







**CBD Hydraulic Model**

**Critical Storm Duration  
(50 Year ARI)  
Figure D-5.4**

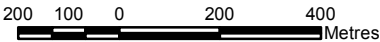
**LEGEND**

**Critical Storm  
Durations (hour)**

-  1 h
-  12 h
-  18 h
-  Model Domain



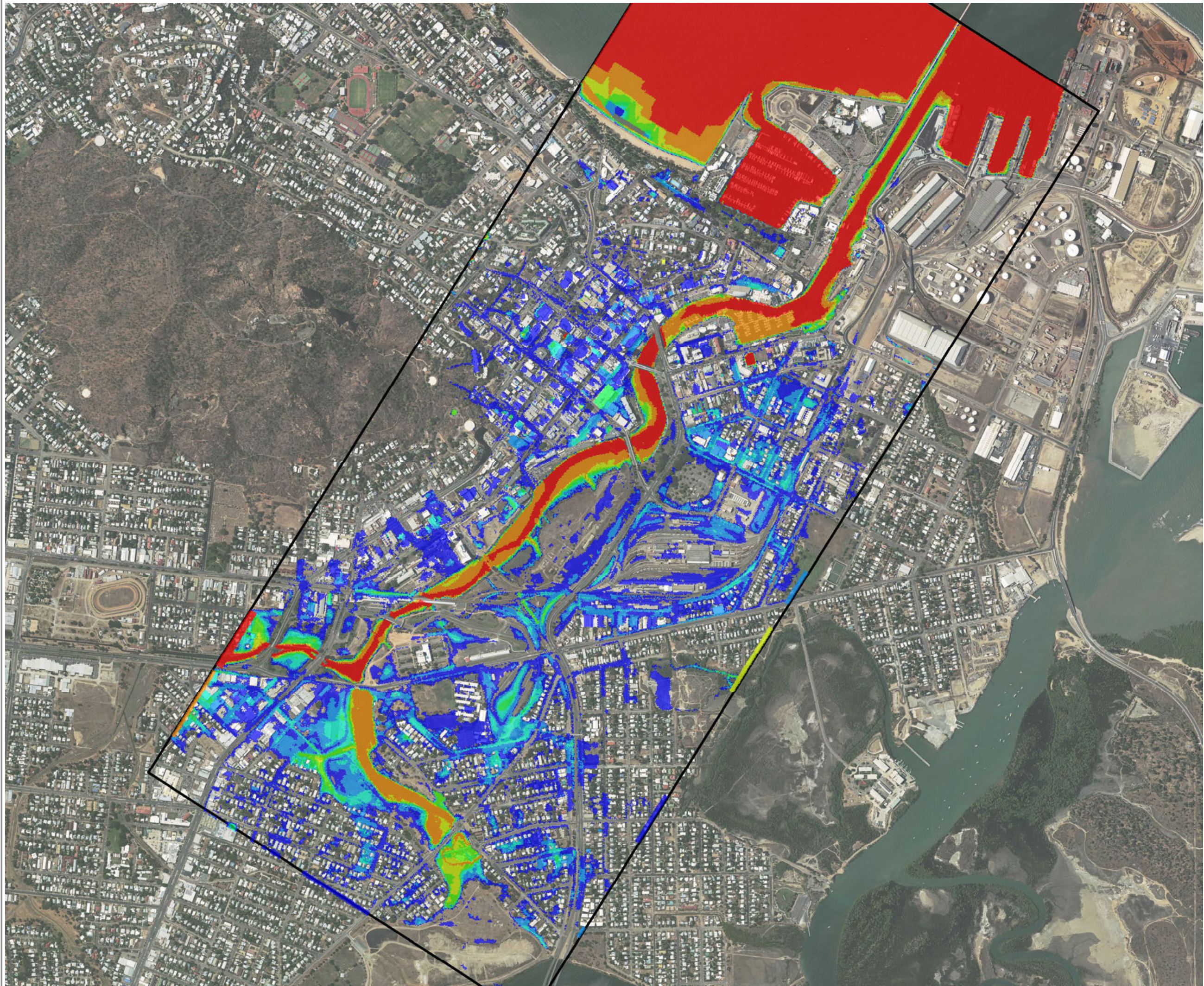
**SCALE: 1:15,000 @A3**



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**CBD Hydraulic Model**

**100 Y ARI**

**Figure D-6.1**

**LEGEND**

**Water Depth (m)**

- 0.01 - 0.3
- 0.3 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 3
- 3 - 25

