CLAYTON UTZ

IAC Preliminary Matters and Further Information Request

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Traffic and Transport - Port Access			
1.	Confirmation that the closure of Coode Road is a committed and essential project for the continued operation of the port and the timing requirement for it to be closed for Port requirements, that is not considering the West Gate Tunnel project.		
2.	Traffic volumes be provided for the port roads, including MacKenzie Road, Sims Street, Dock Link Road and Appleton Dock Road, including existing condition volumes, and turning movement data for peak traffic hours existing and 2031 with project		
3.	Capacity analysis of the intersections of Sims Street with Footscray Road, 2031 with project, including queue and delay data.		
Traffic and Transport - Intersection performance			
4.	Further information on intersection performances where the level of service for a movement is below D in the 2031 project case, particularly the expected queue lengths and ability to accommodate expected queue lengths, by lane, and any consideration and constraints, to upgrade intersections to improve the level of service on the individual approaches.	Project Note 15	11 August 2017
5.	An assessment of the intersection performance on the intersection of Millers Road and Princes Highway and the intersection of Millers Road and Cypress Avenue.	Project Note 16	11 August 2017
6.	An origin-destination assessment of trucks using Millers Road north of West Gate Freeway in the 2031 with project scenario.	Project Note 17	11 August 2017
Traffic and Transport - West Melbourne and North Melbourne			
7.	Data and analysis to support the statement that there is sufficient spare network capacity in North Melbourne to accommodate the increase in traffic in the peak hours, inter peak and daily, noting the growth predicted without the project.		
8.	Advice on any proposed network enhancement projects and traffic assessment particularly for the Dryburgh Road/Arden Street (noting potential rat-running via Laurens Street), Queensbury Street/Elizabeth Street and Gatehouse Street/Royal Parade intersections, proposed as part of the Melbourne Metro Rail project.		
Traffic and Transport - Microsimulation modelling			
9.	Video footage from the microsimulation models showing peak congestion conditions during construction and operation.		
10.	Analysis from the microsimulation modelling undertaken to assess traffic performance during construction (referenced in the		

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	dot point at the bottom of page 11-2).		
Traffic and Transport - Construction Haul Routes			
11.	Advice on the truck traffic forecasts for the Southern tunnel portal compound and the Williamstown Road compound.	Project Note 18	11 August 2017
12.	Confirmation of the local road route into the Southern Portal compound, advice on what material will be transported to and from this compound, noting Chapter 11.1 Technical Report G - Air Quality Impact notes that this will be a TBM retrieval site, and the suitability of the route to cater for the forecast traffic.	Project Note 19	11 August 2017
13.	Clarification whether spoil/soil haulage trucks will not travel during peak hours.	Project Note 11	7 August 2017
14.	Confirm spoil/soil truck haulage routes for both Projects as this is not entirely clear within the documentation.		
15.	Confirm the duration of the cumulative effects (of soil/spoil truck movements).		
Traffic and Transport - Road Closures and Works Areas			
16.	Clarification of whether the freeway widening works will require temporary and or permanent closure of the western end of Buchanan Road, near Lynch Road Reserve.	Project Note 22	11 August 2017
17.	Clarification of the purpose of the works areas shown on Sheet 16, including the area of Bridge Street and The Memorial Park.	Project Note 23	11 August 2017
Traffic and Transport - Sensitivity Testing			
18.	The data provided for the Existing Curfews test in Table 164 be expanded to include Williamstown Road and presented in two figures showing, (to allow comparison with Figures 214 and 215): a. 2031 project with existing curfews (truck volumes, two-way, 24 hour weekday volumes); and b. 2031 project case vs project case existing curfews: changes in daily truck volumes (wo-way, 24 hour weekday volumes).		
19.	A sensitivity test that varies the tolling structure, location and/or number of tolling points to reduce toll avoidance by trucks and incentivise the use of the West Gate corridors by freight traffic in lieu of other roads including Millers Road.	Project Note 1	2 August 2017

