COMMENTS FROM THE REVIEW PANEL/PUBLIC REGARDING TOR/SPECIAL EIA FOR "THE PROPOSED CONTAINER PORT DEVELOPMENT, SAPANGAR BAY, SABAH" BY '*SABAH PORTS AUTHORITY*'

No.	Name (Organisation/Individual)	Issues/Comments	Clarification / Action Consultants / Project Proponent	Remarks
1.	Ir. Lee Kee Ming	1. Navigational safeties and the future viability of the port to meet the future need of the West Coast of Sabah. a) The entire bay has only approximately 800 acres of water area minus the area to be covered by structures, either exited or planned, the usable area left for the floating crafts would seem to be limited. Those floating crafts will need substantial water area for approaching, anchoring, turning etc. Some of these crafts need to maintain more stringent distance from the other activities like that of the petrol chemical carriers. On top of that, the bay will soon see the arrivals of navy vessels which no doubt will carry with them explosive or	Navigation safety is a subject for standard operating procedures and Marine Traffic Study, which are to be executed prior to commissioning. They are not a component of EIA. For information, one purpose of the new container port is to allow larger modern vessels to be handled, such that the number of vessels calling per TEU will go down significantly.	

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		even nuclear weapon. The navy base is likely to have explosive and other weapon stored on its land area. Would the navy be happy to see sailors of all nationalities to be as near as less than 500 metres away from their installations? Would the navy crafts need to maintain their own exclusive navigation channel? In time of military exercise, would it be save for other commercial ship movement within the narrow space? If not, would the shippers be happy to call at port where there is one additional factor, affecting their turnaround time, to be considered? Who is going to be the Harbour Master? A civilian or the navy or both together? What is going to be protocol?		
		b) Based on the capacity of all 4 phases of development mentioned in the TOR, it is estimated that there is adequate land space to handle up to 1.2 to 1.5 million TEU of container traffic in Sapangar Bay and anticipated that this will come about in 20 years time. It is estimated that the vessels arrival would increase by 8-10 folds as compared to what it is		

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		today, assuming the same class of vessels is calling at Sabah Ports. What is the current and future plan the navy is having? Would there be submarine stationed in the base? How is the movement of submarine monitored?		
		c) Since the capacity of the would reach its limit in 20 to 30 years time, would it not be more beneficial, in the long run, to consider a new site like Kimanis Bay, where there is much less constrain Of course, this suggestion does not come under the current scope of your exercise.		
2.	Jabatan Pengairan & Saliran (Mr Yap Siew Fah)	2. The content of the TOR report does not tally with the TOR format for *Detailed Environmental Impact Assessment for Marine Reclamation Works on the West Coast of Sabah.* It Is our opinion that the TOR report should have been done based on the available format since it was already approved by the Sabah State Government.	TOR in terms of scope of work are fully compliant with the requirements of the West Coast of Sabah Shoreline Management Plan for TOR but have merely been formulated according to Environmental Conservation Department format.	
		3. a) Further to DID previous comment.		

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		We, agree with the answer given by the consultants which stated the TOR, in terms of the Scope of Work, comply with the TOR requirement for Marine Reclamation Work as approved by the Government.		
		b) However, we find that the content and presentation of the report differs with the TOR Guidelines Requirement. e.g. Refer TOR Pg 23-24, Task 2.1: Bathymetric Surveys, It is stated that, " high resolution of bathymetric survey is required". However, the TOR Guideline stated that "the survey resolution shall be at least 50 m between lines and 10 m down line with coverage of survey should include reclamation area and all water areas within a minimum of 2 km of the reclamation boundary".	b) Please refer to consultant comment for Dr Ann Anton of UMS, see No. XI comment 14.	
		c) In our point of view, the TOR content especially the Field Survey section should be describe in details as required in the TOR Guidelines. *28 Sept 2001; 12.47*	c) Please refer to consultant comment for Dr Ann Anton of UMS, see No. XI comment 14.	
		4. Further to DID comment via letter ref:JPS(PSA)9/3/5/5/1 Jld 1 (2) dated 29		