ModelDomain



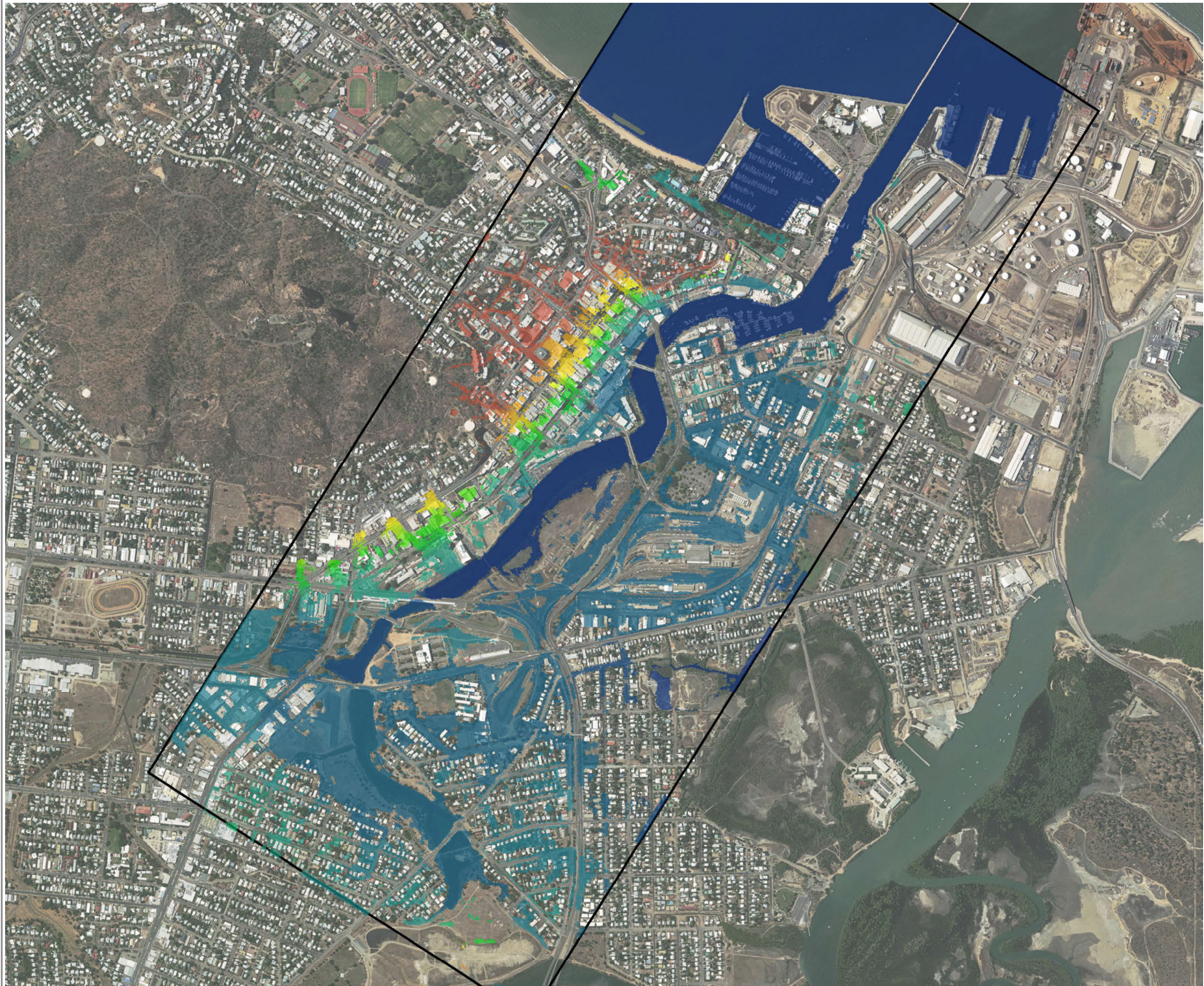
**SCALE: 1:15,000 @A3**



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**CBD Hydraulic Model**

**100 Y ARI**

**Figure D-6.2**

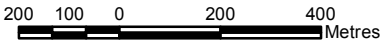
**LEGEND**

**Flood Level (m AHD)**

	<2		7.5 - 8
	2 - 2.5		8 - 8.5
	2.5 - 3		8.5 - 9
	3 - 3.5		9 - 9.5
	3.5 - 4		9.5 - 10
	4 - 4.5		10 - 10.5
	4.5 - 5		10.5 - 11
	5 - 5.5		11 - 11.5
	5.5 - 6		11.5 - 12
	6 - 6.5		12 - 12.5
	6.5 - 7		>12.5
	7 - 7.5		



**SCALE: 1:15,000 @A3**



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**CBD Hydraulic Model**

**100 Y ARI**

**Figure D-6.3**

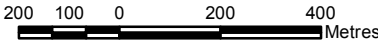
**LEGEND**

**Flow Velocity (m/s)**

-  <0.25
-  0.25 - 0.5
-  0.5 - 0.75
-  0.75 - 1
-  1 - 1.25
-  1.25 - 1.5
-  1.5 - 1.75
-  1.75 - 2
-  2 - 3
-  >3
-  ModelDomain



**SCALE: 1:15,000 @A3**



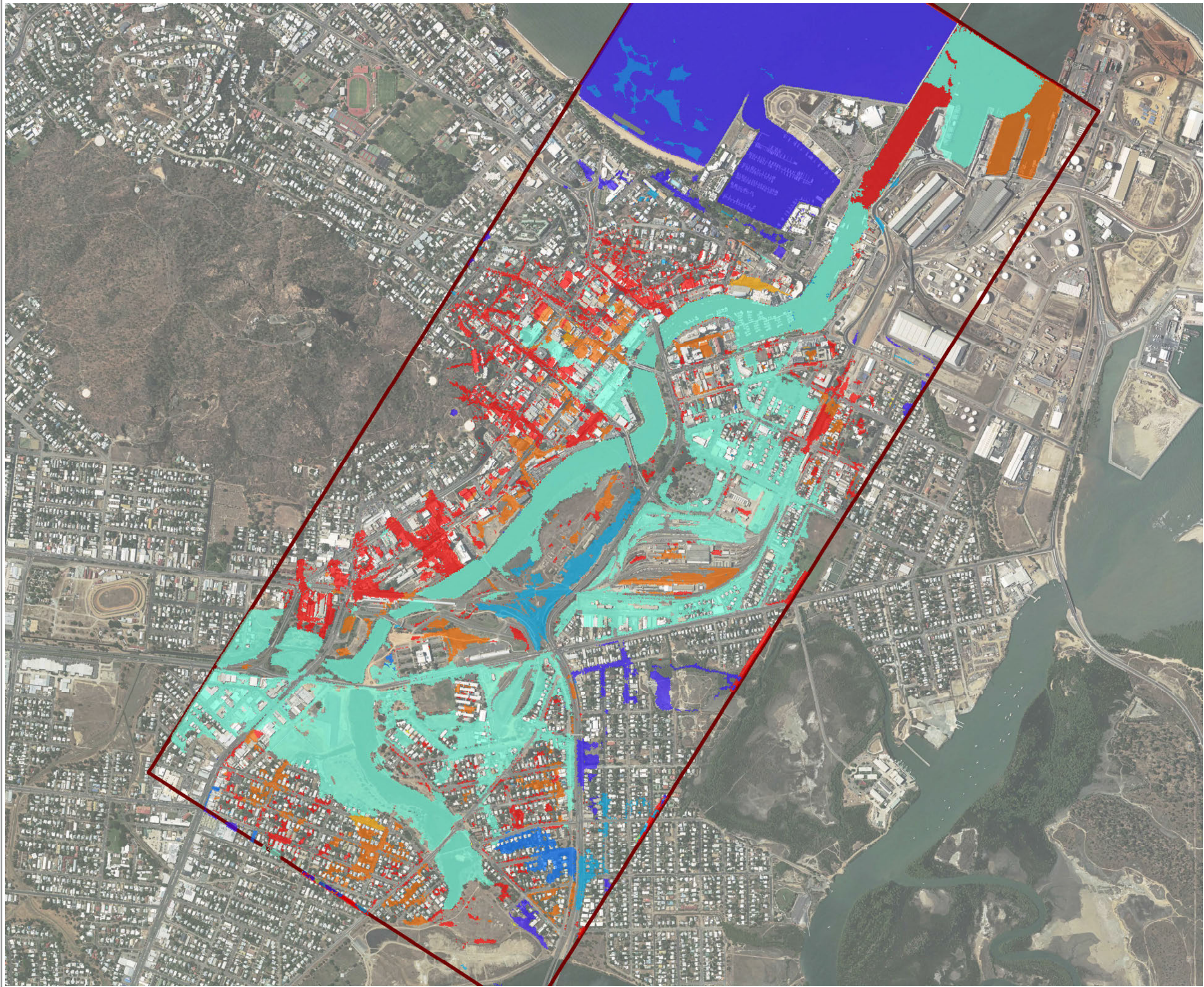
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**CBD Hydraulic Model**

