

LEGEND:

- HIGHEST WATER LEVEL RECORDED IN 100 YEARS
- 2.38 - SPOT SHOT LEVEL (AMSL)

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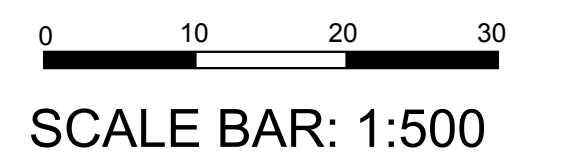
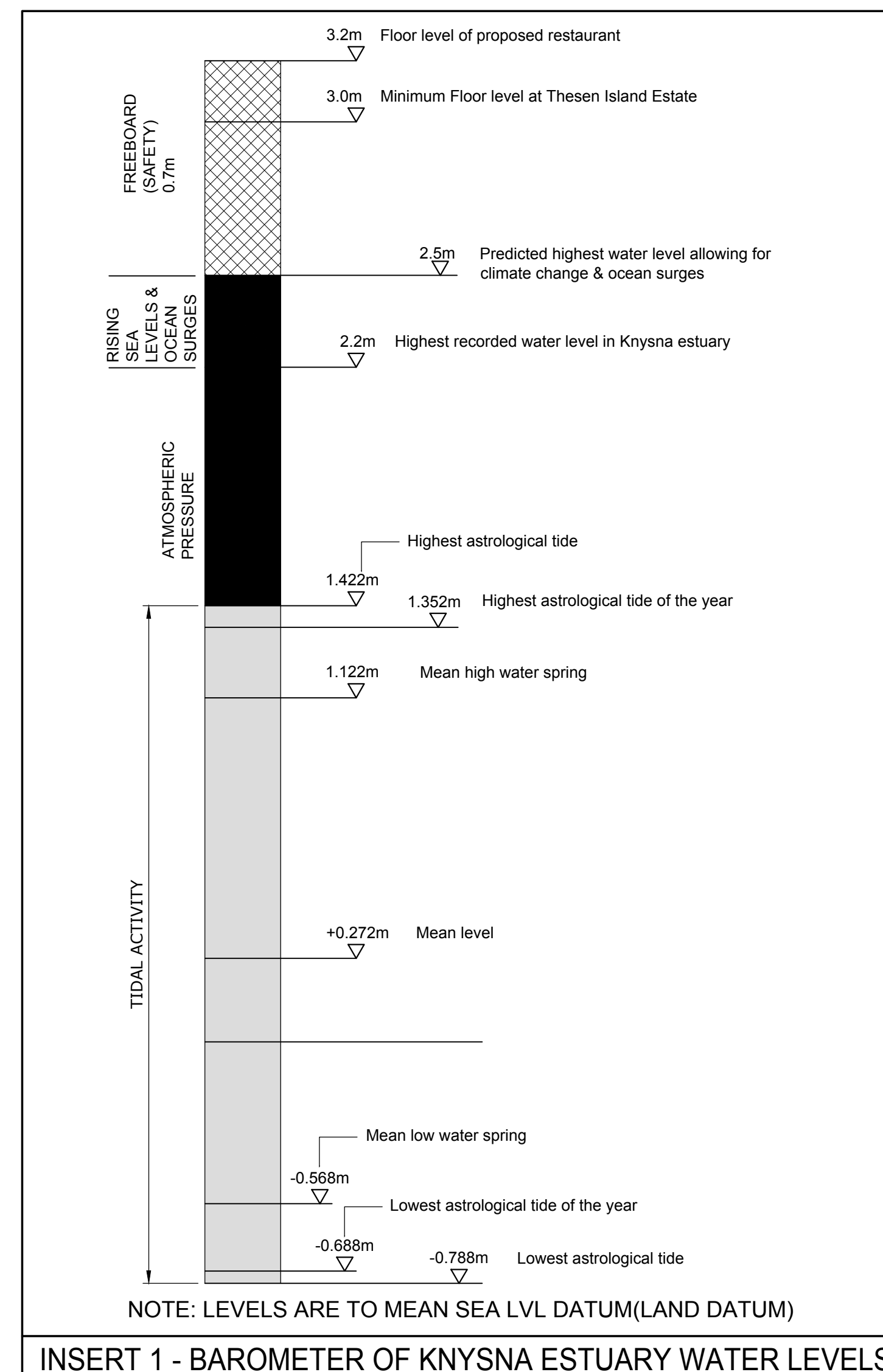
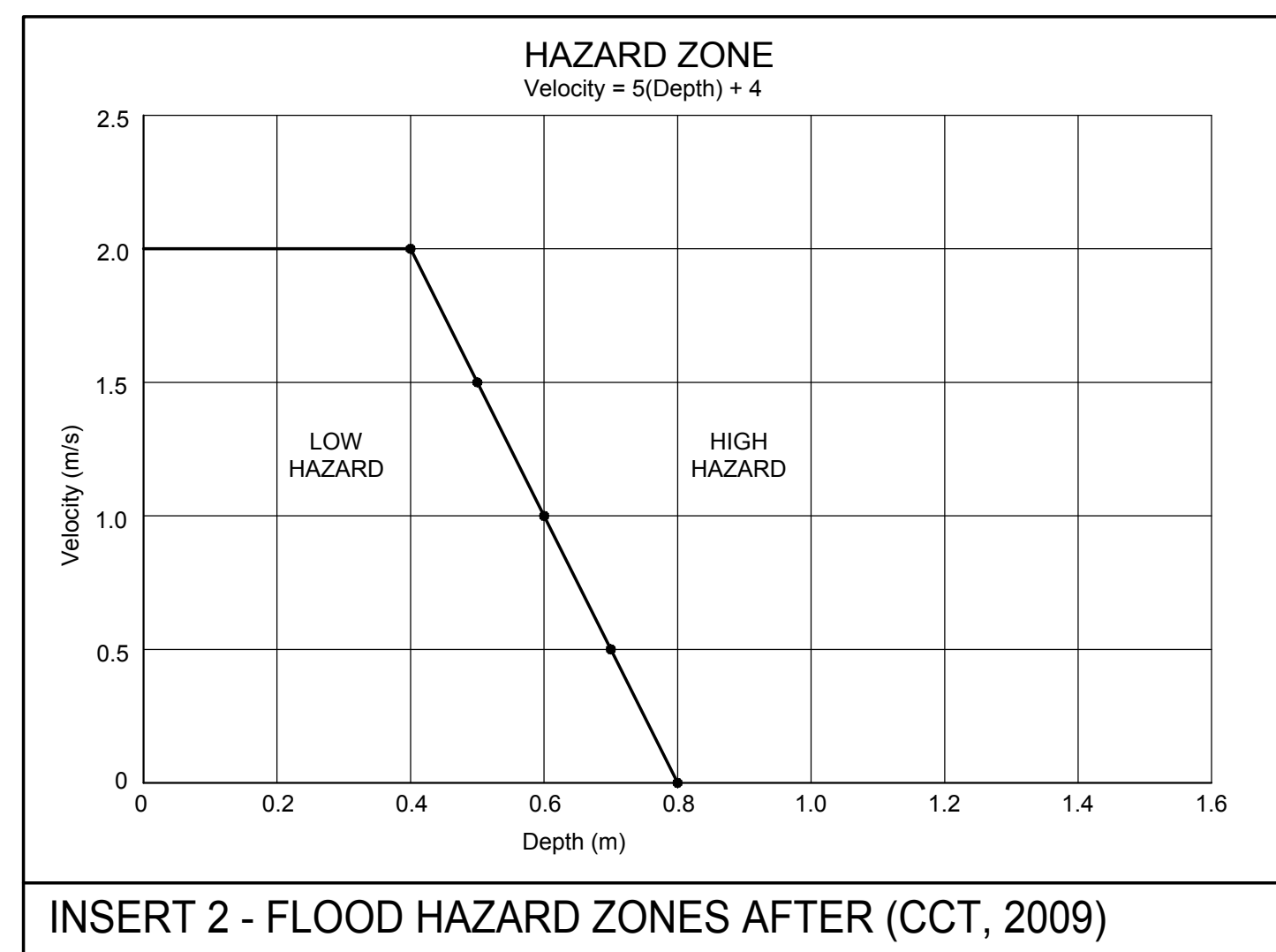
1. Refer to report AF530-2-r1 of 29 September 2015. This report is titled 'Effect of High Astronomical Tides & Low Atmospheric Pressure Raising Estuary Water Levels'. It is produced by Fraser Engineers cc and available on the web-page www.ecoroute.co.za.
2. The Report shows that the water levels during historic floods where rainfall exceeds the 100year Recurrence Interval depths (see table 1 below) are lower than peak tidal levels associated with low atmospheric pressures. The conclusion is that the 100year rainfall induced peak water levels are at a maximum of 2.0 amsl.
3. The Fraser Report AF420-2-r1 states that the peak water levels occurring during extreme tides and low atmospheric pressures are the levels to be used for planning.
4. The highest water levels recorded in over 100years in Knysna Estuary downstream of the white bridge (which is immediately upstream of Crabs Creek) are less than 2.2 amsl. The water surface levels are lower at Crabs Creek.
5. Please refer to the attached barometer of water levels of insert 1. Additional safety has been added by recommending raised floor levels. This is conservative.

