



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		TufLOW Model Results – Scenario B2 Flood Height: Open lagoon entrance, Probable Maximum catchment flood & neap tides					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 22					
			Job No: P1303896					



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		TufLOW Model Results - Scenario B2 Flood Velocity: Open lagoon entrance, Probable Maximum catchment flood & neap tides					
Approved:	DMM							
Date:		04.09.13						
Scale:		nts						
			FIGURE 23					
			Job No: P1303896					



KEY

 Low hydraulic flood hazard

 High hydraulic flood hazard

In accordance with NSW Floodplain Management Guideline.

Martens & Associates Pty Ltd

ABN 85 070 240 890

Drawn:

DD

Approved:

DMM

Date:

04.09.13

Scale:

nts

Environment | Water | Wastewater | Geotechnical | Civil | Management

**Tuflow Model Results – Scenario B2 Flood Hazard:
Open lagoon entrance, Probable Maximum catchment
flood & neap tides**

FIGURE 24

Job No: P1303896



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		TufLOW Model Results – Scenario C1 Flood Depth: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2050 Climate Change					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 25					
			Job No: P1303896					



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		Tufflow Model Results – Scenario C1 Flood Height: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2050 Climate Change					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 26					
			Job No: P1303896					



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		Tuflow Model Results – Scenario C1 Flood Velocity: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2050 Climate Change					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 27					
			Job No: P1303896					



KEY

- Low hydraulic flood hazard
- High hydraulic flood hazard

In accordance with NSW Floodplain Management Guideline.

Martens & Associates Pty Ltd		ABN 85 070 240 890
Drawn:	DD	
Approved:	DMM	
Date:	04.09.13	
Scale:	nts	

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Tuflow Model Results – Scenario C1 Flood Hazard:
Closed lagoon entrance, 1 in 100 year catchment flood,
1 in 20 year ocean level & 2050 Climate Change

FIGURE 28

Job No: P1303896



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:		DD	Tuflow Model Results – Scenario C2 Flood Depth: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change					
Approved:		DMM						
Date:		04.09.13						
Scale:		nts						
			FIGURE 29					
			Job No: P1303896					



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		Tufflow Model Results – Scenario C2 Flood Height: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 30					
			Job No: P1303896					



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		Tuflow Model Results – Scenario C2 Flood Velocity: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 31					
			Job No: P1303896					



martens

KEY

- Low hydraulic flood hazard
- High hydraulic flood hazard

In accordance with NSW Floodplain Management Guideline.

Drawn:	DD
Approved:	DMM
Date:	04.09.13
Scale:	nts

Martens & Associates Pty Ltd ABN 85 070 240 890

Environment | Water | Wastewater | Geotechnical | Civil | Management

**Tuflow Model Results – Scenario C2 Flood Hazard:
Closed lagoon entrance, 1 in 100 year catchment flood,
1 in 20 year ocean level & 2100 Climate Change**

FIGURE 32

Job No: P1303896



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment Water Wastewater Geotechnical Civil Management			
Drawn:		DD	Tuflow Model Results – Scenario C3 Flood Depth: Open lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2050 Climate Change			
Approved:		DMM				
Date:		04.09.13				
Scale:		nts				
			FIGURE 33			
			Job No: P1303896			



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		Tufflow Model Results – Scenario C3 Flood Height: Open lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2050 Climate Change					
Approved:	DMM							
Date:	04.09.13							
Scale:	nts							
			FIGURE 34					
			Job No: P1303896					



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment Water Wastewater Geotechnical Civil Management	
Drawn:	DD		Tuflow Model Results – Scenario C3 Flood Velocity: Open lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2050 Climate Change	
Approved:	DMM			
Date:	04.09.13			
Scale:	nts			
			FIGURE 35	
			Job No: P1303896	



KEY

■ Low hydraulic flood hazard

■ High hydraulic flood hazard

In accordance with NSW Floodplain Management Guideline.

Martens & Associates Pty Ltd

ABN 85 070 240 890

Drawn:

DD

Approved:

DMM

Date:

04.09.13

Scale:

nts

Environment | Water | Wastewater | Geotechnical | Civil | Management

**Tuflow Model Results – Scenario C3 Flood Hazard:
Open lagoon entrance, 1 in 100 year catchment flood,
1 in 20 year ocean level & 2050 Climate Change**

FIGURE 36

Job No: P1303896



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment Water Wastewater Geotechnical Civil Management	
Drawn:	DD		Tuflow Model Results – Scenario C4 Flood Depth: Open lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change	
Approved:	DMM			
Date:	04.09.13			
Scale:	nts			
			FIGURE 37	
			Job No: P1303896	



Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment Water Wastewater Geotechnical Civil Management			
Drawn:	DD		Tufflow Model Results – Scenario C4 Flood Height: Open lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change			
Approved:	DMM					
Date:	04.09.13					
Scale:	nts					
			FIGURE 38 Job No: P1303896			



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Martens & Associates Pty Ltd		ABN 85 070 240 890	Environment	Water	Wastewater	Geotechnical	Civil	Management
Drawn:	DD		Tuflow Model Results – Scenario C4 Flood Velocity: Open lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change					
Approved:		DMM						
Date:		04.09.13						
Scale:		nts						
			FIGURE 39					
			Job No: P1303896					



KEY

- Low hydraulic flood hazard
- High hydraulic flood hazard

In accordance with NSW Floodplain Management Guideline.

Drawn:	DD
Approved:	DMM
Date:	04.09.13
Scale:	nts

Martens & Associates Pty Ltd

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Environment | Water | Wastewater | Geotechnical | Civil | Management

Tuflow Model Results – Scenario C4 Flood Hazard:
Open lagoon entrance, 1 in 100 year catchment flood,
1 in 20 year ocean level & 2100 Climate Change

FIGURE 40

Job No: P1303896



NOTES:

1. This information is indicative only and would need to be confirmed following detailed flood modelling of proposed earthworks.

2. Riparian corridors are approximate only and may be able to be reduced following detailed analysis and stream classification works in consultation with NSW Office of Water.

KEY	
	Assumed 40m riparian corridor from creek centreline.
	Likely flood extents if minor earthworks are undertaken.

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Approved:	DMM
Date:	04.09.13
Scale:	nts

Martens & Associates Pty Ltd		ABN 85 070 240 890
Environment Water Wastewater Geotechnical Civil Management		
Possible Flood Extent Reductions – Scenario C2: Closed lagoon entrance, 1 in 100 year catchment flood, 1 in 20 year ocean level & 2100 Climate Change		
FIGURE 41		
Job No: P1303896		