**Critical Storm Duration  
(100 Year ARI)  
Figure D-6.4**

**LEGEND**

**Critical Storm  
Duration (hour)**

- 1 h
- 1.5 h
- 2 h
- 3 h
- 6 h
- 12 h
- 18 h
- 24 h
- 72 h
- Model Domain



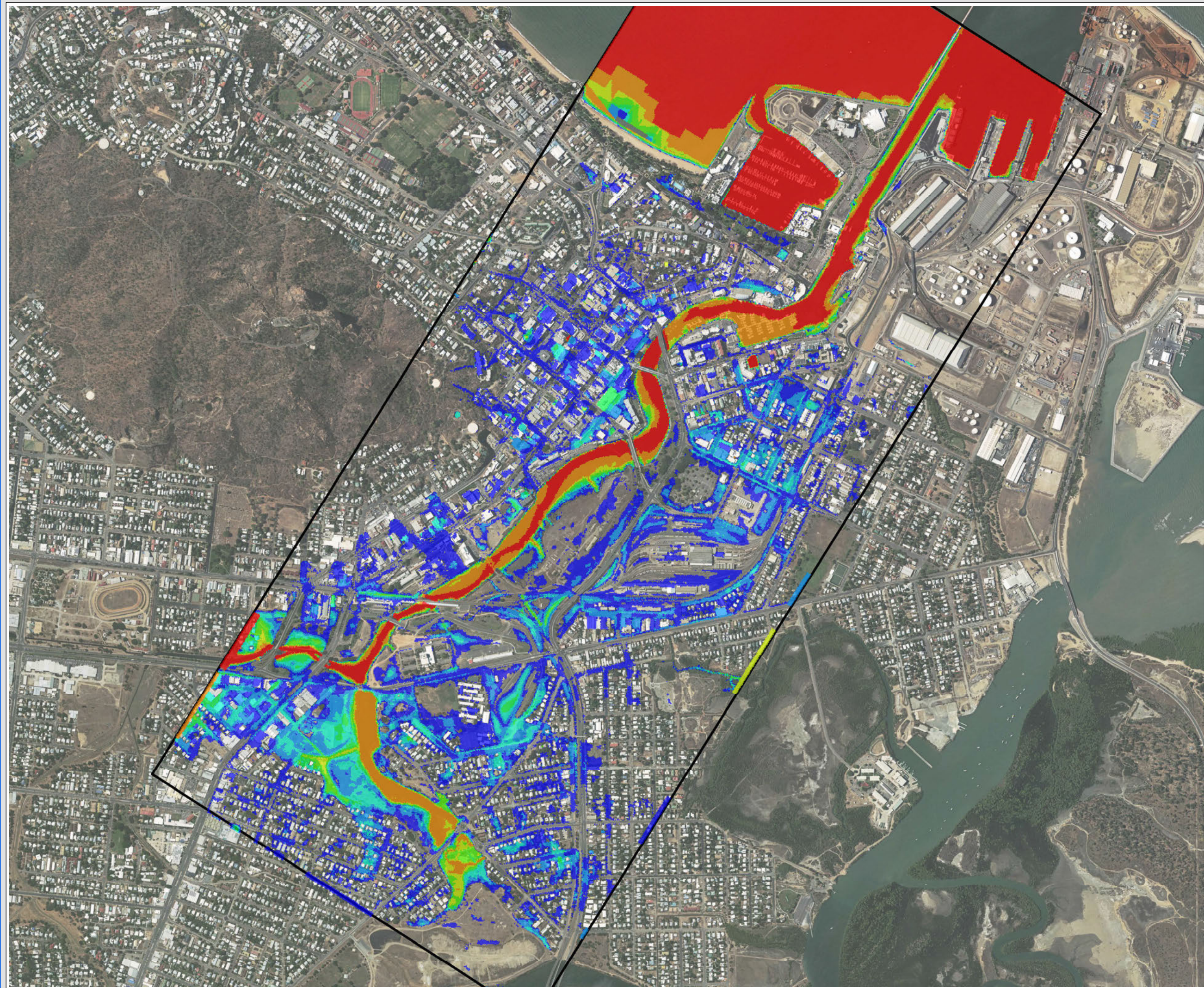
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200 100 0 200 400 Metres

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# CBD Hydraulic Model

200 Y ARI

Figure D-7.1

## LEGEND

### Water Depth (m)

	0.01 - 0.3
	0.3 - 0.5
	0.5 - 0.75
	0.75 - 1
	1 - 1.5
	1.5 - 2
	2 - 3
	3 - 25



SCALE: 1:15,000 @A3



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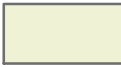





**CBD Hydraulic Model**

**200 Y ARI**

**Figure D-7.3**

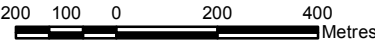
**LEGEND**

**Flow Velocity (m/s)**

-  <0.25
-  0.25 - 0.5
-  0.5 - 0.75
-  0.75 - 1
-  1 - 1.25
-  1.25 - 1.5
-  1.5 - 1.75
-  1.75 - 2
-  2 - 3
-  3 - 6



**SCALE: 1:15,000 @A3**



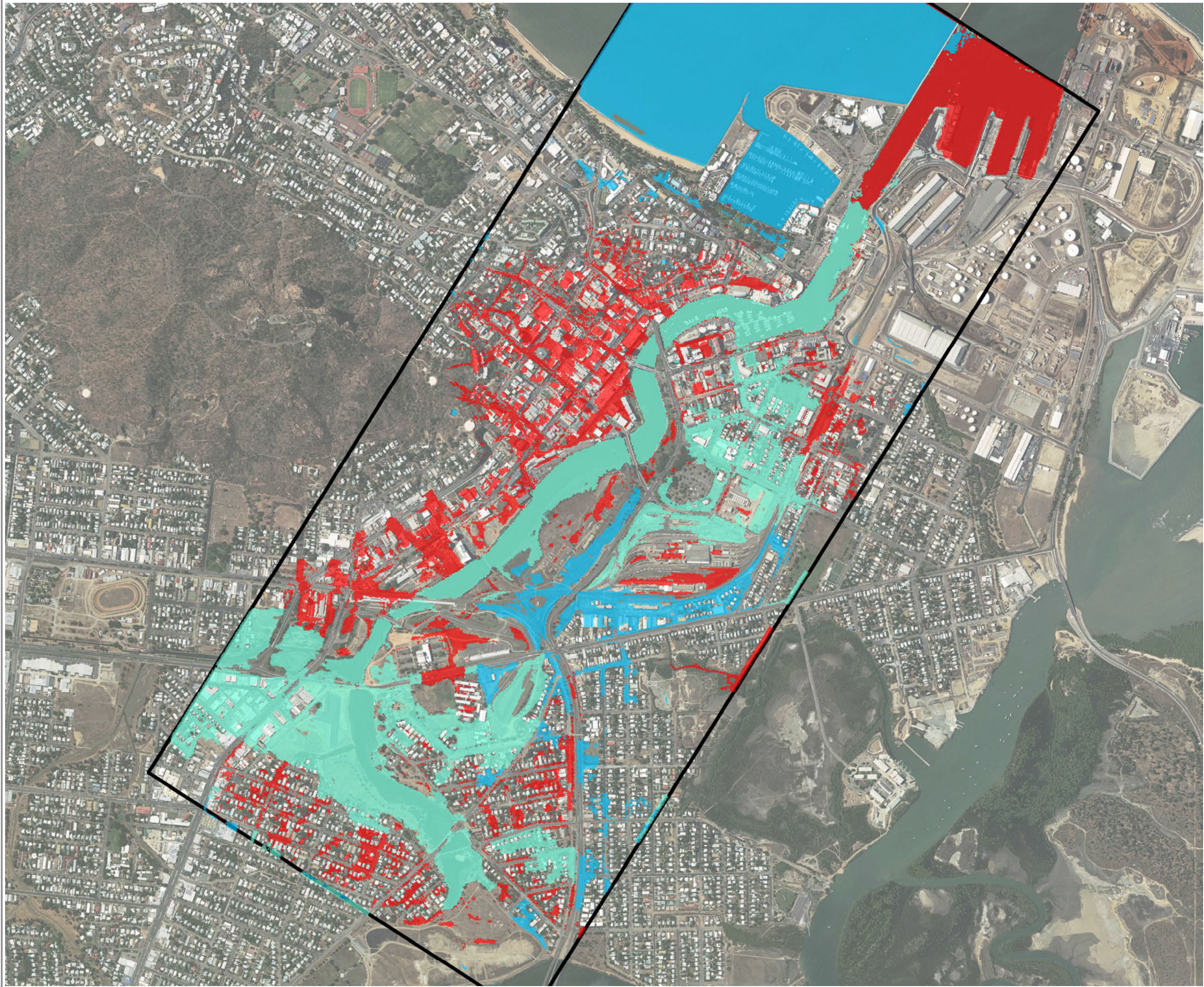
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**CBD Hydraulic Model**

