




Technical Expert Signing

The technical experts hereby agree that this is an accurate record of the caucusing meeting and that my opinions have been appropriately recorded.

 Craig Goodler On behalf of GDC as Applicant Date Aug. 8/19	 Brian Kouvells On behalf of the Consent Authority Date: 8/8/2018	 Dave Peacock On behalf of the Wi Pere Trust Date: 8/8/2018
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	Matters Agreed by All Three Parties	Matters of Disagreement
4.11	Discussion/confirmation from the Applicant of the construction timeframe /programme (BK)	It is noted that berm reinforcement should be considered as a high priority item in the programme of works
4.12	Sea Level Rise (BK)	See item 4.1
4.13	Review of the "Bola" flood return period Modelling details and proposed return banking levels for all three tributaries (DP)	The design has been based on a Bola event being assumed as 100yr +- 20% event (4500 m3/s)
4.14	Inclusion of the full range of floods for the assessment of flood hazard/damages, ie: from the "Bola" magnitude flood to the design flood to the brim-full flood (DP)	The modelling has assessed flood events above the Bola event, however the impacts of these are not shown in the design report. Brim full model run is not necessary, however it is acknowledged that the scheme may convey more than 5625 m3/s
4.15	General principles for assessment of adverse effects on buildings, land and crops (DP)	See item 4.7
4.16	Potential effects of log rafts on bridges (DP)	See item 4.6
4.17	Return Period recurrence interval in today's terms if the 2090 (accounting for CC) flood event happened tomorrow? (CG)	The design event of 5625 cumecs is a very low probability (well in excess of 100 year return period) event in the present climate

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DP

	Matters Agreed by All Three Parties	Matters of Disagreement
4.4	Accuracy of flood levels for WI Pere Trust Land	See Item 4.7
4.5	Modelling details and proposed return banking levels for all three tributaries (BK)	Steady flow from tributaries in a 10yr event is acceptable. The model is showing relatively minor backwater effects in the tributaries that flattens out the flood level, agree that current model is acceptable. Mahunga: The bypass proposal does not disadvantage the houses around Ormond
4.6	Discussion around the detailed design phase at the bridge structures (BK)	Comfortable with the model around the bridges at this stage, but requires further attention to design at a later date
4.7	Discussion around model accuracy and limits to determining scale/extent of effects particularly in regard to the upstream houses and the WI Pere Trust issues (BK)	Comfortable with the base model accuracy of +- 300mm, and the flood level differences shown in the respective tables (eg. Table 5, Page 53, version 5 design report) for the upstream houses and WI Pere Trust land. However, absolute flood levels can be +- 300 from the design flood levels.
4.8	Super elevation allowance – confirmation of Applicant's position (BK)	See Item 4.1
4.9	Upgraded stop bank toe and river bank edge criteria – discussion (BK)	See Item 4.11
4.10	Discussion re equal protection philosophy for the over design flood . ie: No specific "spillway" provision built into the scheme design for the overdesign flood (BK)	Disagreement about the design philosophy regarding equal protection throughout the scheme. <ul style="list-style-type: none"> • Dave Peacock believes that incorporating a spillway in design is preferable. • Brian and Craig consider that a design philosophy of equal protection vs. designated spillway, needs consideration of external factors outside the current application.

WAIPAOA FLOOD CONTROL SCHEME UPGRADE

EXPERT CAUCUSING STATEMENT FLOOD MODEL AND STOPBANK DESIGN

8 AUGUST 2018

	Parties Present and Role	Dave Peacock (for WI Pere Trust), Brian Kouvelis (for the Consent Authority), Craig Goodier (for the Applicant)
1.	Agreement to Code of Conduct by the Three Technical Experts	Agreed
3.	Overview of Revised Model and General Questions	Craig presented an overview and this was discussed
		Matters of Disagreement
4.1	Underlying Assumptions for Flood Model	<p>Matters Agreed by All Three Parties</p> <ol style="list-style-type: none"> 1. Craig to update report figures annotated with clear dates for stopbank heights 2. Frequency analysis considers level, and not duration 3. Bola hydrograph was used to calibrate the model, and the return period of Bola does not affect the model. 4. 4500 cumecs is an appropriate discharge for the Bola event. 5. Sea level rise based on 0.67 of MFE is acceptable 6. The superelevation approach presented in the design report is acceptable in principle <p>Sea level rise allowance is constant for the design event, Bola calibration event used actual event tides Calibration accuracy of +/- 300mm from Bola levels is acceptable DHI model peer review, model is industry standard</p>
4.2	Design Report – Representation of flood bank design	Clarification “Design Report is v5. Bank design representation is appropriate
4.3	Design Report – Any Gaps or Clarifications	Change title of report to: “WRFCs – Design Flood Hydrodynamic Analysis”