# Appendix B Summary of Implementation Status of Environmental Mitigation

## Appendix B

Table B.1	Implementation Schedule for Air Quality Measures for the IWMF at the artificial island near SKC
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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and
S3b.8.1	<ul> <li><u>Air Pollution Control (Construction Dust)</u> <u>Regulation &amp; Good Site Practices</u></li> <li>Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.</li> <li>Use of frequent watering for particularly dusty construction areas and areas close to ASRs.</li> <li>Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.</li> <li>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> <li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> <li>Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> <li>Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading</li> </ul>	Work site / During the construction period	Contractor					Air Pollution Control (Construction Dust) Regulation	Deficiency of Mitigation Measures but rectified by the Contractor. N/A for dust control measures for transportation outside site boundary.

				Imple	ementa	tion S	tages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.</li> <li>Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.</li> <li>Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs</li> <li>Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.</li> </ul>								
S3b.6.3	<ul> <li>Odour Removal by Deodorizers</li> <li>Deodorizers with 95% odour removal efficiency would be installed for the air ventilated from the mechanical treatment plant before discharge to the atmosphere</li> </ul>	Waste reception halls, the waste storage area, the mechanical treatment plant / During design & operation phase	IWMF Operator			~		EIAO-TM	N/A
S3b.8.2	Air Pollution Control and Stack Monitoring	IWMF stack emissions / During	IWMF Operator	<b>√</b>		~		EIAO-TM, Supporting Document for	N/A

				Imple	ementa	tion S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>Air pollution control and stack monitoring system will be installed for the IWMF to ensure that the emissions from the IWMF stack will meet the proposed target emission limits.</li> <li>Voluntary Enhancement Measures in Flue Gas Cleaning and Emission Monitoring:         <ol> <li>Two-stage bag filter system with reagent recirculation;</li> <li>In addition to SCR, provide SNCR for removal of NOx; tighten emission limit for half-hourly and daily NOx to 160 mg/m<sup>3</sup> and 80 mg/m<sub>3</sub> respectively;</li> <li>Well-mixed feed waste: to minimize the fluctuation of pollutant loading on the flue gas treatment system;</li> <li>Two more AQMSs would be set up at South Lantau and Shek Kwu Chau respectively;</li> <li>Limit levels will be set under the IWMF DBO contract to require that waste feed shall cease if any of the air pollutant has exceeded 95% of the emission concentration limit as stipulated in the Special Process license; and</li> <li>Each incineration chamber shall be fitted with auxiliary burners to ensure complete burn out of the combustion gases.</li> </ol> </li> </ul>	design & operation phase						Application for Variation of Environmental Permit (EP- 429/2012)	

				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>Treated Fly Ash and Air Pollution Control Residues:</li> <li>During testing and commissioning, the Contractor shall sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months.</li> <li>During the first six months of operation, if the requirements in (a) could be fully conformed with, the Contractor shall sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months.</li> <li>During the first six months of operation, if the requirements in (a) could be fully conformed with, the Contractor shall sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit. The Contractor shall take two samples from each shipload for testing and the Contractor shall not dispose of any of that shipload of treated fly ash and air</li> </ul>	IWMF stack emissions / During design & operation phase	IWMF Operator					Supporting Document for Application for Variation of Environmental Permit (EP- 429/2012)	N/A

				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	pollution control residues until the test								
	results confirm that the two samples								
	conform to the limits and the criteria. If								
	a test result confirms that any one of								
	the two samples does not conform to								
	the limits and the criteria, the								
	Contractor shall be required to sample								
	and test every shipload of treated fly								
	ash and air pollution control residues								
	for conformance to the Incineration								
	Residue Pollution Control Limits and								
	leachability criteria for the next six								
	months. The Contractor shall make								
	due allowance in the Design and the								
	Operation for the time to sample and								
	test treated fly ash and air pollution								
	control residues before disposal.								
	<ul> <li>Provided that there is no non-</li> </ul>								
	conformance to the Incineration								
	Residue Pollution Control Limits and								
	leachability criteria shown in Table 2 of								
	the Environmental Permit throughout a								
	continuous sixmonth period in the								
	Operation Period, the testing frequency								
	shall be reduced to monthly								
	interval.Two samples from one								
	shipload of treated fly ash and air								
	pollution control residues shall be								
	collected and tested for conformance								
	to the Incineration Residue Pollution								
	Control Limits and leachability criteria.								
	The Contractor shall not dispose of any								
	of the treated fly ash and air pollution								

				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	control residues in the shipload which the samples are taken until the test results confirm that the samples conform to the limits and the criteria. If the test result confirm that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit for the next six months.								
	<ul> <li>Bottom Ash:</li> <li>During testing and commissioning, the Contractor shall sample and test every container of bottom ash for conformance to the leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test every container of bottom ash for conformance to the leachability criteria for the next six months.</li> <li>During the first six months of operation, if the requirements in (d) could be fully conformed with, the Contractor shall sample and test one shipload of bottom ash each month for</li> </ul>	IWMF stack emissions / During design & operation phase	IWMF Operator	×		×		Supporting Document for Application for Variation of Environmental Permit (EP- 429/2012)	N/A

				Imple	ementa	tion S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	conformance to the leachability								
	criteria shown in Table 2 of the								
	Environmental Permit. The Contractor								
	shall take two samples from the								
	shipload for testing and the Contractor								
	shall not dispose of any of that								
	shipload of bottom ash until the test								
	results confirm that the two samples								
	conform to the criteria. If a test result								
	confirms that any one of the two								
	samples does not conform to the								
	criteria, the Contractor shall be								
	required to sample and test each								
	shipload of bottom ash for								
	conformance to the leachability								
	criteria for the next six months. The								
	Contractor shall make due allowance								
	in the Design and the Operation for the								
	time to sample and test bottom ash								
	before disposal.								
	<ul> <li>Provided that there is no non-</li> </ul>								
	conformance to the leachability								
	criteria shown in Table 2 of the								
	Environmental Permit throughout a								
	continuous six month period in the								
	Operation Period, the Contractor shall								
	be allowed to take two samples from								
	any one shipload of bottom ash once								
	every six months for conformance to								
	the leachability criteria. The								
	Contractor shall not dispose of any of								
	the bottom ash in the shipload which								
	the samples are taken until the test								

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	Factor montal Destaction Massures (			Imple	ementa	ation S	Stages*	Relevant Legislation and Guidelines	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec		
	results confirm that the samples								
	conform to the criteria. If the test result confirm that any one of the samples								
	does not conform to the criteria, the								
	Contractor shall be required to sample								
	and test one shipload of bottom ash								
	each month for conformance to the								
	leachability criteria shown in Table 2								
	of the Environmental Permit for the								
	next six months as stipulated above.								

\* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

	Environmental Protection Measures /	Location /	Implementation	Imple	ementa	ation S	tages*	Relevant	Implementation
EIA Ref	Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
S4b.8	Good site practices to limit noise emissions a source and use of quiet plant and working methods, whenever practicable.	Construction	EPD and its contractors		<b>√</b>			EIAO-TM	Implemented
S4b.6 & S4b.8	<ul> <li>All the ventilation fans installed in the below will be provided with silencers or acoustics treatment.</li> <li>(i) Stack of the incinerator</li> <li>(ii) Ventilation systems within the IWMF Enclosure and discharge silencer or other acoustic treatment equipment should be installed in the air-cooled chillers</li> <li>Other than provision of silencer or other acoustic treatment equipment for the stack of the incinerator and ventilation system, the detailed design should incorporate the following good practice in order to minimize the nuisance on the neighboring NSRs.</li> <li>(i) The exhaust of the ventilation system and any opening of the building should be located facing away from any NSRs; and</li> <li>(ii) Louver or other acoustic treatment equipment could also be applied to the exhaust of the ventilation system.</li> </ul>	Within IWMF area / Construction Period	EPD and its contractors	✓		✓		EIAO-TM	N/A
-	<ul> <li><u>Voluntary Enhancement Measure</u></li> <li>Provision of air-conditioner and double glazed windows to nearby NSR at Shek Kwu Chau (i.e. SARDA) as precautionary measures.</li> </ul>	IWMF site	Design team, contractor, IWMF operator	~	~			Supporting Document for Application for Variation of Environmental Permit (EP- 429/2012)	Implemented

#### Table B.2 Implementation Schedule for Noise Impact Measures for the IWMF at the artificial island near SKC

\* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

#### Table B.3 Implementation Schedule for Water Quality Measures for the Artificial Island near SKC

				Imple	ementa	ation S	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
	should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction.								
	<ul> <li>Water pumped out from foundation piles must be discharged into silt removal facilities.</li> </ul>								
	<ul> <li>Measures should be taken to minimize the ingress of site runoff and drainage into excavations. Drainage water pumped out from excavations should be discharged into storm drains via silt removal facilities.</li> </ul>								
	• During rainstorms, exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC PN 1/94.								
	• Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff.								
	<ul> <li>Earthwork final surfaces should be well compacted and subsequent permanent work or surface protection should be immediately performed.</li> </ul>								

				Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
	<ul> <li>Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms.</li> </ul>								
S5b.8.1.2	General Construction Activities Construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby watercourses and public drainage system. Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area.	Work site / During the construction period	Contractor		V			EIAO-TM; ProPECC PN 1/94; WPCO	Deficiency of Mitigation Measures but rectified by the Contractor.
	It is recommended to clean the construction sites on a regular basis.								

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				Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
S5b.8.1.3	There is a need to apply to EPD for a discharge license for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge license. All the run-off and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression and general cleaning etc., can minimize water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO license which is under the ambit of regional office of EPD.		Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Discharge License was issued on 22/08/2019.
S5b.8.1.4	Accidental Spillage Contractor must register as a chemical waste producer if chemical wastes would be produced from construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor.
S5b.8.1.5	Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas which	During the construction	Contractor		~			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Implemented.

			Implementation Agent	Imple	ementa	ation S	Stages*	Relevant Legislation and Guidelines	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing		Des	С	0	Dec		
	appropriately equipped to control these discharges.								
S5b.8.1.6	Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Work site / During the construction period	Contractor		~			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor.
S5b.8.1.7	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:	Work site / During the construction period	Contractor		~			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor.
	<ul> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>Storage area should be selected at a safe location on site and adequate space should be allocated to the</li> </ul>								
S5b.8.1.8	storage area. <u>Sewage Effluent</u> Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	N/A

			Implementation Agent	Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing		Des	С	0	Dec	Legislation and Guidelines	
	handle sewage from the workforce. A licensed contractor would be responsible. for appropriate disposal and maintenance of these facilities.								
S5b.8.1.9	<ul> <li>Reclamation and Construction of Breakwaters</li> <li>The proposed dredging and reclamation should be commenced in phases. The breakwaters and seawalls should be constructed and the reclamation should be started within the enclosed breakwaters after the completion of the breakwater. Silt curtain should be applied around caissons / blockwork during the filling of the cell to prevent the loss of fine in the filling material.</li> <li>The maximum production rate for dredging for the anti-scouring protection layer shall not exceed the permitted maximum daily dredging rate and carried out within its respective distance from the nearest non-translocatable coral community by the dredging contractor as specified in S.2.18 of the Further Environmental Permit (no.:FEP-01/429/2012/A). It is recommended to employ closed grab with small capacity of 2 m<sup>3</sup> to control the dredging rate.</li> </ul>	construction period	Contractor					EIAO-TM; WPCO, Supporting Document for Application for Variation of Environmental Permit (EP- 429/2012) Further Environmental Permit No. FEP- 01/429/2012/A	N/A
	<ul> <li>Any gap that may need to be provided for marine access will be located at the middle of the North Western seawall, away from the identified coral communities and will be shielded by silt curtains systems to control sediment plume dispersion.</li> </ul>								
	• The silt curtain system at marine access opening should be closed as soon as the								

				Imple	ementa	ation S	stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	barges passes through the marine access opening in order to minimize the period of curtain opening. Filling should only be carried out behind the silt curtain when the silt curtain is completely closed.								
	• To enhance the effectiveness of the silt curtain at the marine access, the northern breakwater would be built before the commencement of the reclamation to reduce the current velocity towards the marine access opening.								
	<ul> <li>The silt curtain system at marine access opening should be regularly checked and maintained to ensure proper functioning.</li> </ul>								
	<ul> <li>Where public fill is proposed for filling below +2.5mPD, the fine content in the public fill will be controlled to 25% which is in line with the CEDD's General Specification;</li> </ul>								
	• The filling for reclamation should be carried out behind the seawall. The filling material should only consist of public fill, rock and sand. The filling composition and filling rates at each filling area should follow those delineated in Table 1 of the FEP- 01/429/2012/. The filling above high watermark is not restricted;								
	<ul> <li>No dredging should be carried out within 16m to the nearest non-translocatable coral community;</li> </ul>								
	<ul> <li>Daily site audit including full-time on-site monitoring by the ET is recommended during the dredging for anti-scouring protection layer</li> </ul>								

				Imple	menta	ation S	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	Ο	Dec	Legislation and Guidelines	
	for checking the compliance with the permitted no. of grab;								
	<ul> <li>Closed grab dredger should be used to minimize the loss of sediment during the raising of the loaded grabs through the water column;</li> </ul>								
	<ul> <li>Frame-type silt curtains should be deployed around the dredging operations;</li> </ul>								
	<ul> <li>Floating-type silt curtains should be used to surround the circular cell during the sheetpiling work;</li> </ul>								
	<ul> <li>The descent speed of grabs should be controlled to minimize the seabed impact speed;</li> </ul>								
	<ul> <li>Barges should be loaded carefully to avoid splashing of material;</li> </ul>								
	<ul> <li>All barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport;</li> </ul>								
	• All barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action.								
	• No DCM works should be carried out within 100m to the nearest non-translocatable coral colony / colonies.								

				Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	Ο	Dec	Legislation and Guidelines	
	• Silt curtains should be employed to enclose DCM field trial and any full scale DCM work to minimize the potential impacts on water aspect.								
	• A sand blanket is to be placed on top of the marine deposit using tremie pipes prior to the DCM ground treatment to avoid seabed sediment disturbance.								
S5b.8.2.3	<u>Operational Phase Discharges</u> A pipeline drainage system will serve the development area collecting surface runoff from paved areas, roof, etc. Sustainable drainage principle would be adopted in the drainage system design to minimize peak surface runoff, maximize permeable surface and maximize beneficial use of rainwater.	Within IWMF site / During the operational phase	IWMF Operator	~		~		WPCO	N/A
S5b.8.2.4	Oil interceptors should be provided in the drainage system of any potentially contaminated areas (such as truck parking area and maintenance workshop) and regularly cleaned to prevent the release of oil products into the storm water drainage system in case of accidental spillages. Accidental spillage should be cleaned up as soon as practicable and all waste oils and fuels should be collected and handled in compliance with the Waste Disposal Ordinance.	Within IWMF site / During the operational phase	IWMF Operator	×		~		WPCO; WDO	N/A
S5b.8.2.5	Refuse Entrapment Collection and removal of floating refuse should be performed at regular intervals for keeping the water within the Project site	Within the Project site / During the operational phase	IWMF Operator			~		WPCO	N/A

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				Imple	ementa	ation 8	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
	boundary and the neighboring water free from rubbish.								
S5b.8.2.6	Transportation of bottom ash, fly ash and <u>APC residues to WENT Landfill for disposal</u> Covered container should be used in the shipping of the incineration waste to limit the contact between the incineration waste and the marine water. A comprehensive emergency response plan for any accidental spillage should be submitted by the operation contractor to the EPD for agreement before the operation of the facilities. Salvage and cleanup action to recover the spilled incineration waste containers following the spillage should be carried out according to the emergency response plan to mitigate the environmental impact in case of spillage.	Asn 7 During the operational phase	IWMF Operator			✓			N/A

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

#### Table B.4 Implementation Schedule for Waste Management Measures for the IWMF at the artificial island near SKC

				Imple	ementa	ation S	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
6b.5.1.2	<ul> <li><u>Good Site Practices</u></li> <li>Adverse environmental impacts in relation to waste management are not expected, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities would include:</li> <li>Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);</li> <li>Provide staff training for proper waste management and chemical handling procedures;</li> <li>Provide sufficient waste disposal points and regular waste collection;</li> <li>Provide appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and</li> <li>Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;</li> <li>Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and</li> <li>Employ licensed waste collector to collect waste.</li> </ul>	0011011001011	Contractor					WDO; LDO; ETWB TCW No. 19/2005; EIAO-TM	Implemented.