**Critical Storm Duration  
(200 Year ARI)  
Figure D-7.4**

**LEGEND**

**Critical Storm  
Durations (hour)**

-  1 h
-  12 h
-  18 h
-  Model Domain



**SCALE: 1:15,000 @A3**

200 100 0 200 400  
Metres

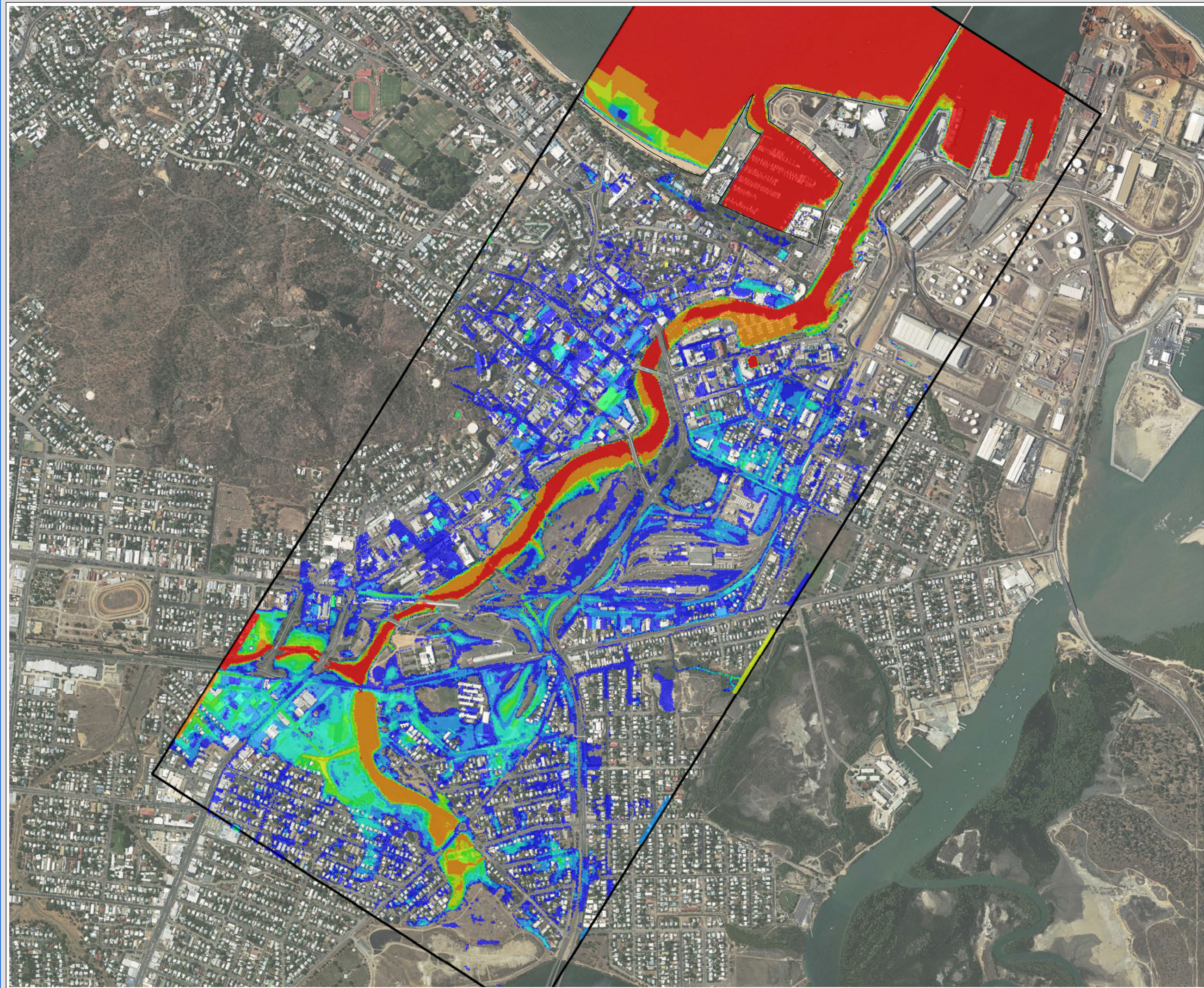
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**CBD Hydraulic Model**