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Land Use and Infrastructure - Assumptions Regarding Future Port Infrastructure			
20.	Has the design of the West Gate Tunnel project had regard to Infrastructure Victoria's advice on securing Victoria's Port Capacity?		
21.	Further, what if any, assumptions have been adopted in the design of the West Gate Tunnel Project regarding: a. Long term projections of TEU shipping containers (Twenty Foot Equivalent Units) at Swanson Dock and Webb Dock; b. The possible development of the Western Intermodal Freight Hub; c. The term of lease at the Port of Melbourne; d. The possible development of Bay West and relocation of vehicular freight trade to the Port of Hastings; e. The possible relocation of Coode Island to facilitate redevelopment of Swanson Dock.		
Land Use and Infrastructure - Dynon Road Connection			
22.	How important is the Dynon Road connection in regard to achievement of the Project Objectives?		
23.	What functional role does the connection serve having regard to the Project's objectives; and what if any alternative options were considered to achieve the functional outcomes provided by the connection?		
24.	What if any, additional measures can be implemented to reduce potential negative amenity and economic impacts of the connection?		
Land Use and Infrastructure - Wurundjeri Way Extension and Widening			
25.	How important is the Wurundjeri Way extension in regard to achievement of the Project Objectives?		
26.	What functional role does the connection serve having regard to the Project's objectives; and what if any alternative options were considered to achieve the functional outcomes provided by the connection?		
27.	What if any, additional measures can be implemented to reduce potential negative amenity and economic impacts of the connection?		

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Visual Impacts, Urban Design and Landscape - Landscape			
28.	Estimates of long term survival rates of the landscape and assumptions upon which these estimates are based.	Project Note 8	2 August 2017
29.	Estimates for the time until a canopy of equal (or greater) size of healthy, mature trees will be achieved.	Project Note 8	2 August 2017
30.	Advice on the criteria for location of installation of choice of advanced or tube stock trees .	Project Note 8	2 August 2017
31.	Identification of the width of the area between the noise barrier and existing residential properties that is available for landscaping along the length of the project.		
32.	Clarification that the understanding outlined in the last paragraph of section 4(1)(i) is correct.	Project Note 8	2 August 2017
33.	If this understanding outlined in point 32 above is correct, how is the area to be landscaped to be accessed for maintenance.	Project Note 8	2 August 2017
Visual Impacts, Urban Design and Landscape - Lighting			
34.	Advice on any investigations into the potential health impacts of light spillage on surrounding properties in the operation phase.	Project Note 20	11 August 2017
35.	Advice on any investigations into the potential for harmful perceived strobing effects for those passing through the Veloway or pedestrian bridges.	Project Note 21	11 August 2017
Visual Impacts, Urban Design and Landscape - Shared Path			
36.	Further explanation and detail of the features and proposed characteristics that make the proposed changes improvements.		
Visual Impacts, Urban Design and Landscape - Noise barriers			
37.	An analysis of the shade cast into residential properties adjoining the southern side of the freeway post construction of the new noise barriers.		
38.	A plan indicating where the height or alignment of the barriers will differ from the existing situation, either because of a change in height or their location relative to adjacent residential areas.		

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39.	Advice on any analysis of glare and radiant heat impacts on properties to the north of the noise barrier.	Project Note 24	11 August 2017
40.	Indicative cross-sections of the project at Ferguson Street and Le Fevre Street.		
Solid Waste and Contamination - Contaminated Soil and Spoil Management			
41.	Any identified environmental and/or human health risks that might reasonably arise from the management or reuse of contaminated soil and spoil and any information that may be available regarding how WDA/Project Co. proposes to manage/mitigate those risks.	Project Note 2	2 August 2017
Solid Waste and Contamination - Provision of Stockpiling Area			
42.	Further information, if possible, of the location of the designated stockpile area for spoil prior to it being treated for disposal to an appropriate landfill. The IAC understand this to be located somewhere within the Project boundary.		
Solid Waste and Contamination - Human Health - contaminated soil			
43.	Further detail of what is meant by 'Minimal spoil is likely to be generated requiring management and exposure risks to human health can be managed by health and safety planning'. Does the WDA mean health and safety for its construction workforce or is the reference for a broader risk to the community which may require such measures?	Project Note 3	2 August 2017
44.	Understanding of the health and safety measures proposed for the wider community.	Project Note 3	2 August 2017
Solid Waste and Contamination - Human Health - odour			
45.	Information on what the appropriate mitigation measures might be for offensive odours referred to in the above reference.	Project Note 3	2 August 2017
Solid Waste and Contamination - Asbestos			
46.	That WDA consider the inclusion of an Asbestos Environmental Management Plan as described in Technical Report B, page 55.		
Environmental Management Framework - Environmental management framework			
47.	Clarification of proposed governance arrangements and the management of environmental risks, in particular clarification around the role of the Independent Reviewer and the Environmental Auditor.	Project Note 9	7 August 2017

