2018).

N
W E
S

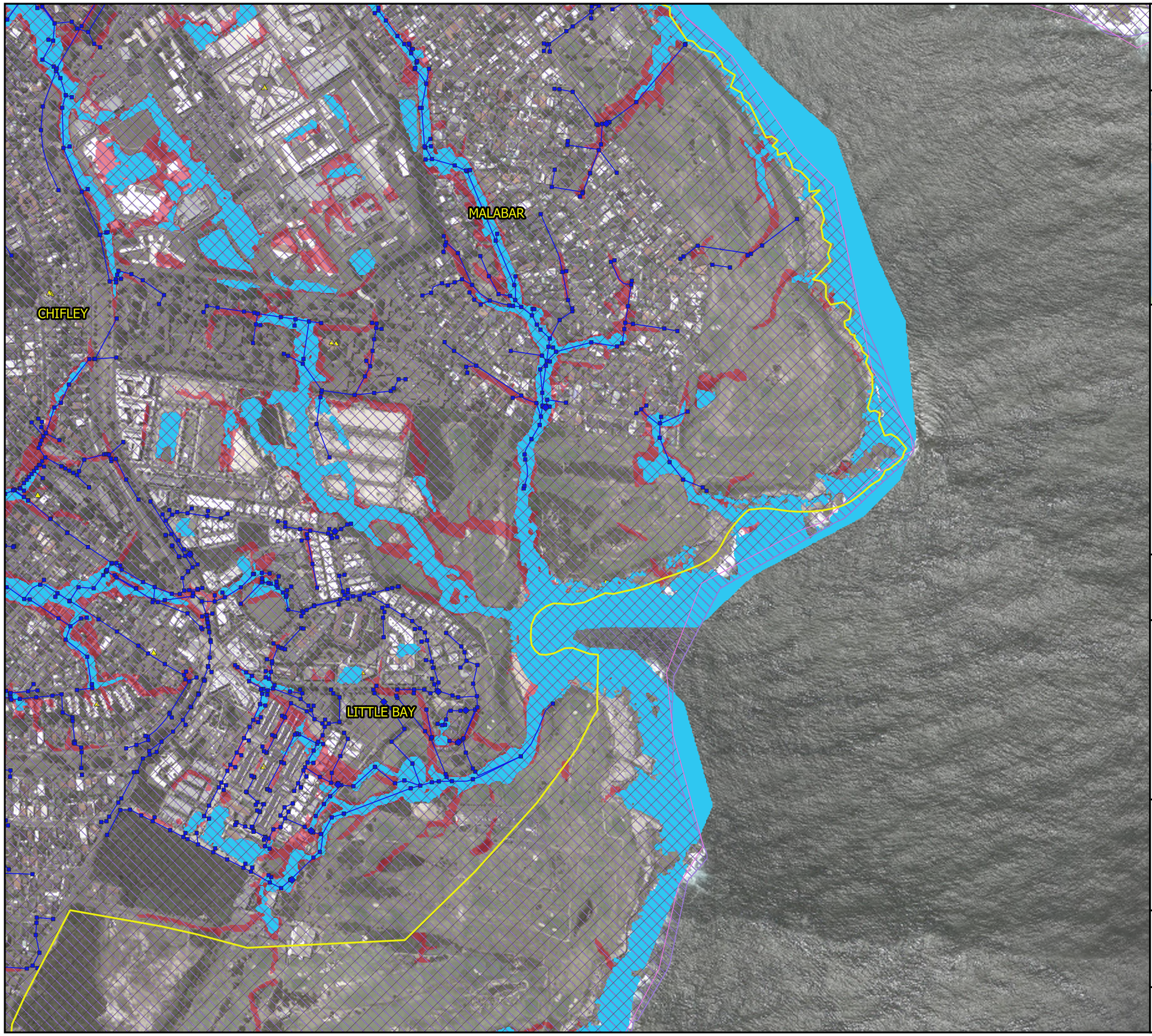
Scale: 1:7000 (at A3)