**500 Year ARI**

**Figure D-8.1**

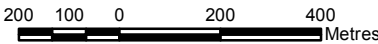
**LEGEND**

**Water Depth (m)**

	0.01 - 0.3
	0.3 - 0.5
	0.5 - 0.75
	0.75 - 1
	1 - 1.5
	1.5 - 2
	2 - 3
	3 - 25



**SCALE: 1:15,000 @A3**



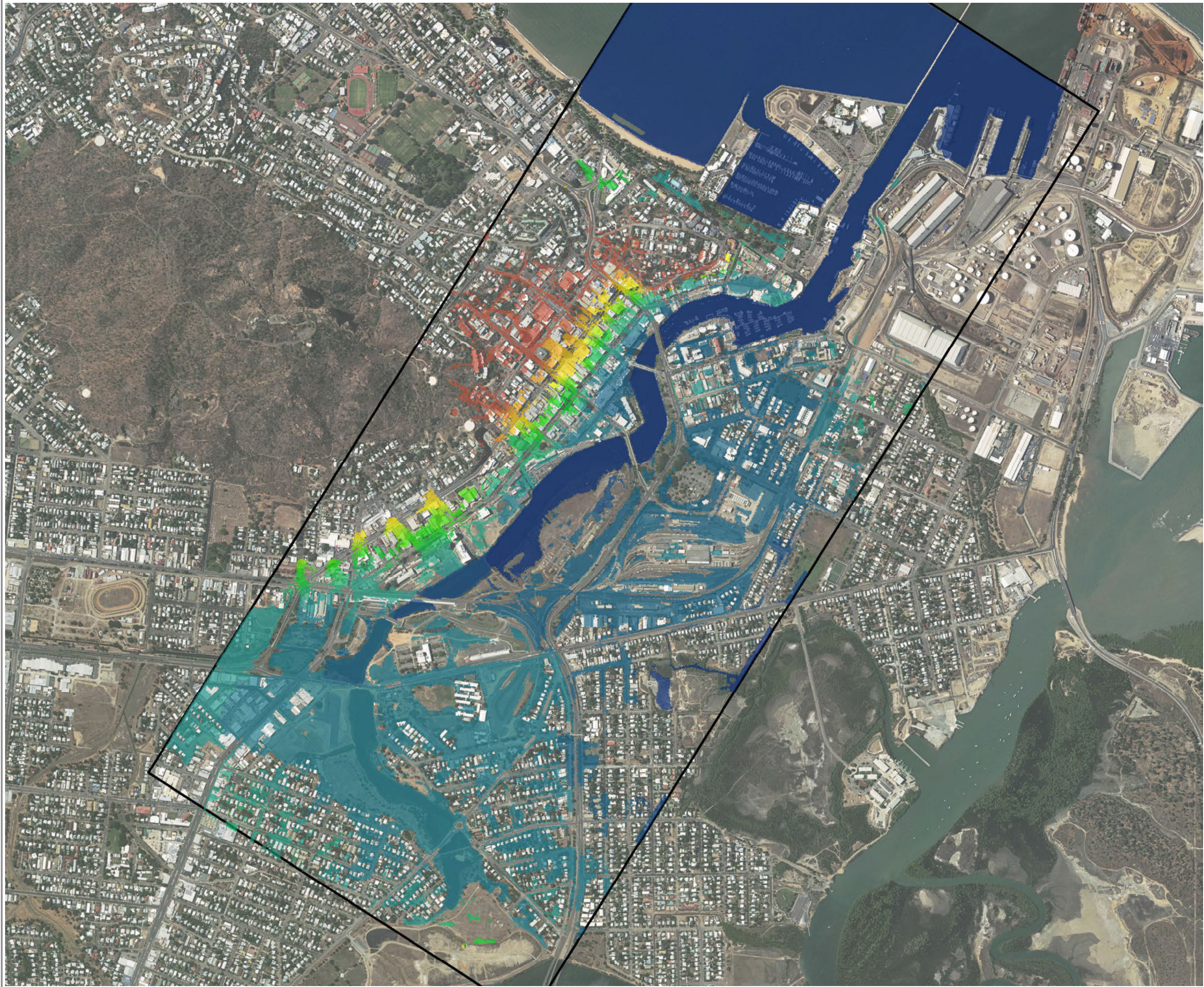
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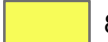



















**CBD Hydraulic Model**

**500 Y ARI**

**Figure D-8.2**

**LEGEND**

**Flood Level (m AHD)**

	<2		7.5 - 8
	2 - 2.5		8 - 8.5
	2.5 - 3		8.5 - 9
	3 - 3.5		9 - 9.5
	3.5 - 4		9.5 - 10
	4 - 4.5		10 - 10.5
	4.5 - 5		10.5 - 11
	5 - 5.5		11 - 11.5
	5.5 - 6		11.5 - 12
	6 - 6.5		12 - 12.5
	6.5 - 7		>12.5
	7 - 7.5		



**SCALE: 1:15,000 @A3**



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**CBD Hydraulic Model**

**500 Y ARI**

**Figure D-8.3**

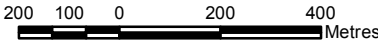
**LEGEND**

**Flow Velocity (m/s)**

-  <0.25
-  0.25 - 0.5
-  0.5 - 0.75
-  0.75 - 1
-  1 - 1.25
-  1.25 - 1.5
-  1.5 - 1.75
-  1.75 - 2
-  2 - 3
-  >3
-  ModelDomain



**SCALE: 1:15,000 @A3**



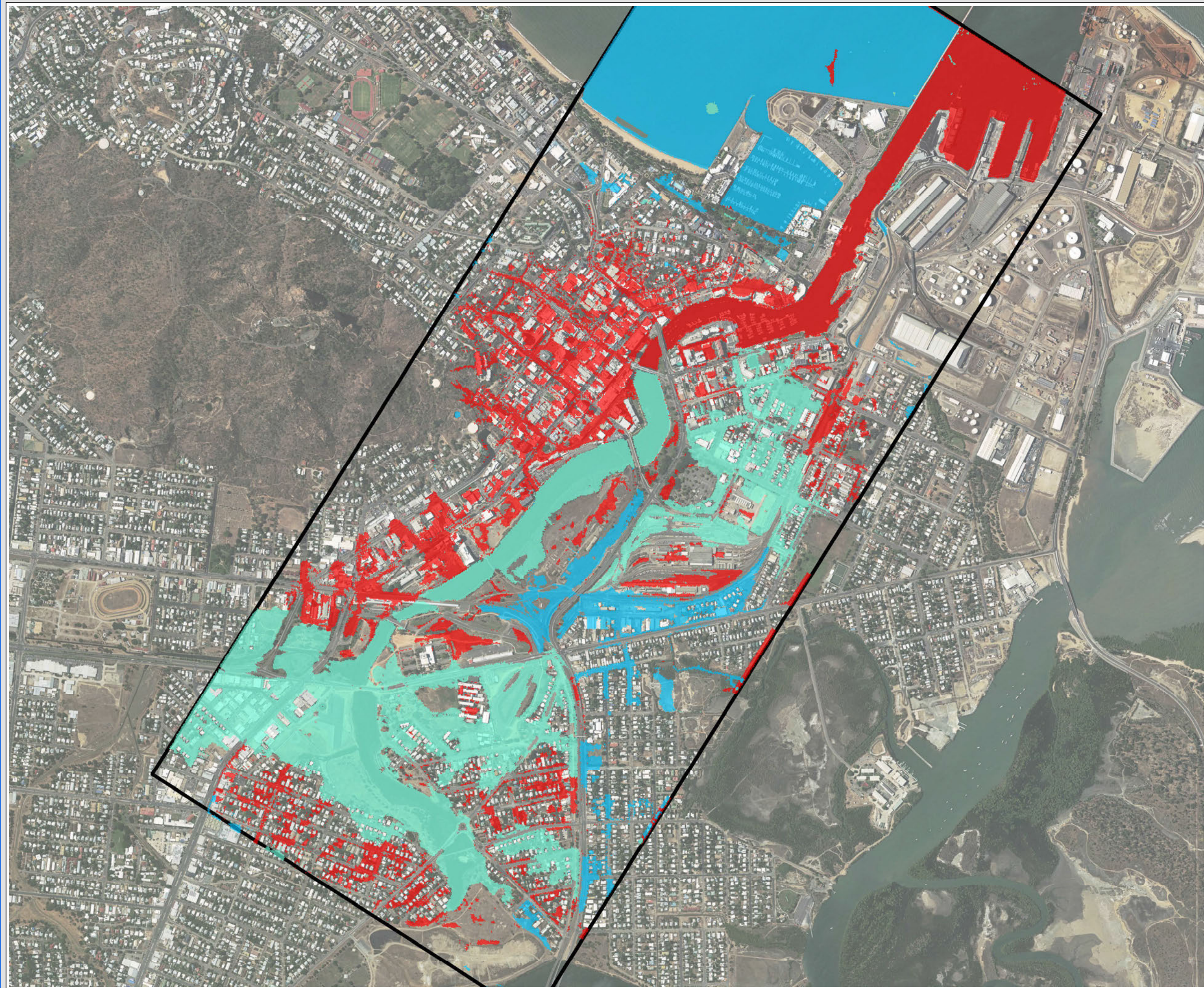
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**CBD Hydraulic Model**