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48.	Further explanation of the process for monitoring and reporting of compliance with the EPRs including public reporting of monitoring reports, etc.	Project Note 9	7 August 2017
Environmental Management Framework - Planning Scheme Amendment, works approval application and associated documentation			
49.	Clarification as to whether the WDA considered other Incorporated Documents used recently for major projects such as the Melbourne Metro Rail Project and East West Link?	Project Note 10	7 August 2017
50.	Advice as to whether consideration was given to including the EPRs in the Incorporated Document as opposed to referencing them.	Project Note 10	7 August 2017
Environmental Performance Requirements - Biodiversity			
51.	Consideration of an EPR for light spillage for potential impacts to fauna during the operation of the Project.	Project Note 12	7 August 2017
52.	Consideration of an EPR for shading (>50%) on vegetation and native fauna habitats during the operation of the Project.	Project Note 12	7 August 2017
Appendix A: Groundwater Information Request			
53.	**SH1-A Construction Environment Management Plan** The EES report involved a comprehensive and conservative investigation of environmental factors, management frameworks and performance criteria and options arising on the bases of the proposed project design preceding final design and construction environmental management plans. Additional investigations are to be undertaken to dictate the CEMP (Ref Sect 8.5 page 8.9 and table. 8-6, page 8-21). The IAC seeks advice as to: a) The extent that existing and these additional investigations will be sufficient to [finally describe the construction and environmental protection options] that are alluded to in later EES document sections (vol 3 Sect 19.1 – 19.3 pages 19-1 to 19-66). b) What options of the construction procedures may still be managed by responsive actions such as changing the operational modes in tunnel boring and/or in the construction of cross tunnels, the excavation of the portals and dive structures and in the realignment works of the North Yarra Main Sewer)? c) Further, what occurrences may give rise to responsive management actions in construction procedures and how		

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	long might these actions take to implement.		
54.	**SH1-B Contaminant Solubility and Natural Fixation Issues in Spoil and Waste Recycling and Containment** It is acknowledged that the project will generate contaminated spoil from the tunnel and from the portal works at least, and may disturb Potential Acid Sulphate Soils and contaminated fill and soils elsewhere. Under the EPA Waste Hierarchy Principles the options of containment and recycling are available. Given that the project will involve considerable use of cement in grouting operations, in tunnel lining, in piles and in road base stabilization, etc., the IAC seeks advice on: a) The extent to which the use of contaminated and Acid Sulphate Soils materials have been considered as preferential sources of aggregate or as engineered (stabilised) fill where practicable. b) If not why have these options been overlooked?		
55.	**SH1-C Access to Investigation Data** The above referenced reports summarise the data obtained through the relevant investigations undertaken into the geology, groundwater hydrology and geotechnical parameters of the project area but do not include the actual data. The IAC requests access be made available to the following: a) The specific details of the hydrological testing programs undertaken to evaluate the groundwater across the project area including the location, bore construction details and data plots analysed for the two pumping tests, the lugeon and slug testing as well as any observations of test inadequacies or failures which might have affected the constancy of the results. b) The lithological logs and any core photography of the groundwater bore holes tested c) The drilling techniques used in establishing the boreholes. d) The laboratory analyses of any water sampled from the above bores including data on depths, sampling techniques, dates and times of sampling. e) The plots of geophysical and geotechnical logging undertaken to characterise the geological sequences around the tunnel, portal and Stony Creek alignments of engineering significance.	Project Note 14	7 August 2017
56.	**SH1-D Ground Vibration Subsidence Exacerbation** The issue of ground vibration giving rise to accelerated consolidation of soft sediments is not addressed, nor is the impact on ground vibrations as a consequence of the EPB TBM operating in fully closed mode using paste circulation. The IAC seeks comment on:		

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	a) these above two aspects of tunnelling. b) what measures might be employed to mitigate or eliminate any adverse consequences of ground vibrations in respect to surface subsidence and possible local infrastructure or facility failure consequent therefrom.		
57.	**SH1-E Construction Activity** In Chapter 5.7.5, the basic controls proposed to prevent groundwater inflows and ground instability are the use of EPB TBM and pressure or jet mix grouting. These technologies are limited to pressures that are not disruptive of the overlying head space material and by the materials being penetrated at the cutting face of the tunnel or in the cross drives. The IAC seeks advice on: a) The extent to which the above issues are likely to cause delays in tunnel progression with formation sealing. b) The extent to which mixed material cutting face profiles (eg boulders in clay, hard materials overlain by soft) may be an issue and how such issues will be handled. c) To what degree would the intersection of unforeseen steel cased vertical bore or other abandoned boreholes represent an impediment to tunnelling progress and to groundwater inflow control. d) Whether changes to the cutting head mechanisms will be necessary (due to wear or changing face conditions) during the tunnel boring and if so, how often, how long would such maintenance take and what actions will be required to minimise groundwater inflows at the face while such procedures are carried out. e) Whether the operation of the TBM in closed mode using paste represents a significant issue in spoil management at the surface.		
Appendix B: Noise and Vibration Information			
58.	**DMD1-D** Technical Report H provides extensive analysis of construction noise and vibration impacts on sensitive receptors for individual construction activities. There does not appear to be an assessment of any composite effects. An affected sensitive receptor may be impacted in one or both of two ways; a cumulative impact if two or more construction activities are superimposed, and an aggregate one if impacts occur for a longer period over the project construction time than would be the case for a single one. The Proponent is asked to provide: a) an assessment of the likelihood and magnitude of possible cumulative impacts, if any, and typical estimates of aggregate impact.	Project Note 4	2 August 2017

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59.	**DMD1-E** Technical Report I presents information on surface vibration and associated regenerated noise from the tunnel boring. It is silent on any vibration and regenerated noise that might arise from further construction activities to prepare the tunnels for use. Specifically, can the Proponent advise: a) if spoil is to be returned to the tunnel inverts to support the carriageways and compacted by vibratory roller might vibration at the surface occur?	Project Note 13	7 August 2017
60.	**DM1-F** Environment Performance Requirement NVP6 for construction vibration targets for amenity protection provides 'preferred values' and 'maximum values'. The Proponent is asked to: a) nominate which it proposes as the single target. b) provide these vibration dose values (VDVs) as the equivalent peak particle velocities (PPVs) to facilitate managing this effect.	Project Note 5	2 August 2017
61.	**DM1-G** The operational traffic noise assessment refers to the 'design year' of '2031'. This appears to be target year out to which compliance with the traffic noise objective would be achieved. The Proponent is asked to: a) confirm the understanding of the term, advise of its' origin for this EES and why 2031 has been selected.		
62.	**DM1-H** The Proponent is asked to: a) advise whether there will be a single 'owner' or 'operator' of the asset after it is delivered in ensuring continuing compliance with traffic noise objectives and maintaining the performance integrity of noise mitigation measures (i.e. noise barriers, low noise road surface); in particular for the West Gate Freeway section from Grieve Parade to Williamstown Road, the northern portal/Maribyrnong River bridge area and the West Melbourne/Docklands locality. It is noted that the role of the Independent Reviewer and Environmental Auditor ceases two years after project completion.		
63.	**DM1-I**		

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	Technical Report H provides contours for operational traffic noise in several figures, often double sided. There are gaps in the coverage. To enhance understanding of this impact the Proponent is asked to: a) provide a single sided figure(s) for each of the three conditions presented (for project in design year 2031, changes between existing 2016 and project in design year 2031, and changes from no project in 2031 versus project in that year). These should display the traffic noise contours for the project not necessarily including the tunnels but including the dive structures and portals.		
64.	**DM1-J** Melbourne has four road tunnel ventilation stacks. It is expected that all or some would have had to meet the requirements of SEPP N-1. If information is available the Proponent is asked to: a) advise by what margin they meet statutory noise requirements. b) whether noise from them has been the subject of complaint. c) if the proposed West Gate Tunnel ventilation systems are proposed to use similar noise control technology.		
65.	**DM1-K** The assessment of noise from the tunnel ventilation systems using SEPP N-1 requires backround noise data to determine the statutory requirements. These new noise sources are not introduced against a stable acoustic background, but rather, there will be a concomitant noise change from traffic with the opening new roads. The Proponent is asked to: a) advise on any consequence of this in ensuring compliance with SEPP N-1.		
Appendix C: Health Impact Assessment Information Request			
66.	**LD1-K** Further information on the requirements of the enHealth and CHETRE guidance and how they have been met in the HIA is required. This includes the Level of HIA as set out on the above guidance for a project of this type and how the HIA has met those requirements.	Project Note 6	2 August 2017
67.	**LD1-L** An assessment should be conducted on the impact of both noise and air pollution on the low SES areas within the project area is required. This can be qualitative or quantitative if possible to enable an assessment on these more vulnerable	Project Note 6	2 August 2017

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	groups.		
68.	**LD1-M** Further justification is required on the health effects assessed in the NO2 health risk assessment and why it differs from the health outcomes assessed by Golder (2013). The Golder report assesses short-term all-cause mortality for all ages consistent with the epidemiological studies from which the dose response relationships have been derived but the HIA only considers the 30+ age group. This difference needs to be clarified and justified as required. Recent recommendations from WHO (2013) and COMEAP (2015) recommend assessment of long-term all-cause mortality of NO2 this should be included or justification as to why it is excluded is required. The health risk assessment should be expanded to include a quantitative assessment of the impact of NO2 from the project on the more sensitive health indicators – hospital admissions for respiratory disease in people 65+ years of age and 15-64 years of age and hospital admissions for cardiovascular disease in people 65 + years of age should be undertaken.	Project Note 6	2 August 2017
69.	**LD1-N** Justification on using overseas dose response data for PM10 and PM2.5 rather than more Australian data is required. A sensitivity analysis for the short-term effects using the Australian data, which includes studies conducted in Melbourne, should be included.	Project Note 6	2 August 2017
70.	**LD1-O** The short-term effects of NO2, PM10 and PM2.5 need to be assessed using the daily changes in air pollution data not the annual averages. The impacts of using the long-term data to assess short-term daily changes in health needs further assessment.	Project Note 6	2 August 2017
71.	**LD1-P** Further clarification on what air quality scenario data is required. If the worst case – maximum capacity - has not been used then the analysis should be repeated with this data or a discussion on the potential impact on the predicted health outcomes using this data is required.	Project Note 6	2 August 2017
72.	**LD1-Q** Further clarification on how population growth has been included in the predicted health risk is required.	Project Note 6	2 August 2017
73.	**LD1-R** Justification of the health outcomes that have been used in the noise HIA is required. This should be based on the recommendations of WHO and the recent published studies on the health effects of road traffic noise. The assessment	Project Note 6	2 August 2017

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	should include the most vulnerable groups or justification as to why this is not appropriate for this Project.		
74.	**LD1-S** Justification of the use of the NSW Road Traffic Guidelines over the WHO Community Noise Guidelines for the assessment of health impacts is required.	Project Note 6	2 August 2017
75.	**LD1-T** Clarification of the noise metric used in the assessment of sleep disturbance is required. If the annual average night value has not been used then the impact on the HRA outcomes needs discussion.	Project Note 6	2 August 2017
Appendix D: Air Quality Information Request			
76.	**LD2-K** Further discussion on the selection of background data is required. As with $PM_{2.5}$ a sensitivity analysis with the 2015 should be provided for both tunnel and surface roads. A sensitivity analysis for the Brooklyn area including Millers Road should be done using the Brooklyn PM data.	Project Note 7	2 August 2017
77.	**LD2-L** The modelling of 2 lanes as normal operation needs to be reconciled with the SEPP (AQM) requirement for modelling of worst case emissions. It is accepted that it is unlikely that the tunnel will operate 24 hours a day at full capacity however as with CityLink it is likely that there will be hours in the day that the tunnel is a full capacity under normal operating conditions. This scenario needs to be assessed to show compliance with SEPP (AQM) for the tunnel operation.	Project Note 7	2 August 2017
78.	**LD2-M** Further information on the rationale and justification of the 1 km impact zone for the emissions from the ventilation stack is required.	Project Note 7	2 August 2017
79.	**LD2-N** Further discussion on the use of the NPI and PIARC data and how that has taken into account changes in Australian Design Rules and fuel quality is required. The impact of any changes that are not reflected in the emission factors used needs to be discussed.	Project Note 7	2 August 2017

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80.	**LD2-O** Further discussion on the ratio of $PM_{2.5}$ to PM_{10} in the predicted ground level concentrations is required as they do not reflect the high percentage of $PM_{2.5}$ from motor vehicle exhausts.	Project Note 7	2 August 2017
81.	**LD2-P** The traffic data in Tables 36 needs to be checked and clarification as to what has actually been used in the air quality modelling provided.	Project Note 7	2 August 2017
82.	**LD2-Q** Further information on the validity of the 2012 census data is required. Comparison with data from the most recent Commonwealth reports on changes to the Australian Design Rules and Fuel Quality Act should be included where possible.	Project Note 7	2 August 2017
83.	**LD2-R** Further modelling of the surface roads including non-tail pipe emissions should be undertaken. If modelling is not undertaken then an assessment of the potential impact on predicted concentration of PM_{10} should be included.	Project Note 7	2 August 2017
84.	**LD2-S** The surface road modelling for Hyde St for PM_{10} and $PM_{2.5}$ needs to be clarified as to why a 100% increase in HCV leads to a decrease in predicted PM_{10} and $PM_{2.5}$ concentrations. Further discussion is required.	Project Note 7	2 August 2017
85.	**LD2-T** Modelling should be conducted for the increase in construction vehicles using the local roads in particular Hyde St and Francis St. If this is not possible then the potential impacts of this traffic needs to be discussed in detail and mitigation measures proposed.	Project Note 7	2 August 2017