0 80 160 240 320 m

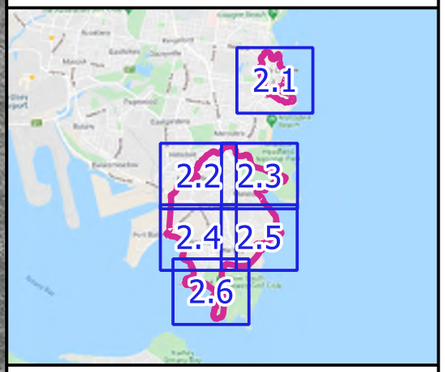
Figure 2.4:
Existing Datasets

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Existing Datasets.qgz
Using Layout: Figure 2.4



Randwick City Council
a sense of community



LEGEND

Structures
- Stormwater Pipe/Culvert
- Stormwater Pit
- GPT

Topographic Data
- 2005 ALS/2013 LiDAR
- 2020 LiDAR

Preliminary Flood Extents
- 1%AEP
- PMF
- Critical/Vulnerable Facility

Notes:
Aerial photograph: Google Satellite 2019.
Preliminary flood extents extracted from 'Simplified Flood Modelling for Lurline Bay, Matraville, Malabar, Yarra Bay and Clovelly Catchments' (BMT, 2018).

N
W E
S

Scale: 1:7000 (at A3)

0 80 160 240 320 m

Figure 2.5:
Existing Datasets

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Existing Datasets.qgz
Using Layout: Figure 2.5

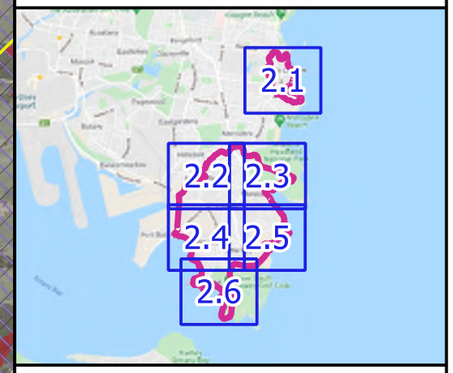
PHILLIP BAY

LITTLE BAY

LA PEROUSE

Little Bay

Randwick City Council
a sense of community



LEGEND

Structures
- Stormwater Pipe/Culvert
- Stormwater Pit
- GPT

Topographic Data
- 2005 ALS/2013 LiDAR
- 2020 LiDAR

Preliminary Flood Extents
- 1%AEP
- PMF
- Critical/Vulnerable Facility

Notes:
Aerial photograph: Google Satellite 2019.
Preliminary flood extents extracted from 'Simplified Flood Modelling for Lurline Bay, Matraville, Malabar, Yarra Bay and Clovelly Catchments' (BMT, 2018).

N
W E
S

Scale: 1:7000 (at A3)

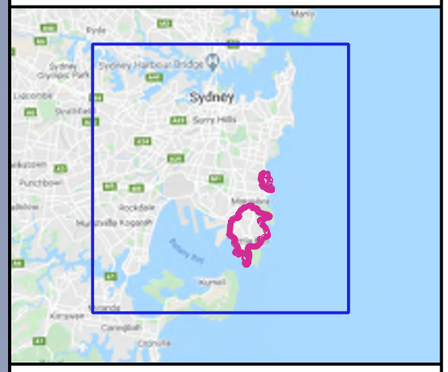
0 80 160 240 320 m

Figure 2.6:
Existing Datasets

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Existing Datasets.qgz
Using Layout: Figure 2.6