**Critical Storm Duration  
(500 Year ARI)  
Figure D-8.4**

**LEGEND**

**Critical Storm  
Durations (hour)**

-  1 h
-  12 h
-  18 h
-  Model Domain



**SCALE: 1:15,000 @A3**

200 100 0 200 400  
Metres

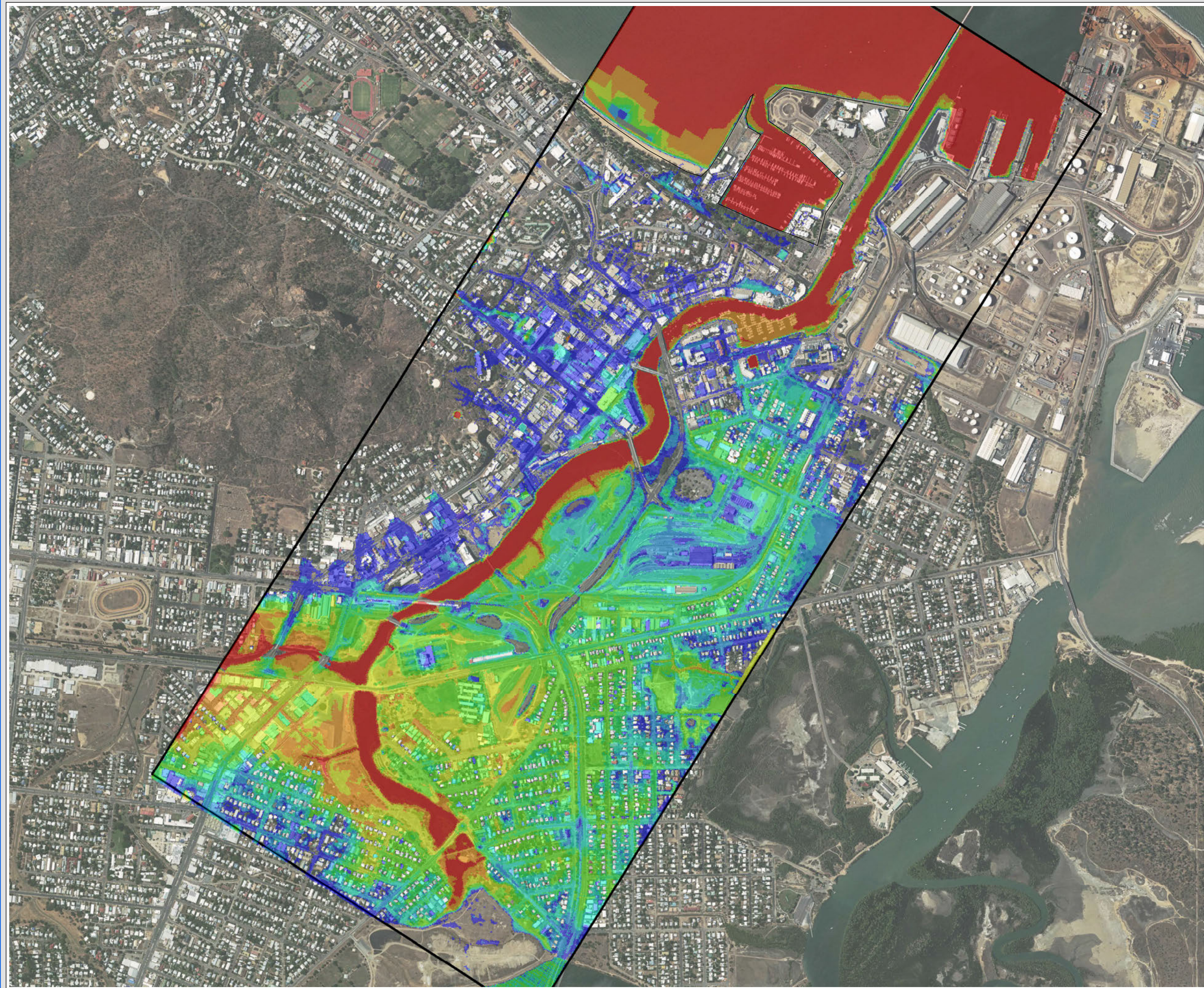
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**CBD Hydraulic Model**

**PMF**

**Figure D-9.1**

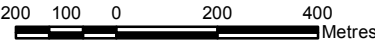
**LEGEND**

**Water Depth (m)**

	0.01 - 0.3
	0.3 - 0.5
	0.5 - 0.75
	0.75 - 1
	1 - 1.5
	1.5 - 2
	2 - 3
	3 - 25



**SCALE: 1:15,000 @A3**



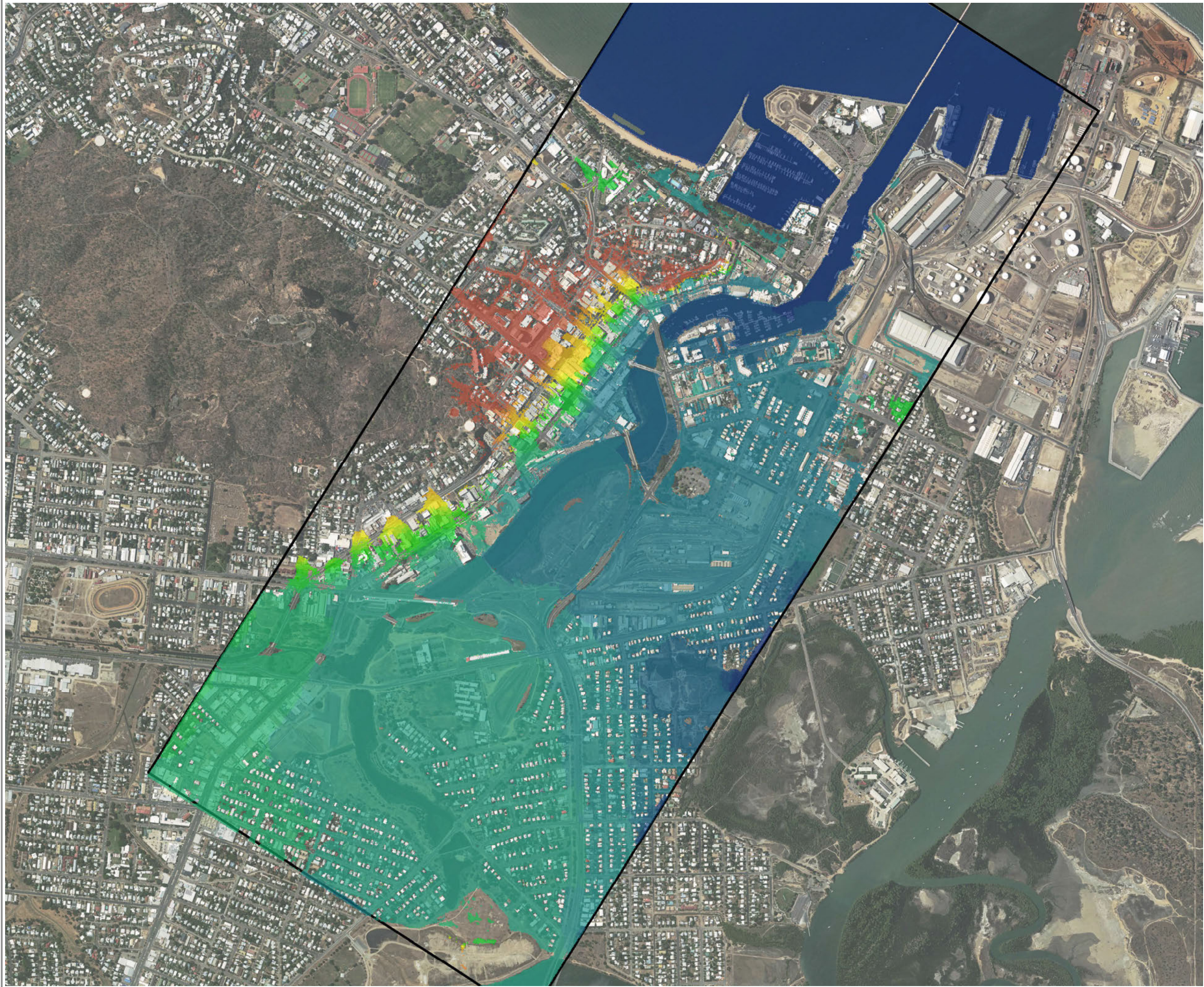
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**CBD Hydraulic Model**