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				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
6b.5.1.3	<ul> <li><u>Waste Reduction Measures</u></li> <li>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices.</li> <li>Recommendations to achieve waste reduction include:</li> <li>Design foundation works that could minimize the amount of excavated material to be generated.</li> <li>Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling;</li> <li>Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.);</li> <li>Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>Encourage the collection of aluminum cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force;</li> <li>Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and</li> </ul>	Construction	Contractor						Implemented. N/A for foundation and demolition items

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					Imple	ementa	ation S	tages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent		Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>Plan and stock construction materials carefully to minimize amount of waste to be generated and to avoid unnecessary generation of waste.</li> </ul>									
6b.5.1.7	Dredged Sediment – Application of Dumping Permit The project proponent should agree in advance with MFC of CEDD on the site allocation. The project proponent or contractor for the dredging works shall then apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. The project proponent or contractor should also be responsible for the application of all necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged sediment prior to the commencement of the dredging works.	Seawall and Reclamation site / Construction Period	EPD and contractor	its	~	✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.8	Dredged Sediment – Sediment Quality Report The project proponent or contractor will need to satisfy the appropriate authorities that the quality of the marine sediment to be dredged has been identified according to the requirements of ETWB TCW 34/2002. This should be completed well before the dredging works and would include at least the submission of a formal Sediment Quality Report under Tier I of ETWB TCW No. 34/2002 to DEP for approval. Subject to advice from DEP, it is possible that further marine SI in accordance with ETWB TCW 34/2002 might be necessary for the	Seawall and Reclamation site / Construction Period	EPD and contractor	its	~				DASO ETWB TCW 34/2002	Implemented

			_	Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
	application of dumping permit under DASO. In such case, a sediment sampling and testing proposal shall be submitted to and approved by DEP before the additional marine SI works.								
6b.5.1.9	Dredged Sediment – Sediment Transportation The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self- monitoring devices as specified by the DEP.	Reclamation site / Construction	EPD and its contractor		✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.10	<ul> <li><u>Construction and Demolition Materials</u></li> <li>In order to minimize the impact resulting from collection and transportation of C&amp;D materials for off-site disposal, the excavated material arising from site formation and foundation works should be reused onsite as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below:</li> <li>A Waste Management Plan (WMP), which becomes part of the Environmental Management Plan (EMP), should be prepared in accordance with ETWB TCW No.19/2005;</li> </ul>	Work Site/ During Design & Construction Period	Contractor	~	✓			ETWB TCW No. 19/2005	Implemented

				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and</li> <li>In order to monitor the disposal of C&amp;D materials at public filling facilities and landfills and to control fly-tipping, a tripticket system should be adopted (refer to</li> </ul>								
6b.5.1.11 - 6b.5.1.12	ETWB TCW No. 31/2004). The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis. All surplus C&D materials arising from or in connection with construction works should become the property of the Contractor when it is removed unless otherwise stated. The Contractor would be responsible for devising a	During Design & Construction	Contractor					ETWB 19/2005	Implemented

				Imple	ementa	tion S	stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.								
6b.5.1.13	<u>Chemical Wastes</u> Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste (such as explosive, flammable, oxidizing, irritant, toxic, harmful, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General)	Work Site/ During Construction Period	Contractor					Waste Disposal (Chemical Waste) (General) Regulation	Deficiency of Mitigation Measures but rectified by the Contractor.

	Environmental Protection Measures / Mitigation Measures			Implement	ation Stages*	Relevant	Implementation
EIA Ref		Location / Timing	Implementation Agent	Des C	O Dec	Legislation and Guidelines	Status and Remarks
6b.5.1.14	General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D materials. A licensed waste collector should be employed by the Contractor to remove general refuse from the site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Work Site/ During Construction Period	Contractor	<b>*</b>		Public Health and Municipal Services Ordinance	Deficiency of Mitigation Measures but rectified by the Contractor.
6b.5.1.16 - 6b.5.1.33	Biogas Generation         The Contractor shall review the data and analysis results, and the data from further Site Investigation, if any. Subject to the review findings, the following gas protection measures may be considered if necessary:         - gas monitoring after reclamation;         - gas impermeable membrane;         - ventilation with "at risk" rooms;         - protection of utilities or below ground services;         - precautions during construction works;         - precautions prior to entry of belowground services	Reclamation site (if dredging at the reclamation site is not required) / Design & Construction Period	Designer and/or contractor			EPD/TR8/97	N/A
6b.5.2.1	Good Site Practices	IWMF Site/During	IWMF Operator		×	Waste Disposal Ordinance (Cap.354);	N/A

				Imple	ementa	ation S	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	ο	Dec	Legislation and Guidelines	
	<ul> <li>It is recommended that the following good operational practices should be adopted to minimise waste management impacts:</li> <li>Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and Waste Disposal (Chemical Waste) (General) Regulation;</li> <li>Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site;</li> <li>Use of a waste haulier licensed to collect specific category of waste;</li> <li>A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at landfills, and to control fly tipping. Reference should be made to ETWB TCW No. 31/2004.</li> <li>Training of site personnel in proper waste management and chemical waste handling procedures;</li> <li>Separation of chemical wastes for special handling and appropriate treatment at a licensed facility;</li> <li>Routine cleaning and maintenance</li> </ul>	Operation Period						Waste Disposal (Chemical Waste) (General) Regulation; ETWB TCW No. 1/2004	

	Environmental Protection Measures / Mitigation Measures			Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref		Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>Provision of sufficient waste disposal points and regular collection for disposal;</li> <li>Adoption of appropriate measures to minimize windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and</li> <li>Implementation of a recording system for the amount of wastes generated, and disposed of (including recycled the disposal sites).</li> </ul>								
6b.5.2.2	<ul> <li>Waste Reduction Measures</li> <li>Good management and control can prevent the generation of significant amounts of waste. It is recommended that the following good operational practices should be adopted to ensure waste reduction:</li> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>Encourage collection of aluminum cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and</li> <li>Any unused chemicals or those with remaining functional capacity should be</li> </ul>		IWMF Operator			×			mplemented

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				Imple	ementa	tion S	Stages*	Relevant Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	LegislationStatus andand GuidelinesRemarks
6b.5.2.3	<ul> <li><u>Storage, Handling, Treatment, Collection</u> <u>and Disposal of Incineration By-Products</u></li> <li>The following measures are recommended for the storage, handling and collection of the incineration by-products: <ul> <li>Ash should be stored in storage silos;</li> <li>Ash should be handled and conveyed in closed systems fully segregatedfrom the ambient environment;</li> <li>Ash should be wetted with water to control fugitive dust, where necessary;</li> <li>All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal;</li> <li>The ash should be transported in covered trucks or containers to the designated landfill site.</li> </ul> </li> </ul>	IWMF Site/ During Operation Period	IWMF Operator					Incineration Residue Pollution Control Limits
	The Contractor should provide EPD with chemical analysis results of the bottom ash, and treated fly ash and APC residues to confirm that the ash/residue can comply with the proposed Incineration Residue Pollution Control Limits before disposal.							