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		August 2001 and as a follow-up to consultant feedback. a) The content and style of presenting the TOR report differs with the TOR format. For example, implementation of field survey (pg 23-24), Methods for determination of certain parameters was not described in detail, when the TOR Guideline described the matter in detail stating the method to be used, frequency of sampling, number and location of sampling stations.	a) Please refer to consultant comment for Dr Ann Anton of UMS, see No. XI comment 14.	
		b) In our point of view, the TOR should be prepared taking into consideration the requirements stated in the TOR format in all aspects. *28 Sept 2001; 13:41*	b) Please refer to consultant comment for Dr Ann Anton of UMS, see No. XI comment 14.	
3.	WWF (En Muhamad Saini B. Buliansa	5. a) Page 21: Ecology Issues – (Suggestion) from reclamation (loss of habitat) and during reclamation.	a) Direct loss of habitat is a permanent consequence of the reclamation (i.e. area has been reclaimed) as opposed to transient impacts associated with construction phase such that the item is correctly placed under post construction impacts.	

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		b) Establishment of the monitoring sites before and during the construction – the monitoring sites should be established before, during and in-between project continuation stages (based on necessity), and should also include water, air and noise quality. Monitoring framework and sampling time schedule should be indicated clearly as to enable the identification of the adverse on the reclamation process. This requirement should be included in the TOR.	b) This statement refers to the TOR for the subsequent Environmental Monitoring and Management Plan that will be defined during the course of the EIA as per normal practice when the relevant impacts have been identified.	
		c) Page 27 – A detailed flood impact modelling in relation to the increase of water level in Sg Menggatal and the surrounding estuary should include the _ of water _ speed and upstream changes in river flow and speed pattern due to upstream development projects etc. housing and SMI area.	c) The onus of the drainage assessment from the SMI area is upon that developer and not the Container Port EIA. Container Port EIA is to be based upon reasonable estimates of land use during the course of construction and not specific third party developments that may or may not materialise.	
4.	Ministry of Tourism & Development (Tuan Hj. Ibrahim Dato Hj. Mohd. Kassim)	6. a) The outwash from the Estuary of Menggatal river will definitely smother the benthic organism for	a) The outwash from the Menggatal river estuary and its impacts on the benthic organisms will be examined during the	

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		endless period of time.	collection and assessment of baseline data. The development will not add to the existing sediment loads from Sg. Menggatal, which is actually relatively small compared to other rivers of similar sizes.	
		b) Constant dredging needs to be done in other to avoid the Container Port from getting shallow water to the heavy sedimentation. The jetty should therefore be constructed at a good location.	b) Heavy sedimentation is not envisaged due to the relatively small sediment load from Sg. Menggatal. However, sedimentation impacts will be forecast using numerical modelling and the design and configuration of the reclamation to minimise sedimentation.	
		c) The impact on fishing village settlement on the estuary is detrimental. Compensation for the loss of income from the fishermen is unavoidable.	c) Human environment study would be looking into the plight of the fishermen community affected directly or indirectly due to the project. Assessment of income from fishing activities and how it will be affected by the project will be highlighted. For the time being, there is no compensation plan. However, will provide alternative ways to help the fishermen find other sources of income.	
5.	Environmental Science Program, School of Science & Technology, UMS	7. a) Coral reefs, pg 36 It is stated that the variables laid down in	**(a) Coral Reefs** i. The GIS (Geographical Information	