Table 1. Storm Rainfall Information

Description	Gauna	Goudveld	Concordia	Buffelsnek	Composite
Gauge reference	030088	029805	30090	030265	
Altitude (amsl)	259m	262m	198m	634m	
MAP (mm/year)	947mm	830mm	888mm	879mm	
Centre-of-Area Weighting	33%	23%	5%	39%	100%
Peak one day rainfalls (mm/day):					
50 year RI	185mm	181mm	179mm	226mm	200mm
100 year RI	220mm	216mm	213mm	269mm	238mm
200 year RI	260mm	255mm	252mm	318mm	281mm
Recorded Rainfalls for Recent Rainstorms:					
1996 November:					
19 Nov	166mm	109mm	136mm	140mm	141mm
20 Nov	38mm	29mm	A	30mm	33mm
21 Nov	121mm	99mm	172mm C	102mm	111mm
2003 March:					
1-22 March	72mm	79mm	67mm	43mm	62mm
23 Mar	32mm	24mm	A	41mm	32mm
24 Mar	88mm	141mm	A	52mm	116mm
25 Mar	61mm	20mm	A	52mm	45mm
26 Mar			251mm C		
2006 August:					
1 Aug	135mm	129mm	200mm	114mm	129mm
2 Aug	A	144mm	73mm	203mm	164mm
	145mm C				
2007 November:					
1-20 Nov	40mm	40mm	32mm	45mm	42mm
21 Nov	234mm	201mm	123mm	156mm	190mm
22 Nov	199mm	202mm	164mm	325mm	247mm
23 Nov	A		80mm		45mm

Source of Information: Univ. Natal (2002), SAWS (2010).

Key:
 A Data not recorded
 C Data accumulated over a few days



REVISION	DATE	REVISION DETAILS
0	11/05/2016	ORIGINAL ISSUE



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PROJECT:
TIDAL AND FLOOD INUNDATION STUDY FOR FARM 216/29 KNYSNA

CLIENT:
CRABS CREEK (PTY) LTD

DRAWING TITLE:
LEVELS OF HIGHEST WATER LEVELS AT CRABS CREEK, KNYSNA

DRAWING NUMBER	SCALE	PAPER SIZE	REVISION
AF430-02	1:500	A1	0