				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
6b.6.3.1	<ul> <li>Fuel Oil Tank Construction and Test</li> <li>The fuel tank to be installed should be of specified durability.</li> <li>Double skin tanks are preferred.</li> <li>Underground fuel storage tank should be placed within a concrete pit.</li> <li>The concrete pit shall be accessible to allow regular tank integrity tests to be carried out at regular intervals.</li> <li>Tank integrity tests should be conducted by an independent qualified surveyor or structural engineer.</li> </ul>	Fuel Oil Storage Tank/ During Design, Construction and Operation Periods	IWMF Contractor		<b>v</b>	×			N/A
	Any potential problems identified in the test should be rectified as soon as possible.								
6b.6.3.1	<ul> <li>Fuel Oil Pipeline Construction and Test</li> <li>Installation of aboveground fuel oil pipelines is preferable; if underground pipelines are unavoidable, concrete lined trenches should be constructed to contain the pipelines.</li> <li>Double skin pipelines are preferred.</li> <li>Distance between the fuel oil refuelling points and the fuel oil storage tank shall be minimized.</li> </ul>	Fuel Oil Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	~	<i>✓</i>			N/A

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				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>Integrity tests for the pipelines should be conducted by an independent qualified surveyor or structural engineer at regular intervals.</li> <li>Any potential problems identified in the test should be rectified as soon as possible.</li> </ul>								
6b.6.3.1	<ul> <li>Fuel Oil Leakage Detection</li> <li>Installation of leak detection device at storage tank and pipelines.</li> <li>Installation and use of pressure gauges (e.g. at the two ends of a filling line) in fuel filling, which allows unexpected pressure drop or difference and sign of leakage to be detected.</li> </ul>	Fuel Oil Storage Tank and Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	~	✓	~			N/A
6b.6.3.1	<ul> <li>Fuel Oil Storage Tank Refuelling</li> <li>Storage tank refuelling (from road tanker) should only be conducted by authorized staff of the oil company using the company's standard procedures.</li> </ul>	During Operation	IWMF Operator			~			N/A
6b.6.3.1	Fuel Oil Spillage ResponseAn Oil Spill Response Plan should be prepared by the operator to document the appropriate response procedures for oil spillage incidents in detail. General procedures to be taken in case of fuel oil spillage are presented below.• Training	IWMF Site/ During Operation Period	IWMF Operator			V			N/A

				Imple	menta	ation S	stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
	<ul> <li>Training on oil spill response actions should be given to relevant staff. The training shall cover the followings:</li> </ul>								
	<ul> <li>Tools &amp; resources to combat oil spillage and fire, e.g. locations of oil spill handling equipment and fire fighting equipment;</li> <li>General methods to deal with oil spillage and fire incidents;</li> <li>Procedures for emergency drills in the event of oil spills and fire; and</li> <li>Regular drills shall be carried out.</li> </ul>								
	Communication								
	-Establish communication channel with the Fire Services Department (FSD) and EPD to report any oil spillage incident so that necessary assistance from relevant department can be quickly sought.								
	Response Procedures								
	-Any fuel oil spillage within the IWMF site should be immediately reported to the Plant Manager with necessary details including location, source, possible cause and extent of the spillage.								
	-Plant Manager should immediately attend to the spillage and initiate any appropriate action to confine and clean up the spillage. The response								

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				Imple	menta	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>procedures shall include the following:</li> <li>&gt;Identify and isolate the source of spillage as soon as possible.</li> <li>&gt;Contain the oil spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels.</li> <li>&gt;Remove the oil spillage.</li> </ul>								
	≻Clean up the contaminated area.								
	<ul> <li>If the oil spillage occurs during storage tank refuelling, the refueling operation should immediately be stopped.</li> <li>Recovered contaminated fuel oil and the associated material to remove the spilled oil should be considered as chemical waste. The handling and disposal procedures for chemical wastes are discussed in the following paragraphs.</li> </ul>								
6b.6.3.2	<ul> <li><u>Chemicals and Chemical Wastes Handling &amp;</u> <u>Storage</u></li> <li>Chemicals and chemical wastes should only be stored in suitable containers in purpose-built areas.</li> <li>The storage of chemical wastes should comply with the requirements of the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> </ul>	Chemicals and Chemical Wastes Storage Area / During Operation Period	IWMF Operator			~			N/A
	• The storage areas for chemicals and chemical wastes shall have an								

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				Imple	ementa	ation §	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	impermeable floor or surface. The impermeable floor/ surface shall possess the following properties:								
	<ul> <li>Not liable to chemically react with the materials and their containers to be stored.</li> </ul>								
	<ul> <li>Able to withstand normal loading and physical damage caused by container handling</li> </ul>								
	<ul> <li>The integrity and condition of the impermeable floor or surface should be inspected at regular intervals to ensure that it is satisfactorily maintained</li> </ul>								
	For liquid chemicals and chemical wastes storage, the storage area should be bunded to contain at least 110% of the storage capacity of the largest containers or 20% of the total quantity of the chemicals/chemical wastes stored, whichever is the greater.								
	Storage containers shall be checked at regular intervals for their structural integrity and to ensure that the caps or fill points are tightly closed.								
	<ul> <li>Chemical handling shall be conducted by trained workers under supervision.</li> </ul>								
b.6.3.2	Chemicals and Chemical Wastes Spillage Response	IWMF Site/ During	IWMF Operator			✓			N/A

				Imple	menta	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	C	0	Dec	Legislation and Guidelines	Status and Remarks
	A Chemicals and/ or Chemical Wastes Spillage Response Plan shall be prepared by the operator to document in detail the appropriate response procedures for chemicals or chemical wastes spillage incidents. General procedures to be undertaken in case of chemicals/ chemical waste spillages are presented below.	Operation Period							
	Training								
	<ul> <li>Training on spill response actions should be given to relevant staff. The training shall cover the followings:</li> </ul>								
	Tools & resources to handle spillage, e.g. locations of spill handling equipment;								
	<ul> <li>General methods to deal with spillage; and</li> </ul>								
	Procedures for emergency drills in the event of spills.								
	Communication								
	<ul> <li>Establish communication channel with FSD and EPD to report the spillage incident so that necessary assistance from relevant department can be quickly sought.</li> </ul>								
	Response Procedures								

				Imple	menta	ation §	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
	<ul> <li>Any spillage within the IWMF site should be reported to the Plant Manager.</li> </ul>								
	<ul> <li>Plant Manager shall attend to the spillage and initiate any appropriate actions needed to confine and clean up the spillage. The response procedures shall include the followings:</li> </ul>								
	<ul> <li>Identify and isolate the source of spillage as soon as possible;</li> </ul>								
	Contain the spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels (in case the spillage occurs at locations out of the designated storage areas);								
	Remove the spillage; the removal method/ procedures documented in the Material Safety Data Sheet (MSDS) of the chemicals spilled should be observed;								
	<ul> <li>Clean up the contaminated area (in case the spillage occurs at locations out of the designated storage areas); and</li> </ul>								

				Imple	ementa	ation S	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	
	The waste arising from the cleanup operation should be considered as chemical wastes.								
6b.6.3.3	<ul> <li>Preventive Measures for Incineration By- products Handling</li> <li>The recommended measures listed below can minimize the potential contamination to the surrounding environment due to the incineration by-products: <ul> <li>Ash should be stored in storage silos;</li> <li>Ash should be handled and conveyed in closed systems fully segregated from the ambient environment;</li> <li>Ash should be wetted with water to control fugitive dust, where necessary;</li> <li>All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal;</li> </ul> </li> </ul>	Storage, Handling & Collection of Incineration Ash at IWMF/ During Operation Period	IWMF Operator						N/A
6b.6.3.4 - 6b.6.3.6	Incident Record	IWMF Site/ During	IWMF Operator			~	1	Guidance Manual for Use of Risk- based Remediation	

