MEETING NOTES

Name of meeting: Foxground &Berry Bypass Route Comparison Study: Technical Investigation Group Weekly Progress/Coordination Meeting 11

Location of meeting: AECOM, 420 George Street, Sydney

Meeting facilitator: Steve Zhivanovich

Date: 26/04/2012 **Time:** 10am

Attendees:

Name	Initials	Organisation
Henk Buys	HB	AECOM
Phil Jorgensen	PJ	Evans & Peck
Annabel Killen	AK	Evans & Peck
Chris Masters	CM	SMEC (External reviewer)
Michael Moore	MM	Evans & Peck
Ben Noble	BN	AECOM
Ken O'Neill	KO'N	Aurecon
Basil Pazpinis	BP	RMS PMO (Internal reviewer)
John Poposki	JP	RMS
Ron de Rooy	RdR	RMS
Glen Smith	GS	AECOM
Peter Stewart	PS	Peter Stewart Consulting
Jon Williamson	JW	AECOM
Steven Zhivanovich	SZ	RMS

Additional distribution:

Name	Initials	Organisation
Derrick Hitchins	DH	SMEC (External reviewer)
Alan Thomas	AT	RMS PMO (Internal reviewer)
Dan Reeve	DR	SMEC (External reviewer)
Adam Berry	AB	RMS

Attachments: Outstanding actions from past minutes

	Item		
1.	Review and update of outstanding actions from previous minutes	Outstanding actions reviewed	Noted
1.	Review of provisional items	Discussion regarding the incorporation of technical submissions received during the course of the investigation. Noted that the current "base case" design for a bypass to the south of Berry was developed following the initial submission from a community member. The TIG agreed the base case route was a version (dated 1 March 2012 and displayed on the RMS website) established for the purposes of developing a design to sufficient detail for undertaking the technical investigations required to prepare the cost estimate. The TIG reviewed how it deals with route amendments received since the 1 March 2012 version and agreed: • Amendments will be investigated to the extent possible by the technical investigation group. • The results of the investigations into amendments will be recorded in the report. • Where the TIG's investigations have indicated that the route amendments, refinements or revisions are feasible, the cost impacts will be assessed. • The estimated costs will be included in the base case cost, or where impacting on the whole study will be included as provisional items in the cost estimate. • Dealing with route amendments as provisional items allows different work-streams of the TIG to work concurrently and more efficiently. • The base case design will not be changed to include each suggested route amendments as reworking each iteration in a linear process would excessively delay	Noted

		the results. The TIG ran through the provisional items it is dealing with: Provisional items for the southern route: 1. Diversion of the route south of the sewerage treatment plant 2. Inclusion of an island embankment to replace part of the viaduct in the southern route 3. Diversion of Town Creek (for the information of council) 4. Alternative earthworks design for the north of northern interchange (Zone 1) to generate additional fill for an island embankment **5.** Lowering the vertical alignment through the Berry north interchange cut to generate additional fill for earthworks **6.** Alternative alignment for southern intersection (Zone 3) to reduce embankment fill requirements Provisional items for the northern route: 1. Additional pedestrian bridge	
2.	Critical Issues Register	**Northern route drainage structures** Outcomes of investigations to date on extending the embankment to reduce the length of the bridge. Options identified for the northern route viaduct over Woodhill Mountain Road 1. Leave as is 2. Raise the alignment of the western bridge approach to provide clearance 3. Excavate under bridge to increase clearance 4. Shorten bridge but add additional culverts 5. Adjust the type and dimensions of the bridge at its western end Assessment of these options is ongoing work.	JW / GS / BN

		Constraints on vertical alignment of southern route from flood levels Further flood modelling on the southern route is ongoing. Preliminary and indicative results are becoming available. *Post meeting note: These preliminary results were discussed in more detail following the meeting.* *BN advised that the more detailed information and model being produced could result in adjustments to the flood levels at some points in the alignment. The assessed 100 year flood levels may be reduced with the additional information.*	BN
		Island embankment Further flood modelling ongoing with separate model runs being undertaken to assess the island embankment. Preliminary results indicate that the embankment is feasible. As currently designed it may increase flood levels in surrounding areas however this could be mitigated with additional culverts. Further investigation will determine the size of the culverts.	BN PJ
		Earthworks optimisation The current shortfall of fill material for the southern route is approximately 600,000m3, and the shortfall of fill for the southern route with an island embankment at approximately 900,000m3. Further investigation of earthworks optimisation is continuing. Preliminary results have identified the following opportunities for obtaining additional fill for the southern route. 1. Broughton Creek fill batter adjacent to the Toolijooa cutting - Changing the current design of variable slopes to a consistent 2:1 slope gains 17,000m3 of fill 2. Tindalls Lane - Flattening the slopes of the	GS

		batter gains 25,000m3 3. Lowering the alignment through the crest between Austral Park Road and Tindalls lane - This gains 135,000m3. - Noted that it has very significant environmental impacts 4. Toolijooa Ridge - Lowering the alignment through the cut by 5m gains 170,000m3 however increases the footprint of the route and the property acquisition requirements - Noted that it has very significant urban design and property impacts This investigation is ongoing. RdR to investigate availability of fill from the quarry just south of Tindalls Lane	
		Mature tree removal RdR to contact JW to estimate the number of mature trees requiring removal for each route.	RdR
		Additional items for the critical issues register 1. Application of urban design principles - Noted that urban design principles apply consistently to both routes both in urban and rural locations. 2. Incorporation of RailCorp's overhead wiring within bridge structure - Noted that RailCorp determines design and construction constraints regarding their assets. They have stated that overhead wiring cannot be incorporated within the bridge structure. 3. Provision for a third lane in each direction on structures. - The current RMS design makes provision for two lanes in each	AK

		direction with 3 metre shoulders including provision for sight distance adjacent to the median barrier and cyclists. This leaves the potential for providing three lanes in each direction by providing an alternate route for cyclists and reducing shoulder widths.	
2.	Comparative Report	Comparative report deliverables	
		• Design Design section preparation ongoing.	GS
		• Flood investigations Report section being updated as results from further flood investigation become apparent.	BN
		• Geotechnical investigations HB to provide AK with material prepared in previous investigations for northern preferred option	HB
		• RailCorp RdR awaiting documentation from RailCorp	RdR
		• Property The approach to valuing property acquisitions has been slightly modified and RdR will advise the RMS property team of new approach.	RdR
		• Construction methods Construction method statements are subject to change slightly as the technical investigations are finalised. Construction method information to be prepared for provisional items.	PS
		• Construction programme Construction programme has been reviewed and the outcomes of the review are being incorporated. Presentation format of programme to be developed.	Noted

		• Cost estimation Review of cost estimate principles was held 23/04. Cost estimate work continuing for the base case and provisional items. Cost estimate will not be concluded until final results of technical investigations can be incorporated	Noted
	Flood investigations: External review	BN advised that a technical note on the flood modelling and investigations undertaken would be prepared for external reviewers Lyall + Associates. This technical note will address 1. Flooding impacts on the highway 2. The effects of the highway on flooding in surrounding areas 3. Climate change impacts on the highway This will include details of 1. Existing models utilised 2. Further models developed 3. Software used 4. Survey data used 5. Sensitivity analyses on climate change impact and other relevant model parameters	Noted