**PMF**

**Figure D-9.2**

**LEGEND**

**Flood Level (m AHD)**

	<2		7.5 - 8
	2 - 2.5		8 - 8.5
	2.5 - 3		8.5 - 9
	3 - 3.5		9 - 9.5
	3.5 - 4		9.5 - 10
	4 - 4.5		10 - 10.5
	4.5 - 5		10.5 - 11
	5 - 5.5		11 - 11.5
	5.5 - 6		11.5 - 12
	6 - 6.5		12 - 12.5
	6.5 - 7		>12.5
	7 - 7.5		



**SCALE: 1:15,000 @A3**



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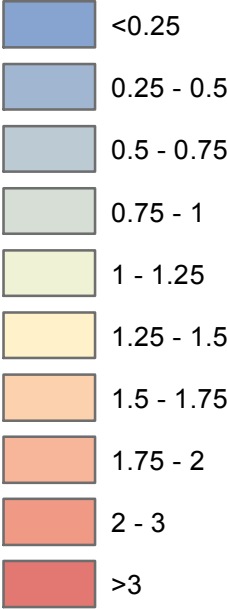
**CBD Hydraulic Model**

**PMF**

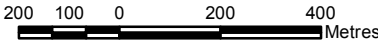
**Figure D-9.3**

**LEGEND**

**Flow Velocity (m/s)**



**SCALE: 1:15,000 @A3**



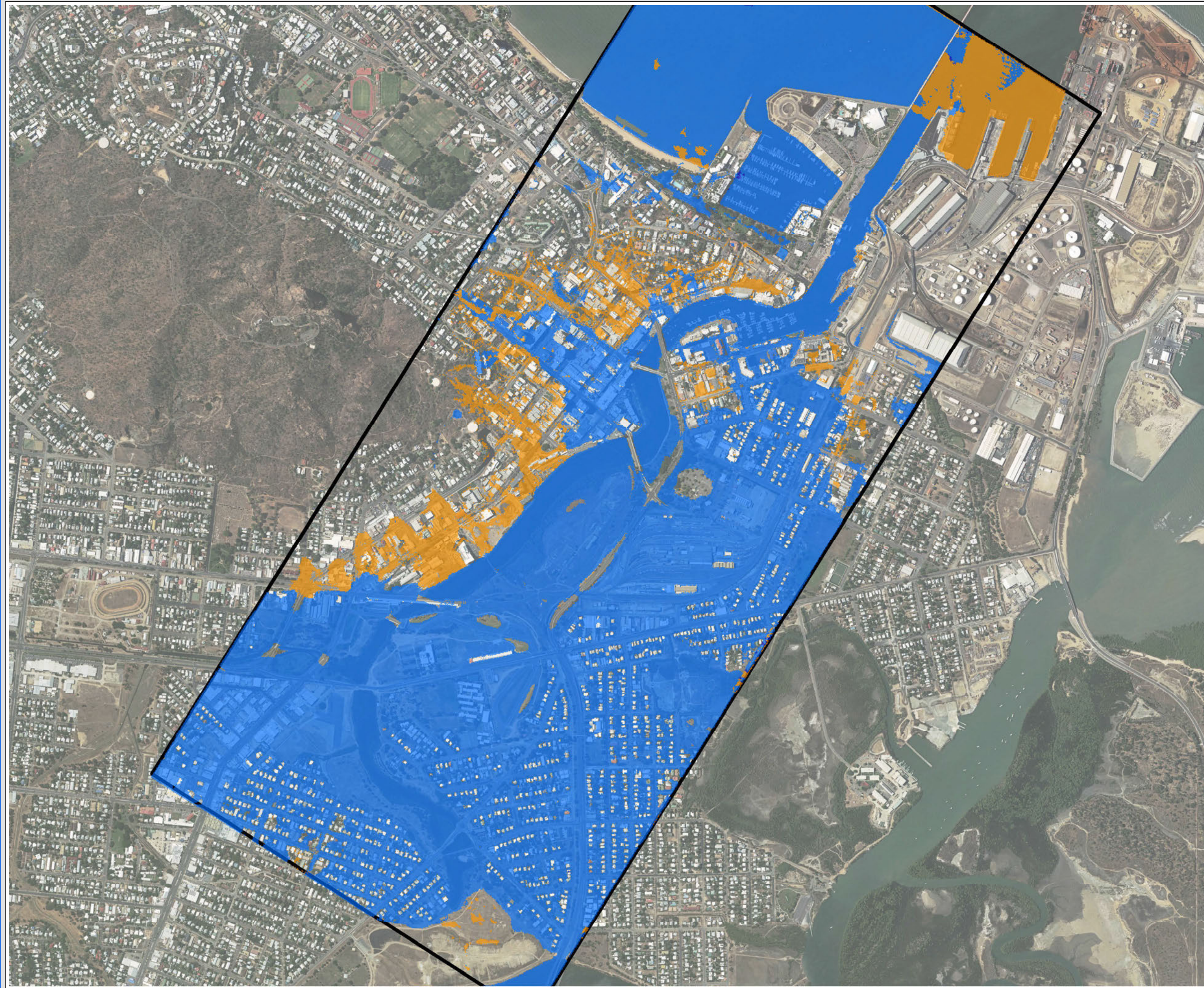
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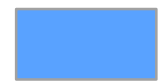




