

Murwillumbah CBD Levee & Drainage Study

Draft Report

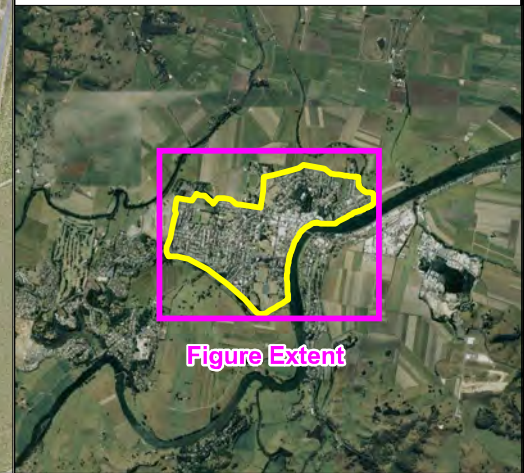
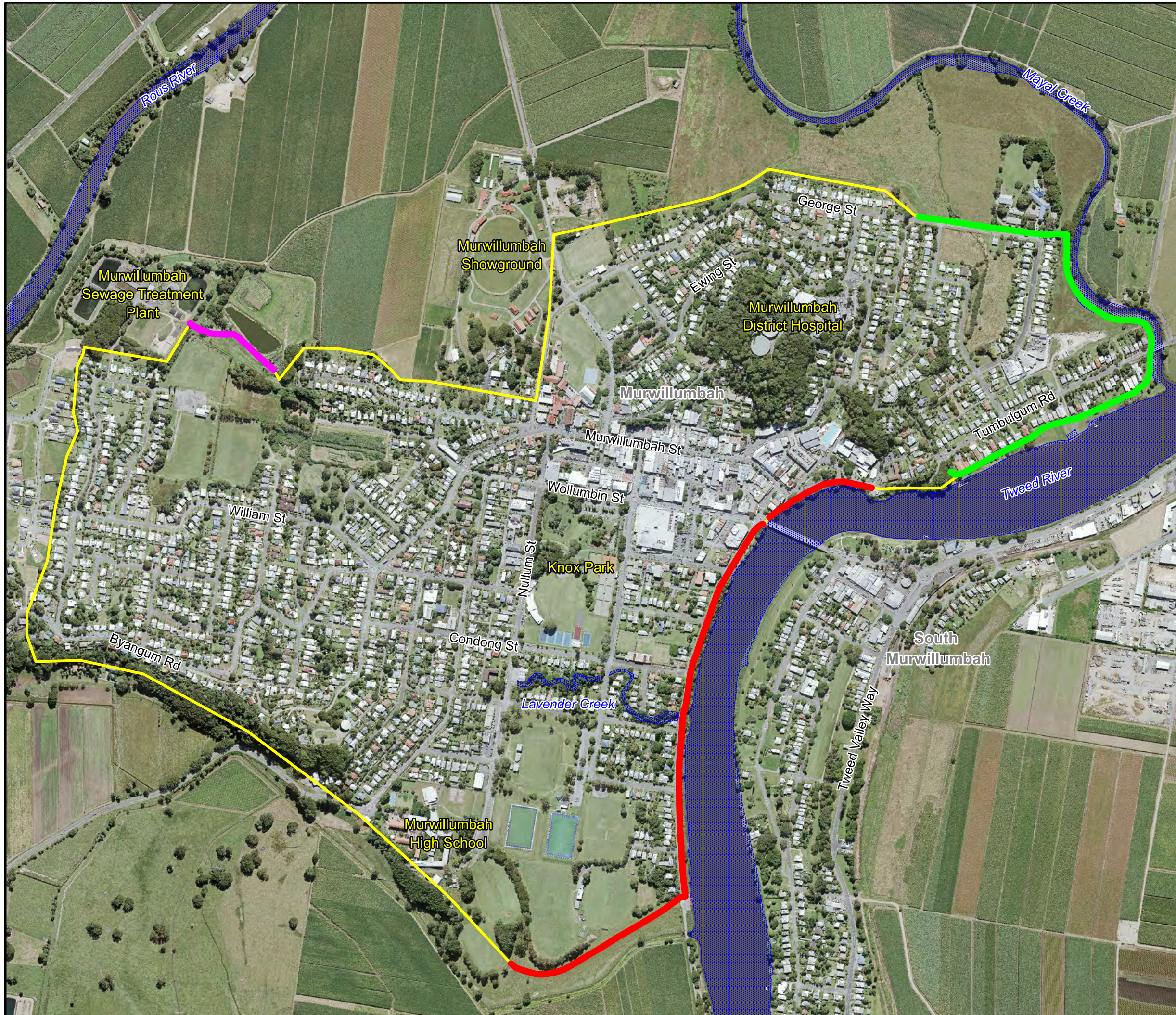
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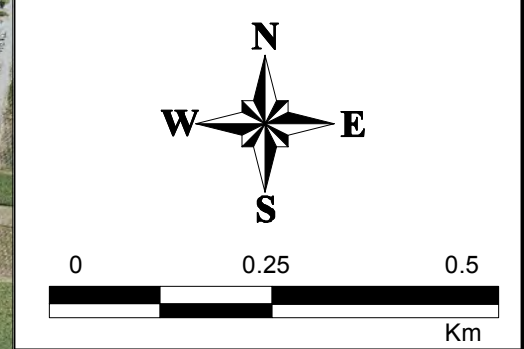





LEGEND

-  Murwillumbah CBD Levee Study Area
-  Levee 1 - Commerical Road
-  Levee 2 - East Murwillumbah
-  Levee 3 - Dorothy Street

Notes:
Aerial photograph date: 2015



**Figure 1:
Murwillumbah CBD
Study Area**

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File Name: Fig1 - Murwillumbah CBD Levee Study Area.wor



Figure Extent

LEGEND

- Stormwater Pit from GIS
 - Stormwater Pipe from GIS
 - Stormwater Pit from Plans
 - Stormwater Pipe from Plans
- Levee Plans**
- Levee 1 - Commercial Road
 - Levee 2 - East Murwillumbah
 - Levee 3 - Dorothy Street

Notes:
Aerial photograph date: 2015

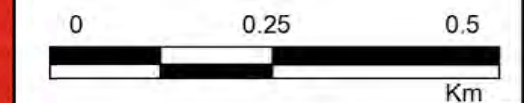

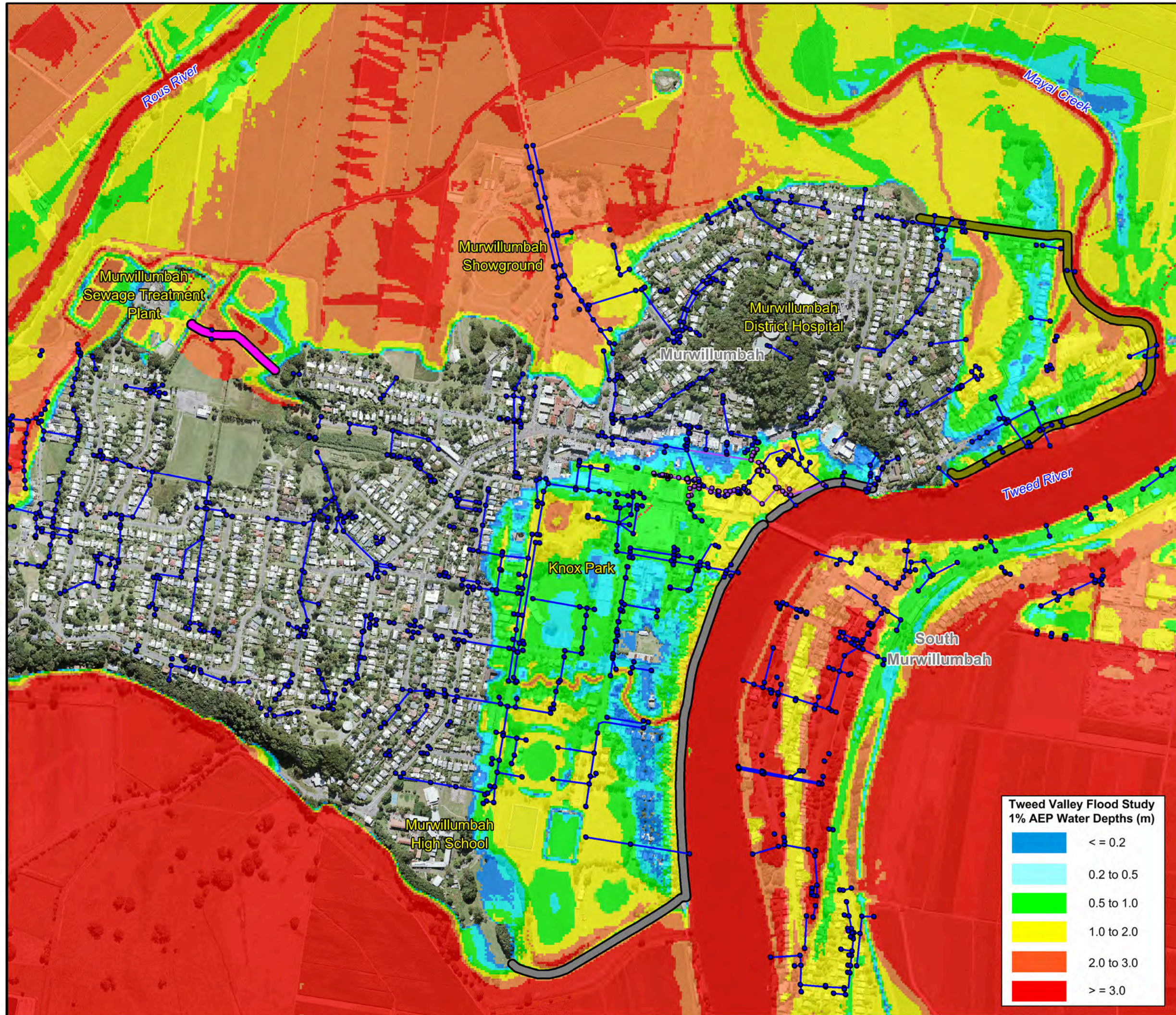


Figure 2:
Extent of Available Information

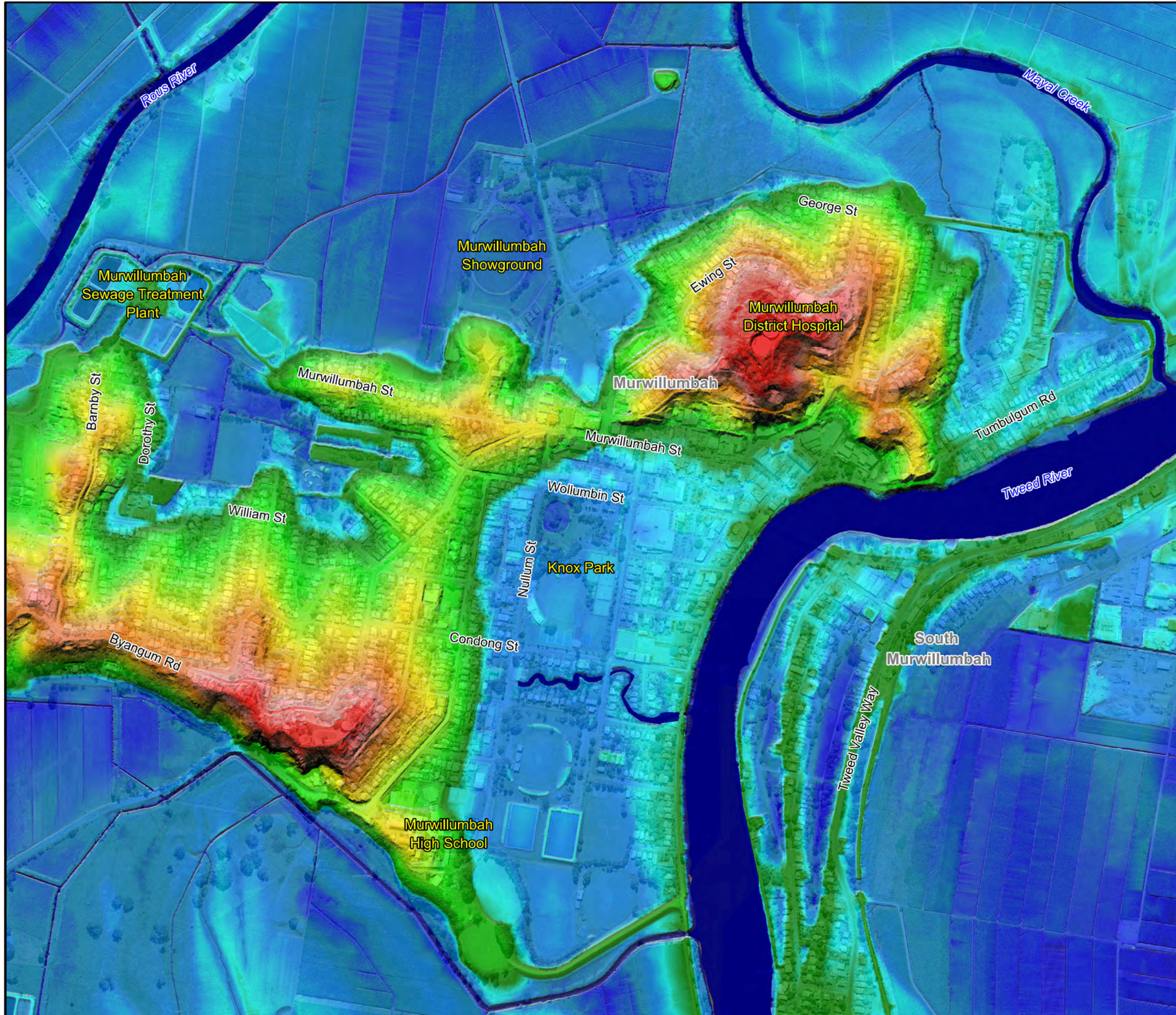
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File Name: Fig2 - Extent of Available Information.wor



Tweed Valley Flood Study
1% AEP Water Depths (m)

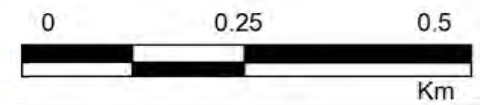
	<= 0.2
	0.2 to 0.5
	0.5 to 1.0
	1.0 to 2.0
	2.0 to 3.0
	>= 3.0




LEGEND

DEM (mAHD)	
Dark Blue	<= 0
Blue	1
Light Blue	2
Cyan	3
Light Green	4
Green	5
Yellow-Green	10
Yellow	20
Orange	30
Red-Orange	40
Red	>= 50

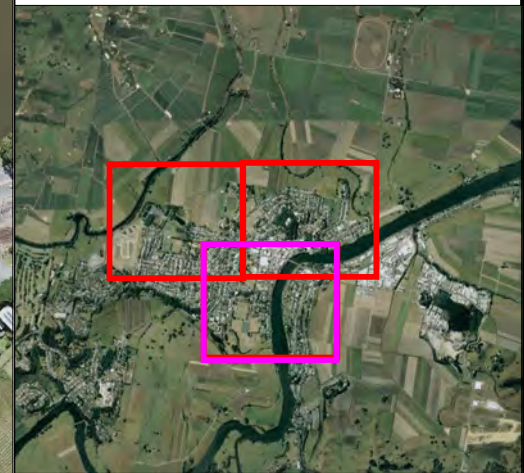
Notes:
Aerial photograph date: 2015















**Figure 3:
Digital Elevation
Model**

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Sydney, NSW 2000

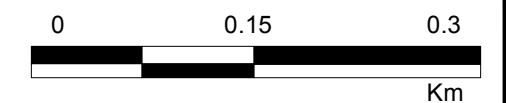
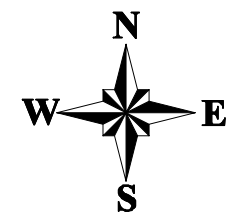
File Name: Fig3 - Digital Elevation
Model.wor




LEGEND

-  Levee Alignment
 -  Levee Crest Elevation (mAHD)
 -  Culvert
 -  Stormwater Pit
 -  Pump Station
 -  Flood Gate
- Pipe Diameter (m)
-  ≤ 0.3
 -  0.375
 -  0.45
 -  0.525
 -  0.6
 -  ≥ 0.675

Notes:
Aerial photograph date: 2015

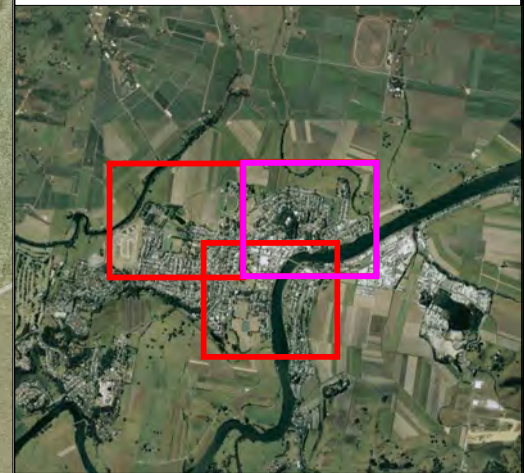


**Figure 4.1:
Commercial Road
Levee and
Drainage System**













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File Name: Fig4.1 - Details of Existing Levee and Drainage System.wor



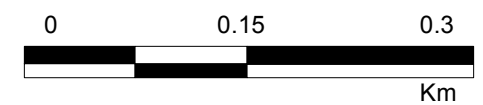
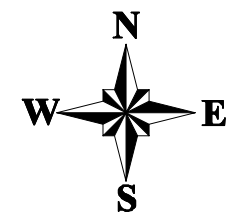


LEGEND

-  Levee Alignment
 -  Levee Crest Elevation (mAHD)
 -  Culvert
 -  Stormwater Pit
 -  Pump Station
 -  Flood Gate
- Pipe Diameter (m)
-  ≤ 0.3
 -  0.375
 -  0.45
 -  0.525
 -  0.6
 -  ≥ 0.675


Notes:

Aerial photograph date: 2015



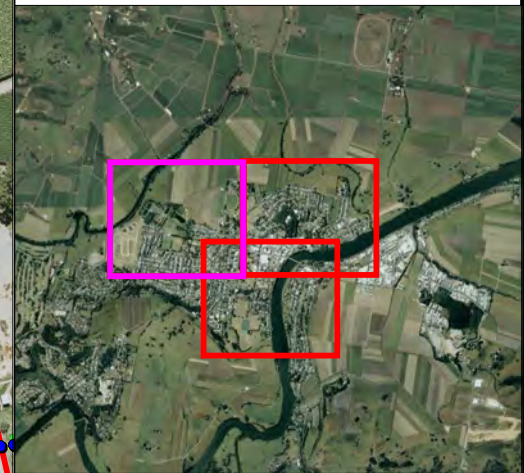
**Figure 4.2:
East Murwillumbah
Levee and Drainage
System**

Prepared By:













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Sydney, NSW 2000

File Name: Fig4.2 - Details of Existing Levee and Drainage System.wor

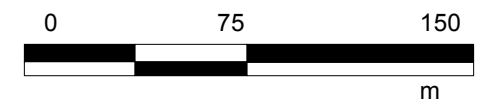
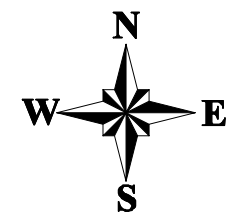





LEGEND

-  Levee Alignment
 -  Levee Crest Elevation (mAHD)
 -  Culvert
 -  Stormwater Pit
 -  Pump Station
 -  Flood Gate
- Pipe Diameter (m)
-  ≤ 0.3
 -  0.375
 -  0.45
 -  0.525
 -  0.6
 -  ≥ 0.675

Notes:
Aerial photograph date: 2015

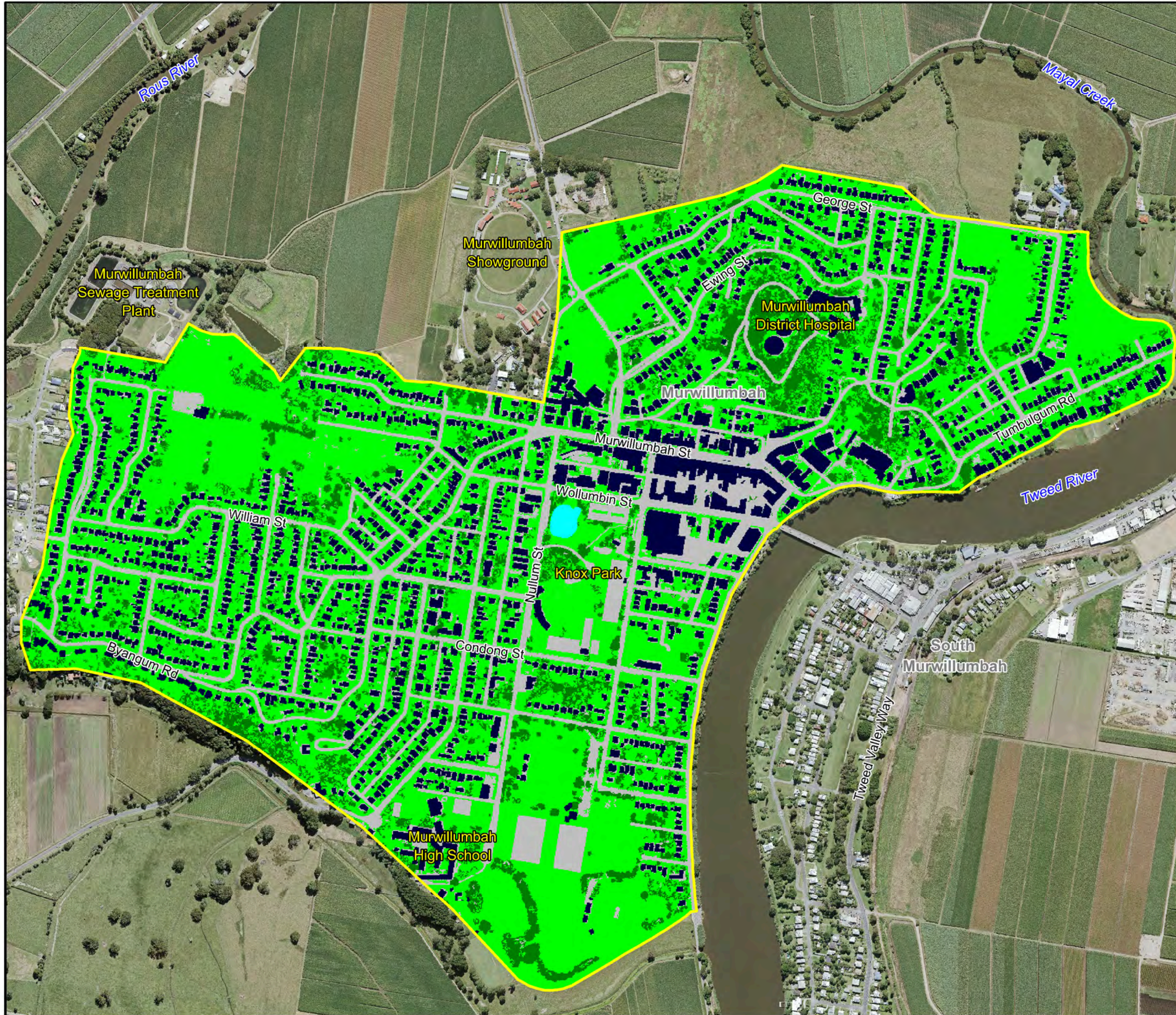


**Figure 4.3:
Dorothy Street
Levee and Drainage
System**






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Sydney, NSW 2000

File Name: Fig4.3 - Details of Existing Levee and Drainage System.wor

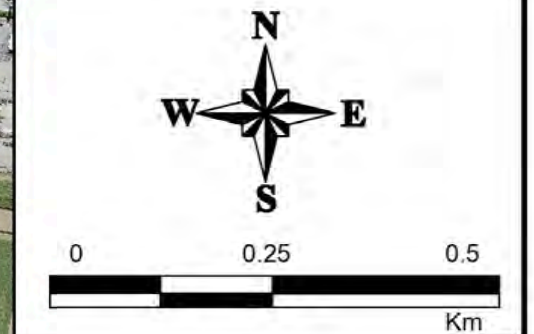





LEGEND

- Material
-  Building
 -  Water
 -  Trees
 -  Grass
 -  Impervious

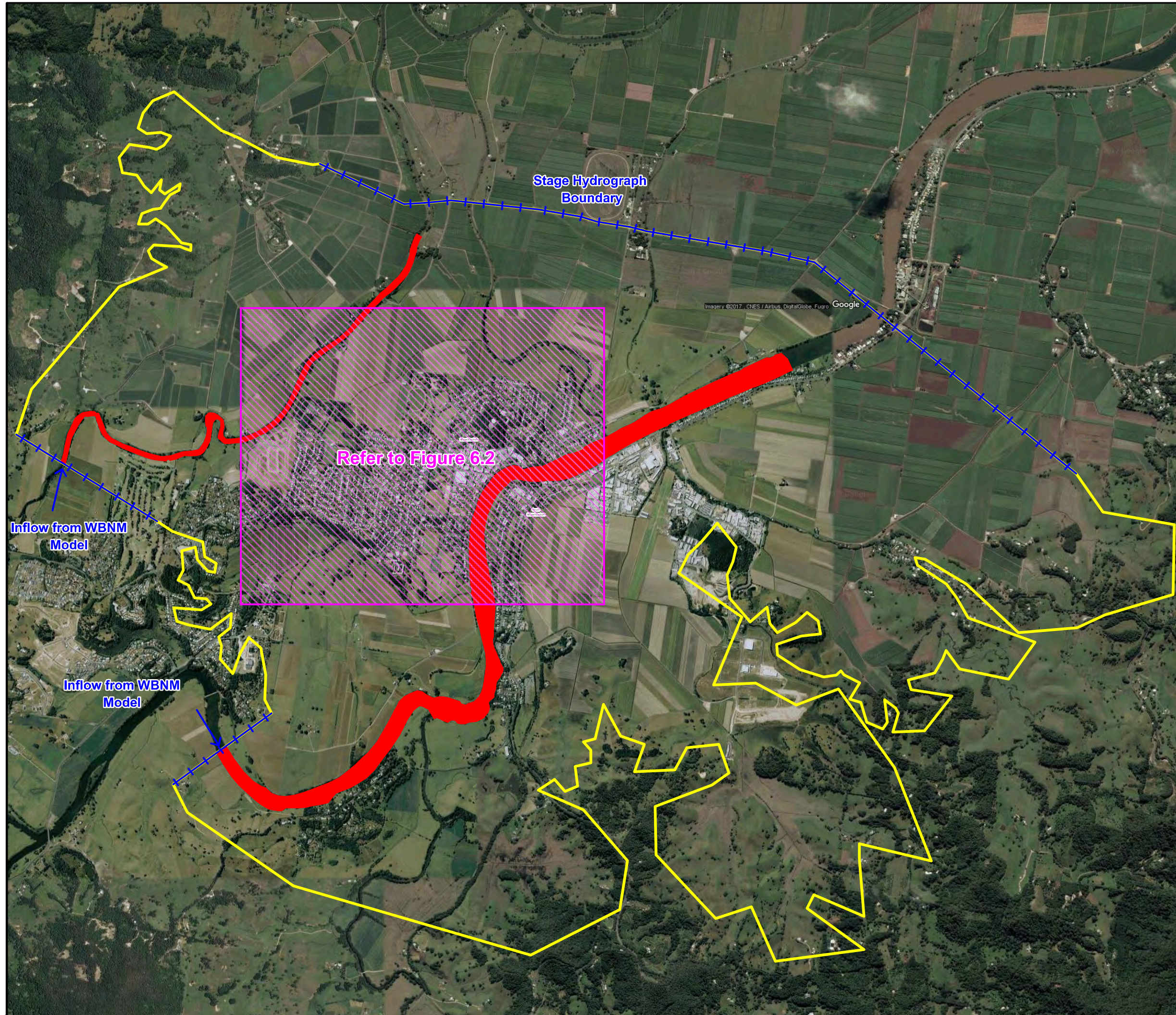
Notes:
Aerial photograph date: 2015






**Figure 5:
Remote Sensing
Land Use Map**

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Sydney, NSW 2000

File Name: Fig5 - Remote Sensing Land Use Map.wor



LEGEND

-  2D Domain
-  1D Domain
-  Boundary Condition

Notes:
Aerial photograph date: 2015

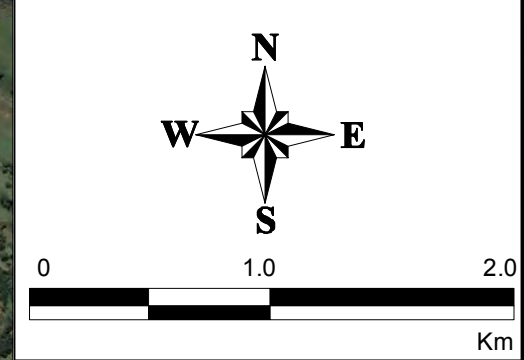

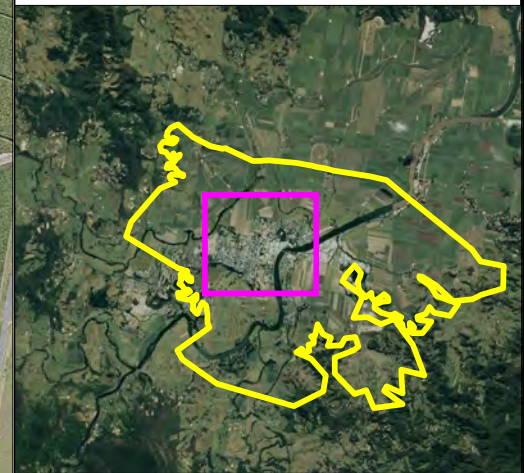
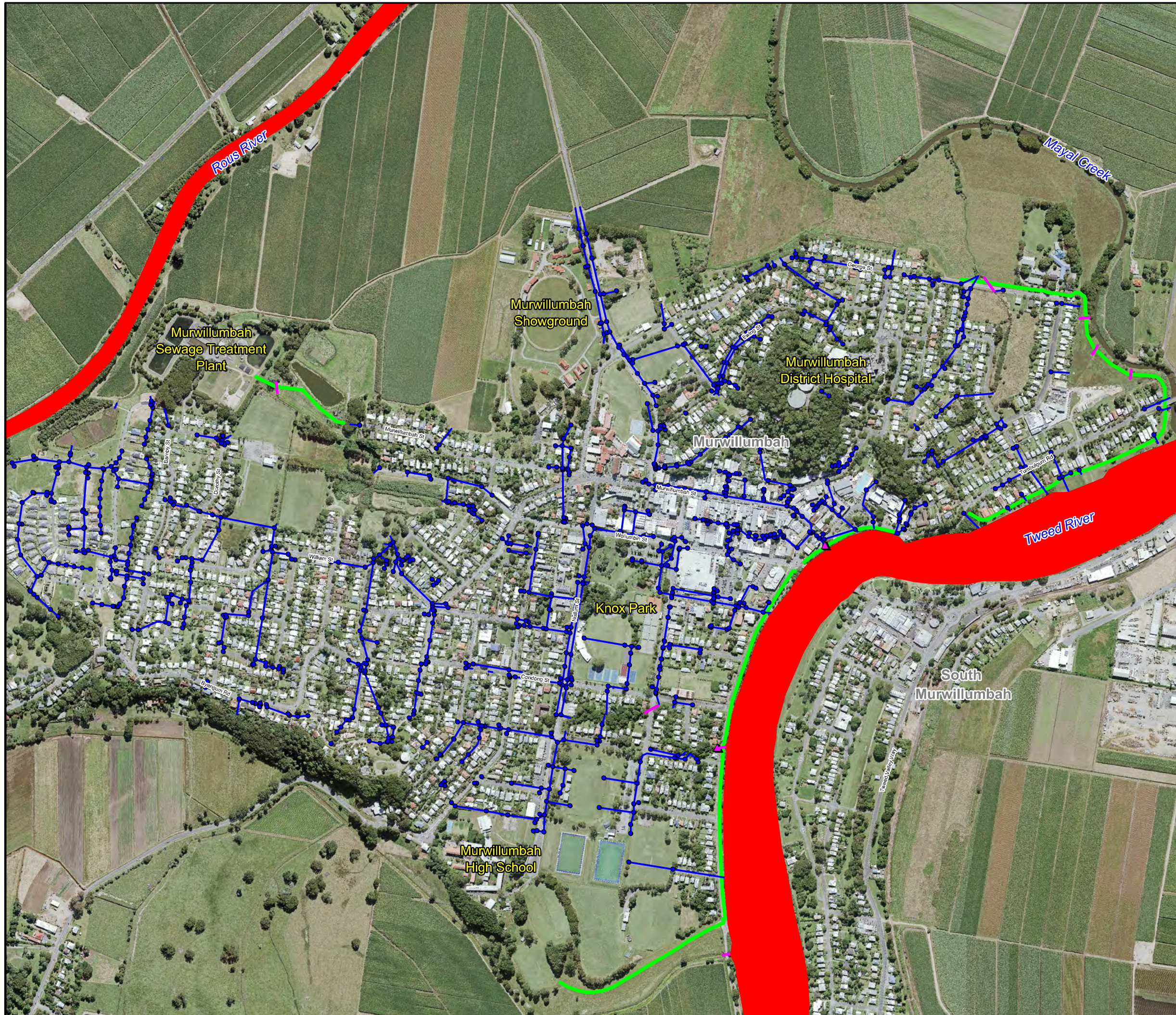


Figure 6.1:
TUFLOW Model
Layout

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 Sydney, NSW 2000

File Name: Fig6.1 - TUFLOW Model
Layout.wor



LEGEND

- █ 1D Domain
- █ Bridge
- █ Culvert
- █ Stormwater Pipe
- Stormwater Pit
- ▲ Stormwater Pump
- █ Levee Z Shape

Notes:
Aerial photograph date: 2015

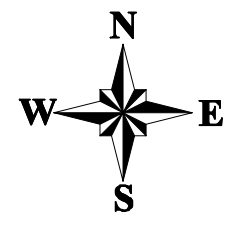
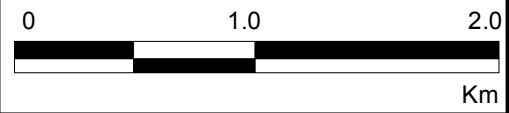




Figure 6.2:
TUFLOW Model
Layout

Prepared By:
 **Catchment Simulation Solutions**
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Sydney, NSW 2000

File Name: Fig6.2 - TUFLOW Model
Layout.wor

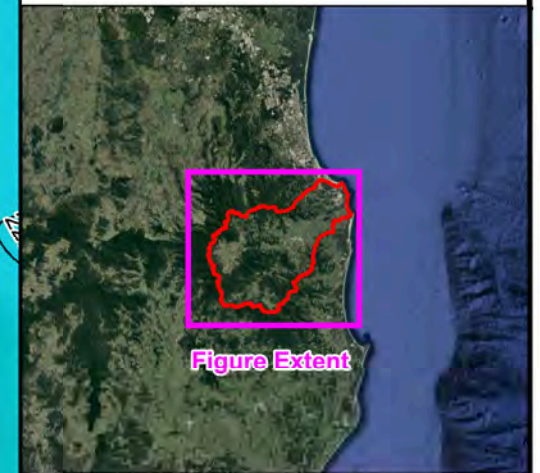


Figure Extent

LEGEND

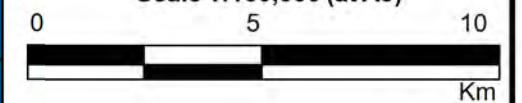
- Catchment Boundary
 - Study Area
 - Gauge Number - Rainfall (mm)
 - Rainfall Isohyet (mm)
- Rainfall Depth (mm)**
- 0
 - 200
 - 400
 - 600
 - 800
 - 1000

Notes:

Isohyets are calculated based on total rainfall for the entire duration of the storm.
Aerial photograph date: 2015.



Scale 1:160,000 (at A3)

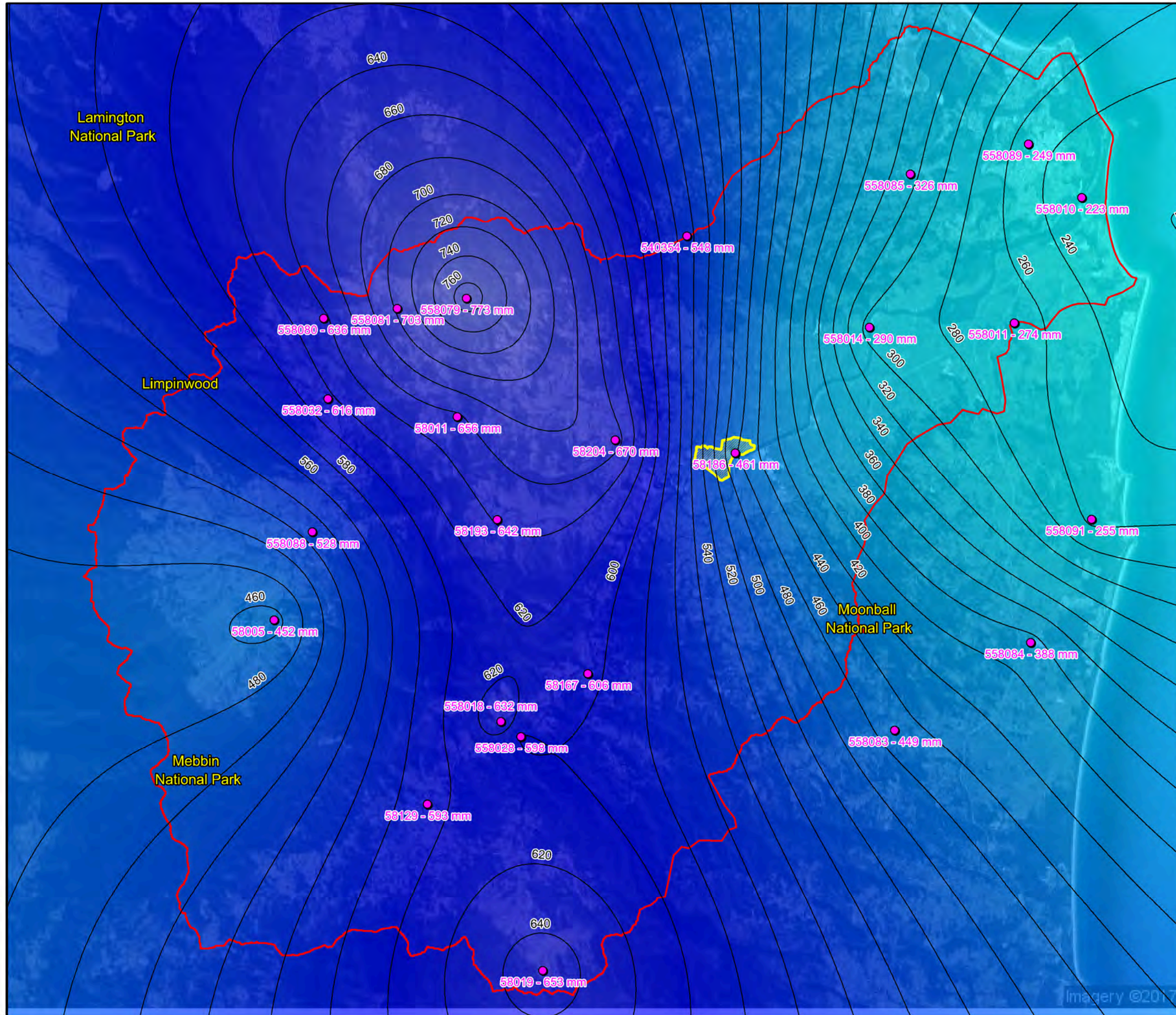


**Figure 7:
Isohyet Map for
2017 Storm**

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Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig 7 Isohyet Map for 2017 Storm.wor



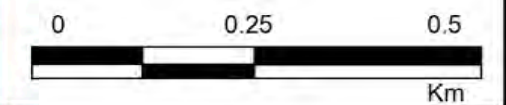
Imagery ©2017




LEGEND

- Survey Flood Mark Elevation (mAHD)
 - Simulated Water Level (mAHD)
- Depths (m)
- 0.0 - 0.3
 - 0.3 - 0.5
 - 0.5 - 1.0
 - 1.0 - 2.0
 - >= 2.0

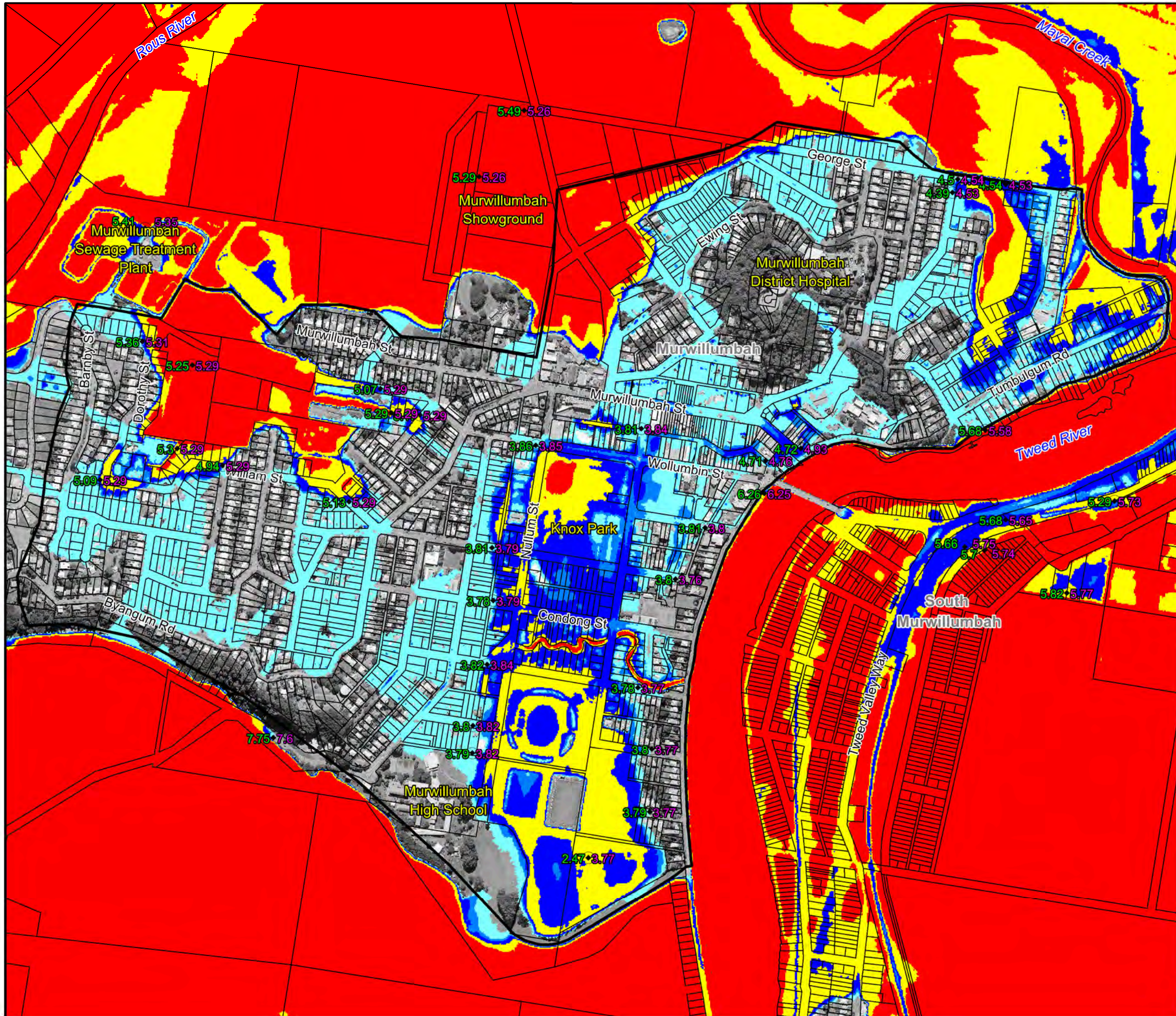
Notes:
Aerial photograph date: 2015



**Figure 8:
Simulated Floodwater
Depths & Levels
for 2017 Flood**

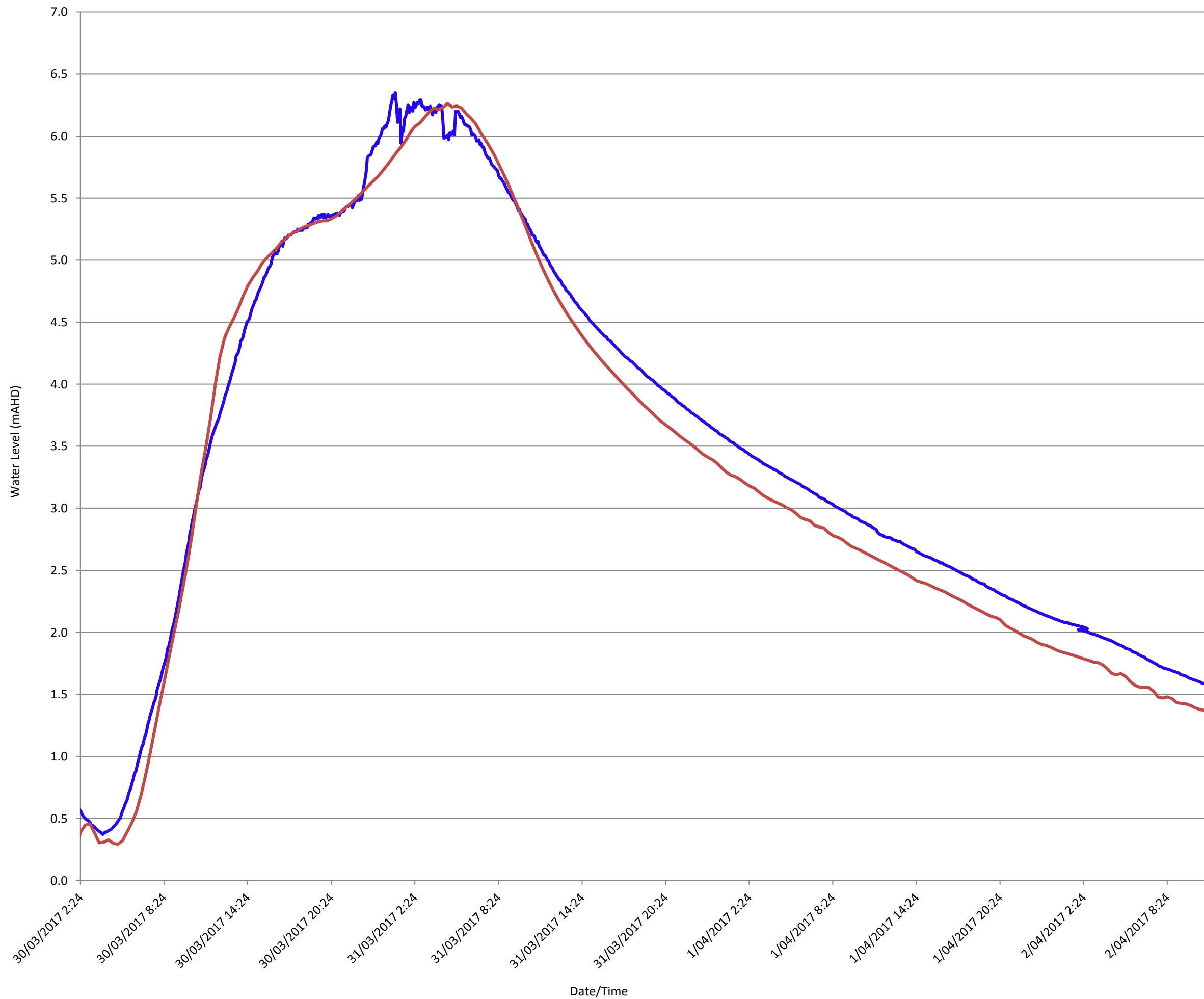
Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig8 - Flood Depths & Level for 2017 Flood.wor




LEGEND:

- Recorded Stage Hydrograph
- Simulated Stage Hydrograph



Notes:

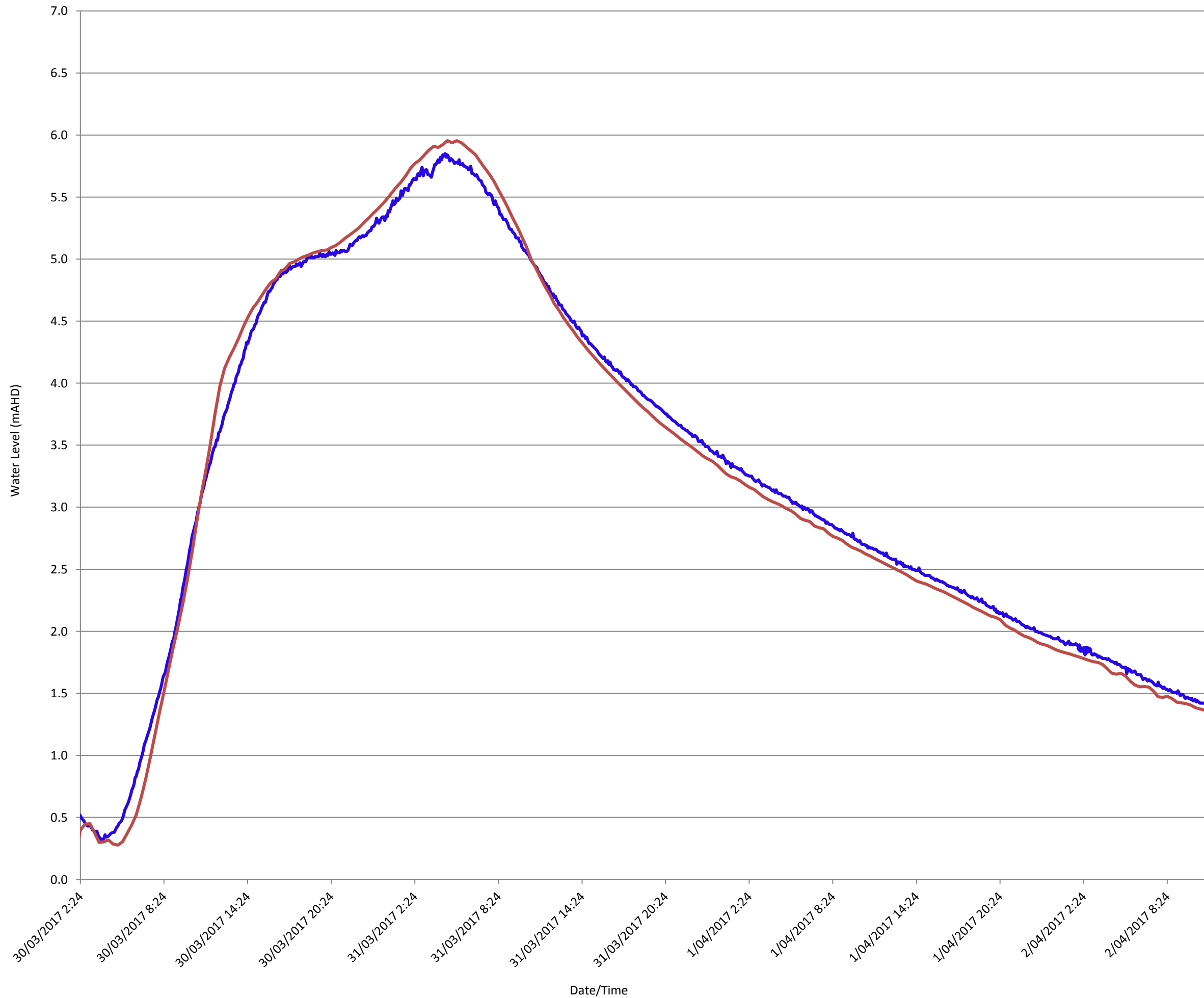
**Figure 9.1:
Recorded and
Simulated Stage
Hydrographs for Tweed
River at Murwillumbah
Gauge for 2017 Flood**

Prepared By:

Catchment Simulation Solutions
 Suite 2.01, 210 George Street
 Sydney, NSW, 2000

File Name: .xls


LEGEND:

- Recorded Stage Hydrograph
- Simulated Stage Hydrograph



Notes:

**Figure 9.2:
Recorded and
Simulated Stage
Hydrographs for Tweed
River at Murwillumbah
Bridge Gauge for 2017
Flood**

Prepared By:

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 Sydney, NSW, 2000

File Name: .xls

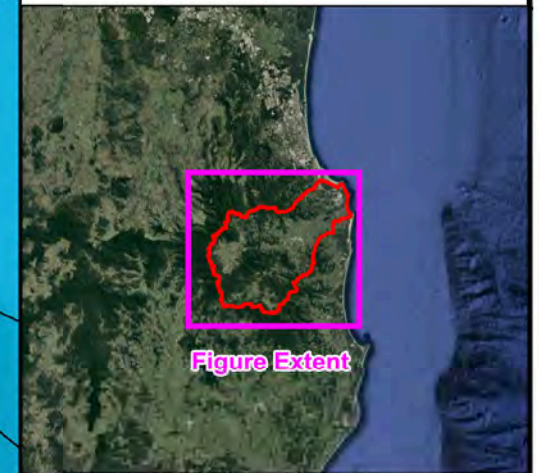


Figure Extent

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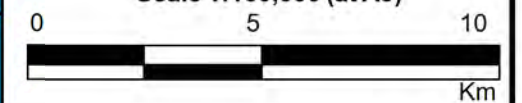
- Catchment Boundary
 - Study Area
 - Gauge Number - Rainfall (mm)
 - Rainfall Isohyet (mm)
- Rainfall Depth (mm)**
- 0
 - 200
 - 400
 - 600
 - 800
 - 1000

Notes:

Isohyets are calculated based on total rainfall for the entire duration of the storm.
Aerial photograph date: 2015.



Scale 1:160,000 (at A3)

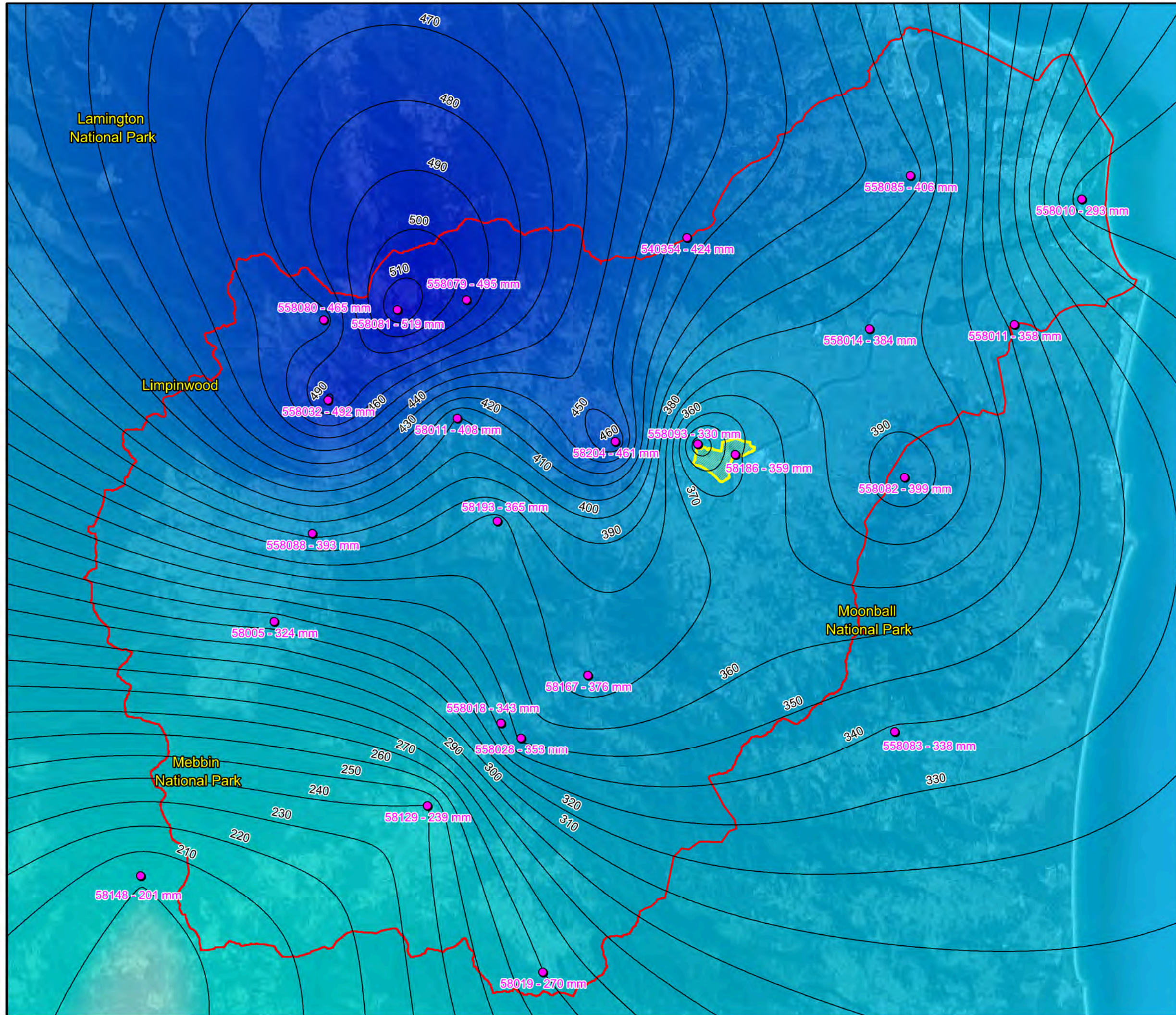


**Figure 10:
Isohyet Map
for 2012 Storm**

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Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig 10 Isohyet Map for 2012 Storm.wor

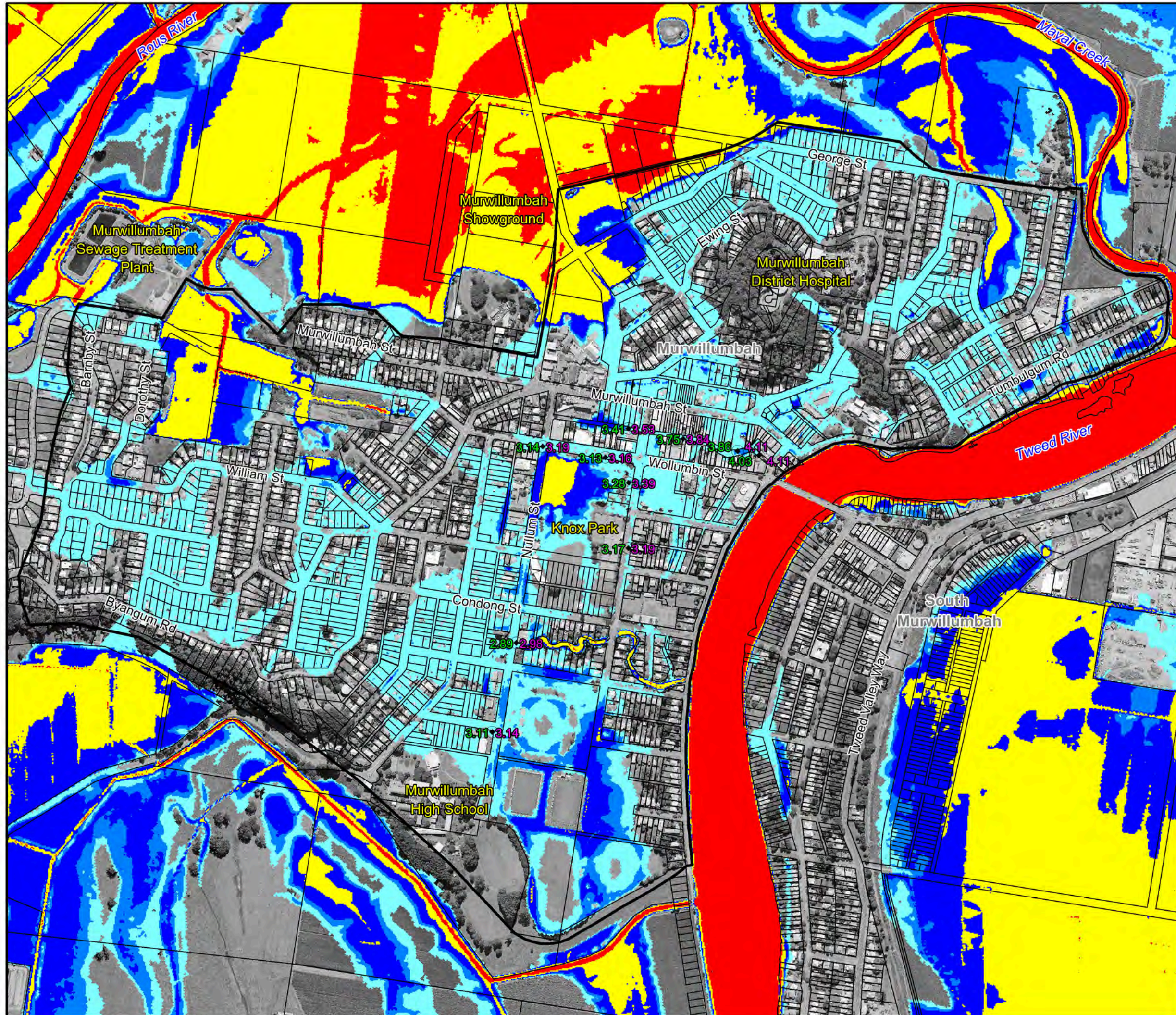


Lamington National Park

Limpinwood

Mebbin National Park

Moonball National Park



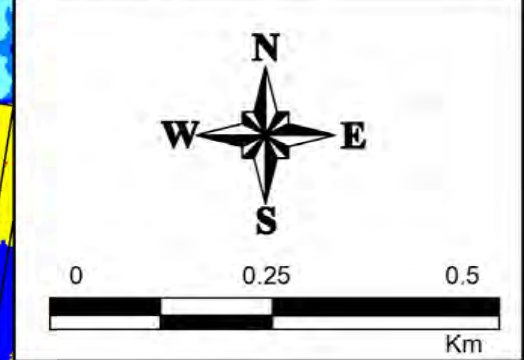
LEGEND

Survey Flood Mark Elevation (mAHD) ● Simulated Water Level (mAHD) ●


Depths (m)

- 0.0 - 0.3
- 0.3 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- >= 2.0

Notes:
Aerial photograph date: 2015



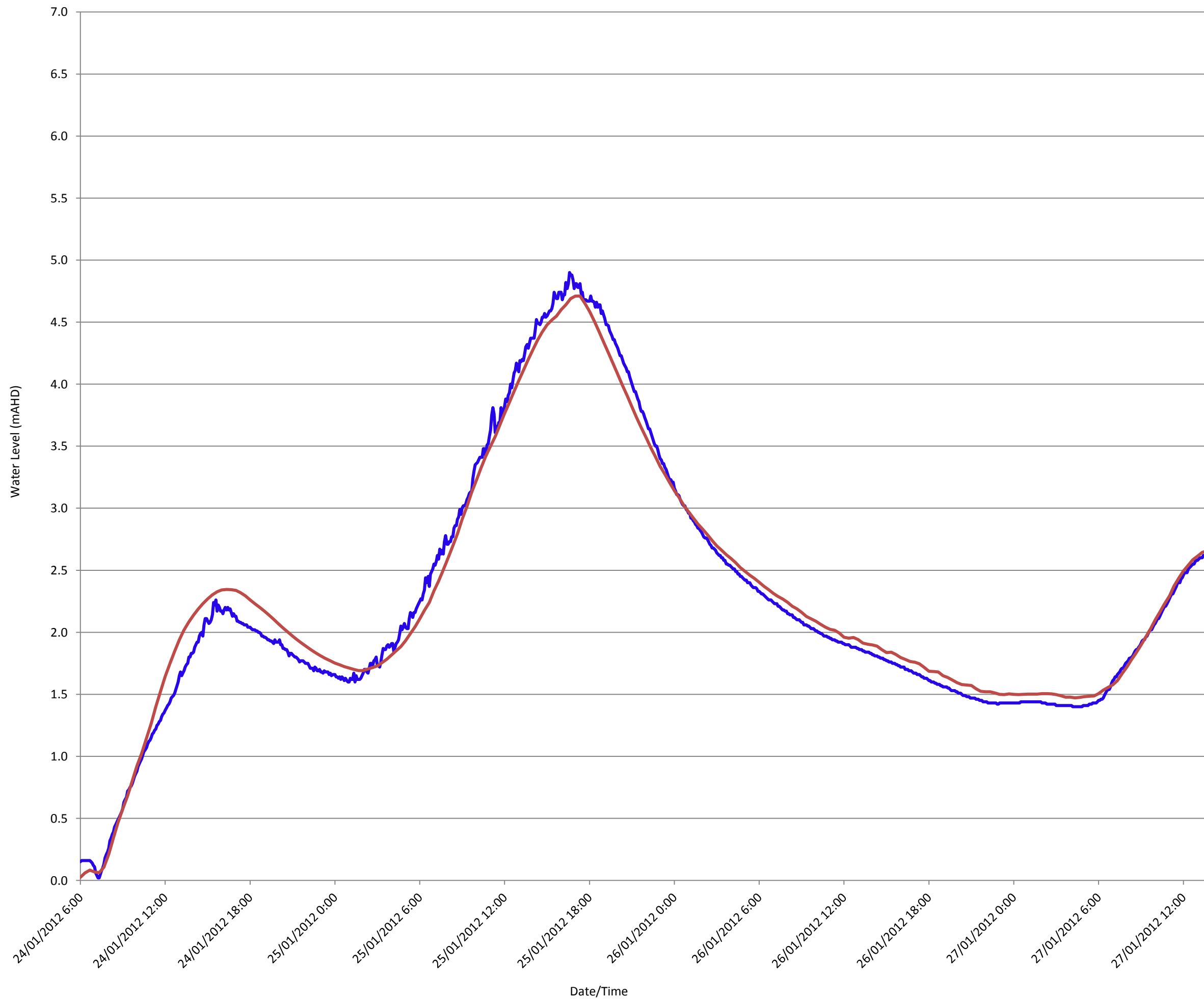
**Figure 11:
Simulated Floodwater
Depths & Levels
for 2012 Flood**

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 Catchment Simulation Solutions
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Sydney, NSW 2000

File Name: Fig11 - Flood Depths & Level for 2012 Flood.wor


LEGEND:

- Recorded Stage Hydrograph
- Simulated Stage Hydrograph



Notes:

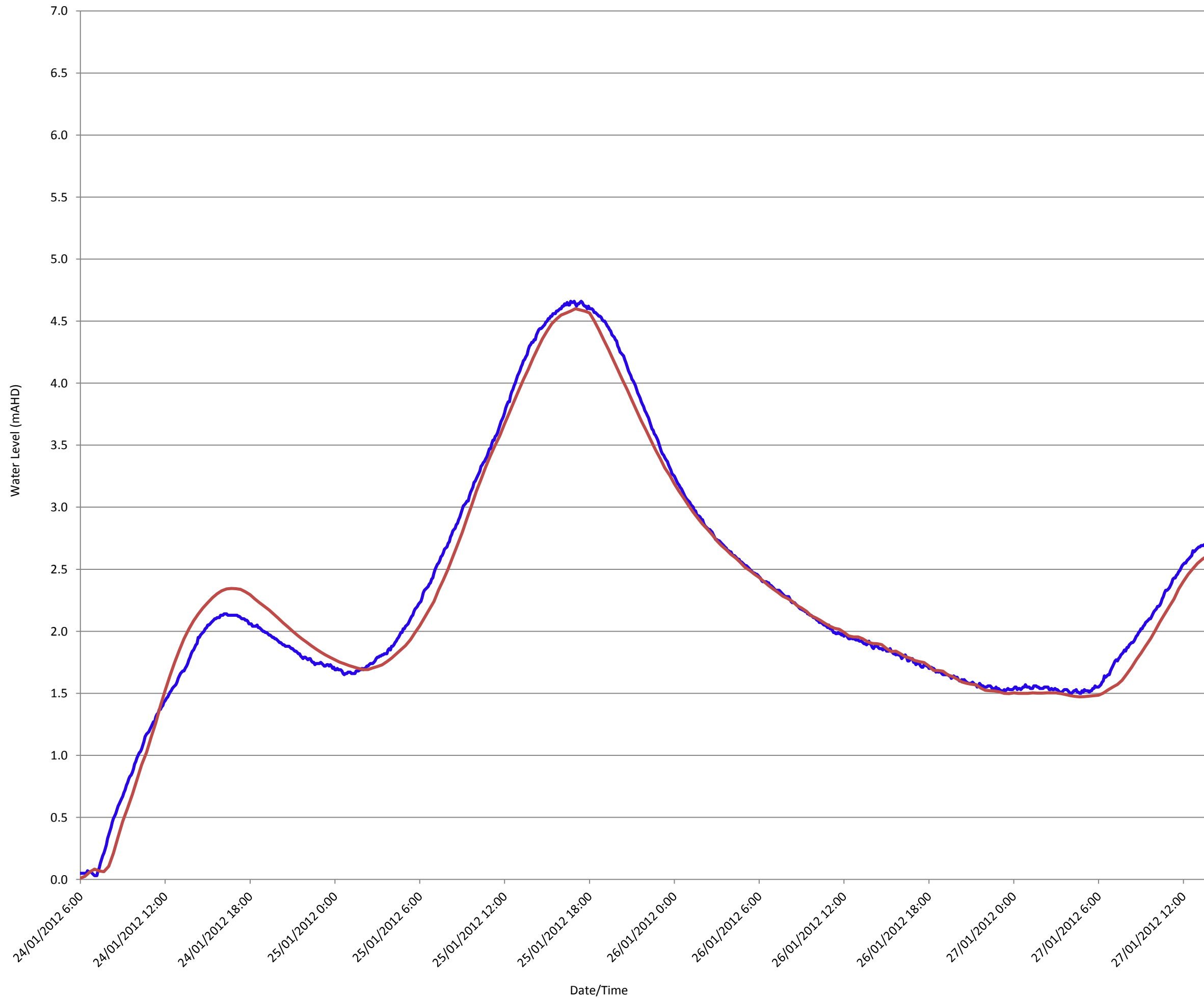
**Figure 12.1:
Recorded and
Simulated Stage
Hydrographs for Tweed
River at Murwillumbah
Gauge for 2012 Flood**

Prepared By:

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 Sydney, NSW, 2000

File Name: .xls


LEGEND:

- Recorded Stage Hydrograph
- Simulated Stage Hydrograph



Notes:

**Figure 12.2:
Recorded and
Simulated Stage
Hydrographs for Tweed
River at Murwillumbah
Bridge Gauge for 2012
Flood**

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 Sydney, NSW, 2000

File Name: .xls



LEGEND

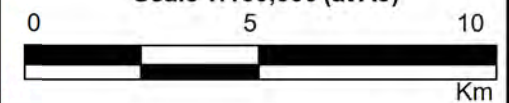
- Catchment Boundary
 - Study Area
 - Gauge Number - Rainfall (mm)
 - Rainfall Isohyet (mm)
- Rainfall Depth (mm)**
- 0
 - 200
 - 400
 - 600
 - 800
 - 1000

Notes:

Isohyets are calculated based on total rainfall for the entire duration of the storm.
Aerial photograph date: 2015.



Scale 1:160,000 (at A3)

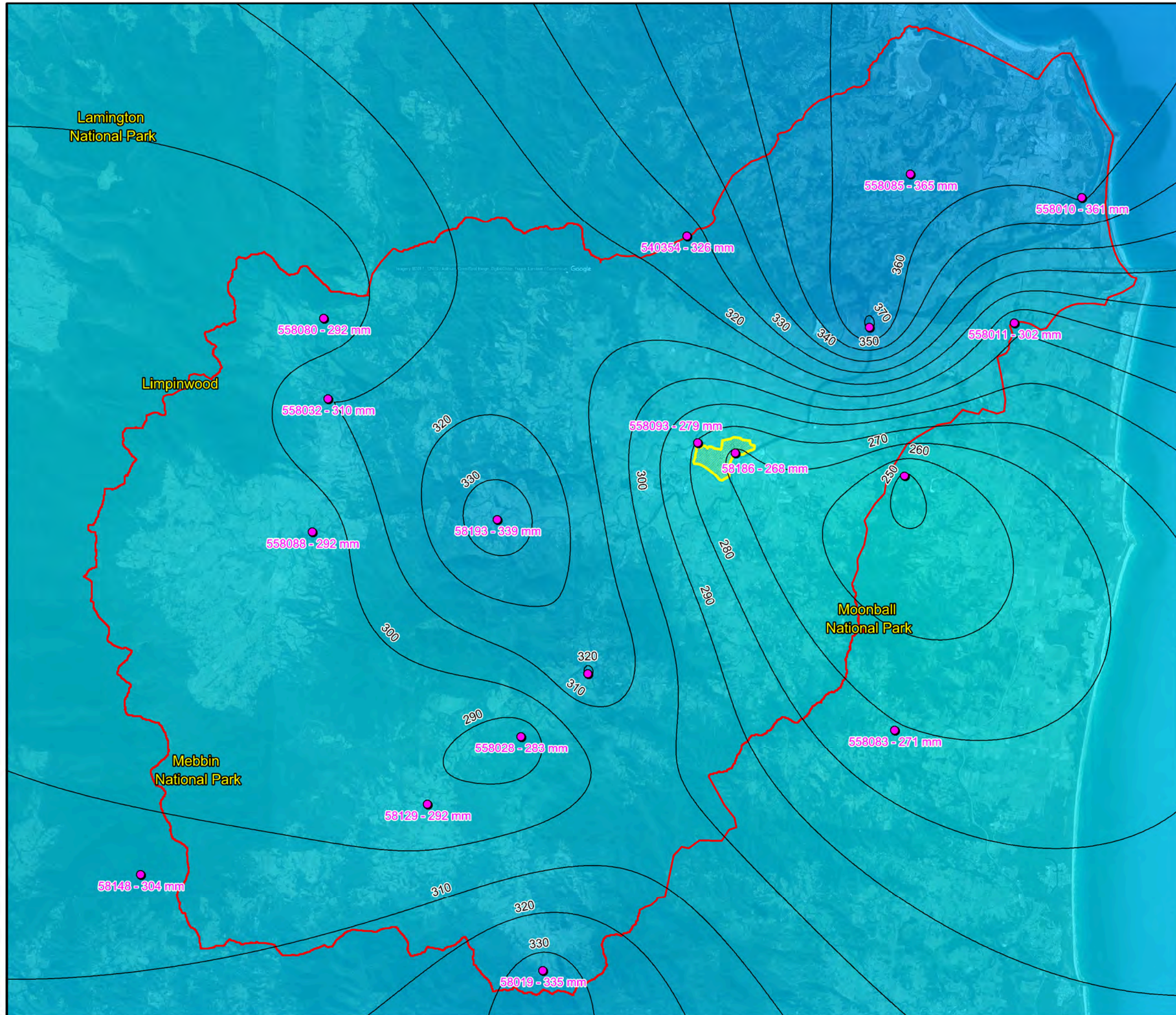


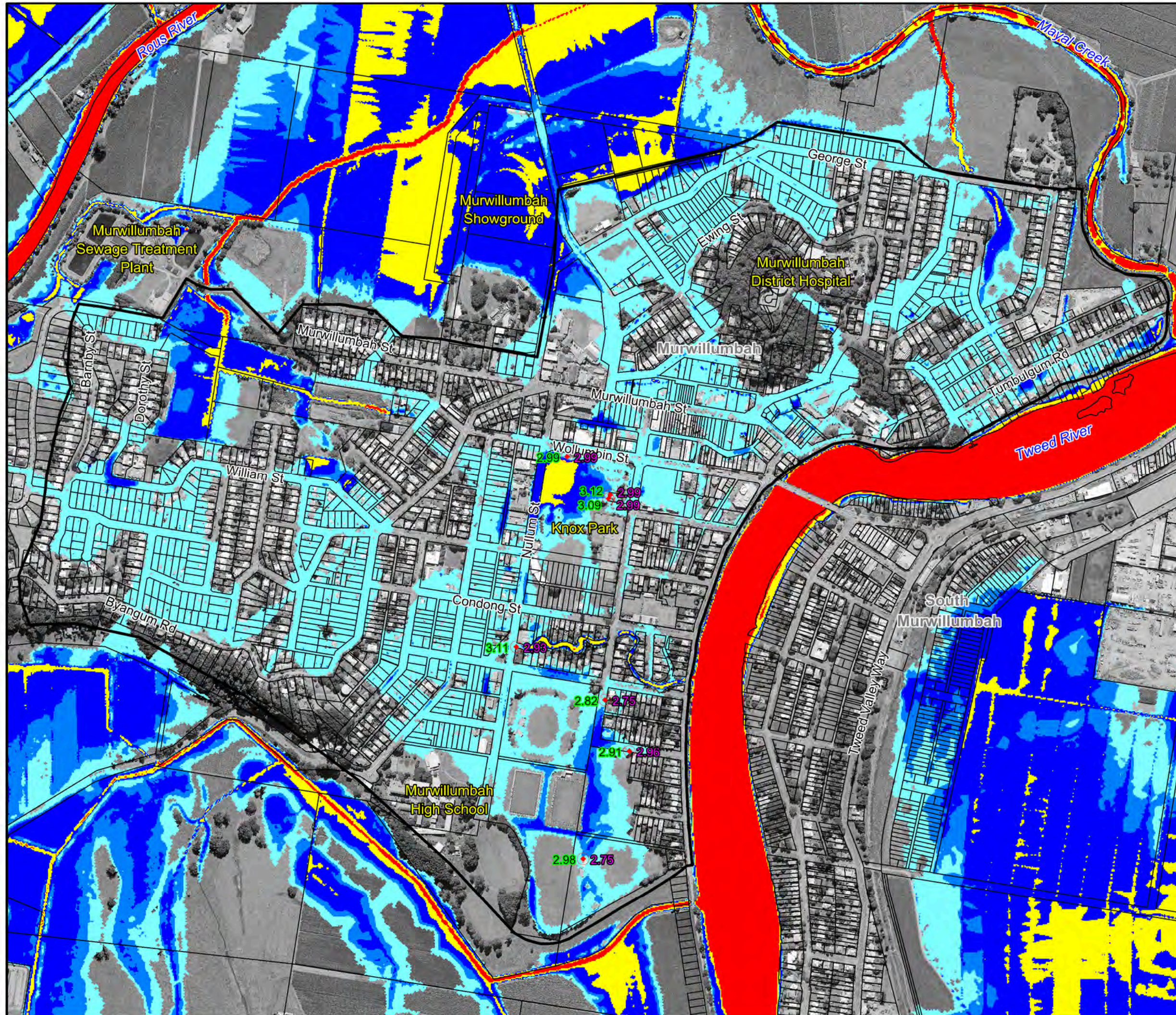
**Figure 13:
Isohyet Map for
2016 Storm**

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Sydney, NSW 2000

File Name: Fig 13 Isohyet Map for 2016 Storm.wor





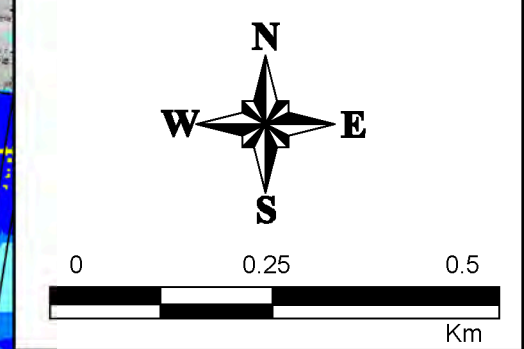
LEGEND

Survey Flood Mark Elevation (mAHD) Simulated Water Level (mAHD)

Depths (m)

- 0.0 - 0.3
- 0.3 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- >= 2.0

Notes:
Aerial photograph date: 2015



0 0.25 0.5
Km

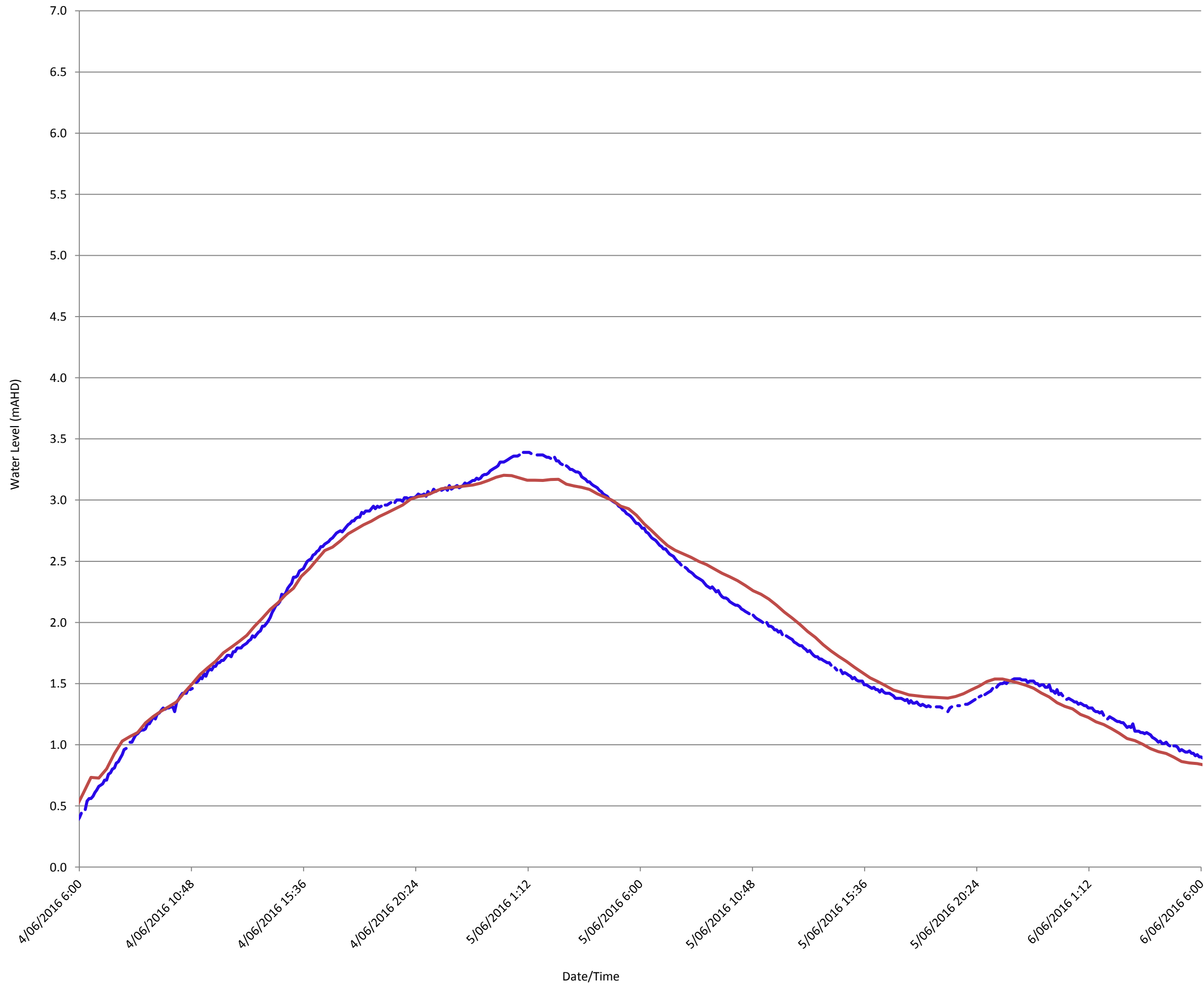
**Figure 14:
Simulated Floodwater
Depths & Levels
for 2016 Flood**

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Catchment Simulation Solutions
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig14 - Flood Depths & Level for 2016 Flood.wor

LEGEND:


- Recorded Stage Hydrograph
- Simulated Stage Hydrograph



Notes:

**Figure 15.1:
Recorded and
Simulated Stage
Hydrographs for Tweed
River at Murwillumbah
Bridge Gauge for 2016
Flood**

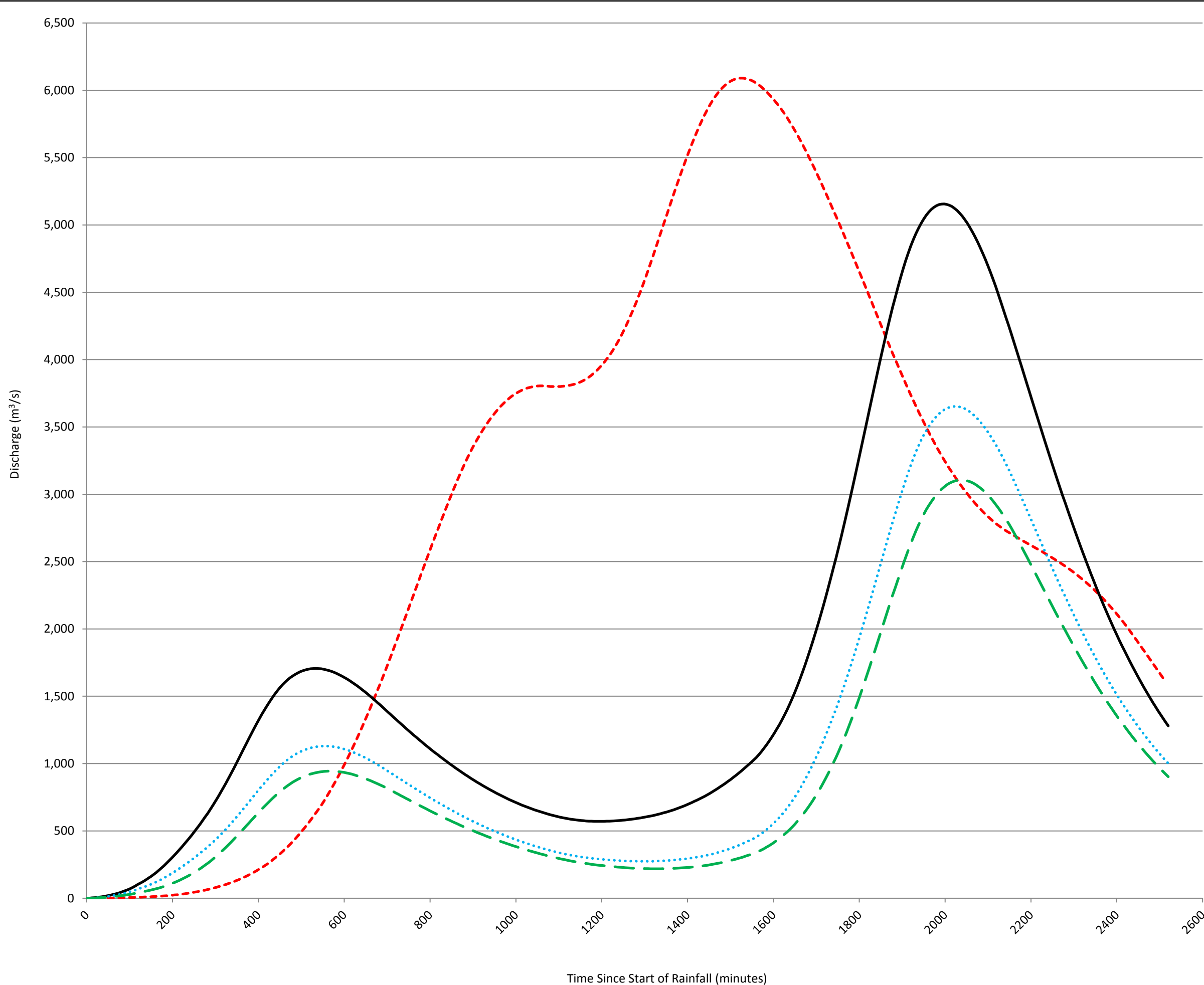
Prepared By:

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Sydney, NSW, 2000

File Name: .xls


LEGEND:

- - - 0.2% AEP Discharge Hydrograph
- 1% AEP Discharge Hydrograph
- . . . 5% AEP Discharge Hydrograph
- - - 20% AEP Discharge Hydrograph



Notes:

**Figure 16.1:
Design Flow
Hydrographs:
Tweed River at
Murwillumbah**

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 Sydney, NSW, 2000


File Name: Murwillumbah Design Flow Hydrographs.xls

LEGEND:

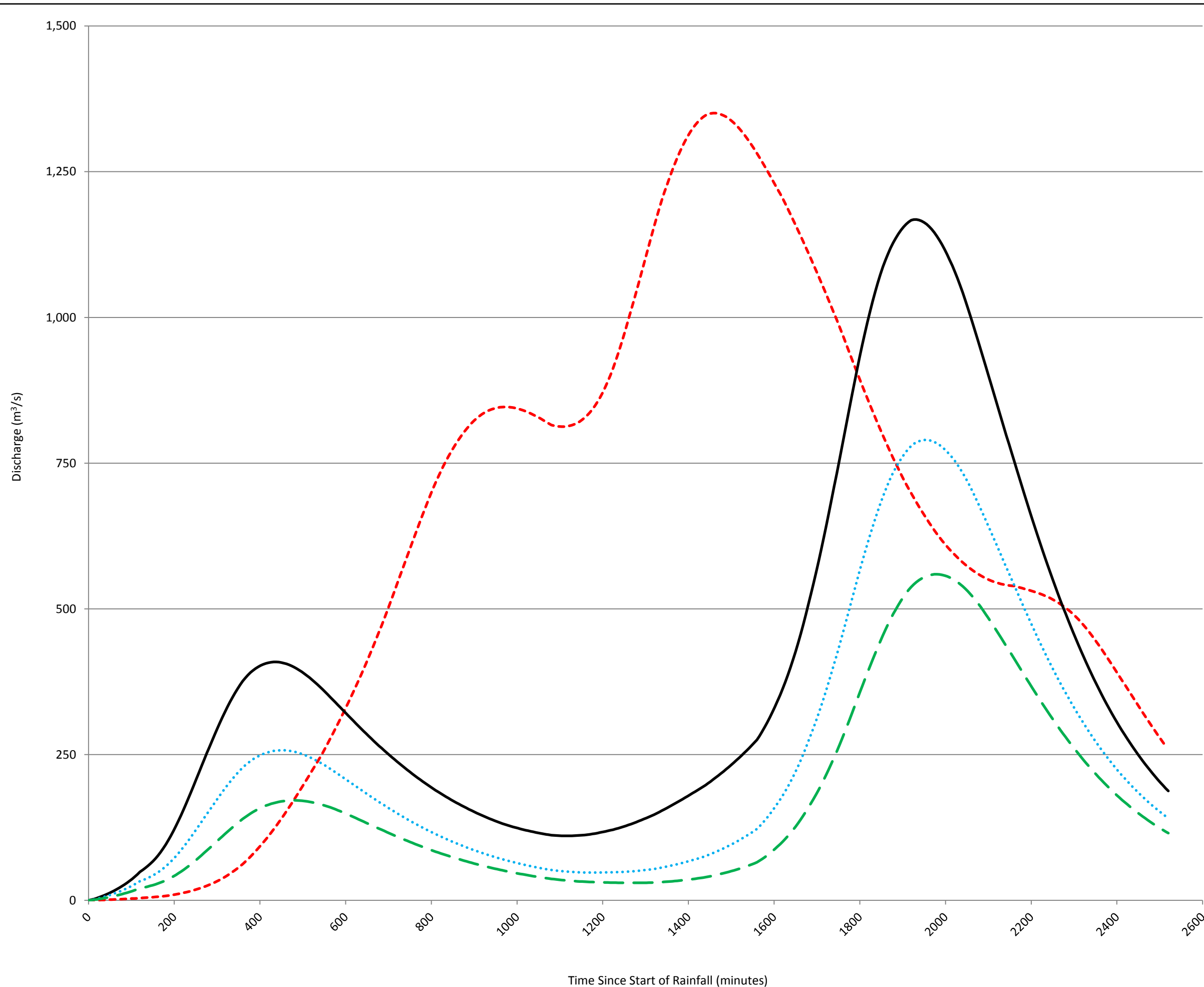
- - - 0.2% AEP Discharge Hydrograph
- 1% AEP Discharge Hydrograph
- ⋯ 5% AEP Discharge Hydrograph
- - - 20% AEP Discharge Hydrograph

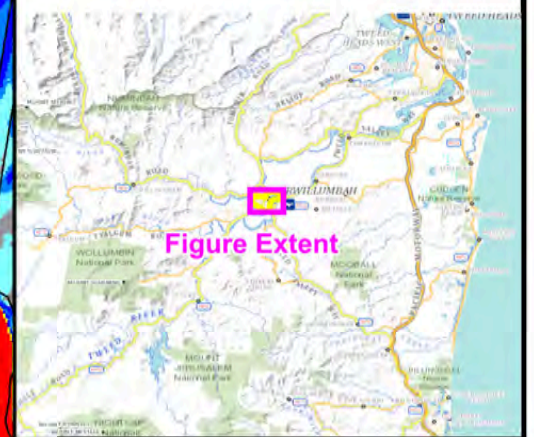
Notes:

**Figure 16.2:
Design Flow
Hydrographs:
Rous River at
Murwillumbah**

Prepared By:

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 Sydney, NSW, 2000

File Name: Murwillumbah Design Flow
Hydrographs.xls



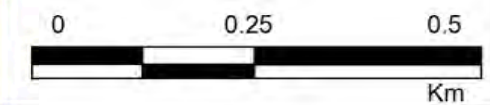


LEGEND

Depths (m)

0.0 - 0.3
0.3 - 0.5
0.5 - 1.0
1.0 - 2.0
>= 2.0

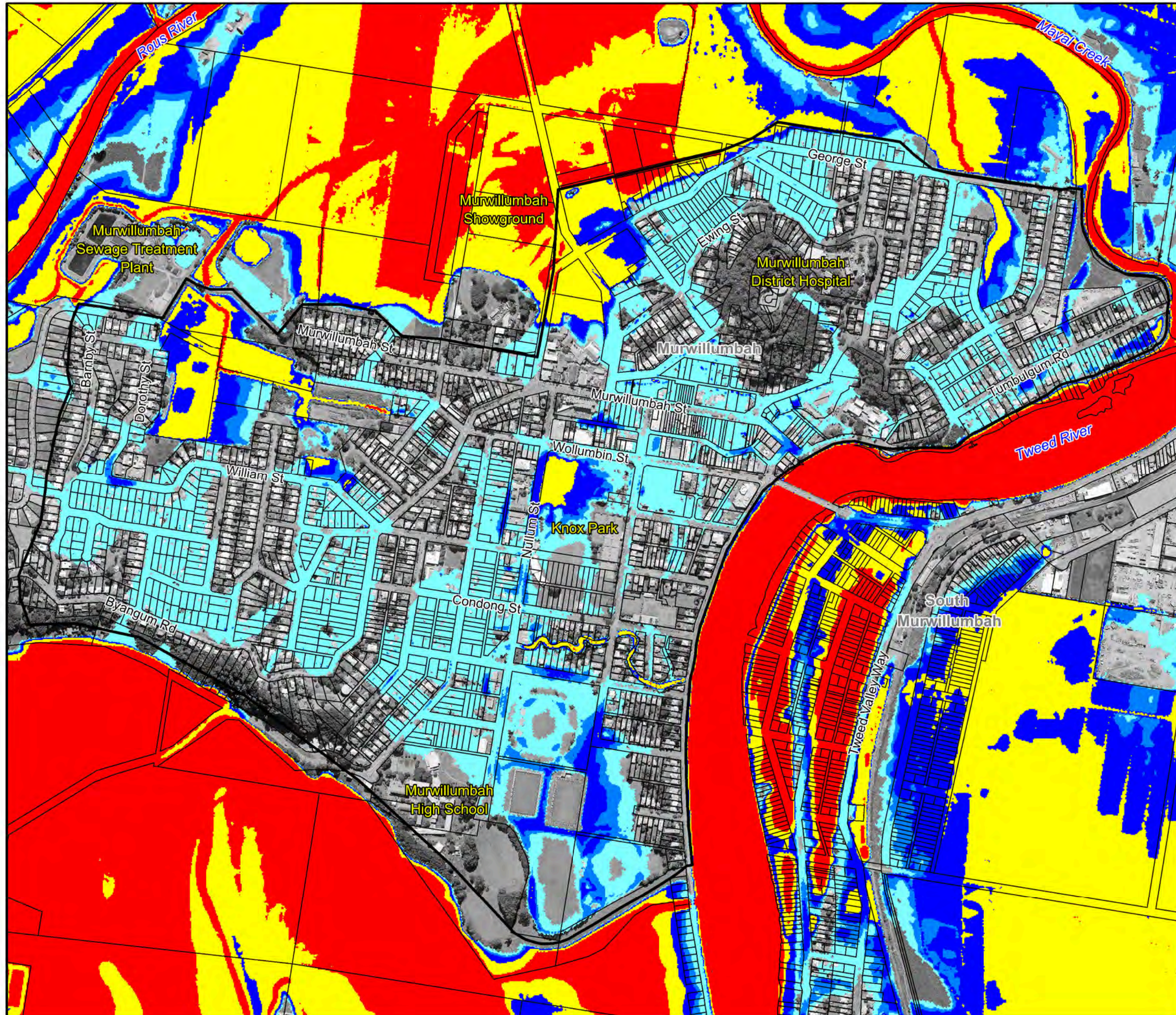
Notes:
Aerial photograph date: 2015

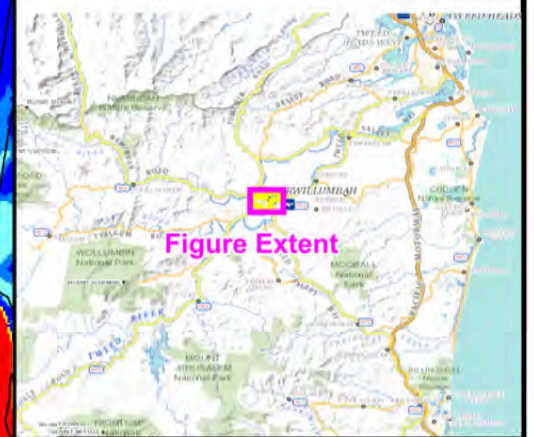


**Figure 17:
Floodwater Depths
for the 20% AEP Flood**

Prepared By:
Catchment Simulation Solutions
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig17 - Flood Depths 20AEP.wor



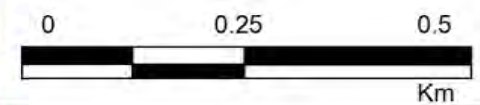


LEGEND

Depths (m)

0.0 - 0.3
0.3 - 0.5
0.5 - 1.0
1.0 - 2.0
>= 2.0

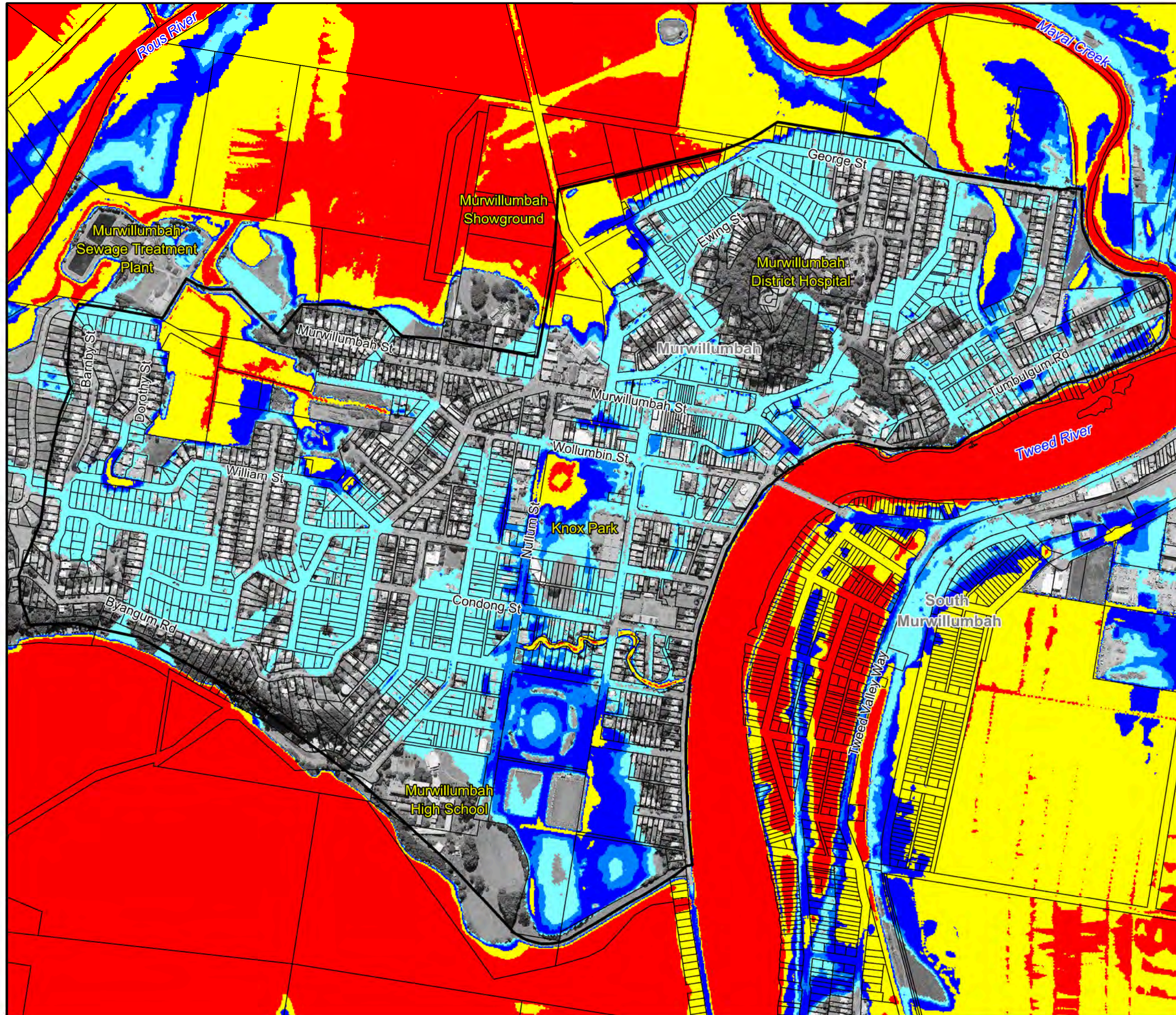
Notes:
Aerial photograph date: 2015



**Figure 18:
Floodwater Depths
for the 5% AEP Flood**

Prepared By:
Catchment Simulation Solutions
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig18 - Flood Depths 5AEP.wor





TWEED
SHIRE COUNCIL

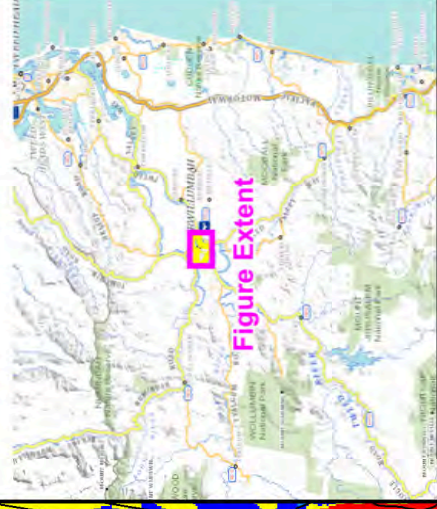


Figure Extent

LEGEND

Depths (m)	
0.0 - 0.3	Light Blue
0.3 - 0.5	Blue
0.5 - 1.0	Dark Blue
1.0 - 2.0	Yellow
>= 2.0	Red

Notes:

Aerial photograph date: 2015

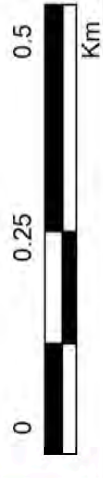
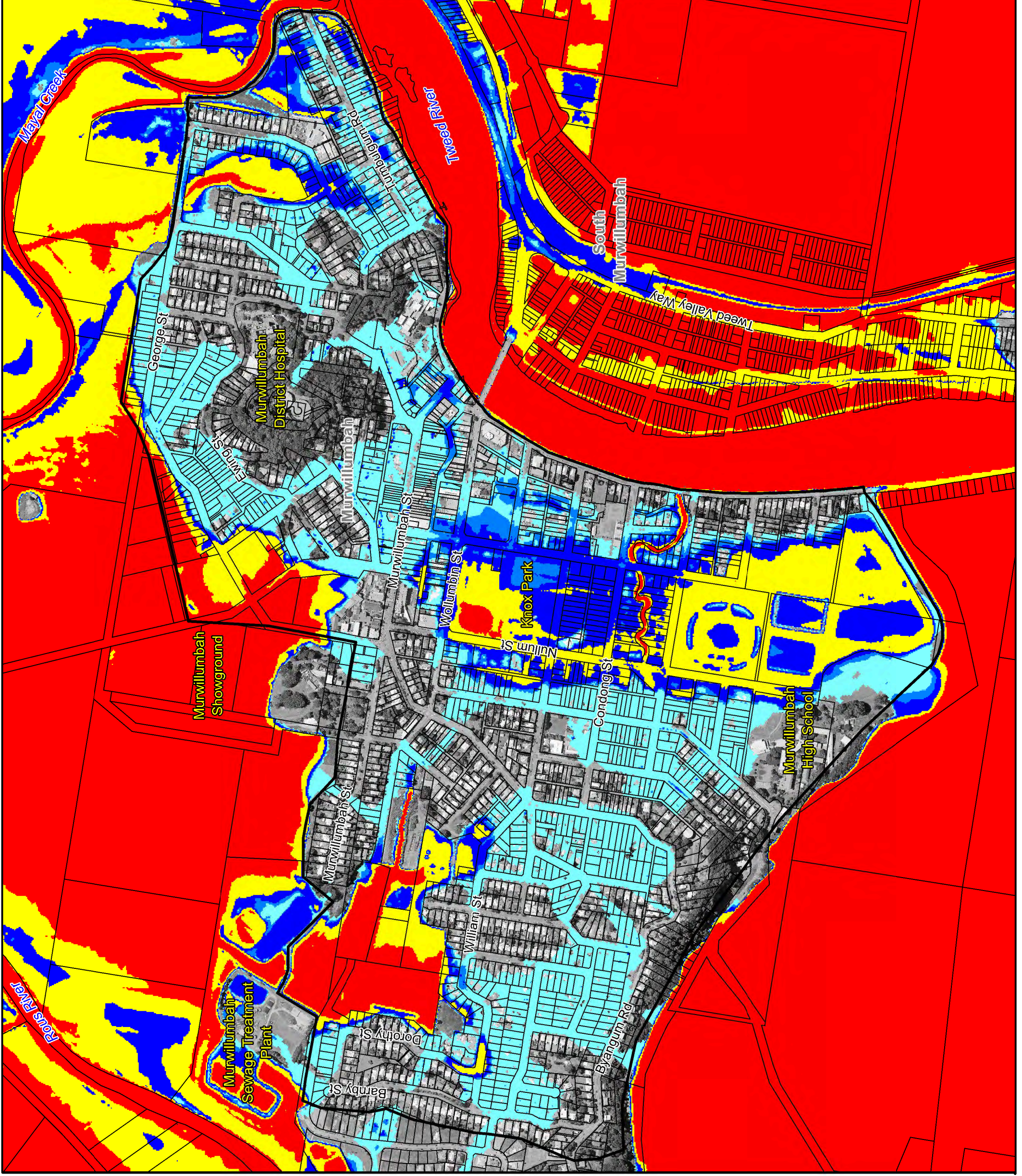


Figure 19:
Floodwater Depths
for the 1% AEP Flood

Prepared By:

Catchment Simulation Solutions
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig19 - Flood Depths 1AEP.wor





TWEED
SHIRE COUNCIL



LEGEND

Depths (m)	
0.0 - 0.3	Light Blue
0.3 - 0.5	Medium Blue
0.5 - 1.0	Dark Blue
1.0 - 2.0	Yellow
>= 2.0	Red

Notes:

Aerial photograph date: 2015

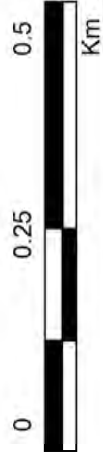


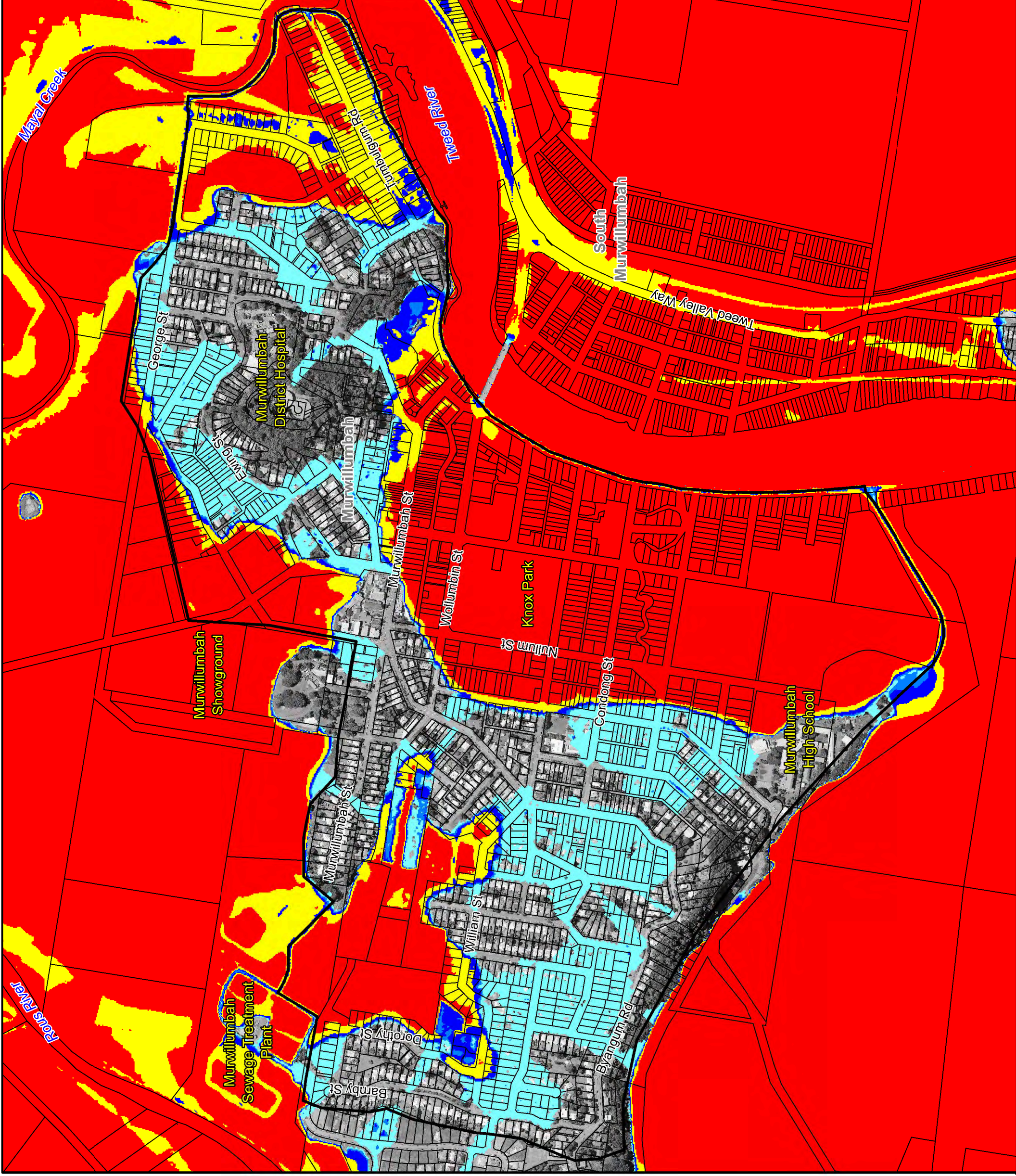
Figure 20:
Floodwater Depths
for the 0.2% AEP Flood

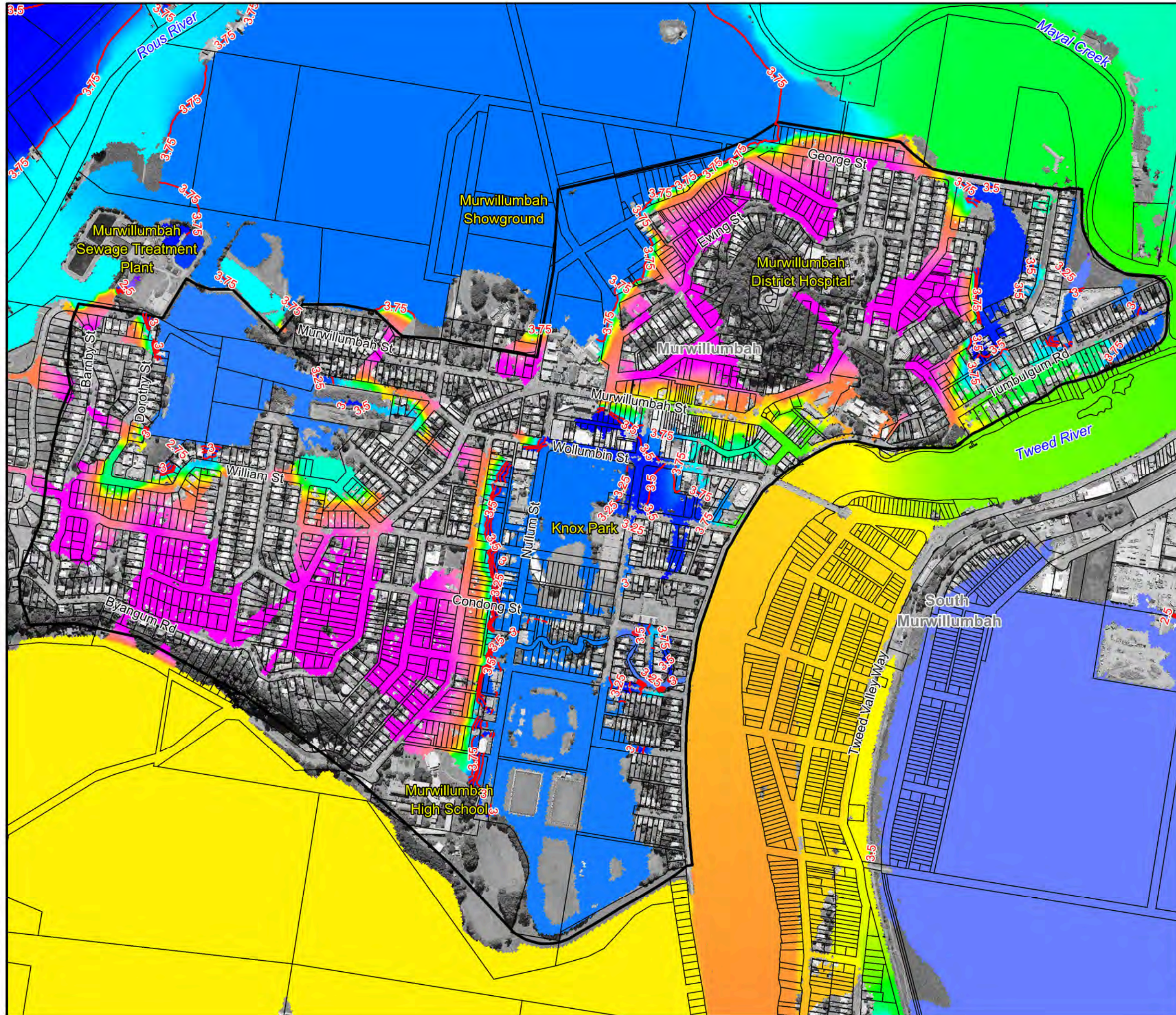
Prepared By:



Catchment Simulation Solutions
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig20 - Flood Depths 02AEP.wor





LEGEND

2 Flood Level (mAHD)

Flood Level (mAHD)

≤ 2.0	5.0
2.5	6.0
3.0	8.0
3.5	10.0
4.0	≥ 15.0
4.5	

Notes:
Aerial photograph date: 2015

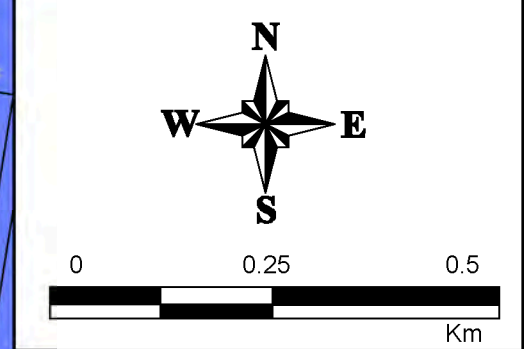


Figure 21:
Floodwater Levels
for the 20% AEP Flood

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig21 - Flood Levels 20AEP.wor



LEGEND

2 Flood Level (mAHD)

Flood Level (mAHD)

=< 2.0	5.0
2.5	6.0
3.0	8.0
3.5	10.0
4.0	>= 15.0
4.5	

Notes:

Aerial photograph date: 2015

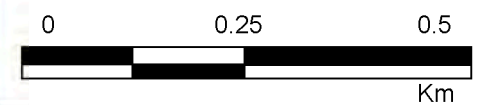
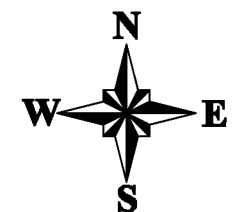

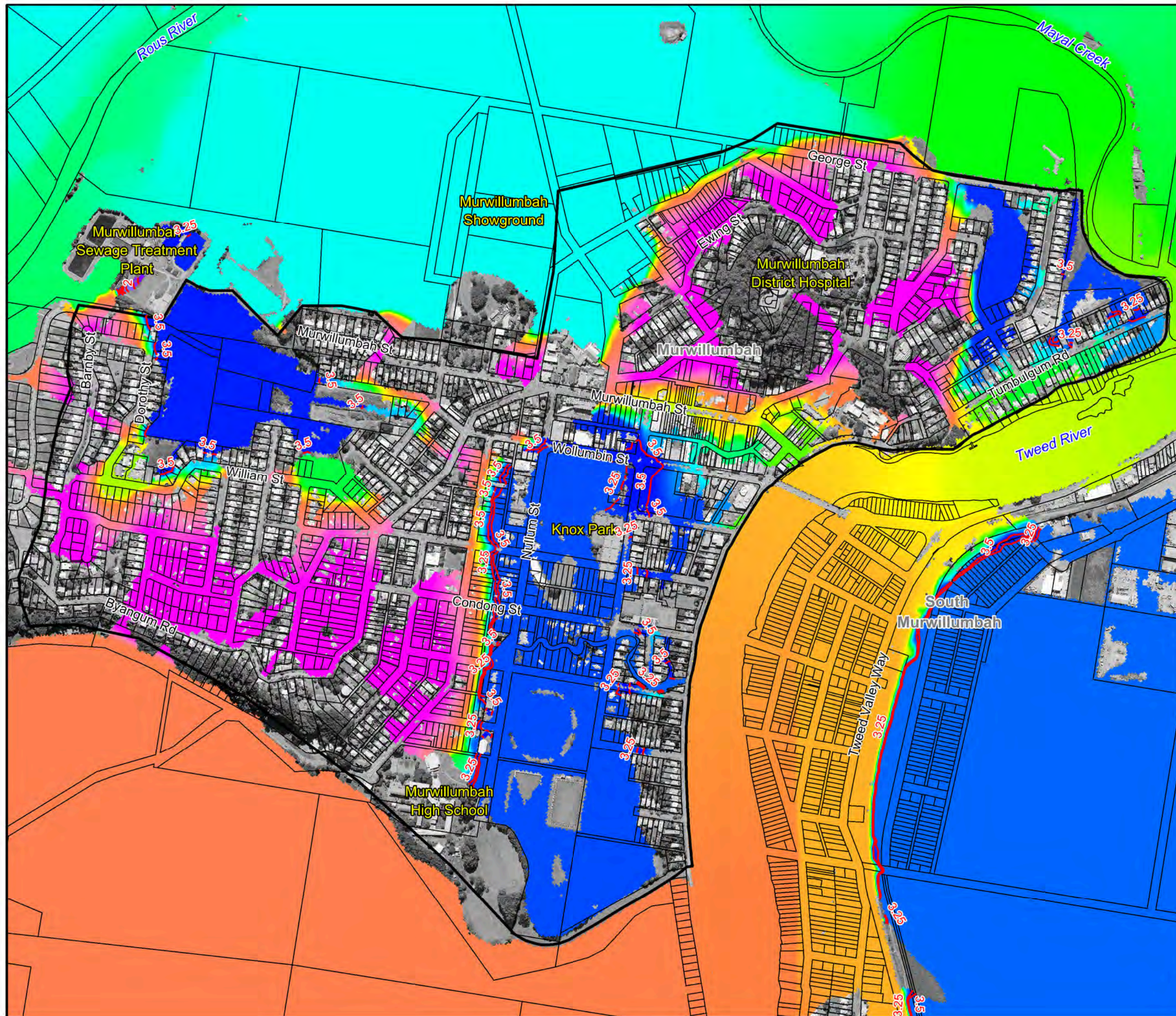


Figure 22:
Floodwater Levels
for the 5% AEP Flood

Prepared By:

 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig22 - Flood Levels 5AEP.wor





LEGEND

2 Flood Level (mAHD)

Flood Level (mAHD)

=< 2.0	5.0
2.5	6.0
3.0	8.0
3.5	10.0
4.0	>= 15.0
4.5	

Notes:
Aerial photograph date: 2015

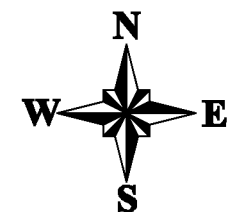

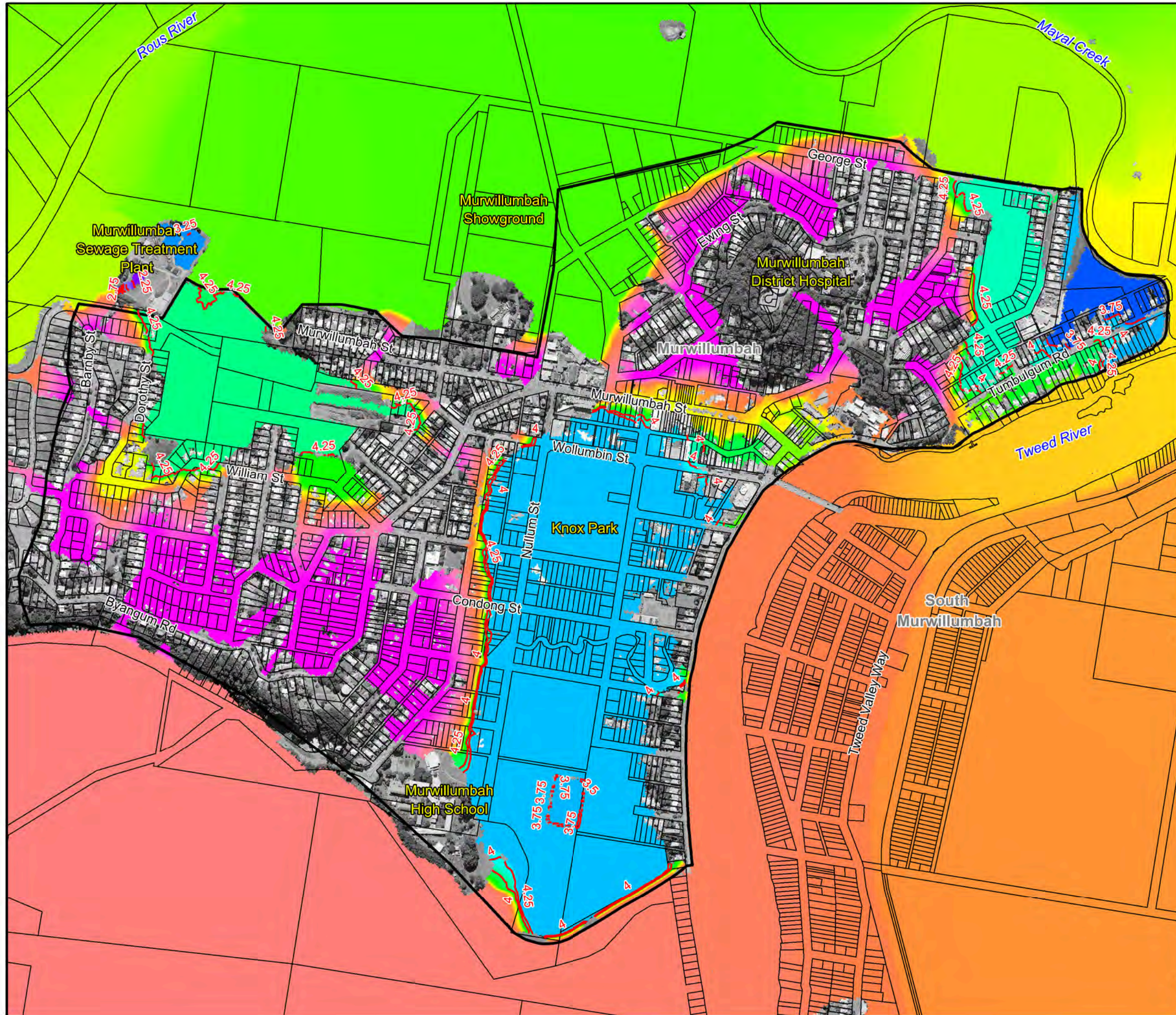
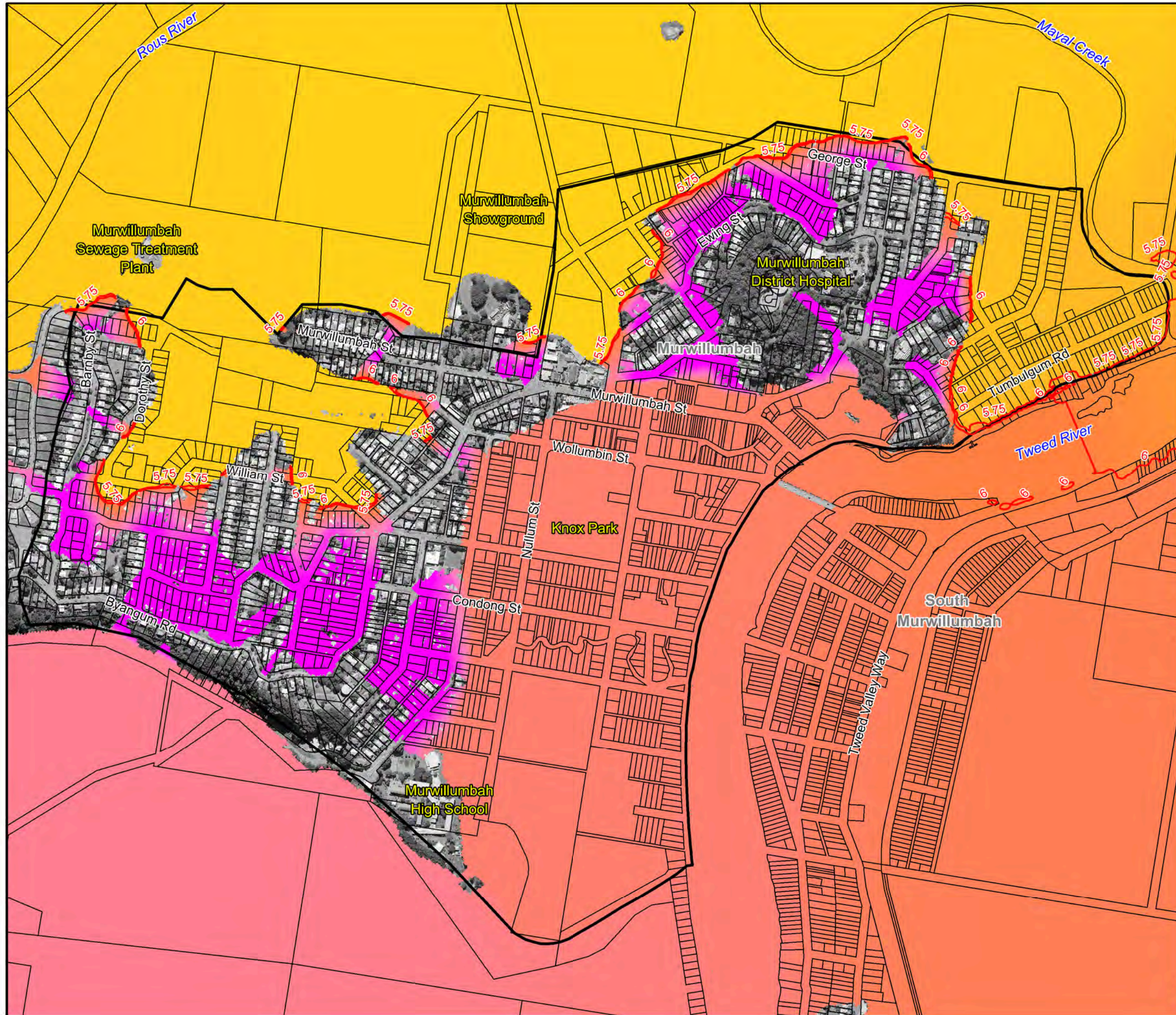


Figure 23:
Floodwater Levels
for the 1%AEP Flood

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig23 - Flood Levels 1AEP.wor





LEGEND

2 Flood Level (mAHd)

Flood Level (mAHd)

≤ 2.0	5.0
2.5	6.0
3.0	8.0
3.5	10.0
4.0	≥ 15.0
4.5	

Notes:
Aerial photograph date: 2015

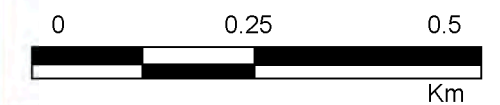
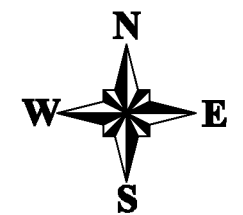

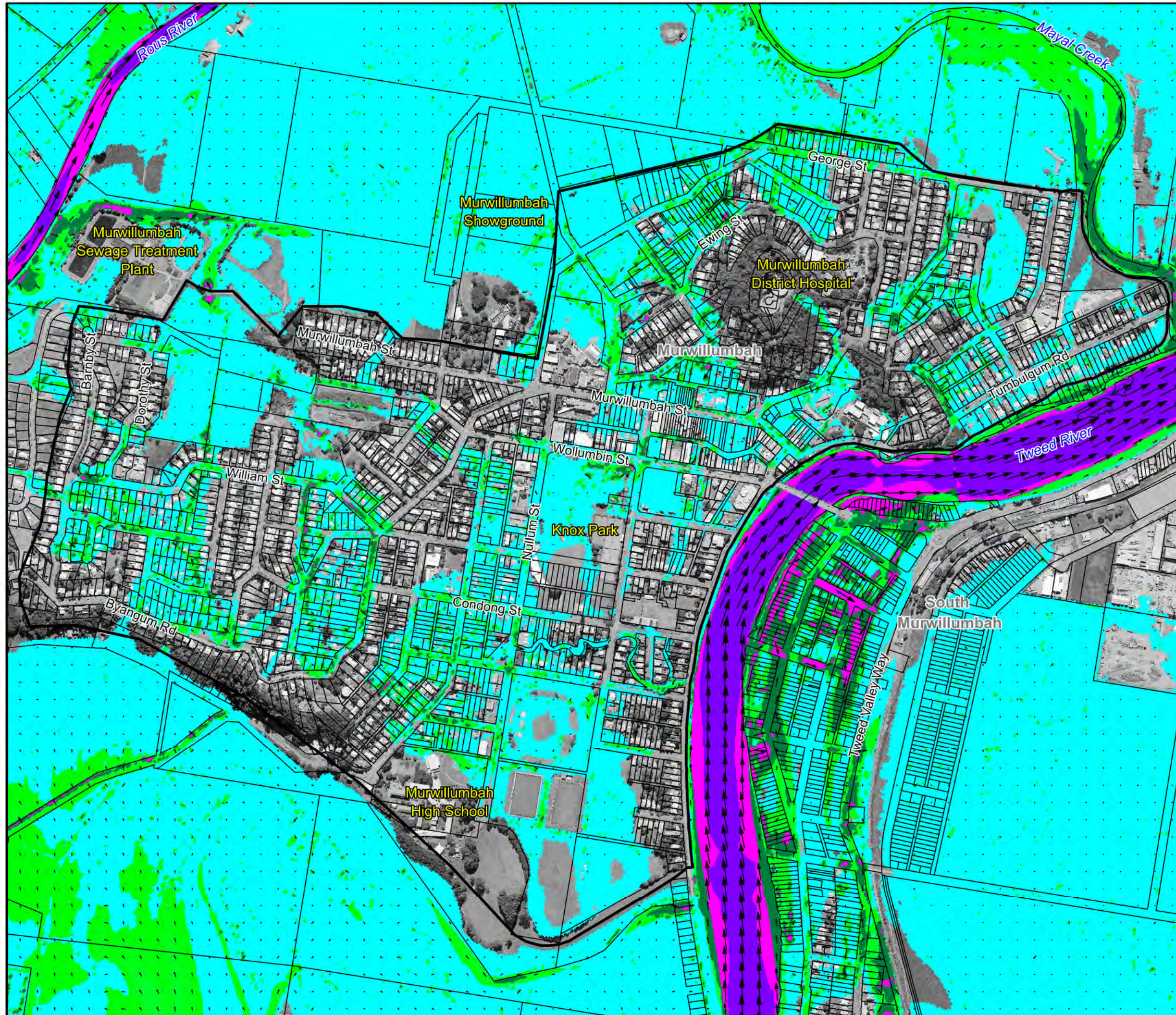


Figure 24:
Floodwater Levels
for the 0.2% AEP Flood

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig24 - Flood Levels 02AEP.wor



LEGEND

Velocity (m/s)	Velocity Vectors
0.0 - 0.25	→ 1 m/s
0.25 - 0.5	→ 2 m/s
0.5 - 1.0	→ 4 m/s
1.0 - 2.0	
≥ 2.0	

Notes:
Aerial photograph date: 2015

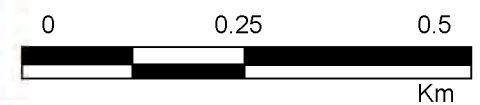
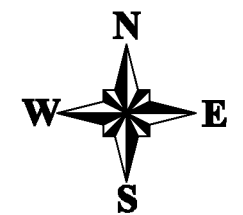

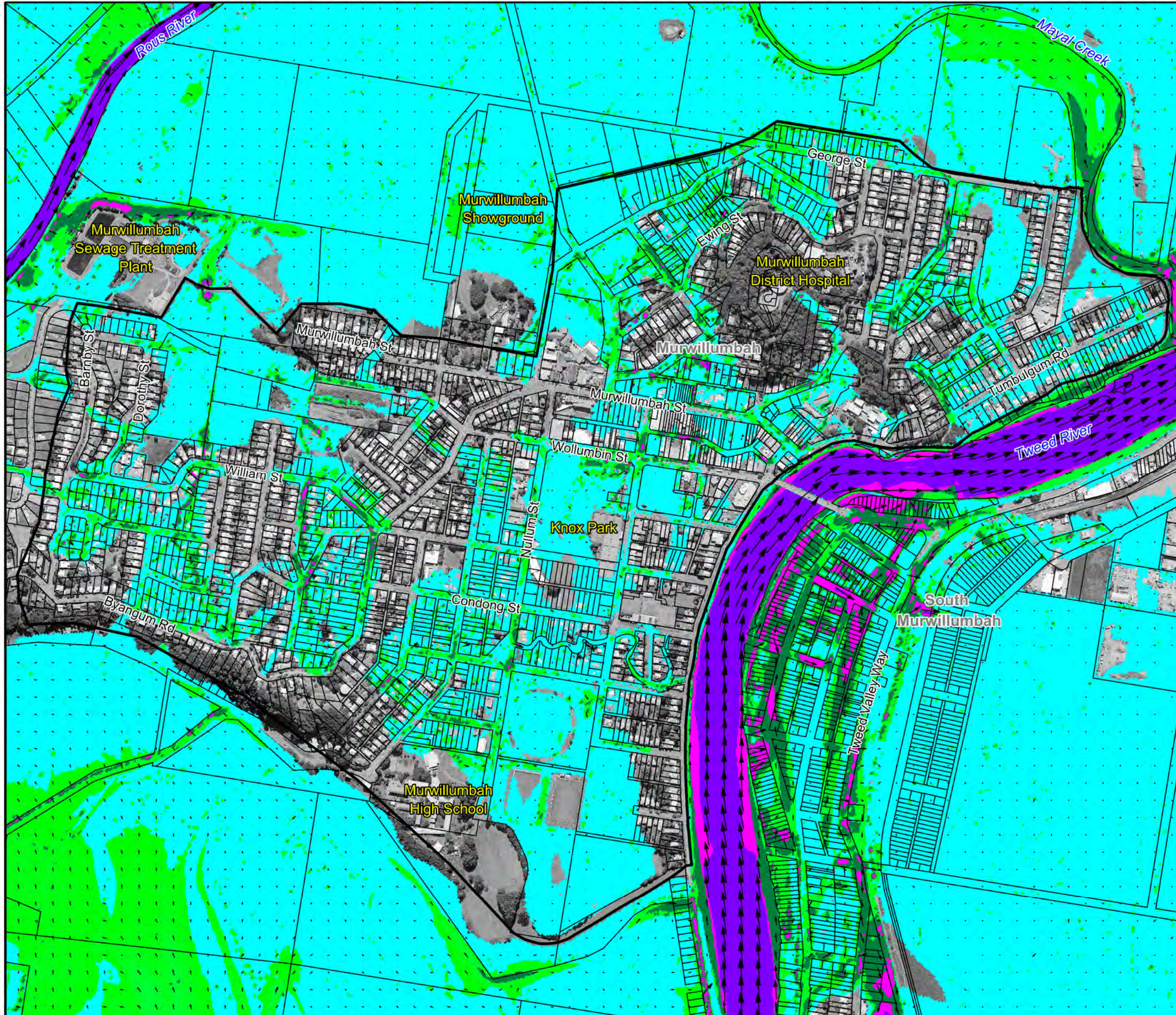


Figure 25:
Floodwater Velocities
for the 20% AEP Flood

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig25 - Flood Vel 20AEP.wor



LEGEND

Velocity (m/s)	Velocity Vectors
0.0 - 0.25	→ 1 m/s
0.25 - 0.5	→ 2 m/s
0.5 - 1.0	→ 4 m/s
1.0 - 2.0	
≥ 2.0	

Notes:
Aerial photograph date: 2015

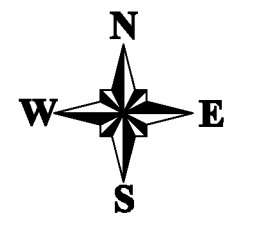
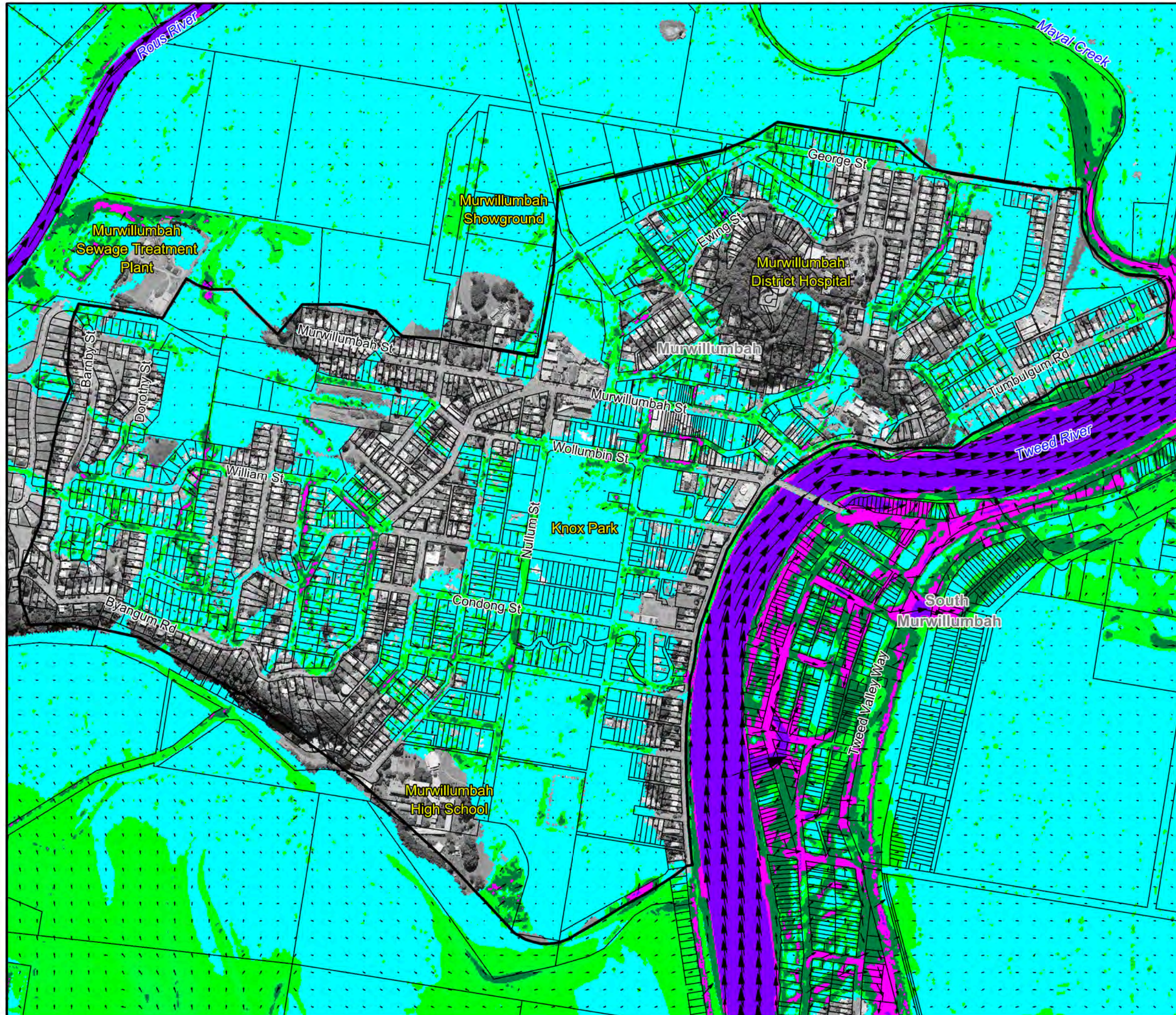


Figure 26:
Floodwater Velocities
for the 5% AEP Flood

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig26 - Flood Vel for 5AEP.wor



LEGEND

Velocity (m/s)	Velocity Vectors
0.0 - 0.25	→ 1 m/s
0.25 - 0.5	→ 2 m/s
0.5 - 1.0	→ 4 m/s
1.0 - 2.0	
≥ 2.0	

Notes:
Aerial photograph date: 2015

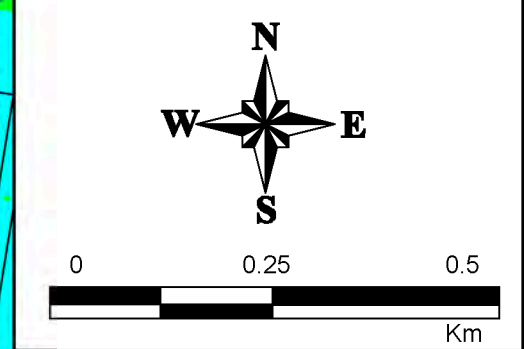
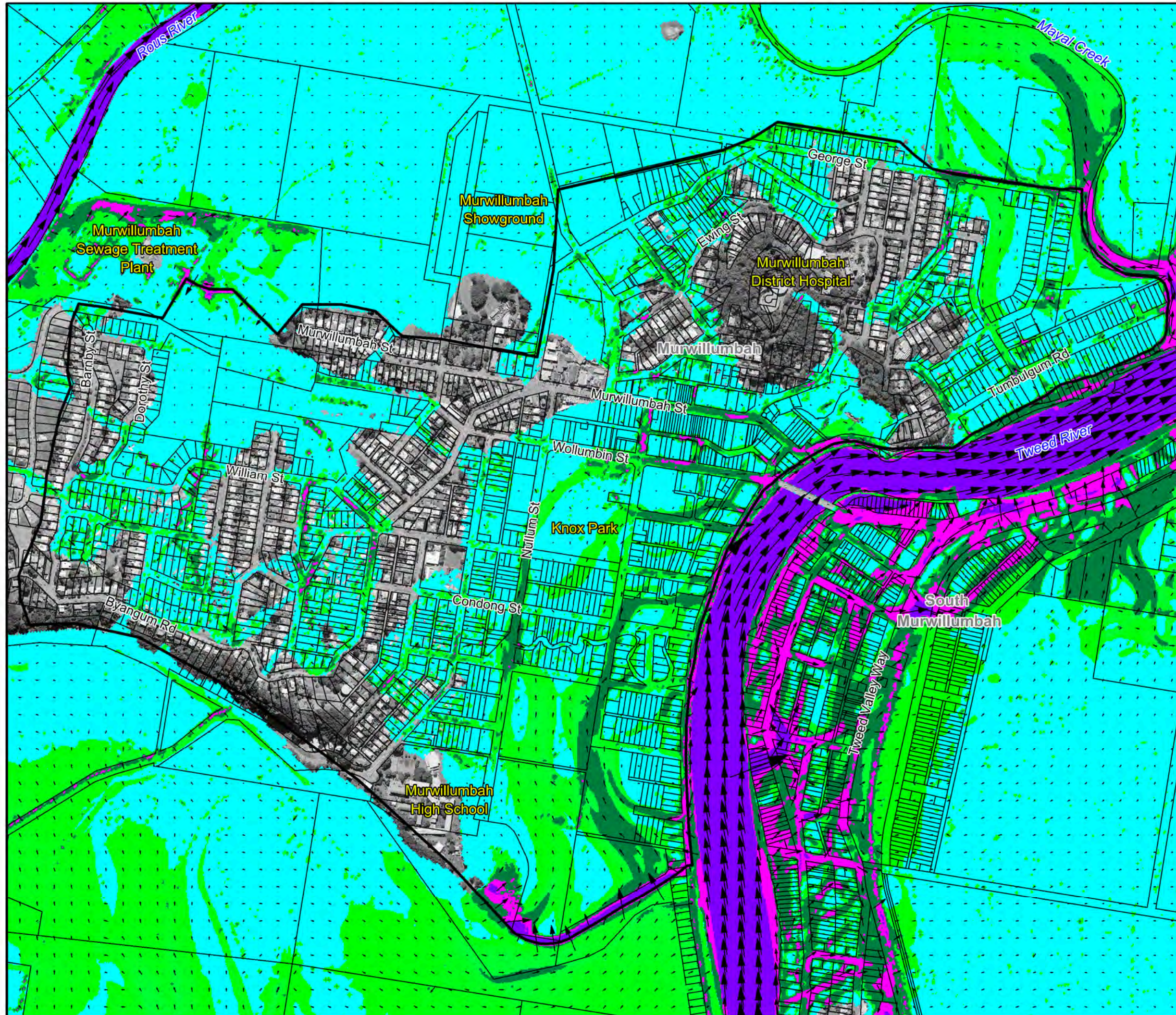


Figure 27:
Floodwater Velocities
for the 1% AEP Flood

Prepared By:
Catchment Simulation Solutions
Suite 2.01, 210 George St
Sydney, NSW 2000

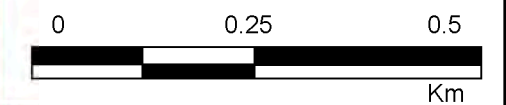
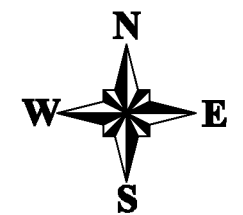
File Name: Fig27 - Flood Vel 1AEP.wor




LEGEND

Velocity (m/s)	Velocity Vectors
0.0 - 0.25	→ 1 m/s
0.25 - 0.5	→ 2 m/s
0.5 - 1.0	→ 4 m/s
1.0 - 2.0	
>= 2.0	

Notes:
Aerial photograph date: 2015



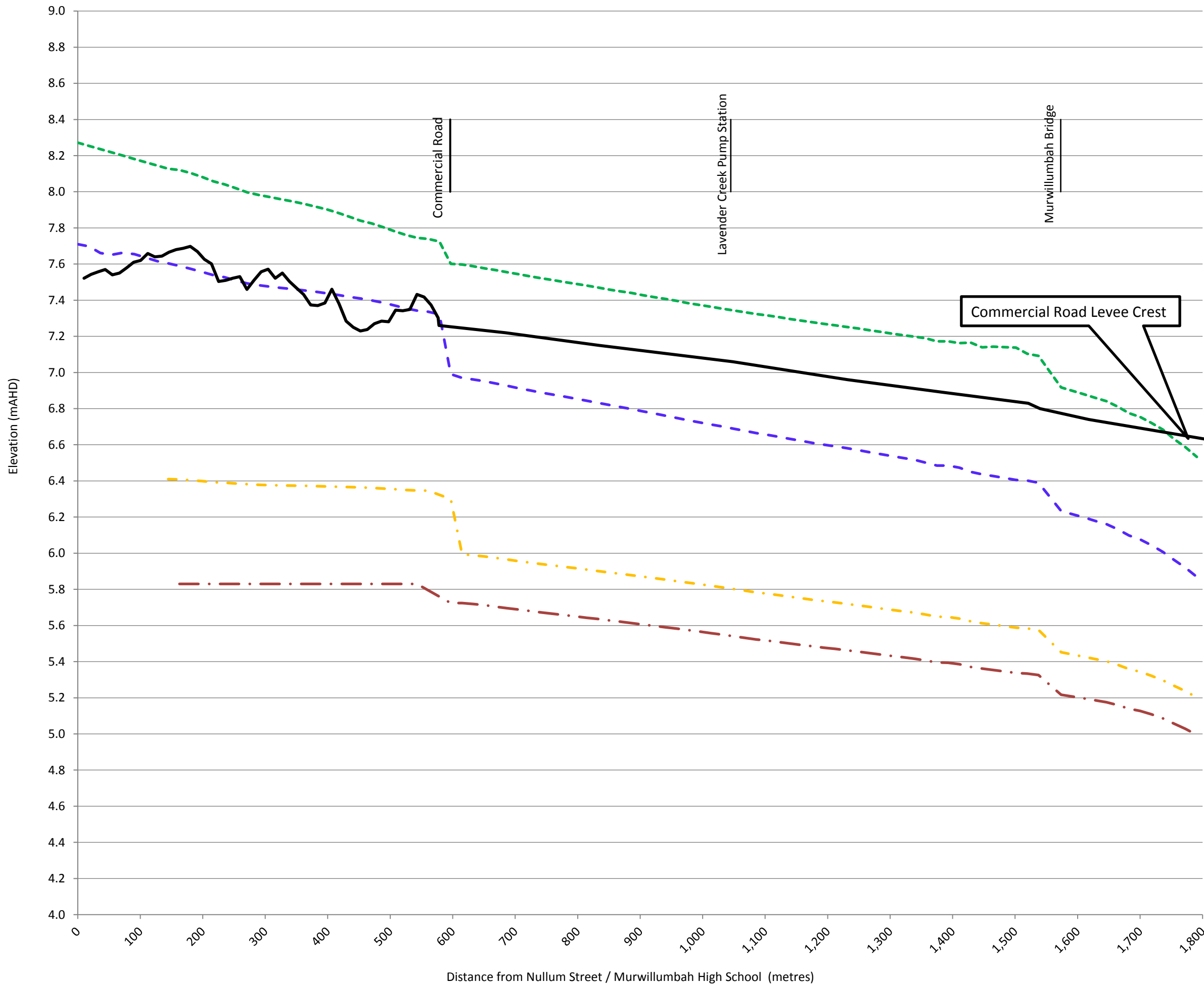
**Figure 28:
Floodwater Velocities
for the 0.2% AEP Flood**

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig28 - Flood Vel 02AEP.wor


LEGEND:

- - - 0.2% AEP Water Surface Profile
- - - 1% AEP Water Surface Profile
- . - 5% AEP Water Surface Profile
- . - 20% AEP Water Surface Profile



Notes:

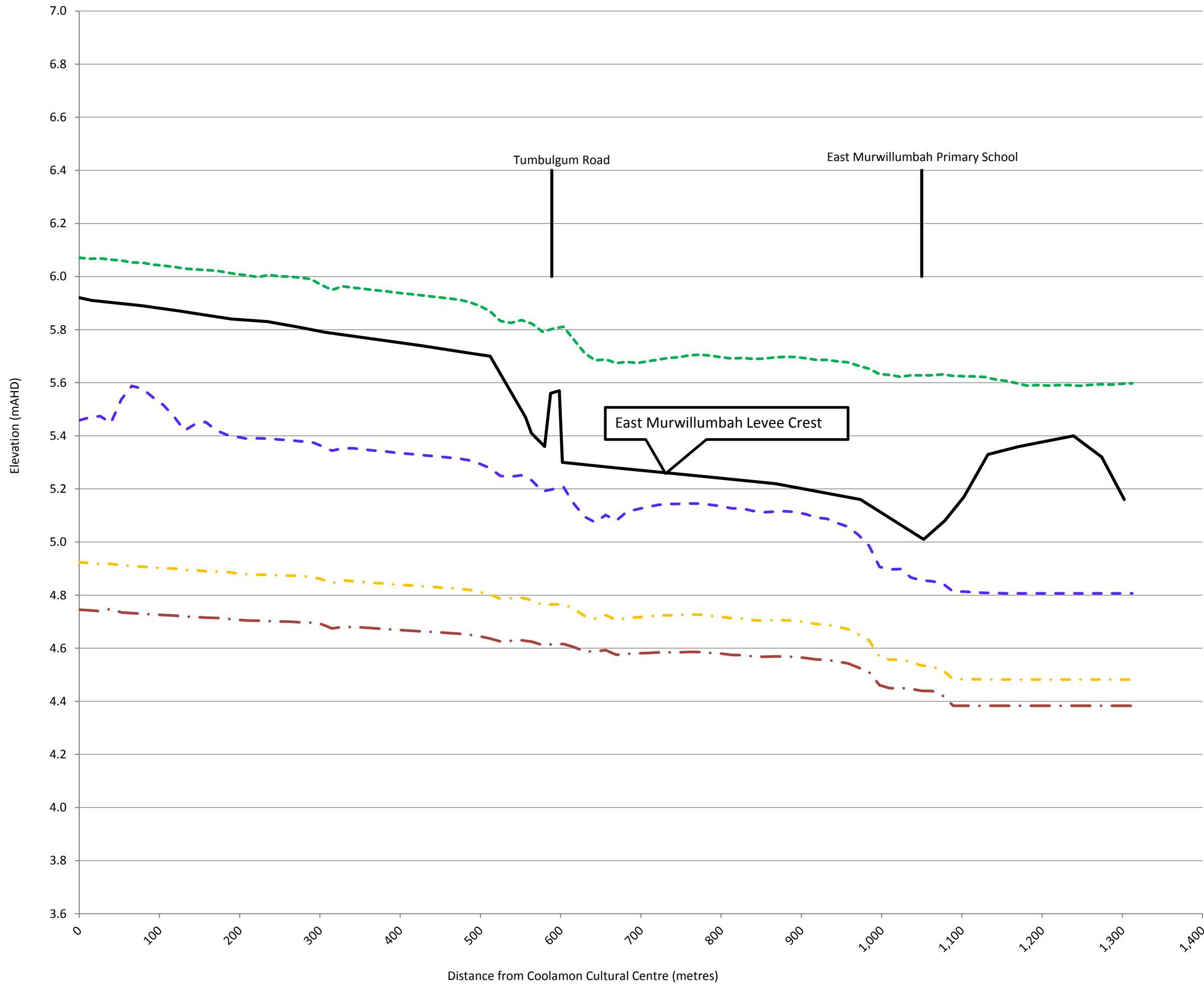
**Figure 29.1:
Design Water Surface
Profiles for Commercial
Road Levee**

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George Street
Sydney, NSW, 2000

File Name: Murwillumbah Levee & WSP.xls


LEGEND:

- - - 0.2% AEP Water Surface Profile
- - - 1% AEP Water Surface Profile
- . - 5% AEP Water Surface Profile
- . - 20% AEP Water Surface Profile
- Tumbulgum Road
- East Murwillumbah Primary School



Notes:

Figure 29.2:
Design Water Surface
Profiles for East
Murwillumbah Levee

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George Street
Sydney, NSW, 2000


File Name: Murwillumbah Levee & WSP.xls

LEGEND:

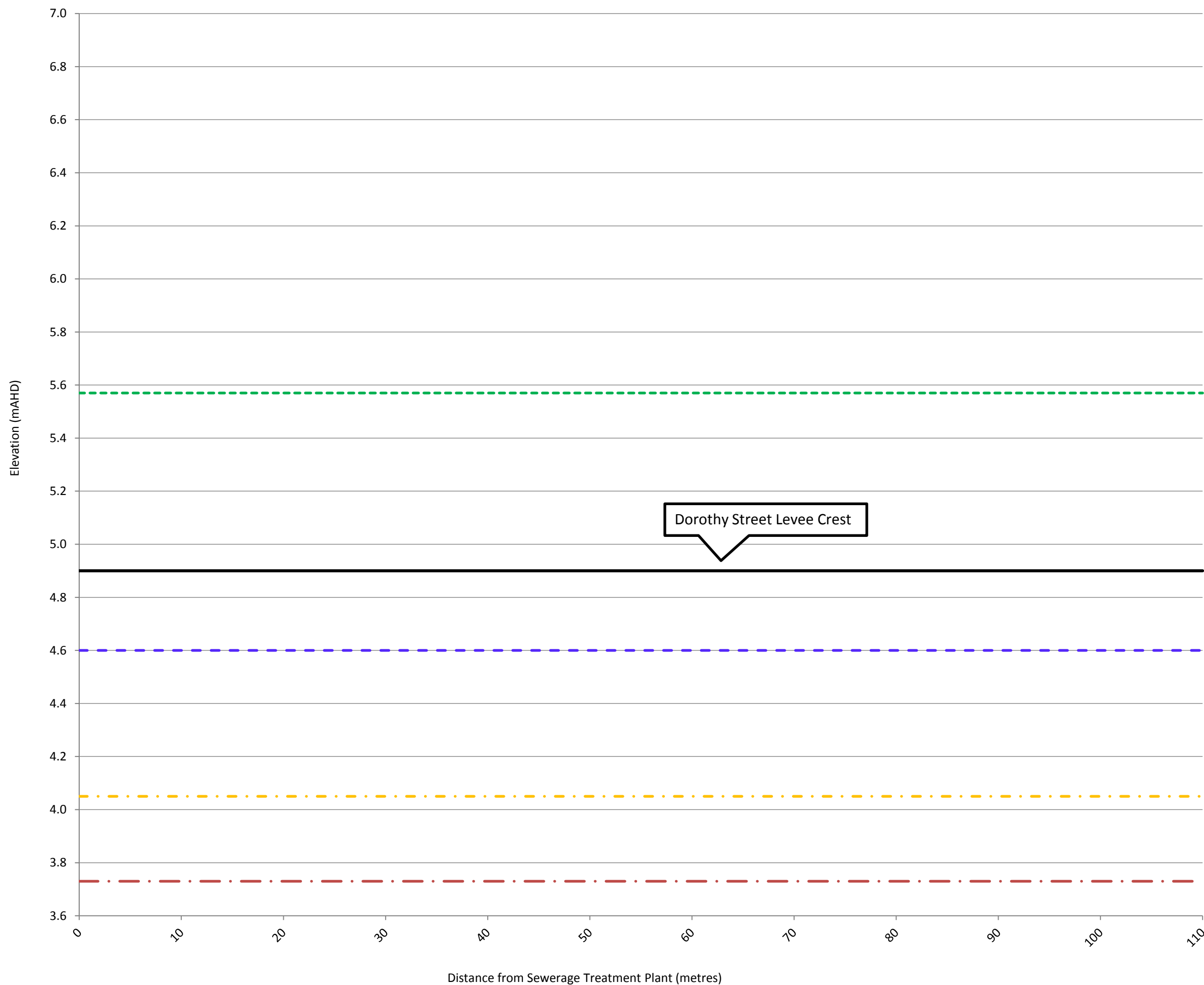
- - - 0.2% AEP Water Surface Profile
- - - 1% AEP Water Surface Profile
- . - . 5% AEP Water Surface Profile
- . - . 20% AEP Water Surface Profile

Notes:

**Figure 29.3:
Design Water Surface
Profiles for Dorothy
Stree Levee**

Prepared By:

Catchment Simulation Solutions
 Suite 2.01, 210 George Street
 Sydney, NSW, 2000

File Name: Murwillumbah Levee &
WSP.xls



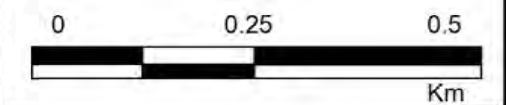
Distance from Sewerage Treatment Plant (metres)




LEGEND

Failure AEP	Pit Failure Type
█ >= 20% AEP	● No Failure
█ 5% AEP	▲ Surcharge
█ 1% AEP	◆ Ponding
█ <= 0.2% AEP	

Notes:
Aerial photograph date: 2015

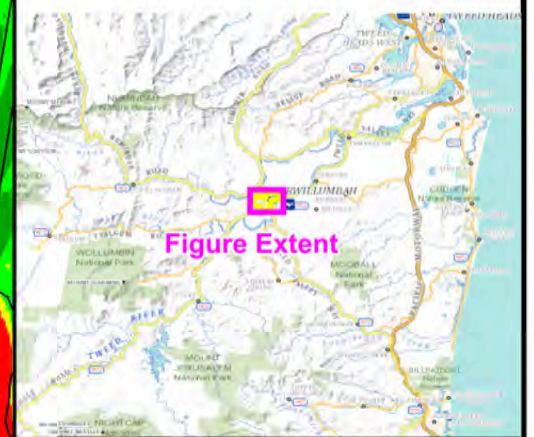


**Figure 30:
Stormwater Capacity
Maps**

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig30 - Stormwater Capacity
Maps.wor





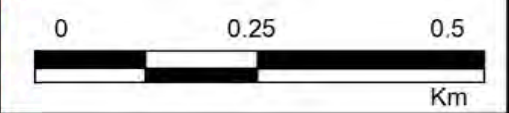
LEGEND

Hazard Categories


- H1
- H2
- H3
- H4
- H6

Notes:

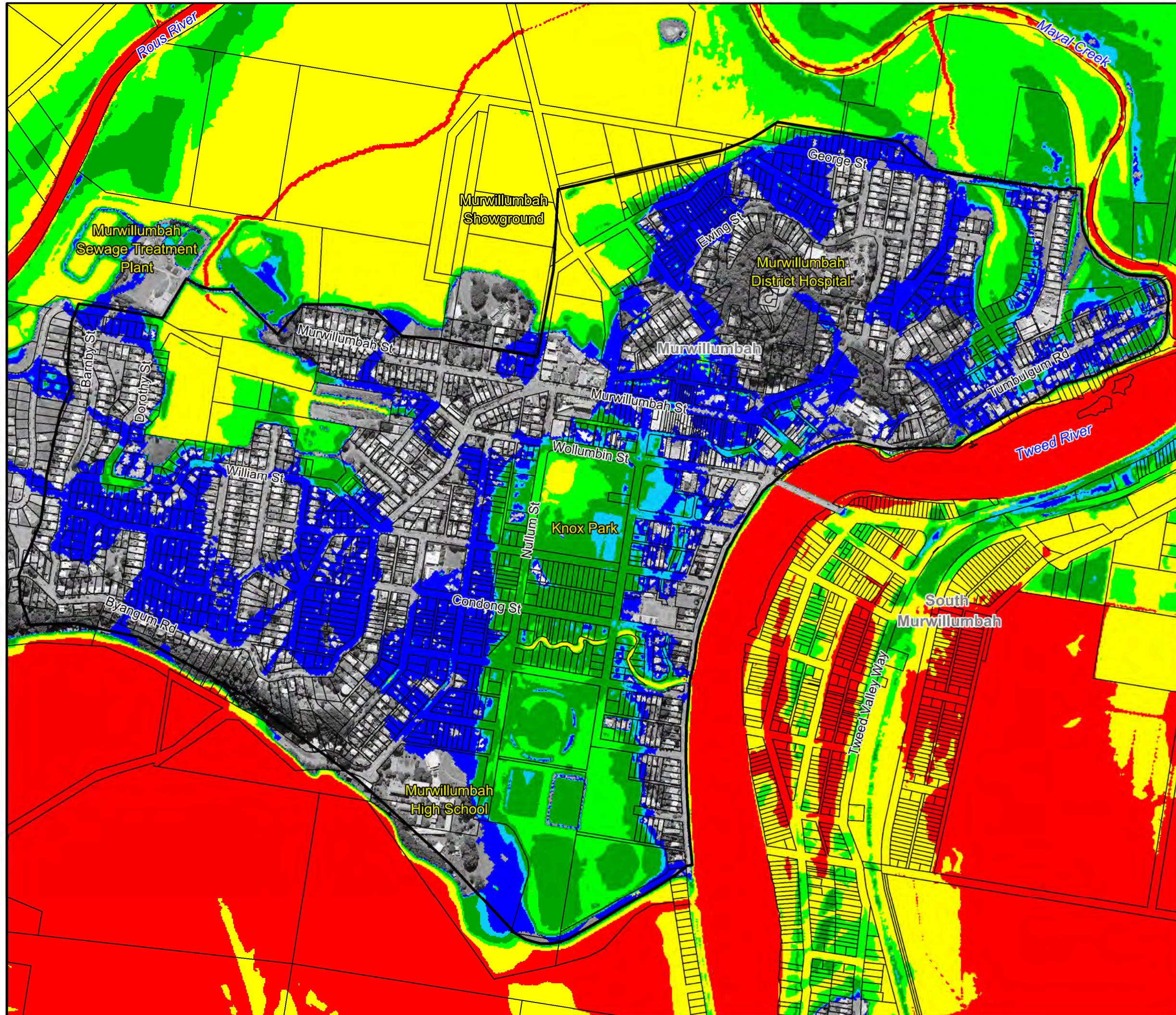
Aerial photograph date: 2015

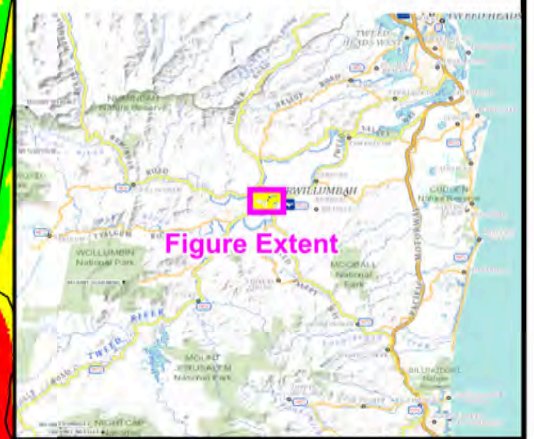


**Figure 31:
Hazard Categories for
the 1% AEP Flood**

Prepared By:

Catchment Simulation Solutions
 Suite 2.01, 210 George St
 Sydney, NSW 2000

File Name: Fig31 - Hazard Categories for
1AEP.wor





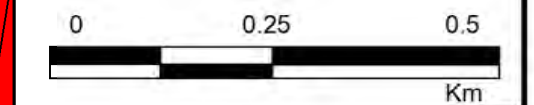
LEGEND

Hazard Categories

- H1
- H2
- H3
- H4
- H5
- H6


Notes:

Aerial photograph date: 2015

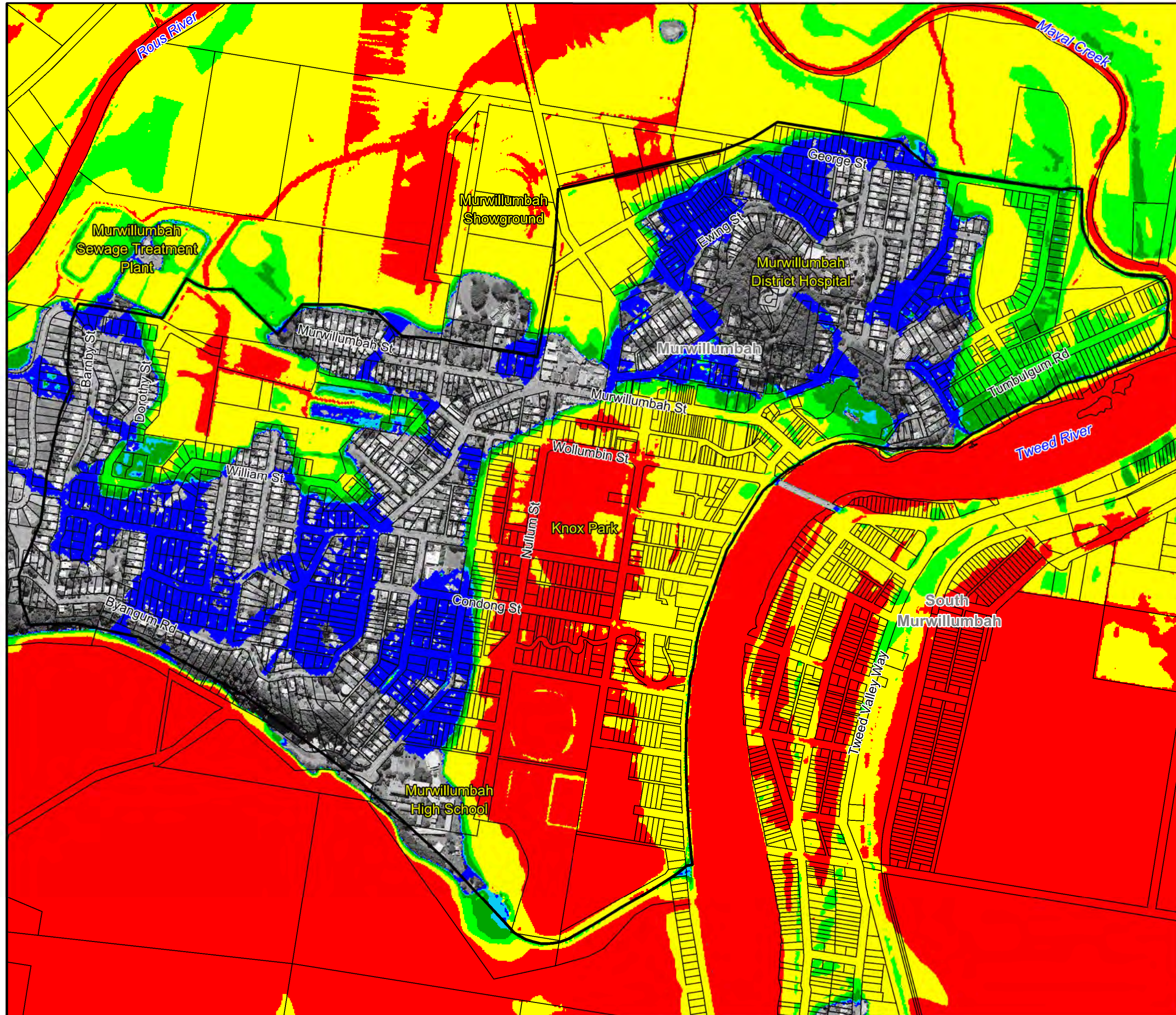


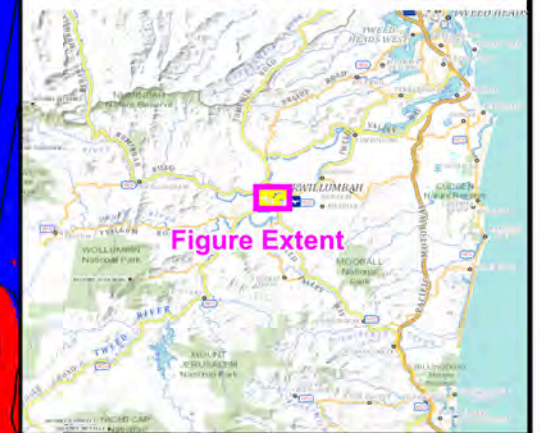
**Figure 32:
Hazard Categories for
the 0.2% AEP Flood**

Prepared By:

 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig32 - Hazard Categories for 0.2AEP.wor



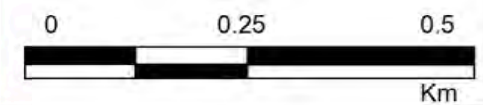


LEGEND

- Hydraulic Categories
- Flood Fringe
 - Flood Storage
 - Floodway


Notes:

Aerial photograph date: 2015

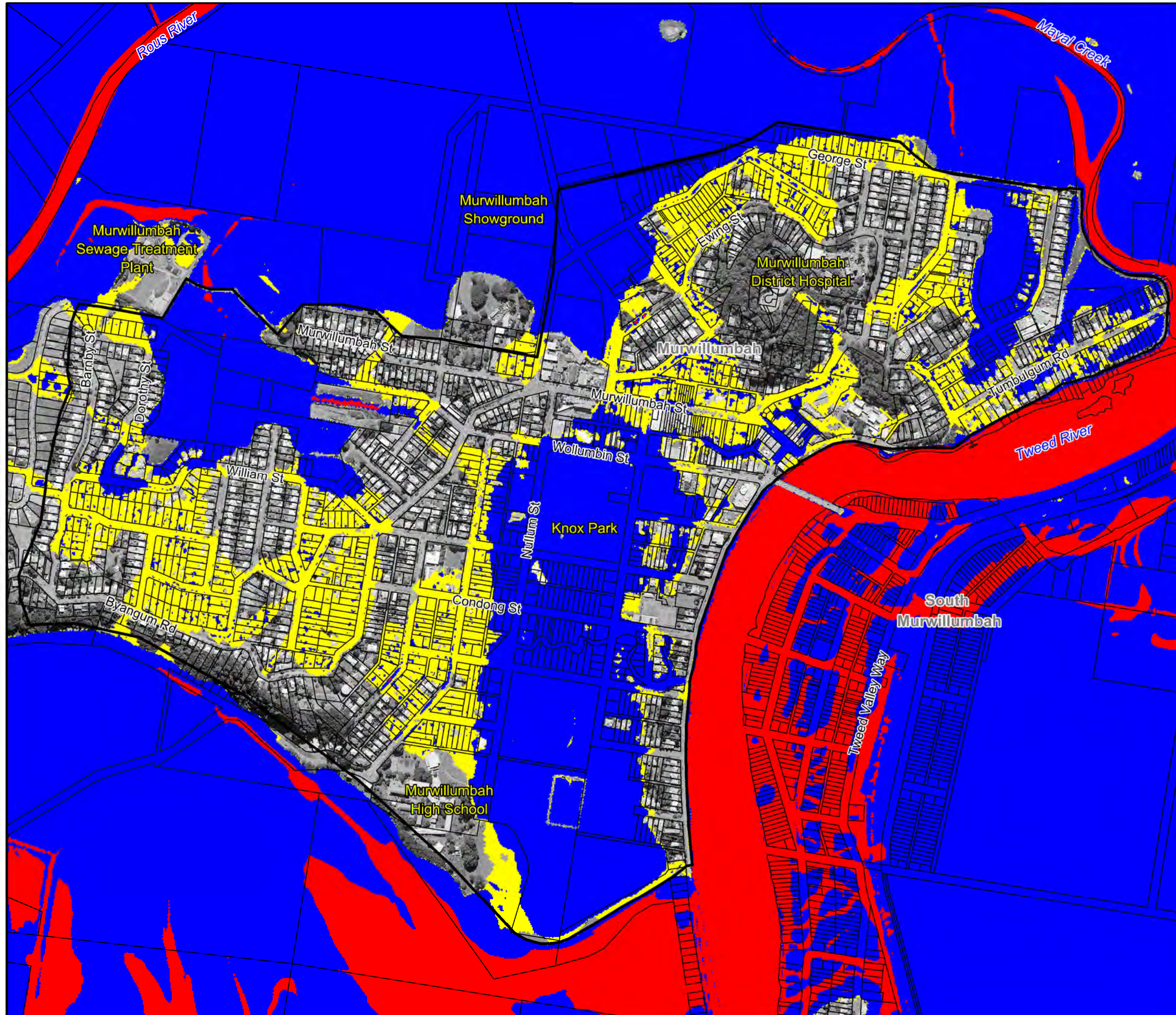


**Figure 33:
Hydraulic Categories for
the 1% AEP Flood**

Prepared By:

 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig33 - Hydraulic Categories for the 1% AEP Flood.wor

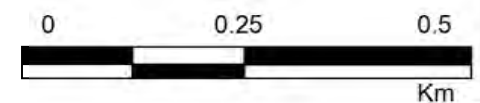





LEGEND

- Hydraulic Categories
- Flood Fringe
 - Flood Storage
 - Floodway

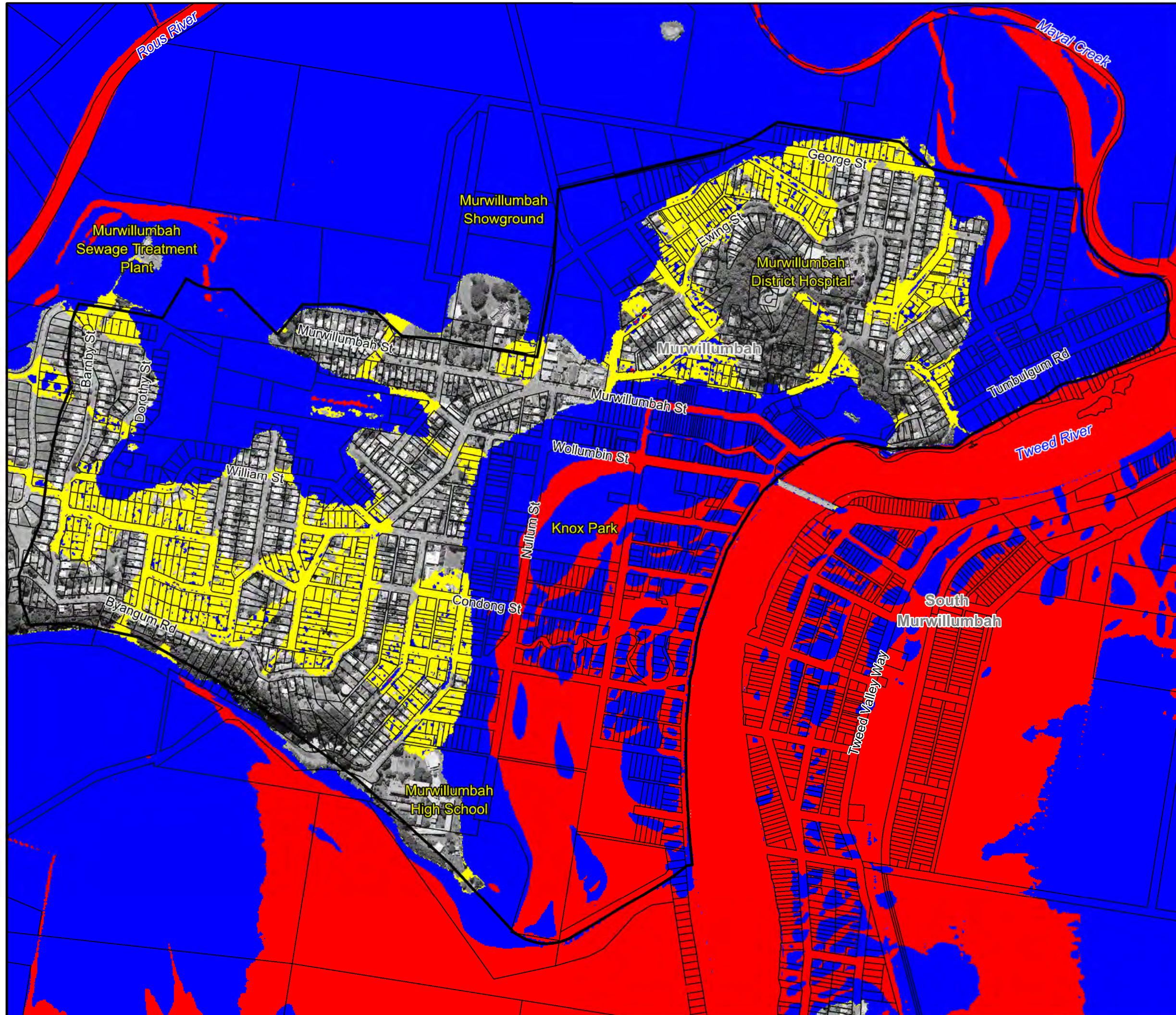
Notes:
Aerial photograph date: 2015

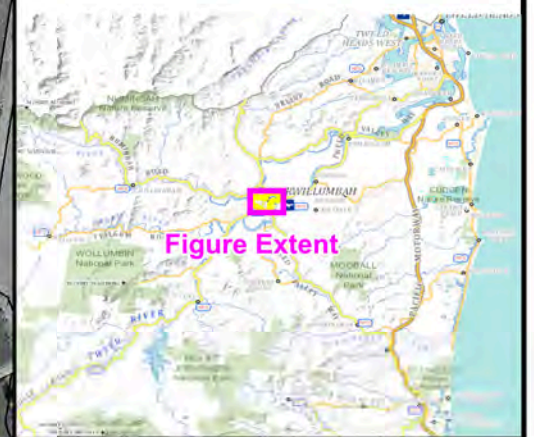


**Figure 34:
Hydraulic Categories for
the 0.2% AEP Flood**

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig34 - Hydraulic Categories for
0.2% AEP Flood.wor





LEGEND

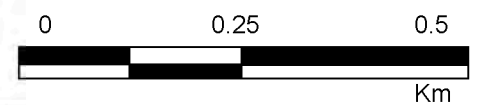
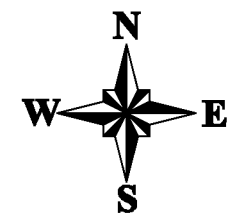
- Flooded Isolated Submerged
- Flooded Isolated Elevated
- Flooded Exit Route Overland Escape Route
- Flooded Exit Rising Road Egress
- Indirect Consequences
- No Flood Impacts

Road Overtopping Location

- 1.5 Time of road first cut (hours)
- 0.5 Duration of inundation (hours)


Notes:

Aerial photograph date: 2015

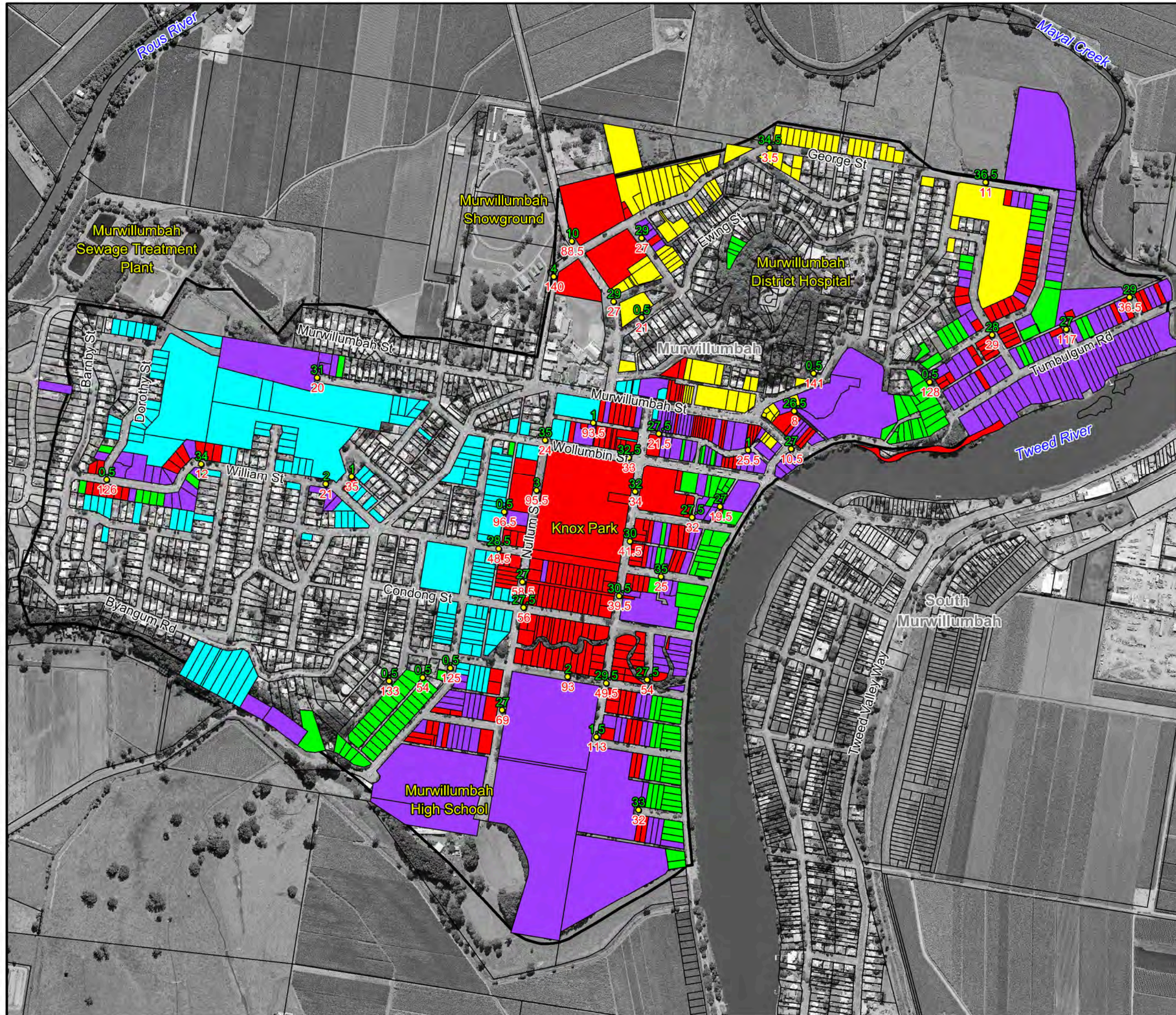


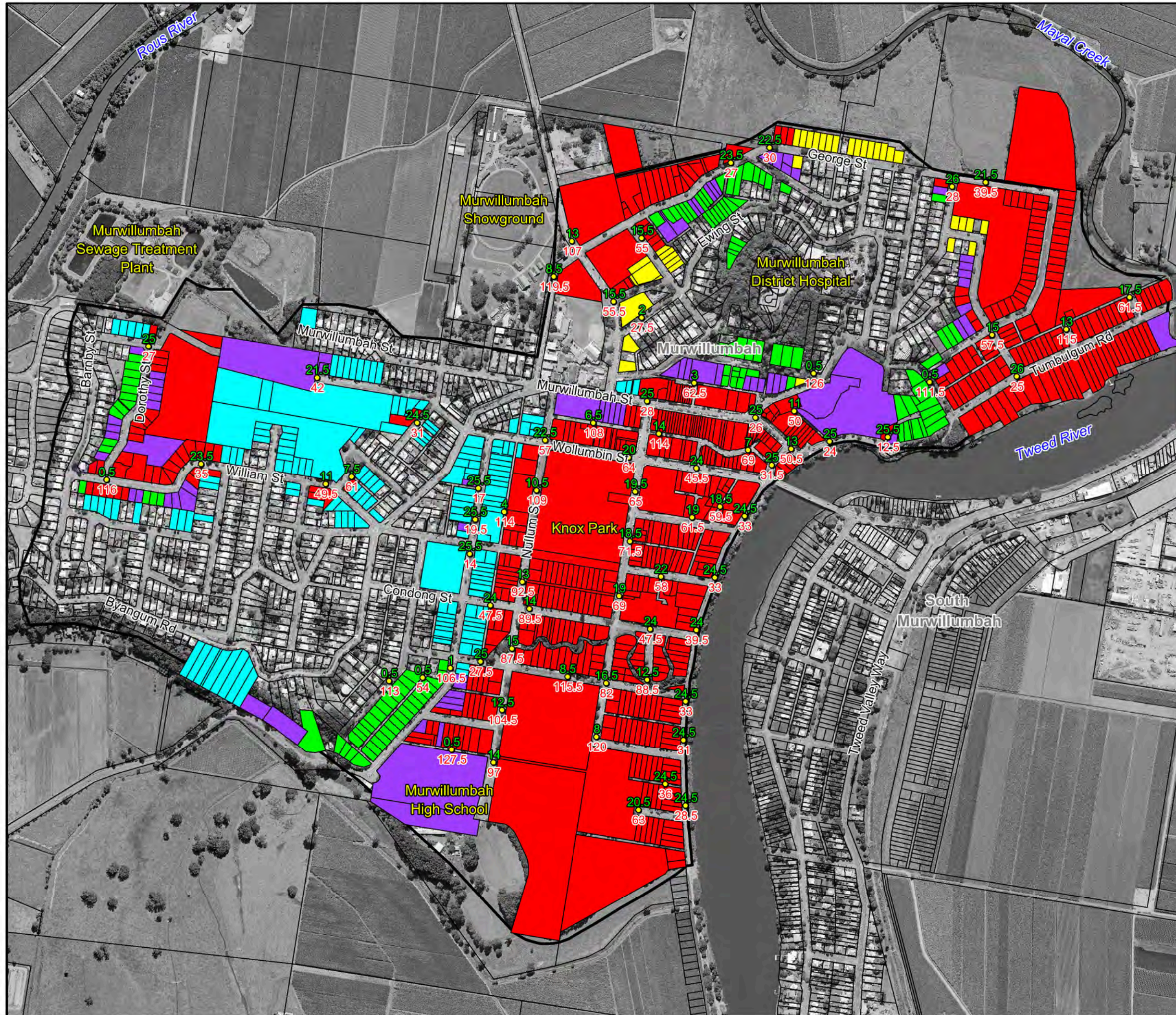
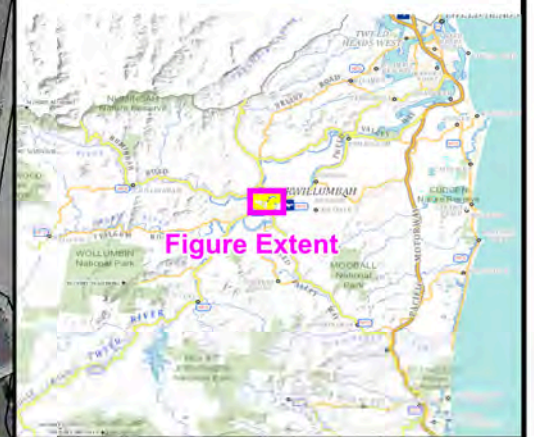
**Figure 35:
Preliminary Emergency
Response Classifications
for the 1% AEP Flood**

Prepared By:

 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig35 - ERC 1%AEP Flood
.wor





LEGEND

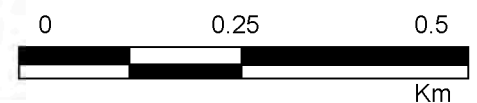
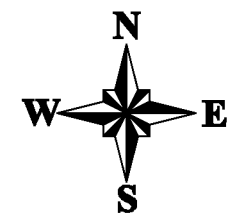
- Flooded Isolated Submerged
- Flooded Isolated Elevated
- Flooded Exit Route Overland Escape Route
- Flooded Exit Rising Road Egress
- Indirect Consequences
- No Flood Impacts

Road Overtopping Location


- 15 Time of road first cut (hours)
- 0.5 Duration of inundation (hours)

Notes:

Aerial photograph date: 2015



**Figure 36:
Preliminary Emergency
Response Classifications
for the 0.2% AEP Flood**

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig36 - ERC 50.2% AEP Flood
.wor



LEGEND

Velocity Depth Product (m²/s)

- ≤ 0.3 "Low Flow Area"
- > 0.3 "High Flow Area"

Notes:
Aerial photograph date: 2015

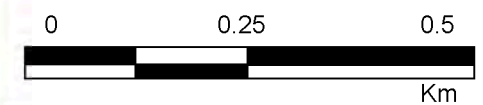
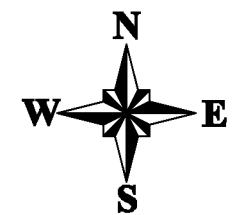



Figure 37:
High Flow Map
for the 1% AEP Flood

Prepared By:
 **Catchment Simulation Solutions**
Suite 2.01, 210 George St
Sydney, NSW 2000

File Name: Fig37 - High Flow Map.wor

