**Questions for Manly Council from David Wunder, Civil Engineer**

The following questions mostly relate to the cost estimate prepared by WT Partnership (WTP). I have assumed that the WTP estimate can be considered in 3 parts:

1. Bare construction cost estimate (CCE) of $30.4M
2. Allowance for Professional Fees of $1.4M (= 4.5% of CCE), and
3. Allowance for Contingency of $1.8M (= 6% of CCE)

Some questions relate to the impact of some of the design decisions that have been made.

| **No** | **Question** |
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| **Playing Surface** | |
| 1 | What cost amount is included in the CCE for replacement of the Manly Oval playing surface, including drainage layer on top of roof slab and turf cricket square? |
| **Passenger lifts** | |
| 2 | How many passenger lifts has WTP included in its CCE? |
| **Fire Escape** | |
| 3 | What cost amount is included in the CCE for the construction of fire-rated exit passages within the car park to comply with the BCA? |
| **Access Ramps** | |
| 4 | Approximately how far westwards up Sydney Rd from Eustace St do the entry and exit ramps extend (i.e. where do the ramps meet the Sydney Road surface)? |
| 5 | Did the drawings or other advice provided to WTP include details of the entry and exit ramps in Sydney Road in their currently proposed configuration? |
| 6 | What is the cost allowance in the CCE for the Sydney Rd ramps and associated works (i.e. barrier kerbs/Jersey kerbs, excavation, Eustace St roundabout and entrance tunnels under Sydney Rd footpath and oval concourse into the car park? |
| 7 | I estimate that approximately 50 kerb-side parking spaces will be lost from the northern side of Sydney Road to accommodate the entry ramp and traffic merging and segregation prior to the ramp. How many lost spaces in Sydney Rd west of Belgrave St have been included in the total number of projected kerb-side parking losses for Manly2015? |
| 8 | Most likely, residents on and near Sydney Rd currently use the kerb-side spaces referred to in Q.7. Has the social and commercial impact of this loss been assessed and have the affected parties been consulted? |
| 9 | Gradients dictate that the entry and exit ramps on Sydney Rd will extend (well) past the bus stops halfway up the hill, reducing the traffic to single lane each way. This will require the bus stops to be removed. Has the impact of this been considered and communicated to and discussed and agreed with stakeholders (i.e. residents, STA)? |
| **Excavation Retaining Wall** | |
| 10 | Cardo has stated that it has no dimensional details of the retaining wall to be constructed to support the Manly Oval excavation have been prepared. Therefore, what assumptions has WTP made in respect of length, depth below excavation floor and thickness of the Cutter Soil Mix (CSM) wall proposed for this aspect of the works? |
| 11 | What assumptions did WTP make, if any, for structural support of the CSM wall during construction of the car park (e.g. wall reinforcement, ground anchors)? |
| 12 | What assumptions (if any) has WTP made in its CCE for tanking or other form of waterproofing of the CSM wall to ensure the long-term water tightness of the structure? |
| 13 | What is the total cost allowance in the CCE for the CSM wall and associated elements (i.e. equipment mobilisation and demobilisation, reinforcement, anchors, stabilizing agent and consumables)? |
| **Professional Fees** | |
| 14 | Does the cost allowance of $1.4M in WTP’s estimate for Professional Services include for:   * Architect’s fees; * Structural engineer’s fees; * Mechanical and lift engineering fees; * Hydraulic engineering fees; * Electrical engineering fees; * Landscaping/horticultural fees re oval surface; * Geotechnical and hydrogeological engineering fees; and * Site inspections by all the above during construction? |
| 15 | Does the cost allowance of $1.4M in WTP’s estimate for Professional Services also include for professional project management services prior to, during and post construction? |
| **Risks** | |
| 16 | The preliminary nature of the design necessarily implies a number of risks, including:   * Variations to the design, and hence cost, of the retaining wall; * Potential impacts on neighbouring structures from the draw-down of the water table in the oval to allow excavation and construction; * Variations to the design, and hence cost, of the access ramps to resolve geometric problems with turning radii, gradients, sight distances, stopping distances; * Contract variation and extension of time claims; * etc;   Has Council and its consultants priced the major risks inherent in the project using current-day processes and tools (e.g. *@Risk™*)to develop a fully risk-adjusted cost estimate? |
| 17 | At the meeting organised with the Manly Chamber of Commerce on 7 May 2014 in relation to the Manly2015 car park, Council GM, Henry Wong, asserted that Council's cost estimate of $34M was equivalent to a P90 - P95 estimate (meaning a figure that had a 90% - 95% probability of not being exceeded).  Can Council provide a copy of the *Monte Carlo* or other probability-based model that confirms this figure? |