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				Imple	ementa	ation S	Stages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	After any spillage, an incident report should be prepared by the Plant Manager. The incident report should contain details of the incident including the cause of the incident, the material spilled and estimated spillage amount, and also the response actions undertaken. The incident record should be kept carefully and able to be retrieved when necessary.	Period						Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation.	
	The incident report should provide sufficient details for the evaluation of any environmental impacts due to the spillage and assessment of the effectiveness of measures taken.								
	In case any spillage or accidents results in significant land contamination, EPD should be informed immediately and the IWMF operator should be responsible for the cleanup of the affected area. The responses procedures described in <b>Section 6b.6.3.1</b> and <b>Section 6b.6.3.2</b> of EIA report should be followed accordingly together with the land contamination assessment and remediation guidelines stipulated in the <i>Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for</i>								

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

		Location /		Imple	ementa	ation S	tages*	Relevant	Implementation
EIA Ref	Environmental Protection Measures / Mitigation Measures	Timing	Implementation Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
7b.8.2.1	<ul> <li>Measures to avoid direct loss of intertidal habitat</li> <li>The site boundary has been proposed to avoid direct contact with the intertidal natural rocky shore of Shek Kwu Chau. It avoids direct loss of intertidal communities and the existing natural rocky shore habitat, where Reef Egret and White-bellied Sea Eagle have been recorded within and in the vicinity of this habitat.</li> </ul>	IWMF site	Design team	~				EIAO-TM	N/A
7b.8.2.2	<ul> <li>Measures to minimise loss of coastal subtidal habitat</li> <li>Extensive coral colonies were recorded at the coastal hard bottom habitat at Shek Kwu Chau. To avoid and minimise the extensive direct impact on the coral colonies, the proposed reclamation area has been moved further offshore to minimise loss of subtial habitat near shore.</li> </ul>	IWMF site	Design team	V				EIAO-TM	N/A
7b.8.2.3	Zero Discharge Scheme         • The design scheme of the Project has avoided discharge of wastewater into the marine environment.         A zero discharge scheme would be adopted during the operation of the Project.         An on-site wastewater treatment plant would be provided to treat the wastewater generated from the	IWMF site	Design team, IWMF operator	~		<b>√</b>		WPCO	N/A

#### Table B.5 Implementation Schedule for Ecological Quality Measures for the IWMF at the artificial island near SKC

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implomo	ntation	Imple	ementa	tion S	tages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Implementation Agent		Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
	IWMF (mainly human sewage). The treated effluent would be re-used in the incineration plant and mechanical treatment plant, or for onsite washdown and landscape.									
7b.8.2.4	<ul> <li>Measures to avoid loss of plant species of conservation importance</li> <li>Landing portal construction works would not cause direct lost to the recorded individual of protected plant species,</li> <li>Aquilaria sinensis, at the coastal shrubland habitat at Cheung Sha. As a precautionary measure, the plant should be tagged with eye-catching tape and fenced off prior to works, in order to availate and fenced off prior to works, in order to</li> </ul>	Cheung Sha Ianding portal	Design Contractor	team,	~	✓		<ul> <li>Image: A set of the set of the</li></ul>	EIAO-TM	N/A
7b.8.3.1- 7b.8.3.15	<ul> <li>avoid any damage by workers.</li> <li>Measures to minimise water quality impact</li> <li>Measures for water quality as recommended in Section 5b of the EIA Report should be implemented.</li> </ul>	Work site	Design contractor, operator	team, IWMF	~	~	~	~	EIAO-TM; ProPECC PN 1/94; WPCO	Implemented
7b.8.3.16 - 7b.8.3.30	<ul> <li><u>Measures to minimise disturbance on Finless</u> <u>Porpoise</u></li> <li><i>Minimisation of Habitat Loss for Finless</i> <i>Porpoise</i></li> <li>Substantial revision has been made on the layout plan and form of the breakwater, in order to minimise the potential loss of important habitat for</li> </ul>	IWMF site, work site, marine traffic route	Design contractor, operator	team, IWMF	~	V	<b>√</b>	~	EIAO-TM, Supporting Document for Application for Variation of the Environmental Permit (EP- 429/2012)	Implemented for avoidance of construction works that may produce underwater acoustic disturbance, Vessel Travel Route implementation, training of staff; N/A for others

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	menta	ation S	stages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
	Finless Porpoise. The revision has greatly reduced the size of the embayment area, as well as the Project footprint. As a result, the size of habitat loss for Finless Porpoise has reduced from the original ~50 ha, down to ~31 ha.								
	Avoidance of peak season for finless porpoise occurrence								
	To minimise potential acoustic disturbance from construction activities on Finless Porpoise, construction works that may produce underwater acoustic disturbance should be scheduled outside the months with peak Finless Porpoise occurrence (December to May), including:								
	<ul> <li>sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1);</li> <li>sheet piling works for construction of the shorter section of breakwater (Phase 1);</li> <li>sheet piling works for construction of the remaining section of breakwater (Phase 3) and</li> </ul>								
	<ul> <li>bored piling works for berth area (Phase 3)</li> <li>Such works should be restricted within</li> </ul>								
	June to November. This approach would								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	menta	ation S	tages*	Relevant	Implementation	
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks	
	not only avoid the peak season for Finless Porpoise occurrence, the									
	magnitude of impacts arise from acoustic disturbance would also be minimised.									
	• Since the DCM ground treatment and the									
	installation of precast seawalls and breakwaters should generate no									
	underwater acoustic disturbance to Finless Porpoise, no specific mitigation measures are required.									
	Opt for quieter construction methods and plants									
	Considering the sensitivity of marine									
	mammals to underwater acoustic disturbance, instead of the previously									
	proposed conventional breakwater and reclamation peripheral structure,									
	which requires noisy piling works, the current circular cells structure for									
	breakwater and reclamation peripheral structure is proposed. A quieter sheet									
	piling method using vibratory hammer or hydraulic impact hammer, should be									
	adopted for the installation of circular cells for cellular cofferdam and									
	northern breakwater during Phase 1, and southern breakwater Phase 3;									
	Non-percussive bore piling method would									
	be adopted for the installation of tubular									

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	ation S	tages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
	piles for the berth construction during Phase 3.								
	Monitored exclusion zones								
	During the installation/re-								
	installation/relocation process of floating								
	type silt curtains, in order to avoid the								
	accidental entrance and entrapment of								
	marine mammals within the silt curtains,								
	a monitored exclusion zone of 250 m radius from silt curtain should be								
	implemented. The exclusion zone								
	should be closely monitored by an								
	experienced marine mammal observer at								
	least 30 minutes before the start of								
	installation/re-installation/relocation								
	process. If a marine mammal is noted								
	within the exclusion zone, all marine works should stop immediately and								
	remain idle for 30 minutes, or until the								
	exclusion zone is free from marine								
	mammals.								
	<b>T</b> he second sec								
	The experienced marine mammal								
	observer should be well trained to detect marine mammals. Binoculars should be								
	used to search the exclusion zone from								
	an elevated platform with unobstructed								
	visibility. The observer should also be								
	independent from the project proponent								
	and has the power to call-off construction								
	activities.								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	ation S	stages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	In addition, as marine mammals								
	cannot be effectively monitored within								
	the proposed monitored exclusion zone								
	at night, or during adverse weather								
	conditions (i.e. Beaufort 5 or above,								
	visibility of 300 meters or below), marine works should be avoided under								
	weather conditions with low visibility.								
	weather conditions with low visibility.								
	Marine mammal watching plan								
	Upon the completion of								
	the installation/re-								
	installation/relocation of floating type silt								
	curtain, all marine works would be								
	conducted within a fully enclosed								
	environment within the silt curtain, hence								
	exclusion zone monitoring would no longer be required. Subsequently, a marine mammal								
	watching plan should be implemented.								
	The plan should include regular inspection of								
	silt curtains, and visual inspection of the								
	waters surrounded by the curtains. Special								
	attention should be paid to Phase 2								
	(reclamation) where the floating type still								
	curtain would be opened occasionally for vessel access, leaving a temporary 50								
	m opening. An action								
	plan should be devised to cope with any								
	unpredicted incidents such as the case								
	when marine mammals are found within								
	the waters surrounded by the silt curtains.								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	menta	ation S	Stages*	Relevant	Implementation	
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks	
	Small openings at silt curtains									
	• The openings for vessel access at the silt curtains should be as small as possible to minimise the risk of accidental entrance.									
	Adoption of regular travel route									
	• During construction and operation, captains of all vessels should adopt regular travel route, in order to minimize the chance of vessel collision with marine mammals, which may otherwise result in damage to health or mortality. The regular travel route should avoid areas with high sighting density of Finless Porpoise as much as possible.									
	Vessel speed limit									
	• The frequent vessel traffic in the vicinity of works area may increase the chance of mammal mammals being killed or seriously injured by vessel collision. A speed limit of ten knots should be strictly enforced within areas with high density of Finless Porpoise.									
	<ul> <li>Passive acoustic monitoring and land- based theodolite monitoring surveys should be adopted to verify the</li> </ul>									