Randwick City Council
a sense of community



LEGEND

Study Area

Rain Gauges

- Continous
- Daily

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

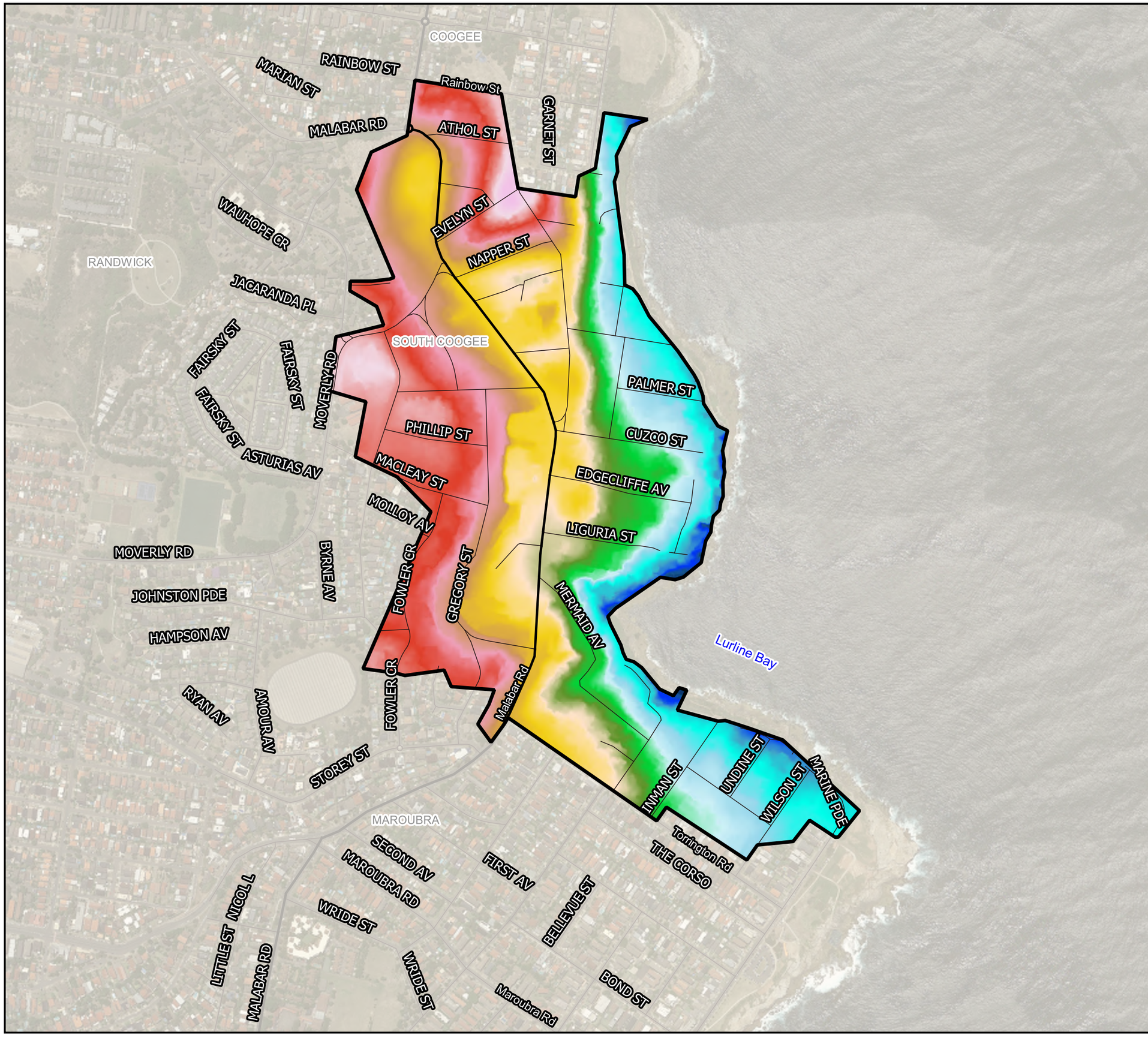
Scale: 1:81000 (at A3)

0 1000 2000 3000 4000 m

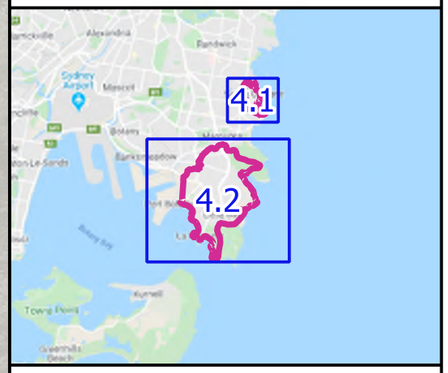
Figure 3:
Location of Rainfall Gauges

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Location of Rainfall Gauges.qgz
Using Layout: Figure 3



Randwick City Council
a sense of community



LEGEND

Ground Surface Elevation (mAHD)

=<0	45
5	50
10	55
15	60
20	65
25	70
30	80
35	90
40	>=100

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:7000 (at A3)