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	(Dr Phua Mui How)	the West coast of Sabah Shoreline Management Plan, will be recorded into a GIS. It is of my interests to know: i. The GIS software used or to be used	System) Software to be used is the ArcView GIS Version 3.1, a program developed by the Environmental Systems Research Institute (ESRI), which is widely used throughout the world, and in Sabah, was used for the West Coast of Sabah Shoreline Management Plan and Regional Environmental Impact Assessment, and by the Town and Country Planning Department for the ICZM.	
		ii. The way of determining the X-Y coordinate for inputting the point, line and Manta tow into the GIS. Besides, the number of and location of samples, although not my speciality, deserve a special attention.	**ii.** Locations of point dives, line transects and the manta-tow start and end locations are recorded using a hand-held GPS (Global Positioning System). The GPS records locations in WGS-84 (latitude/longitude). Prior to input into ArcView GIS, these geographical coordinates are converted to the RSO (Rectified Skewed Orthomorphic) coordinate system, which is the coordinate system used in Malaysia. The background image theme in	
			ArcView may be a rectified admiralty map, aerial photograph or satellite image. The locations of the coral study sites are shown in Figure 3-6. These are tentative locations for the lines transect method. However, reconnaissance of the status and	

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			distribution of the reefs are generally assessed by the manta-tow method, after which it is possible to finalise the number of spot dives and line transects required.	
		iii. How is the percentage of the variables determined? Is it determined at every "sampling location" or overall percentage from all the samples? Are all these variable to be input as a relational database to a GIS object e.g. coral reef distribution map. Does the coral reef distribution map exist?	iii. The percentage of each variable represents the percentage of the entire area surveyed. For quantitative assessment and monitoring of coral reefs, the Line Intercept Transect technique is most preferred and will be utilised for future surveys (English *et al.,* 1997)*. This technique involves laying a 100-meter underwater tape measure over an area representative of the reef being investigated. The total length of each variable over the transect	
			line is calculated as a percentage of the total transect length (i.e. 100 m). The percentage of each variable is determined for every sampling site and results of each variable can be as an input for GIS database. Existing coral reef distribution maps may be derived from the GIS database developed during the West Coast of Sabah SMP. Additional data, such	

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			as what is gathered during this study may be added to this regional database or a separate database maintained for this project.	
		iv. Figure 3.6, if as a typical output of the GIS, is not well-prepared. The crucial aspect will be the X-Y location label, scale and legend for the coloured features in the map. Please clarify whether the figure is from an existing source (the Shoreline Management Plan?) or is prepared by the consultant. If it is by the consultant, then it is necessary to know how is it mapped?	iv. Figure 3-6 is derived from the SMP GIS database. This is included in the TOR as an example of the coral monitoring locations and as such does not include details such as the scale, legend, etc. To include such information in a hard-copy map is a simple procedure. Raw data such as the X-Y position of each transect/manta tow will always be included in the report.	
		b) Seagrass, pg 37 It is mentioned that the spatial distribution of key species/macro algae in the bay will be surveyed to supplement the existing information from the SMP. It is then necessary for the consultant to first list out what is available in what form and then what are the additional information to be carried out. If it is so, then the method (data source, GIS or field survey or aerial photo or satellite remote sensing, etc) should be elaborated. Talking about the dugong, it is in my	**(b) Seagrass** The details and assessment of any existing data available is generally incorporated into the EIA report after the Consultant has examined all possible sources of data, e.g. other EIA reports, scientific papers and journals. Following this, the Consultant will determine what addition information is to be gathered in order to fulfil the requirements specified in the TOR. As listed in the present TOR, the seagrass areas will be investigated for a number of variables, such as biomass, sugar content and species composition (pg. 37). These requirements are not based on	

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		opinion that is should be an important focus of the EIA study and be put under section of "Rare or Endangered Marine Species". Historical sources of the presence of the animal should be sought. Information from relevant departments such as the wildlife department should be sought in order to derive a probability of presence of the animal in the area in future. Then, it is relevant to talk about the food source. However, water pollution would be one very important factor to the dugong.	what existing data is available, but rather based on what is required in order to gather sufficient information to make an assessment of the existing conditions and likely responses to impacts arising from the project. Determining the spatial distribution seagrass beds i.e. mapping will be carried out by taking numerous GPS readings around the perimeters of all seagrass beds found within the study area.	
			This information is stored in the GIS database, from which distribution maps may be produced. Detailed methodology may be supplied as an addendum for the TOR if required. Although the only recent Dugong sighting in the Sapangar Bay region was in March 1999, the presence of this mammal and other endangered species such as the sea turtle and the whale shark will be investigated as a matter of course during the EIA study. This can be included as a subsection within the marine habitats section	
		c) Terrestrial Habitat, pg 38 It is interested that remote sensing is proposed for mapping the mangrove	**8.2.8 Terrestrial habitat, page 38.** Remote sensing is merely a facilitator to the	