Integrated Waste Management Facilities, Phase 1

	Environmental Protection			Imple	ementa	ation S	stages*	Relevant	Implementation Status and Remarks
EIA Ref	Measures / Mitigation Measures			Des	С	ο	Dec	Legislation and Guidelines	
	predicted impacts and effectiveness of the proposed mitigation measures.								
	Training of Staff								
	• Staff, including captains of vessels,								
	should be aware of the guidelines for safe vessel operations in the presence of cetaceans during construction and operation phases. Adequate trainings should be provided								
7b.8.3.31	Measures to minimise impact on corals	IWMF site	Design team, contractor, IWMF	~	✓	~	~	EIAO-TM	Implemented, tagged coral found missing
′b.8.3.34	Coral translocation		operator						after hitting by typhoons
	<ul> <li>Coral communities within and in proximity to the proposed dredging sites would be disturbed by the Project due to the dredging operations. In order to minimise direct loss of coral communities, translocation of corals that are attached to movable rocks with diameter less than 50 cm are recommended. In order to avoid disturbance to corals during the spawning period, the spawning season of corals (June to August) should be avoided; and that translocation should be carried out during the winter season (November- March).</li> </ul>								Re-tagging of 10 cora colonies at indirect impact site and contri- site were conducted in November and December 2018 respectively.
	<ul> <li>The REA survey results suggest that the 198 directly affected coral colonies</li> </ul>								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	
	were attached to movable rocks (less								
	than 50 cm in diameter). It is technically								
	feasible to translocate them to avoid direct								
	loss.								
	• Prior to coral translocation, a more								
	detailed baseline survey, including								
	a coral								
	mapping survey, is								
	recommended to further confirm the								
	exact number and location of coral								
	colonies within the potentially affected								
	area. A more detailed coral translocation								
	plan, including selection of suitable								
	recipient site, plan for coral								
	translocation, and event / action plan for								
	coral monitoring should be submitted upon								
	approval of this Project, prior to								
	commencement of construction works. Advice from relevant								
	governmental departments (i.e. AFCD)								
	and professionals would be sought after,								
	in order to identify a desirable location for								
	the relocation of coral communities. Post-								
	translocation monitoring on the								
	translocated corals should also be								
	considered.								
	Coral monitoring programme								
	A coral monitoring programme is								
	recommended to assess any adverse								
	and unacceptable impacts to the coral								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	tion S	tages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	communities at the coasts of Shek Kwu Chau during construction of the Project.								
	Phasing of Works								
	<ul> <li>To minimize environmental impacts, the proposed phasing of construction works has been carefully designed to reduce the amount of concurrent works, hence minimize SS elevation and the associated impacts on corals.</li> </ul>								
b.8.3.35	Specific measures to minimize disturbance on breeding White-bellied Sea	IWMF site, marine traffic	Design Team, Contractor, IWM	F	~	~	~	EIAO-TM	Implemented
′b.8.3.41	Eagle	route	operator						
	<ul> <li>Avoidance of noisy works during the breeding season of White-bellied Sea Eagle</li> <li>To minimize potential noise disturbance from construction activities on WBSE, noisy construction works should be scheduled outside their breeding season (December to May) to minimise potential degradation in breeding ground quality and breeding activities, including:</li> </ul>								
	<ul> <li>sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1);</li> <li>sheet piling works for construction of the shorter section of breakwater (Phase 1);</li> </ul>								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	
	<ul> <li>sheet piling works for construction of the remaining section of breakwater (Phase 3); and</li> <li>bored piling works for berth area (Phase 3).</li> </ul>								
	Opt for quieter construction methods and plants								
	<ul> <li>To minimise potential construction noise disturbance on WBSE, quieter construction methods and plants should be adopted. The recommended noise mitigation measures in the Noise chapter (Section 4b.8 of the EIA Report) should be implemented to minimise potential noise disturbance to acceptable levels.</li> </ul>								
	Restriction on vessel access near the nest of White-bellied Sea Eagle								
	• During construction and operation, in order to minimize disturbance on the existing WBSE nest, a pre-defined practical route to restrict vessel access near the nest should be adopted to keep vessels and boats as far away from the nest as possible.								
	White-bellied Sea Eagle monitoring programme								

	Environmental Protection	Location /	Implementation	Imple	ementa	ation S	tages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>A WBSE monitoring programme is recommended to assess any adverse and unacceptable impacts to the breeding activities of WBSE during construction and operation of the Project. Monitoring surveys for WBSE would include pre-construction phase (twice per month for duration of three months during their breeding season -between December</li> </ul>								
	and May, immediately before the commencement of works), construction phase, and operation phase (two years after the completion of construction works).								
	<ul> <li>Surveys should be conducted twice per month during their breeding season (from December to May); and once per month outside breeding season (June to November). More details on monitoring for WBSE are presented in the EM&amp;A Manual.</li> </ul>								
	Education of staff								
	<ul> <li>Staff, including captains of all vessels during construction and operation phases, should be aware of the ecological importance of WBSE. Awareness should be raised among staff to minimise any intentional or unintentional disturbance to the nest.</li> </ul>								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	In	nple	menta	ation S	tages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent		)es	С	0	Dec	Legislation and Guidelines	Status and Remarks
	<ul> <li>Minimisation of Glare Disturbance</li> <li>To minimise glare disturbance on WBSE, which may cause disorientation of birds by interfering with their magnetic compass, and disruption in behavioural patterns such as reproduction, fat storage and foraging pattern, any un-necessary outdoor lighting should be avoided, and in-ward and down-ward pointing of lights should be adopted.</li> </ul>									
	<ul> <li><u>Construction of Seawall/Breakwaters</u></li> <li>To widen the open channel between the Artificial Island and Shek Kwu Chau.</li> <li>To design the precast concrete seawall with environmental friendly features.</li> </ul>	IWMF site	Design team, contractor, IWN operator		✓	~			Supporting Document for Application for Variation of Environmental Permit (EP- 429/2012)	N/A
7b.8.3.42	<ul> <li>Opt for Quieter Construction Methods and Plants</li> <li>Quieter construction methods and plants should be used to minimise disturbance to the nearby terrestrial habitat and the associated wildlife.</li> </ul>	Work site	Design team, contractor, IWN operator		✓	✓	<b>v</b>	<ul> <li>Image: A start of the start of</li></ul>	EIAO-TM	Implemented
7b.8.3.43	<ul> <li>Measures to minimize impacts from artificial lighting</li> <li>Unnecessary lighting should be avoided, and shielding of lights should be provided</li> </ul>	IWMF site	Design teal contractor, IWN operator	,	~	~	~		EIAO-TM	Implemented