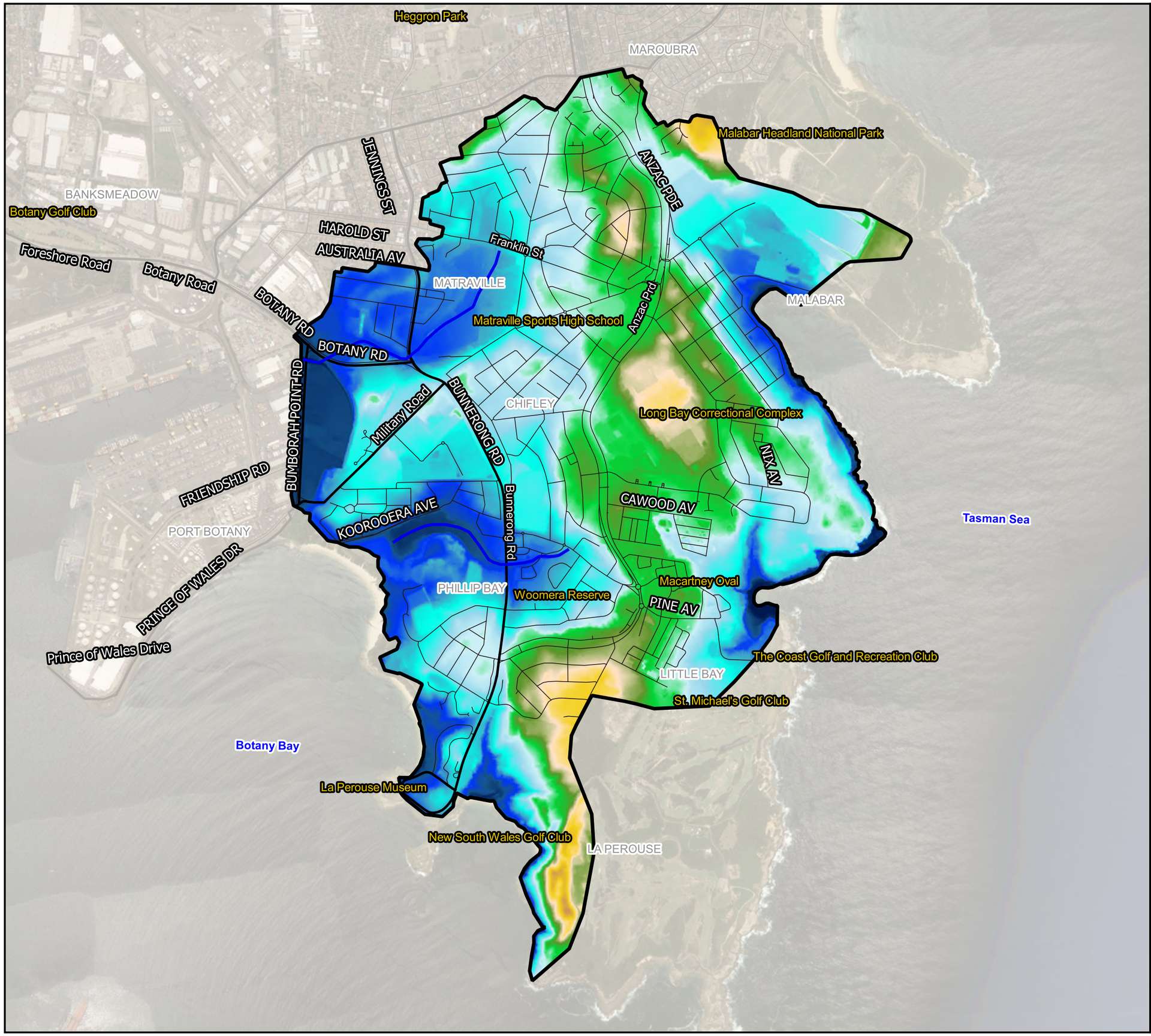
0 80 160 240 320 m

Figure 4.1:
Digital Elevation Model for the Lurline Bay Catchment

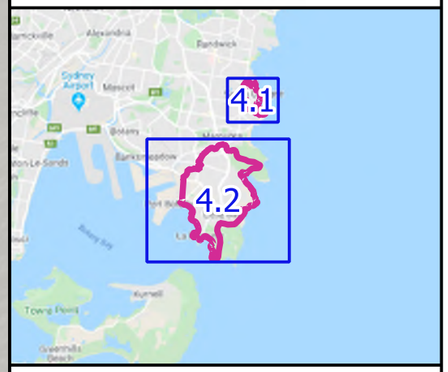
Prepared by:

Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Digital Elevation Model for the Lurline Bay Catchment.qgz
Using Layout: Figure 4.1



Randwick City Council
a sense of community



LEGEND

Ground Surface Elevation (mAHD)

=<0	45
5	50
10	55
15	60
20	65
25	70
30	80
35	90
40	>=100

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:20000 (at A3)

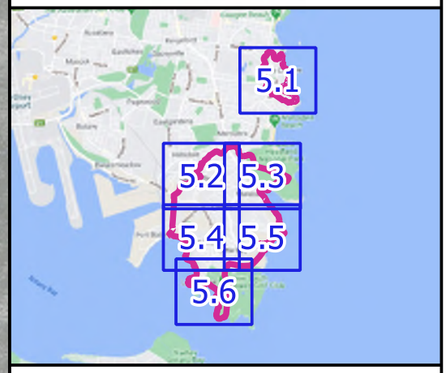
0 200 400 600 800 m

Figure 4.2:
Digital Elevation Model for the Lurline Bay Catchment

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Digital Elevation Model for the Lurline Bay Catchment.qgz
Using Layout: Figure 4.2

Randwick City Council
a sense of community



LEGEND

- Study Area Boundary

Material

- Building
- Cleared Watercourse
- Tree
- Grass
- Road
- Concrete
- Sand
- Area Under Construction
- Crops
- Cemetary
- Rock
- Gravel Road
- Vegetated Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:7000 (at A3)

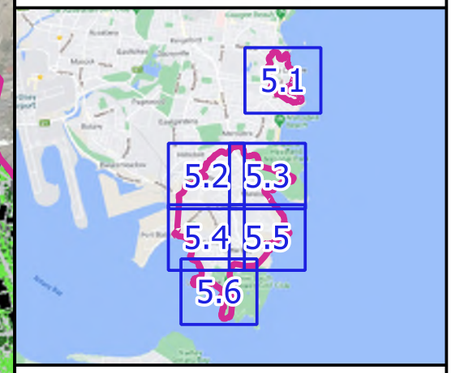
0 80 160 240 320 m

Figure 5.1:
Remote Sensing Land Use Map for Lurline Bay

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Remote Sensing Land Use Map for Lurline Bay.qgz
Using Layout: Figure 5.1

Randwick City Council
a sense of community



LEGEND

Study Area Boundary

Material

- Building
- Cleared Watercourse
- Tree
- Grass
- Road
- Concrete
- Sand
- Area Under Construction
- Crops
- Cemetary
- Rock
- Gravel Road
- Vegetated Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:7000 (at A3)

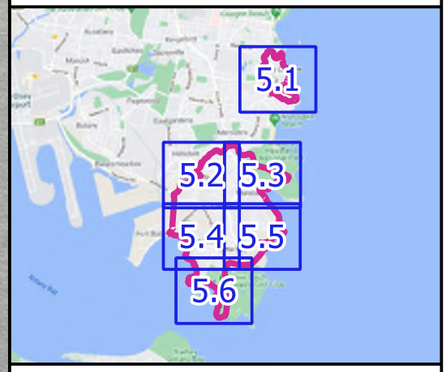
0 80 160 240 320 m

Figure 5.2:
Remote Sensing Land Use Map for Lurline Bay

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Remote Sensing Land Use Map for Lurline Bay.qgz
Using Layout: Figure 5.2

Randwick City Council
a sense of community



LEGEND

- Study Area Boundary

Material

- Building
- Cleared Watercourse
- Tree
- Grass
- Road
- Concrete
- Sand
- Area Under Construction
- Crops
- Cemetary
- Rock
- Gravel Road
- Vegetated Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:7000 (at A3)

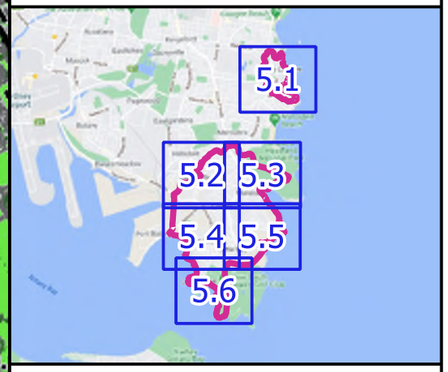
0 80 160 240 320 m

Figure 5.3:
Remote Sensing Land Use Map for Lurline Bay

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Remote Sensing Land Use Map for Lurline Bay.qgz
Using Layout: Figure 5.3

Randwick City Council
a sense of community



LEGEND

- Study Area Boundary

Material

- Building
- Cleared Watercourse
- Tree
- Grass
- Road
- Concrete
- Sand
- Area Under Construction
- Crops
- Cemetary
- Rock
- Gravel Road
- Vegetated Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:7000 (at A3)

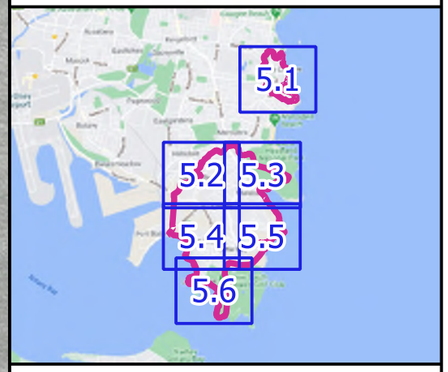
0 80 160 240 320 m

Figure 5.4:
Remote Sensing Land Use Map for Lurline Bay

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Remote Sensing Land Use Map for Lurline Bay.qgz
Using Layout: Figure 5.4

Randwick City Council
a sense of community



LEGEND

Study Area Boundary

Material

- Building
- Cleared Watercourse
- Tree
- Grass
- Road
- Concrete
- Sand
- Area Under Construction
- Crops
- Cemetary
- Rock
- Gravel Road
- Vegetated Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

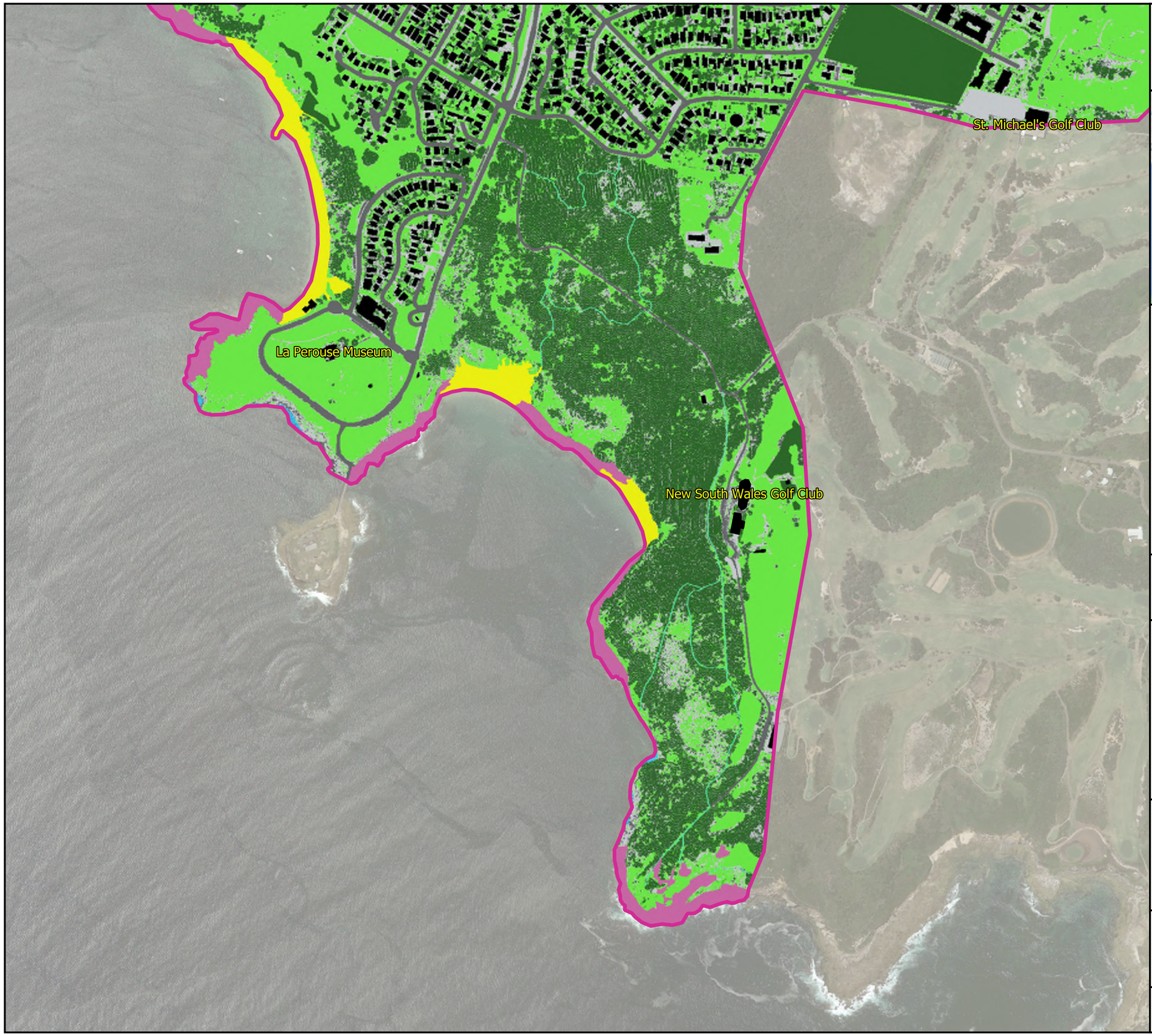
Scale: 1:7000 (at A3)