## CBD Hydraulic Model

**Critical Storm Duration  
(PMF)  
Figure D-9.4**

### LEGEND

#### Critical Storm Durations (hour)

-  2 h
-  24 h
-  72 h
-  Model Domain



SCALE: 1:15,000 @A3

200 100 0 200 400  
Metres

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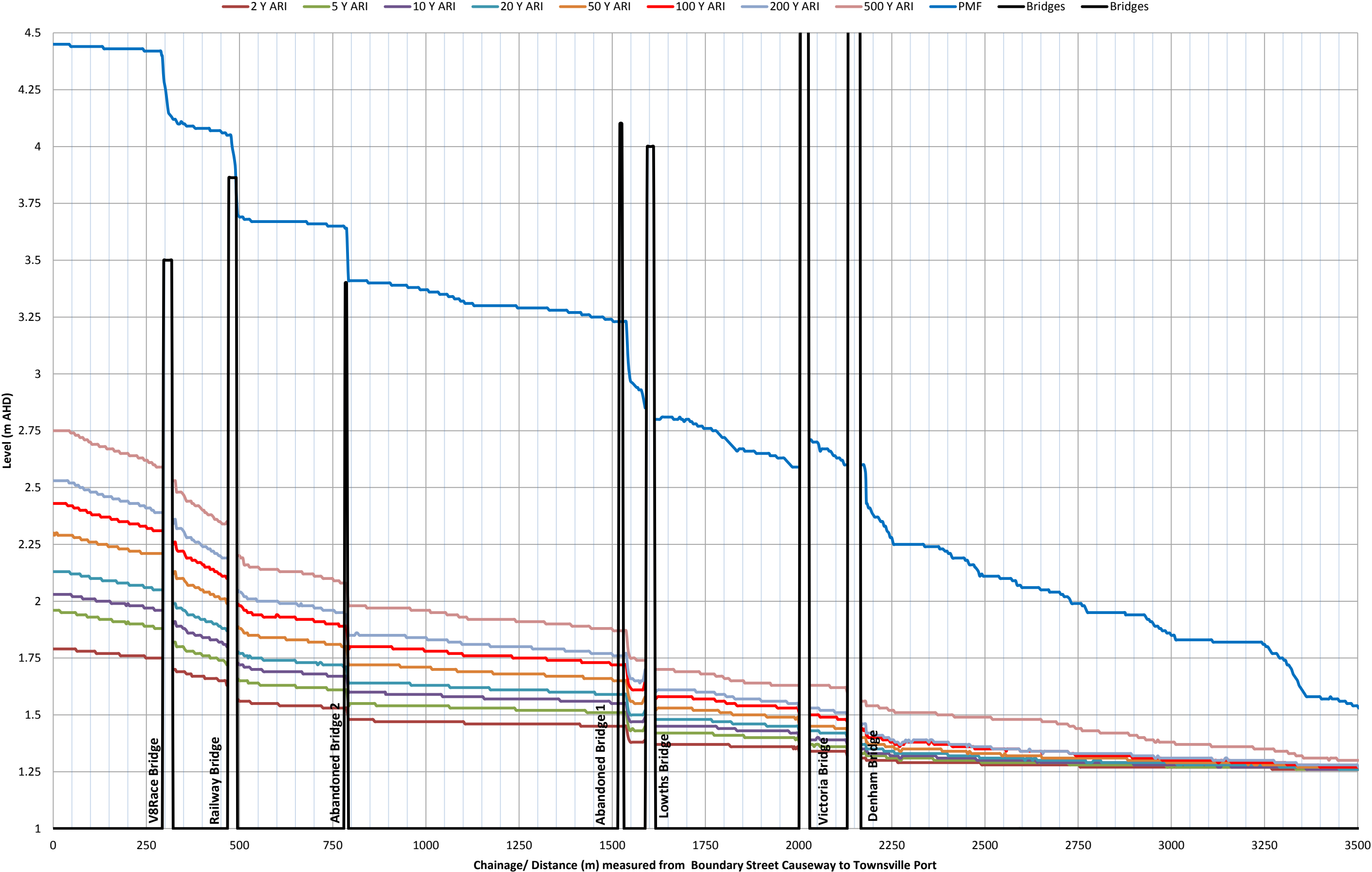
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## Appendix E – Hydraulic Gradelines



Hydraulic Grade Lines of Ross Creek for Different ARIs





## Appendix F – Peak Surface Flow Results



Design Flow (Year ARI)	Storm Durations (Hours)	Flow Sections in Ross Creek						Open Drain (on the left hand side of Railway Bridge)
		Woolcock Canal	U/S of V8-Race Bridge	in between Railway Bridge and Abandoned Bridge- 2	in between two abandoned bridges	in between Lowths and Victoria Bridges	D/S of Denham Bridge	
2	1	8.9	8.3	11.1	12.3	15.3	19.8	1.2
	12	34.7	36.4	37.5	38.1	39.9	42.2	1.0
	18	40.6	42.4	43.3	43.5	45.3	49.9	0.8
5	1	14.0	14.6	18.7	21.5	27.4	34.7	2.1
	12	50.8	53.4	55.4	56.4	59.4	63.4	1.6
	18	54.1	56.9	58.3	59.2	62.5	67.8	1.2
10	1	17.5	18.4	21.8	25.1	32.0	40.9	2.5
	12	61.3	64.2	66.7	68.0	71.0	75.4	1.9
	18	62.2	65.7	67.6	68.6	73.5	80.0	1.4
20	1	24.7	25.5	28.5	32.7	41.3	55.8	3.1
	12	74.1	77.7	80.4	81.7	85.4	91.4	2.3
	18	72.2	76.5	78.5	80.4	86.3	95.3	1.7
50	1	34.2	34.9	36.1	41.0	51.8	73.3	3.7
	12	92.0	96.2	99.3	101.1	105.8	111.2	2.5
	18	88.8	94.0	96.6	98.4	104.1	113.9	1.9
100	1	45.3	45.8	47.1	48.4	61.0	82.6	4.2
	1.5	56.6	58.8	60.2	60.4	73.7	98.7	3.8
	2	66.9	69.6	71.1	71.3	73.5	87.2	3.8
	3	82.5	86.2	87.6	88.0	90.8	92.5	3.3
	6	106.6	111.3	113.4	114.4	118.3	122.5	2.8
	12	109.2	114.9	117.6	119.2	122.9	131.8	3.5
	18	103.5	109.5	112.3	113.9	118.7	128.5	2.2
	24	106.7	111.0	113.2	114.3	118.3	122.4	2.5
	72	105.6	111.5	114.2	115.7	119.8	129.1	1.7



Design Flow (Year ARI)	Storm Durations (Hours)	Flow Sections in Ross Creek						Open Drain (on the left hand side of Railway Bridge)
		Woolcock Canal	U/S of V8-Race Bridge	in between Railway Bridge and Abandoned Bridge- 2	in between two abandoned bridges	in between Lowths and Victoria Bridges	D/S of Denham Bridge	
200	1	53.2	54.7	56.1	59.4	78.2	110.2	4.7
	12	119.4	131.2	134.5	136.6	141.9	153.0	3.4
	18	115.1	127.4	129.8	131.3	135.7	150.1	2.9
500	1	63.4	65.6	67.0	70.0	90.6	231.5	5.3
	12	124.1	157.0	161.0	163.8	169.9	181.9	3.3
	18	118.6	147.5	150.7	153.4	159.2	173.7	2.8
PMF	2	117.7	250.2	265.0	326.5	345.4	392.9	9.8
	24	121.8	232.2	255.5	417.2	494.5	643.4	13.6
	72	124.3	225.8	242.3	286.5	301.0	322.4	2.5