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	ation S	stages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
	to minimize disturbance from light pollution on fauna groups.								
7b.8.3.44 -	Measures to minimize accidental spillage	Work site	Contractor, IWMF operator		~	~	✓	EIAO-TM	Deficiency of Mitigation Measures
7b.8.3.45	<ul> <li>Regular maintenance of vessels, vehicles and equipment that may cause leakage and spillage should only be undertaken within pre-designated areas, which are appropriately equipped to control the associated discharges.</li> </ul>								but rectified by the Contractor.
	<ul> <li>Oils, fuels and chemicals should be contained in suitable containers, and only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.</li> </ul>								
7b.8.3.46	<ul> <li>Measures to minimise sewage effluent</li> <li>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce.</li> </ul>	Work site	Contractor		<b>v</b>			EIAO-TM	N/A
7b.8.3.47	<ul> <li>Measures to minimise drainage and construction runoff</li> <li>Potential ecological impacts resulted from potential degradation of water</li> </ul>	Work site	Contractor		✓		~	EIAO-TM	N/A

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	menta	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	
	quality due to unmitigated surface runoff								
	could be minimised via the detailed								
	mitigation measures in Section 5b.8 of the								
	EIA Report. The following presents some								
	of the mitigation measures:								
	- On-site drainage system with								
	implemented sedimentation control								
	facilities.								
	- Channels, earth bunds or sand bag								
	barriers should be provided on site to								
	direct storm water to silt removal								
	facilities.								
	- Provision of embankment at								
	boundaries of								
	earthworks for flood protection.								
	- Water pumped out from foundation								
	piles must be discharged into silt								
	removal facilities.								
	- During rainstorms, exposed slope/soil								
	surfaces should be covered by								
	tarpaulin or other means, as far as								
	practicable.								
	- Exposed soil surface should be								
	minimized to reduce siltation and								
	runoff.								
	- Earthwork final surfaces should be								
	well compacted. Subsequent								
	permanent surface protection should								
	be immediately performed.								
	- Open stockpiles of construction								
	materials, and construction wastes on-								
	site should be covered with tarpaulin or								
	similar fabric during rainstorms.								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location / Implem	Implementation	Imple	menta	tion S	Stages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
7b.8.3.48	Measures to minimise impacts from general construction activities	Work site	Contractor		✓			EIAO-TM	Implemented
	• To avoid the entering of construction solid								
	waste into the nearby habitats, construction solid waste should be collected, handled and disposed of								
	properly to avoid entering to the nearby habitats. It is recommended to clean								
7b.8.3.49	the construction sites on a regular basis. Pest Control	IWMF site	IWMF operator			✓			N/A
7b.8.3.49	Good waste management practices should be adopted at the IWMF in order to minimise the risk of introduction of pest to the island:								
	<ul> <li>Transportation of wastes in enclosed containers</li> <li>Waste storage area should be well maintained and cleaned</li> </ul>								
	<ul> <li>Waste should only be disposed of at designated areas</li> <li>Timely removal of the newly arrived</li> </ul>								
	waste <ul> <li>Removal of items that are capable</li> <li>of retaining water</li> <li>Rapid clean up of any waste</li> </ul>								
	spillages - Maintenance of a tidy and clean								
	site environment - Regular application of pest control								

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	Environmental Protection	Location /	Implementation	Imple	menta	tion S	Stages*	Relevant	Implementation Status and Remarks
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	Ο	Dec	Legislation and Guidelines	
	<ul> <li>Education of staff the importance of site cleanliness</li> </ul>								
7b.8.3.50	Control of Marine Habitat Quality during Operation Phase	IWMF site	IWMF operator			✓		EIAO-TM; WPCO	N/A
	<ul> <li>Depending on the seabed condition of the approach channel for marine vessels during operation phase of the IWMF, maintenance dredging may be required to ensure safe access. In order to avoid degradation in water quality due to elevation in SS and dispersion of sediment plume due to dredging works, it is recommended that any future maintenance dredging works should not be carried out within 100 m from the shore, similar to that of the dredging for anti-scouring protection layer during construction phase. All maintenance dredging works should be carried out with the implementation of silt curtain to control the dispersion of SS. The production rate should comply with the permit dredging rate and number of grab per hour.</li> </ul>								
7b.8.4.1	Compensation of loss of important habitat of Finless Porpoise	Waters between Shek	Project Proponent	~		√		EIAO-TM	N/A
7b.8.4.8	Designation of Marine Park	Kwu Chau and Soko Islands							
	The Project Proponent has made a firm commitment to seek to designate a								

Integrated Waste Management Facilities, Phase 1

	Environmental Protection	Location /	Implementation	Imple	ementa	tion S	stages*	Relevant	Implementation	
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks	
	marine park of approximately 700 ha in									
	the waters between Soko Islands and									
	Shek Kwu Chau, in accordance with the statutory process stipulated in the Marine									
	Parks Ordinance, as a compensation									
	measure for the habitat loss arising from									
	the construction of the IWMF at the									
	artificial island near SKC.									
	The Project Proponent shall seek to									
	complete the designation by 2018 to tie									
	in with the operation of the IWMF at the									
	artificial island near SKC.									
	• A further study should be carried out to									
	review relevant previous studies and									
	collate available information on the									
	ecological characters of the proposed									
	area for marine park designation; and									
	review available survey data for Finless									
	Porpoise, water quality, fisheries,									
	marine traffic and planned development projects in the vicinity. Based on the									
	findings, ecological profiles of the									
	proposed area for marine park									
	designation should be established, and									
	the extent and location of the proposed									
	marine park be determined. The									
	adequacy of enhancement measures									
	should also be reviewed.									
•	In addition, a management plan for the									
	proposed marine park should be									

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	Environmental Protection	Location / Implementation	Imple	ementa	ation S	tages*	Relevant	Implementation	
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	Ο	Dec	Legislation and Guidelines	Status and Remarks
	proposed, covering information on the responsible departments for operation and management (O&M) of the marine park, as well as the O&M duties of each of the departments involved. Consultation with relevant government departments and stakeholders should be conducted under the study. The study should be submitted to Director of Environmental Protection (DEP) for approval before the commencement of construction works.								
	• The Project Proponent should provide assistance to AFCD during the process of the marine park designation.								
7b.8.5.1 - 7b.8.5.4	Additional Enhancement or Precautionary Measures Deployment of Artificial Reefs	Within the proposed marine par under thi	<	<b>~</b>		•		EIAO-TM	N/A
	<ul> <li>Deployment of artificial reefs (ARs) is an enhancement measure for the marine habitats. ARs are proposed to be deployed within the proposed marine park under this Project. The exact location, dimension and type of ARs to be deployed are to be further investigated along with the further study of the proposed marine park under this Project. The proposed ARs would be deployed at the same time as the complete designation of marine park.</li> </ul>	study							

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	Environmental Protection	Location / Implementation		Imple	menta	tion S	Stages*	Relevant	Implementation
EIA Ref	Measures / Mitigation Measures	Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
	Release of Fish Fry at Artificial Reefs and Marine Park								
	<ul> <li>Release of fish fry at the proposed ARs, as well as the proposed marine park under this study, should enhance the fish resources in the nearby waters, and subsequently food sources for Finless Porpoise. The proposed ARs with various micro-habitats would have the potential to provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be</li> </ul>								