0 80 160 240 320 m

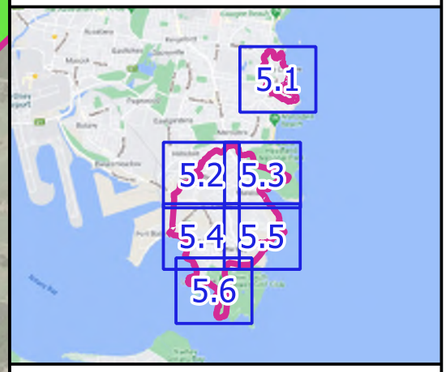
Figure 5.5:
Remote Sensing Land Use Map for Lurline Bay

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Remote Sensing Land Use Map for Lurline Bay.qgz
Using Layout: Figure 5.5



Randwick City Council
a sense of community



LEGEND

- Study Area Boundary

Material

- Building
- Cleared Watercourse
- Tree
- Grass
- Road
- Concrete
- Sand
- Area Under Construction
- Crops
- Cemetary
- Rock
- Gravel Road
- Vegetated Watercourse

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:7000 (at A3)

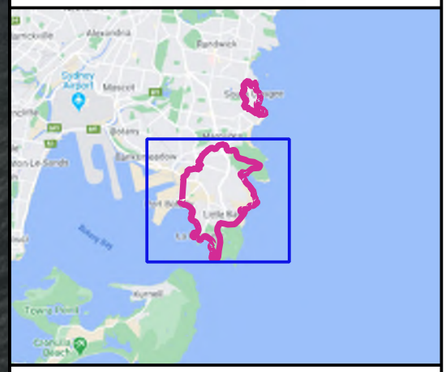
0 80 160 240 320 m

Figure 5.6:
Remote Sensing Land Use Map for Lurline Bay

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Remote Sensing Land Use Map for Lurline Bay.qgz
Using Layout: Figure 5.6

Randwick City Council
a sense of community



LEGEND

- Surveyed Structure
- Surveyed Cross Section
- Stormwater Assets Reviewed by Council
- Existing Waterways

Notes:
Aerial photograph: Google Satellite 2019

N
W E
S

Scale: 1:20000 (at A3)

0 200 400 600 800 m

Figure 6:
Additional Data Collected for Study

Prepared by:
Catchment Simulation Solutions
Suite 1, Level 10, 70 Phillip St
Sydney, NSW, 2000

File Name: Additional Data Collected for Study.qgz
Using Layout: Figure 6