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		species Distribution. It should be specific on what sensor data to be used, if satellite remote sensing is suggested. The capability of satellite remote sensing for mapping the mangrove distribution is of no doubt. However, the terms of "species mapping" necessitates clarification. How many species exist in the area and what specific method to be used to map its distribution?	mapping of mangrove distribution. The satellite image is used as a starting point to determine the spatial extent of the mangrove swamps, but use of remote sensing imagery in no way implies that a habitat survey (ground-truthing) will be omitted. The primary survey will also involve the identification of the dominant species of the mangrove fringe and where there are changes to the general community composition or community type, these will be recorded using a hand-held GPS.	
		Although remote sensing can greatly reduce field survey, groundtruth is of prime importance to produce a reliable result. The mapping should result in a map showing the distribution, basic statistics of its extent etc, and it is desired to know to what degree is the mangrove ecosystem has been fragmented.	It is then possible to indicate the spatial distribution of mangrove community types (based on dominant species) within the estuary. During the field survey, notes on the status of the mangroves with respect to impacts of human disturbance will be made and ranked. This will be conducted in a similar way to the species mapping, whereby changes along the fringe are marked using a GPS. * *English, S., S. Wilkinson, and V. Baker (1997). Survey manual for tropical marine resources. 2nd edition. ASEAN-Australia Marine Science Project: Living Coastal Resources. Australian Institute of Marine Science.*	
6.	Jabatan Kerja Raya (En Micky Madi)	8. This department has no objection / comment.		

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7.	Jabatan Pelabuhan & Dermaga (Capt. Zakhir Khan Yusop)	9. a) Refer "Terms of Reference for Preparation of a Special EIA Report", paragraph 3.2.14 titled Marine Navigation Study. A detail study has to be done on the outcome of the understudy since the duration of the project construction period takes about 20 years.	a) The scope of works for the Marine Navigation Study is stated in Section 3.2.14 (pg. 42) of the TOR and will address each phase of the construction from an environmental point of view.	
		b) "Monitoring and patrolling system" should be established all time during this project for the security benefit of shipping communities within Sapangar Bay waters.	b) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures study. Section 3.2.14 (pg. 42). Outside the scope of EIA.	
		c) "Reporting Center" should be established to address feedback if any problem occurs during the course of this project (establish contact address).	c) Reporting centre will be established at the site office once project works commences.	
		d) Information on the area to be used in terms of "coordinate scale" should be supplied from time to time for nautical chart updates.	d) This issue is addressed in paragraph three of section 3.2.14 (pg 42) of the TOR. "...Provision of updated chart information..."	
		e) Study to establish "special anchorage area" to allow logistic ships associated with this operation to utilise.	e) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures study. Section 3.2.14 (pg. 42). Outside the scope of EIA.	

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		10. Additional emphasis that requires attention prior to project implementation: a) "Out Come Understudy of Marine Navigation" has to be presented prior to project construction. This is to allow the department to evaluate aspects of the "safety of navigation information".	a) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures study. Section 3.2.14 (pg. 42). Outside the scope of EIA.	
		b) "General Layout Traffic Plan" & "Simulation Test Traffic Approach" (E-Mapping) need to be prepared and carried out, respectively.	b) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures study. Section 3.2.14 (pg. 42). Outside the scope of EIA.	
		c) "Reporting Center" Service need to be establish and to provide latest information to this department so that is can be disseminated to the shipping community at all time.	c) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures study. Section 3.2.14 (pg. 42). Outside the scope of EIA.	
		d) Project proponent to consider comments from our department when construction take place for "Marine Traffic Establishment" and placement of all project activities within the waters of Sapangar Bay	d) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures study. Section 3.2.14 (pg. 42). Outside the scope of EIA.	
8.	Jabatan Muzium Sabah (Datuk Joseph Pounis Guntavid)	11. With reference to para 3.2.16 of the TOR document, any marine or terrestrial archaeological finds should	Assessment of any archaeological remains found in and within the reclamation site will be made after the EIA studies are	

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		be reported and reposited at the Sabah Museum in accordance with the Sabah Antiquities & Treasure Trove Enactment 11/1977. While Archaeological Valuing is in compliance with the TOR, it would be prudent if the Sabah Museum could be involved in every phase in the survey.	completed and the Sabah Museum Department will be notified of any findings. If there are any such findings, the Sabah Museum Department will be asked to help ascertain the authenticity of the finds and advise on the next course of action. For example, salvaging of artefacts for eventual safe keeping by the museum. The Museum Department will be involved in planning and background data assessment and then in the event of any finds in the site area.	
9.	Taman-Taman Sabah (En Paul Basintal)	12. The concerns of Sabah Parks on this project is the degradation of coral reefs in the vicinity of Molohom Bay and Police Beach, the decline in water quality, and the increase of solid waste within the Park areas. In this connection, four (4) components should be addressed in this TOR The Proposed Container Port Development, Sapangar Bay, Sabah). a) Monitoring stations for coral reef and water quality should not be only 1km from the project site but up to a minimum of 3km from the		

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		project area. In this regards, it is suggested that the permanent monitoring station should also be established at the boundary of the park closest to the project area.	a) The location of the monitoring stations will be addressed after the EIA studies are completed and will be specified in the EMMP. The EMMP specifications are an outcome of the EIA, as the outcome and findings of the EIA study must be considered in the selection of the monitoring stations. However, this suggestion may be incorporated into the EMMP specifications, depending on the results of the EIA, in particular, the results of the numerical modelling.	
		b) The TOR should provides a model on current pattern in order to know the magnitude and pattern of current flow in various situations and also the affected areas, and the level of seriousness of this project.	b) A numerical model of the ocean currents, etc. will be setup as part of the EIA. The TOR specifies this in Task 4 (pg. 26)	
		c) Menggatal River should be addressed in the TOR. A buffer zone for this river should be established, together with guidelines on how the river should be managed. Mitigation measures should also be provided to ensure the toxic liquid and solid wastes originating from the development	c) The Menggatal river will be assessed in terms of its baseline water quality, tidal prism, flooding etc. as stated in the TOR. Establishing a buffer zone and guidelines on the management of the river is beyond the scope of the EIA, and lies more in the province of a catchment or river management programme. The potential for impacts of toxic liquids and solid	

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		of the project and also during the Port's operation do not pollute the river.	wastes from the construction and operational phase of the project will be investigated as part of the EIA and mitigation measures will be proposed if this is anticipated as a significant impact.	
		d) The vessel's traffic route should be determined so that the area is not affected.	d) The vessels' traffic route will be determined during the specification of Standard Operating Procedures/Emergency Operating Procedures which is generally prepared immediately prior to commencement of port operations and as such is beyond the scope of the EIA.	
10.	Dr Ridzuan Abdul Rahman UMS	13. a) Refer Pg 25 One of the important parameter that need to be analyse is oil & grease / hydrocarbon content in sediment and water.	a) Parameters to be measured are inline with the parameters set by the Department of Environment, as indicated in Table 3-2 of this TOR (pg. 32).	
		b) Refer Pg 29 Statement saying DO level is influenced by Ministry of Agriculture aquaculture activities need to be supported by concrete information / data.	b) The TOR under Task 5.3, Oxygen depletion (pg. 29), stated "The Ministry of Agriculture's fish farm...discharges oxygen depleted water into the estuary...". DO is to be measured and modelled with specific references to the fish farm.	

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		c) Refer Pg 39, Land use & Development Please take note that Universiti Malaysia Sabah is building a Marine Fish Hatchery which requires non polluted water from Sepanggar Bay. New construction of port must take this development into account.	c) Modelling will be carried out to ensure that base plan has minimal incremental impact on water quality. Changes in water quality values within the potential impact area during construction can be detected through the EMMP. The values will be compared against the background established during the EIA studies for possible mitigation measures.	
		d) I would like to propose that Environmental Sensitivity Index Map(s) for area that will be affected by any unforeseen incident e.g. oil spill / toxic in the waters of the port to be inserted in the TOR.	d) Maps of environmental receptors will be prepared and included in the EIA.	
11.	Dr Ann Anton UMS	14. a) *3.2.1 Hydraulic Study description, Pg 22* ***Phase I*** Details of the spatial and temporal expansion of the existing data are not given. Without sufficient data the use of a hydraulic model to assess the impacts of reclamation works should be cautioned. ***Phase II***	a) Details of the primary survey involved are presented in section 3.2.1.1. Task Description – Task 2: Primary Field Surveys. These include Bathymetric surveys, current measurements, water quality, and suspended sediments. It must be stressed that the numerical modelling is performed for the physical environment, in terms of	

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		Again an overemphasis of the use of numerical models to assess the impacts. Is there sufficient data to model the impacts on mangroves, water quality etc?	hydraulics, water quality and sediment plume dispersion. The results of these models are then superimposed on the results of the baseline habitat surveys described in (B) Biological System, pg 35: Section 3.2.7 Marine habitat survey, where baseline data on the biological systems will be collected and assessed.	
		b) *Task 2.1 - Bathymetric Survey (Pg 24)* Some details of the bathymetric survey should be given in this report to indicate the level of resolution and subsequently the accuracy of the model used. The variability of tropical, in particular large, rivers should be taken into consideration.	b) Coverage of bathymetry survey is shown in Figure 3-1 (pg. 24). Survey lines are 15m spacing 2m along line, and vertical 1σ = 0.2m. Mangrove bathymetry to be established from analysis of SPOT satellite image and tidal prism measurement (Task 2.2).	
		c) *Task 2.4 - Suspended Solids (Pg 25)* It is unclear what the consultants mean by an impacts assessment of sedimentation based upon relative changes rather than absolute values. Shouldn't some estimate of the existing sediment load in the river be obtained? This information should be used as a baseline before project commences and used to assess the "before" and "after" effects of reclamation works.	c) An impact assessment using absolute values may distort the assessment, particularly when referring to set standards. For example, an often quoted standard is suspended sediments should not exceed 10mg/l during ongoing reclamation works. Thus, if using absolute values, suspended sediments concentrations of 9 mg/l would be acceptable even in an environment with baseline concentrations of 1 mg/l. This would clearly constitute a significant	

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			impact on coral reefs for example, as the magnitude of such a change is often more important than the absolute magnitude of the impact.	
			Thus the relative change in SS concentration would provide a clearer picture of the actual impact on the biological communities. Conversely, if an area already is subject to SS concentrations of 9 mg/l, it would be unreasonable to insist that impacts should not exceed the 1 mg/l that it would take for non-compliance with that particular standard. For these reasons, the existing sediment load emanating from the river and the concentrations over the various marine habitats will be determined. This baseline information requirement is listed under Task 2.5 on page 25. "To address the issue of sedimentation ...as a result of the development, information on suspended solids emanating from the river is required."	
		d) *Task 4.1 - Impact of Flooding (Pg 27); Task 5.1 - Salinity (Pg 28); Task 5.2 - Hygienic Water Quality (Pg 28);*	d) Primary data collections to be fed into the models are specified in sections 3.2.2, 3.2.5 through 3.2.8 and Task 2 pg. 23.	

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		Task 5.3 - Oxygen Depletion (Pg 29); Task 6.1 - Sediment Plume Impact (Pg 29); Task 6.2 - Sedimentation Impact (Pg 30) Models will be used to address all these impacts, yet no details are given in this TOR to describe the kinds of data to be collected which will be fed into these models. While, models are useful in predicting and simulating environmental processes and their impacts, the accuracy of the conclusions drawn using models are dependent on the quality of data used to develop these models. Task 6.1, Para 2: This conclusion is too premature to be stated in this TOR. Is it not the purpose of the SEIA to determine this impact?	The statement made in Para 2 is valid. The contractor will use land fill and for the site in question, this will cause less impact than corresponding impacts arising from hydraulic fill from marine sources. All impacts associated with spill from the reclamation will nevertheless be established in the EIA. The statement is intended to ensure that the focus is on wave and rain suspension at the reclamation site and not hydraulic suspension from marine source and overflow, as this situation will not arise due to contractors method statement.	
		e) *3.2.2 – Baseline Water Quality (Pg 31)* It is unclear what is meant by "The seasonal occurrence of red tide will be acknowledge (d)..." Does the word "acknowledged"	e) Red tide will be addressed through establishing if there will be any changes in the hydraulic or water quality regime that may effect the occurrence of red tide. Further the issue of red tide and ballast water will be specifically addressed.	
		f) *3.2.2.1 - Water Quality Monitoring*	f) Water quality sampling points - refer to	

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		Fig 3.2. Map has no key to explaining the distribution of sampling points.	Figure 3-2 (pg. 25).	
		g) *3.2.5 - Habitat and marine Biodiversity (Pg 35);* Is it sufficient to determine these impacts based just on interviews with fishermen. Will no field estimates of the biodiversity be obtained? The conclusion regarding the insignificance of these organisms is not clear. These organisms are known to be good indicators of the environment.	g) Coral reef fish population will be specifically addressed through field survey.	
		h) *3.2.6 - Benthic Biology (pg 35)* Similarly with 3.2.7 Soft Bottom Habitats. The Statement "...that the site is of no special interest" needs to be clarified. Does this mean that the protection of these habitats becomes a conditional issue?	h) The soft bottom habitats at the mouth of the Menggatal river is not as productive as from example of the soft bottom samples within the estuary. For example, part of the area to be reclaimed is presently used as a football field during low tide.	
		i) *3.2.8 - Terrestrial Habitat (Pg 38)* Mangroves are not found in terrestrial habitat. Para 5: Does the statement "...without requiring extensive land surveys" indicate a simplification of the model to be used. Can an accurate interpretation of the impacts then be concluded from such a model?	i) Fully agreed mangroves are Intertidal community. Experienced indicates that it is impossible to conduct bathymetric survey within the mangroves using traditional marine or land based survey technique with a realistic time frame/ budget for EIA. Other accurate techniques have therefore been	

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			developed by the hydraulic modelling community to deal with this critical data item. These techniques include: 1. Mapping of intertidal area from satellite imagery. 2. Ground survey to established species composition and the elevation range. 3. Flux measurements to establish tidal prism.	
		j) *3.2.9 - Land Use & Development (Pg 39)* Para 2: Such conclusions should not be in a TOR document. This statement is relevant only in the final report of the SEIA.	j) This statement will be removed from the TOR and shall be justified after the assessment has been made in SEIA stage.	
		k) *4 - Work Schedule (Pg 51)* No indication of the time frame involved in the execution of this SEIA is given.	k) The original TOR has been submitted to Department of Environment and was approved on 29th December 1999. Most of the specialist studies have been commissioned since then. Upon Reviewing and acceptance of the revised TOR by ECD, the consultant and specialists will require approximately 3 weeks to attend/include the additional comments into the SEIA report and an additional 2 weeks time to prepare the final copies for submission to ECD for review. It is estimated that at least a total of 4-5 weeks	

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			will therefore be required to finalise the SEIA Report upon the acceptance of the revised TOR.	
12.	Jabatan Laut Sabah (En Jasri M. Shaah)	15. a) Any incident of oil spill due to ship collision could leave a significant impact not only to the marine organism but also to the residents in the vicinity of Sapanggar Bay.	a) To be covered under Standard and Emergency operating procedures (pg. 42) as related to collision risk with vessels heading to the oil terminal. Our ships are container ships such that risks from oil spill are minimal.	
		b) Ships entering the port and harbour area must be at a controlled speed.	b) This falls under the navigation operational issues and will be covered in the Standard and Emergency operating procedures. Section 3.2.14 (pg. 42). However, environmental limits e.g. wake and propeller wash will be addressed as listed in section 3.2.14.	
		c) Only clean ballast water from ship is allowed to be discharged in the port and harbour area to avoid marine pollution.	c) Ballasting issue is included as part of the scope of work for the Marine Navigation study. Section 3.2.14 (pg. 42).	
		d) In terms of navigation, the location of navigation passageway in between the proposed project and Tg Melanim will become narrower and make it difficult for large vessels to navigate. It is understood, that the Tg Melanim area is now in planning for development by TUDM. If this is true,	d) We are not aware of development by the Royal Malaysia Air force other than the Royal Malaysian Navy (TLDM) that proposes to establish naval base in Tg. Melanim. Nonetheless, any development within Sapangar Bay area that will contribute to increase in water traffic congestion falls within the assessment of	

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		then shipping passageway in the future will be more congested and make it difficult for the ships to approach the harbour site.	the Marine Navigation study while precautionary measures are to be covered in the Standard and Emergency operating procedures. Section 3.2.14 (pg. 42).	
13.	Jabatan Perikanan Sabah (En Alvin Wong)	16. Proposed additional titles to be inserted in the TOR as below: a) Menggatal Aquaculture Station, Jabatan Perikanan Sabah - Impacts to the station especially on the water quality for pond culture operation.	a) Hydraulic study and water quality assessment of the upstream reaches of Sg. Menggatal will undertaken as part of the EIA to enable the magnitude of impacts on flow velocity, salinity, sediment transport and flooding to be assessed. The TOR specifies this in section 3.2 - Physical Issues (pg. 22).	
		b) Area Prohibited for Fishing Sapangar Bay - Impacts to resources in the area and to the traditional fishermen, especially in terms of loss of fishing ground.	b) The SEIA will assess the existing fishing ground within the project vicinity that will be affected by the proposed development and their impact on the local fishing community. This issue will be assessed and discussed under the socio economy section of the Special EIA report.	
		c) Phase III Justification of Phase III that lessen significantly the width of Sg Menggatal mouth & impacts to total changes of water at the mangroves area.	c) Possible change in hydraulic regime of Sg. Menggatal due to reclamation into the estuary will be address through the said hydraulic study and if so, the reclamation design will be reviewed. The TOR specifies this in section 3.2 (pg. 22). "The shape of	

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			the reclamation will also be reviewed to reduce negative effects".	
14.	Jabatan Alam Sekitar Sabah (En Mohamad Sayuti Bin Sepeai)	17. EIA investigation to include matters as below: a) To include "Statement of Need" for proposed Container Port in the EIA report	a) Statement of need will be included in the Special EIA report.	
		b) To make sure method of investigation & biological sampling used are consistent / same so that the same method can be applied for post-EIA Monitoring / Audit EIA	b) Specified in section 3.2.5 - 3.2.8	
		c) To make sure every sampling point (especially biological sampling) has its co-ordinate recorded so that the same point can be traced back for post-EIA	c) Will be complied.	
		d) To take into consideration other projects nearby e.g. proposed Naval Base at Sapangar so that cumulative and synergy impacts can be identified and evaluated for the decision making parties to decide.	d) The proposed Sapangar Bay naval Base has been taken into consideration for overall hydraulic assessment based upon non-classified materials available to the consultant. The TOR specifies this Task 4, pg. 27, paragraph nine (9).	