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

	Environmental Protection	Location / Implementation		Imple	menta	ation S	tages*	Relevant	Implementation	
EIA Ref	Measures / Mitigation Measures	Timing	Ager		Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
8b.8.1.2	Measure to minimize loss of and disturbance on fisheries resources	IWMF site	Design contractor	team,	~	✓		~	EIAO-TM	N/A
	<ul> <li>Alteration to the phasing of works, construction method, and layout plan of the IWMF at the artificial island near SKC has been made. The total fishing ground to be permanently lost due to the project has been significantly reduced from ~50 ha to ~31 ha. By adopting the current circular cells instead of the conventional seawall construction method, SS elevation would be greatly reduced, minimizing adverse impact on the health of fisheries resources.</li> </ul>									
8b.8.1.3	<ul> <li>Measure to minimize impingement and entrainment</li> <li>Provision of a screen at the water intake point for desalination plant would be essential to minimize the risk of impingement and entrainment of fisheries resources (including fish, larvae and egg) through the intake point.</li> </ul>	IWMF site	Design contractor, operator	team, IWMF	Ý	✓	×		EIAO-TM	N/A

## Table B.6 Implementation Schedule for Fisheries Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Implementation		Imple	ementa	ation S	tages*	Relevant	Implementation	
		Timing	Agent		Des	С	ο	Dec	Legislation and Guidelines	Status and Remarks
8b.8.1.4- 8b.8.1.6	<ul> <li>Measures to control water quality</li> <li>No wastewater effluent, anti-fouling agent, heavy metals and other contaminants would be released during operation phase of the Project.</li> <li>Mitigation measures recommended in the water quality impact assessment during construction and operation would</li> </ul>	Work site, IWMF site		am, IWMF	<ul> <li>Image: A start of the start of</li></ul>		V	~	EIAO-TM	Implemented
	serve to protect fisheries resources from indirect impacts resulted from the Project									
8b.8.1.7  8b.8.1.8	<ul> <li><u>Additional Enhancement / Precautionary</u> <u>Measures</u></li> <li>Artificial Reefs (ARs) are proposed to be deployed within the proposed marine park under this Project as an enhancement measure for the marine habitats. This enhancement feature would bring positive impacts to the previously identified important spawning and nursery ground for fisheries resources.</li> <li><i>Release of Fish Fry at Artificial Reefs</i></li> <li>Release of fish fry has been proposed under this Project. The proposed deployment of ARs within the proposed marine park would provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD.</li> </ul>	Within the proposed marine park in the waters between Soko Islands and Shek Kwu Chau	Project Propone	ent					EIAO-TM	N/A

\* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Imple	ementa	ation S	tages*	Relevant	Implementation Status and Remarks
EIA Ref				Des	С	0	Dec	Legislation and Guidelines	
S10b.10 MLVC- 01	Grass-hydroseeded bare soil surface and stock pile area	Work site / During construction phase	Contractor		~				N/A
S10b.10 MLVC-02	<ul> <li>Landscape Design</li> <li>1) Early planting using fast grow trees and tall shrubs at strategic locations within site as buffer to block view corridors to the site from the VSRs, and to locally screen haul roads, excavation works and site preparation works.</li> </ul>	Work site / During design & construction phases	Contractor	✓	~				N/A
	2) Use of tree species of dense tree crown to serve as visual barrier.								
	3) Hard and soft landscape treatment (e.g. trees and shrubs) of open areas within development to provide a background for the outdoor containers from open view, shade and shelter, and a green appearance from surrounding viewpoints.								
	4) Planting strip along the periphery of the project site.								
	5) Selected tree species suitable for the coastal condition.								

## Table B.7 Implementation Schedule for Landscape and Visual Measures for the IWMF at the artificial island near SKC

	Environmental Protection Measures / Mitigation Measures	Location / Implementa Timing Agent	Implementation	Implementation Stages			Stages*	Relevant	Implementation
EIA Ref			-	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
S10b.10 MLVC-03	Shoreline	Work site / During construction phase	Contractor		✓				N/A

	Environmental Protection Measures / Mitigation Measures		Implementation	Imple	ementa	ation S	Stages*	Relevant Legislation and Guidelines	Implementation Status and Remarks
EIA Ref		Location / Timing	Agent	Des	С	0	Dec		
S10b.10 MLVC-04	<ul> <li><u>Greening Design (Rooftop &amp; Vertical Greening)</u></li> <li>1) Implementation of rooftop and vertical greening (vertical building envelope) along the periphery of each building block to increase the amenity value of the work, moderate temperature extremes and enhance building energy performance. The greening appearance of the building shall enhance its visual harmony with the natural surroundings as well as reduce the apparent visual mass of the structure.</li> </ul>		Contractor		~				N/A
	<ol> <li>Sufficient space between concrete enclosure and stack to minimize heat transfer.</li> </ol>								
	<ol> <li>Introduction of landscape decks at the stack to further enhance the overall natural and green concept unique for this site.</li> </ol>								

EIA Ref	Environmental Protection Measures / Mitigation Measures		Implementation Agent	Imple	ementa	tion S	stages*	Relevant Legislation and Guidelines	Implementation Status and Remarks
		Location / Timing		Des	С	0	Dec		
S10b.10 MVC-01	<ul> <li><u>Visual Mitigation and Aesthetic Design</u></li> <li>1) Use of natural materials with recessive color to minimize the bulkiness of the building.</li> <li>2) Adoption of innovative aesthetic design to the chimney to minimize or visually mitigate the massing of the chimney so as to reduce its visual impact to the surroundings.</li> <li>3) Color of the chimney in a gradual changing manner to match with the color of the sky.</li> <li>4) Provision of observation deck for public enjoyment at the top of the chimney to diminish the feeling of chimney.</li> <li>5) Provision of sky gardens between the two stacks to allow additional greening for enhancing the aesthetic quality. Maintenance access (elevator and staircase) from the ground floor to the</li> </ul>	Structures in IWMF / During design & constructio n phases	Contractor		✓			Guidelines	N/A
S10b.10	<ul> <li>sky gardens will be provided to allow maintenance of the sky gardens.</li> <li>6) Integration of the visitor's walkway with different material façade design of incinerator plant to enhance the aesthetic quality.</li> </ul>	Work site /			<b>√</b>				Implemented
MVC-02	Control of the security floodlight for construction areas at night to avoid excessive glare to the surrounding receiver.	During construction phase	Contractor						implementeu

	Environmental Protection Measures / Mitigation Measures		Implementation	Imple	ementa	tion S	Stages*	Relevant	Implementation
EIA Ref		Location / Timing	Agent	Des	С	0	Dec	Legislation and Guidelines	Status and Remarks
S10b.10 MVC-03	Optimization of the construction sequence and construction programme to minimize the duration of impact.	Work site / During design & construction phases	Contractor	~	✓				Implemented
S10b.10 MVC-04	Storage of the backfilling materials for site formation & construction materials / wastes on site at a maximum height of 2m, covered with an impermeable material of visually un-obtrusive material (in earth tone).	Work site / During construction phase	Contractor		~				N/A
S10b.10 MVC-05	Reduction of the number of construction traffic at the site to practical minimum.	Work site / During construction phase	Contractor		✓				Implemented
S10b.10 MLVO-01	Planting Maintenance Provision of proper planting maintenance and replacement of defective plant species on the new planting areas to enhance aesthetic and landscape quality.	Project site / During Operation phase	Contractor			~			N/A
S10b.10 MVO-01	Environmental Education Centre Development of an Environmental Education Center, in which regular exhibitions and lectures to promote environmental awareness and waste reduction concept would be provided, as a part of the IWMF for the general public to alleviate negative public perceptions of the development.	Project site / During Operation phase	Contractor			V			N/A
S10b.10 MVO-02	<u>Control of Light</u> Control the numbers of lights and their intensity to a level that is good enough to meet the safety requirements at night but not excessive.	Project site / During Operation phase	Contractor			~			N/A

Keppel Seghers – Zhen Hua Joint Venture

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*DesCODec		Relevant Legislation and Guidelines	Implementation Status and Remarks	
S10b.10 MVO-03	<u>Control of Operation Time</u> Minimization of the frequency of waste transportation to practical minimum (e.g. limit the reception of MSW from 8 am to 8 pm)	phase	Contractor		<b>~</b>			N/A

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning