Annex B

Environmental Mitigation Implementation Schedule

Annex B Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When to implement the measure? (1) D C O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
Air Quali	ity - Cons	truction Phase						
4.8.1	AQ1	Blasting	To minimise	Blasting area	SENTX	✓	Air Pollution Control	Not applicable.
		• The area within 30m of the blasting area will be wetted prior to blasting.	potential dust nuisance	and 30m of blasting area	Contractor		(Construction Dust) Regulations	Blasting is not required in the latest landfill design
		 Blasting will not be carried out when the strong wind signal or tropical cyclone warning signal No. 3 or higher is hoisted, unless this is with the express prior permission of the Commissioner of Mines. 						C
		 loose material and stones in the Site will be removed prior to the blast operation 						
		 During blasting, blast nets, screens and other protective covers will be used to prevent the projection of flying fragments and material resulting from blasting 						
4.8.1	AQ2	Rock Drilling	To minimise	Rock drilling	SENTX	✓	Air Pollution Control	Not applicable. Rock
		 Watering will be carried out at the rock drilling activities to avoid fugitive dust emissions. 	potential dust nuisance	area	Contractor		(Construction Dust) Regulations	drilling is not required in the latest landfill design
4.8.1	AQ3	Site Access Road	To minimise	Main haul	SENTX	✓	Air Pollution Control	Implemented

⁽¹⁾ D=Design; C=Construction; O/R=Operation/Restoration; A=Aftercare

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement	When the me	asure?	1)	What requirements or standards for the	Implementation Status and Remarks
			Measure & Main Concerns to address		the measure?	D C	. 0/1	R A	measure to achieve?	
		The main haul road will be kept clear of dusty materials or sprayed with water.	potential dust nuisance	road	Contractor				(Construction Dust) Regulations	
		• The main haul road will be paved with aggregate or gravel.							HKAQO and EIAO- TM Annex 4	
		• Vehicle speed will be limited to 10kph.								
4.8.1	AQ4	Stockpiling of Dusty Materials	To minimise	All	SENTX	✓	,		Air Pollution Control	Reminder was given to
		 Any stockpile of dusty materials will be covered entirely by impervious sheeting 	potential dust nuisance	construction works area	Contractor				(Construction Dust) Regulations	the contractor
		or placed in an area sheltered on the top and three sides or sprayed with water so as to ensure that the entire surface is wet.							HKAQO and EIAO- TM Annex 4	
4.8.1	AQ5	<u>Loading, unloading or transfer of dusty</u> <u>materials</u>	To minimise potential dust nuisance	All construction works area	SENTX Contractor	✓	•		Air Pollution Control (Construction Dust) Regulations	Implemented
		 All dusty materials will be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty material wet. 	nuisance	works area					HKAQO and EIAO- TM Annex 4	
4.8.1	AQ6	Site Boundary and Entrance	To minimise	Site boundary	SENTX	✓	•		Air Pollution Control	Not applicable
		• Where a site boundary adjoins a road, street, service lane or other area accessible	potential dust nuisance	and entrance	Contractor				(Construction Dust) Regulations	
		to the public, hoarding of height not less than 2.4m from ground level will be provided along the entire length of that portion of the site boundary except for the site entrance or exit.							HKAQO and EIAO- TM Annex 4	
4.8.1	AQ7	Excavation Works	To minimise	All	SENTX	✓	•		Air Pollution Control	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement		implen ure? ⁽¹⁾	nent	What requirements or standards for the	Implementation Status and Remarks
	Kei	witigation weasures	Measure & Main Concerns to address	the Measures	-	C	O/R	A	measure to achieve?	Status and Remarks
		Working area of any excavation or earth moving operation will be sprayed with water immediately before, during and immediately after the operation so as to ensure that the entire surface is wet.	potential dust nuisance	construction works area	Contractor				(Construction Dust) Regulations HKAQO and EIAO- TM Annex 4	
4.8.1	AQ8	 Building Demolition The area where the demolition works are planned to take place will be sprayed with water immediately prior to, during and immediately after the demolition activities. Any dusty materials remaining after a stockpile is removed will be wetted with water and cleared from the surface of 	To minimise potential dust nuisance	All construction works area	SENTX Contractor	√			Air Pollution Control (Construction Dust) Regulations HKAQO and EIAO- TM Annex 4	Implemented
4.8.1	AQ9	roads or street. Construction of the Superstructure of Building • Effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground level up to the highest level of the scaffolding.	To minimise potential dust nuisance	All construction works area	SENTX Contractor	✓			Air Pollution Control (Construction Dust) Regulations HKAQO and EIAO- TM Annex 4	Implemented
4.8.1	AQ10	Should a stone crushing plant be needed on site, the control measures recommended in the Best Practicable Means Requirement for Mineral Works (Stone Crushing Plants) BPM 11/1 should be implemented.	To minimise potential dust nuisance	Stone crushing plant/ construction phase	SENTX Contractor	✓			Best Practicable Means Requirement for Mineral Works (Stone Crushing Plants) BPM 11/1	Not applicable. Stone crushing plant is not required in the latest landfill design

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the mea	o implement sure? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
4.8.1	AQ11	Good site practices such as regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke emissions and to minimize gaseous emissions.	To minimise potential dust nuisance	All construction works area	SENTX Contractor	✓		HKAQO and EIAO- TM Annex 4	Implemented
4.10.1	AQ12	Dust monitoring once every 6 days	Ensure the dust generated from the project meets the air quality requirement	At monitoring locations shown in <i>Figure 3.2a</i>	SENTX Contractor	✓		HKAQO and EIAO- TM Annex 4	Implemented
Air Quali	ty - Oper	ation, Restoration and Aftercare Phases							
4.8.2	AQ13	Odour • Enclosing the weighbridge area	To minimise odour nuisance	Weighbridge area	SENTX Contractor	✓	✓	EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste only which is significantly less odorous, enclosing the weighbridge area is not necessary
4.8.2	AQ14	• Providing a vehicle washing facility before the exit of SENTX and providing sufficient signage to remind RCV drivers to pass through the facility before leaving SENTX		Vehicle washing facility	SENTX Contractor	✓	✓	EIAO-TM Annex 4	Implemented
4.8.2	AQ15	Reminding the RCV drivers to empty the liquor collection sump and close the valve	To minimise odour nuisance	Tipping face	SENTX Contractor		✓	EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste

EIA Ref.	EM&A Ref	Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When to the meas D C	-		What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		before leaving the tipping face								only, which is relatively dry, the amount of liquor generated is expected to minimal
4.8.2	AQ16	8	To minimise odour nuisance	SENTX Site	SENTX Contractor		✓		EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste only, which is relatively dry, the amount of liquor generated is expected to minimal.
4.8.2	AQ17	Reminding operators to properly maintain their RCVs and ensure that liquor does not leak from the vehicles		SENTX Site	SENTX Contractor		✓		EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste only, which is relatively dry, the amount of liquor generated is expected to minimal.
4.8.2	AQ18	8	To minimise odour nuisance	SENTX Site	SENTX Contractor	✓	✓	✓	EIAO-TM Annex 4	Implemented
4.8.2	AQ19	Progressive restoration of the areas which	To minimise	SENTX Site	SENTX	✓	✓	✓	EIAO-TM Annex 4	Implemented

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EIA Ref.			nvironmental Protection Measures/	Objectives of the		Who to			o impl		-	Implementation Status and Remarks
	Ref	M	litigation Measures	Recommended Measure & Main Concerns to address	the Measures	implement the measure?		e me a	asure? O/I	R A	or standards for the measure to achieve?	Status and Remarks
			reach the finished profile (a final capping system including an impermeable liner will be put in place) and installation of a permanent landfill gas extraction system	odour nuisance		Contractor						
4.8.2	AQ20	•	Installing deodorizers along the site boundary adjacent to the ASRs	To minimise odour nuisance	SENTX Site boundary	SENTX Contractor			√	√	EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste only which is significantly less odorous, installation of deodorizers is not necessary.
4.8.2	AQ21	•	Erecting a vertical barrier, wall or structure softened by planting rows of trees/shrubs or landscape feature along the site boundary, particularly in the areas near the ASRs	To minimise odour nuisance	SENTX Site boundary	SENTX Contractor	✓		✓	✓	EIAO-TM Annex 4	Implemented
4.8.2 and SENTX latest design	AQ22	•	Maintaining the size of the active tipping face not greater than 1,200 m^2	To minimise odour nuisance	Active tipping face	SENTX Contractor			✓		EIAO-TM Annex 4	Implemented
4.8.2	AQ23	•	Promptly covering the MSW with soil or selected inert materials to control odour emissions	To minimise odour nuisance	Active tipping face	SENTX Contractor			✓		EIAO-TM Annex 4	Not Applicable. SENTX will not receive MSW.
4.8.2	AQ24	•	Maintaining the size of the special waste trench not greater than $6m (l) \times 2.5m (w)$	To minimise odour nuisance	Special waste trench	SENTX Contractor			✓		EIAO-TM Annex 4	Not Applicable. SENTX will not have

EIA Ref.	EM&A Ref	Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the meas	implement sure? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
									any special waste trench.
4.8.2 and SENTX latest design	AQ25	 Covering daily covered area with a tarpaulin sheet or 300mm of soil after the landfill operating hours 	To minimise odour nuisance	Daily covered area	SENTX Contractor		√	EIAO-TM Annex 4	Implemented
4.8.2	AQ26	8-1	To minimise odour nuisance	Special waste trench	SENTX Contractor		√	EIAO-TM Annex 4	Not Applicable. SENTX will not have any special waste trench.
4.8.2	AQ27	0 11 0	To minimise odour nuisance	Intermediate cover	SENTX Contractor		✓	EIAO-TM Annex 4	Implemented
4.8.2	AQ28	 Applying deodorizers or odour suppression agents to control odour emissions from the active tipping face and special waste trench, if any, through spraying or fogging equipment 	To minimise odour nuisance	Active tipping face and special waste trench	SENTX Contractor		✓	EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste only which is significantly less odorous, installation of deodorizers is not necessary. Moreover, SENTX will not have any special waste

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement	When to	-		What requirements or standards for the	Implementation Status and Remarks
			Measure & Main Concerns to address		the measure?	D C	O/R	A	measure to achieve?	
										trench.
4.8.2	AQ29	Providing a mobile cover with retractable or suitable opening to cover up the opening of the special waste trench except during waste deposition and a suitable odour removal unit. The mobile cover should be equipped with powered extraction and suitable odour removal unit for purifying the trapped gas inside the trench before release into the atmosphere	To minimise odour nuisance	Special waste trench	SENTX Contractor		✓		EIAO-TM Annex 4	Not Applicable. SENTX will not have any special waste trench.
4.8.2 and SENTX latest design	AQ30	Providing a thermal oxidizer for the leachate treatment plant	To minimise odour nuisance as a result of breakdown of thermal oxidizer	Leachate treatment plant	SENTX Contractor	✓	✓	√	EIAO-TM Annex 4	Implemented
4.8.2 and SENTX latest design	AQ31	• Enclosing all the leachate storage and treatment tanks (except for the Sequential Batch Reactor (SBR) or Membrane Bioreactor (MBR) tanks) and diverting the exhaust air from these tanks to a thermal oxidizer or flare to avoid potential odour emissions from the LTP	To minimise odour nuisance	Leachate treatment plant	SENTX Contractor	✓	✓	✓	EIAO-TM Annex 4	Implemented
4.8.2	AQ32	• Rescheduling of waste filling activities on- site by avoiding waste filling activities carrying out at the northern area of the site in the summer months between July to November	To minimise odour nuisance	SENTX Site	SENTX Contractor		√		EIAO-TM Annex 4	Not Applicable. As SENTX will receive construction waste only which is significantly less

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to	Location of the Measures	Who to implement the measure?	When to the mea	-	1	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
			address							odorous, rescheduling of waste filling activities is not necessary.
4.8.2 and SENTX latest design	AQ33	Dust, Gaseous Emission and LFG including Volatile Organic Compounds (VOCs) • Keeping the main haul road to the waste	To minimise dust nuisance	SENTX Site	SENTX Contractor		✓		HKAQO and EIAO- TM Annex 4	Implemented
4.8.2	AQ34	 filling area wet by regular watering; Compacting the exposed daily and intermediate covered areas well to avoid fugitive dust emission; 	To minimise dust nuisance	SENTX Site	SENTX Contractor		✓		HKAQO and EIAO- TM Annex 4	Implemented
4.8.2	AQ35	• Limiting the vehicle speed within SENTX site boundary;	To minimise dust nuisance	SENTX Site	SENTX Contractor		✓		HKAQO and EIAO- TM Annex 4	Implemented
4.8.2	AQ36	 Providing vehicle washing bay to avoid vehicles carrying dust to public roads; 	To minimise dust nuisance	SENTX Site	SENTX Contractor		✓		HKAQO and EIAO- TM Annex 4	Implemented
4.8.2	AQ37	• Switching off the engine when the diesel- driven equipment is idling;	To minimise gaseous emissions	SENTX Site	SENTX Contractor		✓	✓	-	Implemented
4.8.2	AQ38	 Maintaining the construction equipment properly to avoid any black smoke emissions; 	To minimise gaseous emissions	SENTX Site	SENTX Contractor		✓	✓	-	Implemented
4.8.2	AQ39	Providing sufficient underground landfill gas collection system to capture the landfill gas	To minimise gaseous	SENTX Site	SENTX Contractor		✓	✓	EIAO-TM Annex 4	Implemented

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			Measure & Main Concerns to address		the measure?	D	С	O/R	A	measure to achieve?	
		generated as much as possible; and	emissions, including LFG and VOCs								
4.8.2	AQ40	Periodic inspections of the final cover should be undertaken to ensure that the capping layer is in good conditions at all times.	To minimise gaseous emissions, including LFG and VOCs	SENTX Site	SENTX Contractor			✓	✓	EIAO-TM Annex 4	Implemented
4.10.2	AQ41	Monitoring of ambient TSP once every 6 days	Ensure the dust emission from the project meets the dust requirement	shown in	SENTX Contractor		✓	✓		HKAQO and EIAO- TM Annex 4	Implemented
4.10.2	AQ42	Monitoring of ambient VOCs, ammonia and $\mathrm{H}_2\mathrm{S}$, quarterly	Ensure the gaseous emission from the project meets the air quality requirement	At monitoring locations shown in <i>Figure 11.3a</i>	SENTX Contractor			✓	√	Odour thresholds or 1% of Occupational Exposure Limit (OEL) as stipulated in the "UK Health and Safety Executive (HSE) EH 40/05 Occupational Exposure Limits", whichever is lower.	Implemented
4.10.2 and SENTX latest	AQ43	Monitoring of parameters for thermal oxidizer, flares and generator in accordance with requirements stated in Tables 3.4a, 3.5a and 3.6a of the EM&A Manual respectively.	Ensure the gaseous emission from the project meets the air	At the flares and thermal oxidizer stacks when they are	SENTX Contractor			✓	√ (1)	Emission Limits specified in Contract	Implemented

⁽¹⁾ For LFG flare and LFG generator only.

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address quality	Location of the Measures in operation	Who to implement the measure?	the 1		impler ure? ⁽¹⁾ O/R		What requirements or standards for the measure to achieve?	Implementation Status and Remarks
4.10.2	AQ44	To confirm design assumption of ammonia, it is recommended that the ammonia concentration in the flue gas of the thermal oxidiser be monitored during the commissioning stage of the thermal oxidiser. If required, an emission standard will be set for ammonia for the thermal oxidiser based on the monitoring results. If no ammonia is detected in the flue gas during the decommissioning stage, the monitoring of ammonia in the flue gas of the thermal oxidiser could be discontinued.	requirement	At the thermal oxidizer stack during commissioning . If ammonia is detected during commissioning stage, the monitoring will continue.	SENTX Contractor			✓		Emission Limits determined during commissioning stage	Implemented
4.10.2 and SENTX latest design	AQ45	Odour patrol in accordance with requirements stated in Table 3.7a of the EM&A Manual.	Ensure the odour emission from the project meets the odour requirement	•	SENTX Contractor			✓		EIAO-TM Annex 4	Implemented
4.10.2	AQ46	Monitoring of meteorological station, continuously	Collect site specific meteorological data	At meteorological station shown in <i>Figure 11.3a</i>	SENTX Contractor		✓	✓	✓	-	Implemented
Noise - Co	onstructio	on Phase									
5.7.1	N1	Adopt good site practice listed below: • Only well-maintained plant will be	To minimise potential construction	All construction	SENTX Contractor		✓			Noise Control Ordinance (NCO) and	Implemented

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		William Neusures	Measure & Main Concerns to address	the Medates	the measure?			measure to achieve?	Survivo una remana
		operated on-site and plant should be serviced regularly during the construction program;	noise nuisance.	works area				EIAO-TM Annex 5	
		 Silencers or mufflers on construction equipment should be utilized and will be properly maintained during the construction program; 							
		 Mobile plant, if any, will be sited as far from NSRs as possible; 							
		 Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or should be throttled down to a minimum; 							
		Plant known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and							
		 Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 							
5.8	N2	Weekly noise monitoring	Ensure noise generated from the project meets the criteria	At monitoring locations shown in Figure 6.4a	SENTX Contractor	✓	,	Noise Control Ordinance (NCO) and EIAO-TM Annex 5	Implemented

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Noise - O	peration/	Restoration Phase							
5.7.2	N3	Adopt good site practice listed below: • Choose quieter PME;	To minimise potential operational noise nuisance.	Within the SENTX Site	SENTX Contractor		✓	Noise Control Ordinance (NCO) and EIAO-TM Annex 5	Implemented
		 Include noise levels specification when ordering new plant items; 						-	Implemented
		• Locate fixed plant items or noise emission points away from the NSRs as far as practicable;						-	Implemented
		Locate noisy machines in completely enclosed plant rooms or buildings; and						-	Implemented
		Develop and implement a regularly scheduled plant maintenance programme so that plant items are properly operated and serviced. The programme should be implemented by properly trained personnel.						-	Implemented
5.8	N4	Weekly noise monitoring	Ensure noise generated from the project meets the criteria	At monitoring locations shown in Figure 6.4a	SENTX Contractor		✓	Noise Control Ordinance (NCO) and EIAO-TM Annex 5	Implemented
Water Qu	iality - Co	onstruction Phase							
6.8.1	WQ1	Construction Runoff • Exposed soil areas will be minimised to	To minimise	All	SENTX	✓		ProPECC PN 1/94	Implemented

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Green Valley Landfill Ltd.

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		reduce the contamination of runoff and erosion.	potential water quality impacts arising from the construction works	construction works area	Contractor					EIAO-TM Annex 6	
6.8.1	WQ2	• Perimeter channels will be constructed in	To minimise	All	SENTX	✓	✓			ProPECC PN 1/94	Implemented
		advance of site formation works and earthworks and intercepting channels will be provided for example along the edge of excavation.	potential water quality impacts arising from the construction	construction works area	Contractor					Water Pollution Control Ordinance (WPCO)	
		excavation.	works							EIAO-TM Annex 6	
6.8.1	WQ3	Silt removal facilities, channels and	To minimise	All	SENTX		✓			ProPECC PN 1/94	Deficiency of
		manholes will be maintained and the deposited silt and grit should be removed	potential water quality impacts	construction works area	Contractor					WPCO	mitigation measures but rectified by the
		regularly to ensure they are functioning properly at all times.	arising from the construction works							EIAO-TM Annex 6	Contractor
6.8.1	WQ4	Temporary covers such as tarpaulin will	To minimise	All	SENTX		✓			ProPECC PN 1/94	Implemented
		also be provided to minimise the generation of high SS runoff.	potential water quality impacts arising from the construction works	construction works area	Contractor					WPCO	
6.8.1	WQ5	The surface runoff contained any oil and	To minimise	All	SENTX		✓			ProPECC PN 1/94	Implemented
		grease will pass through the oil interceptors.	potential water quality impacts	construction works area	Contractor	Contractor	WPCO				
		merceptors.	arising from the construction works	orno urcu						EIAO-TM Annex 6	

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6.8.1	WQ6	All sewer and drains will be sealed to prevent building debris, soil etc from entering public sewers/drains before commencing any demolition works	To minimise potential water quality impacts arising from the demolition works	Infrastructure area at existing SENT Landfill	SENTX Contractor		✓		ProPECC PN 1/94 WPCO EIAO-TM Annex 6	Not applicable
6.8.1	WQ7	 During the excavation works for the twin drainage tunnels, the recycle water for cooling the cutter head of the TBM will be conveyed to the sedimentation tanks for treatment and most of the treated water will be reused, where applicable and as much as possible, in the boring operations. 	To minimise potential water quality impacts arising from the tunnel works	Tunnel boring sites	SENTX Contractor		✓		ProPECC PN 1/94 WPCO EIAO-TM Annex 6	Not applicable. Excavation of drainage tunnels is not required in the latest landfill design.
6.8.1	WQ8	The fuel and waste lubricant oil from the on-site maintenance of machinery and equipment will be collected by a licensed chemical waste collector.	To minimise potential water quality impacts arising from improper handling of fuel and oil	SENTX Site	SENTX Contractor		✓		ProPECC PN 1/94 WPCO Waste Disposal Ordinance (WDO)	Implemented
6.8.1	WQ9	Implementation of excavation schedules, lining and covering of excavated stockpiles	To minimise contaminated stormwater runoff from the SENTX Site	All construction works	SENTX Contractor		✓		ProPECC PN 1/94 WPCO EIAO-TM Annex 6	Implemented
6.13	WQ10	• Monitoring of surface water quality will be conducted on a regular basis as stated in the EM&A Manual.	To minimise potential water quality impacts on surface water arising from the	SENTX Site	SENTX Contractor		✓		WPCO Water-TM	Implemented

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			Measure & Main Concerns to address		the measure?	D (С	O/R A	measure to achieve?	
			construction works							
6.8.2	WQ11	Sewage Effluents								
		• Sufficient chemical toilets will be provided for the construction workforce.	To minimise potential water quality impacts arising from the sewage effluents	SENTX Site	SENTX Contractor	,	√		WPCO	Implemented
6.8.2	WQ12	 Untreated sewage will not be allowed to discharge into the surrounding water body. 	To minimise potential water quality impacts arising from the sewage effluents	SENTX Site	SENTX Contractor	,	√		WPCO WDO	Implemented
6.8.2	WQ13	A licensed waste collector will be employed to clean the chemical toilets on a regular basis.	To minimise potential water quality impacts arising from the sewage effluents	SENTX Site	SENTX Contractor	,	✓		WPCO WDO	Implemented
Water Qu	ality - O	peration/Restoration and Aftercare Phases								
6.9.1	WQ14	Surface Water Management							WPCO	Implemented
		• Inspections of the drainage system, sand traps, settlement ponds and surface water channels will be performed regularly to identify areas necessary for maintenance, cleaning or repair.	To minimise potential water quality impacts on surface water arising from the landfill operations.	SENTX Site	SENTX Contractor			✓	Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Inshore Waters (Water-TM)	

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			address							EIAO-TM Annex 6	
6.9.1	WQ15	Regular maintenance and replacement, if	To minimise	SENTX Site	SENTX		·	/		WPCO	Implemented
		required, of the HDPE liner will be	potential water quality impacts		Contractor					Water-TM	
		conducted to prevent degradation from affecting the performance of the capping system.	on surface water arising from the landfill operations.							EIAO-TM Annex 6	
5.9.1	WQ16	• Monitoring of surface water quality will be		SENTX Site	SENTX		•	· ,	/	WPCO	Implemented
		conducted on a regular basis as stated in the EM&A Manual.	potential water quality impacts on surface water arising from the landfill operations.		Contractor					Water-TM	
5.9.2 and	WQ17	Groundwater Management									Implemented
ENTX atest		• The groundwater management facilities	To minimise	SENTX Site	SENTX		•	· ,	/	WPCO	
lesign		including the groundwater monitoring wells will be inspected regularly during	potential water quality impacts		Contractor					Water-TM	
		routine groundwater monitoring programme.	on groundwater arising from the landfill operations.							EIAO-TM Annex 6	
6.9.2	WQ18	Monitoring of groundwater water quality	To minimise	SENTX Site	SENTX		•	,	/	WPCO	Implemented
		will be conducted on a regular basis as stated in the EM&A Manual.	potential water quality impacts		Contractor					Water-TM	
		Sacca in the Essect Manual.	on groundwater arising from the							EIAO-TM Annex 6	

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement	When		-		What requirements or standards for the	Implementation Status and Remarks
	Kei	wingation weasures	Measure & Main Concerns to address landfill operations.	the Weasures	the measure?		C	O/R		measure to achieve?	Status and Remarks
SENTX latest design	WQ19	 Sewage All sewage from the operation staff will be diverted to the LTP for treatment or public sewer, if available. 	To ensure proper handling of sewage	SENTX Site	SENTX Contractor			✓	✓	-	Implemented
6.9.3	WQ20	Leachate Management The leachate pump houses and related ancillary equipment will be inspected regularly and repairs, if necessary.	To minimise potential water quality impacts on surrounding water bodies arising from the landfill operations.	Leachate pump houses and related ancillary equipment	SENTX Contractor			✓	✓	WPCO Water-TM EIAO-TM Annex 6	Implemented
6.9.3	WQ21	For equipment such as pumps that require routine scheduled maintenance, the maintenance will be performed following manufacturer's recommended frequency.	To minimise potential water quality impacts on surrounding water bodies arising from the landfill operations.	Leachate pumps	SENTX Contractor			✓	✓	WPCO Water-TM	Implemented
6.9.3	WQ22	• Preventive maintenance will be implemented so that the possibility for forced shutdown during wet season will be kept to minimal.	To minimise potential water quality impacts on surrounding water bodies	Leachate treatment plant	SENTX Contractor			✓	✓	WPCO Water-TM EIAO-TM Annex 6	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address arising from the landfill operations.	Location of the Measures	Who to implement the measure?	When the me D	easu	-		What requirements or standards for the measure to achieve?	Implementation Status and Remarks
6.9.3	WQ23	• Emergency procedures or a contingency plan will be established when the LTP is malfunctioned.	To minimise potential water quality impacts on surrounding water bodies arising from the landfill operations.	Leachate treatment plant	SENTX Contractor			✓	✓	WPCO Water-TM EIAO-TM Annex 6	Implemented
6.9.3 and SENTX latest design	WQ24	• There will be sufficient redundancy in the system to handle the leachate flow even if one treatment train is down for maintenance. The leachate may be required to temporarily store within the landfill if the leachate storage lagoon are full and leachate cannot be transported to the LTP for treatment.	To minimise potential water quality impacts on surrounding water bodies arising from the landfill operations.	Leachate treatment plant	SENTX Contractor			✓	✓	WPCO Water-TM EIAO-TM Annex 6	Implemented
6.13	WQ25	Monitor the quality of effluent discharged from the LTP	To ensure discharge quality comply with WPCO requirement	Leachate treatment plant discharge point	SENTX Contractor			✓	✓	WPCO Water-TM	Implemented
6.10.1	WQ26	 Potential Leakage of Leachate Regular groundwater quality monitoring will be carried out to monitor the performance of the leachate containment system. 	To minimise potential water quality impacts on surrounding	SENTX Site	SENTX Contractor			✓	✓	WPCO Water-TM	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement			implen ure? ⁽¹⁾		What requirements or standards for the	Implementation Status and Remarks
		Witigution Wedsures	Measure & Main Concerns to address water bodies arising from the	THE MEASURES	the measure?		С	O/R		measure to achieve?	Status and Remarks
			landfill operations.								
6.10.1	WQ27	Maintenance and replacement of the capping system should be carried out, if	To minimise potential water	SENTX Site	SENTX Contractor			✓	✓	WPCO Water-TM	Implemented
		necessary, to prevent control infiltration and leachate seepage from any damaged cap.	quality impacts on surrounding water bodies arising from the leachate leakage.							EIAO-TM Annex 6	
6.10.1	WQ28	Maintaining control of the leachate level through extraction	To minimise potential water quality impacts on surrounding water bodies arising from surface breakout of leachate.	SENTX Site	SENTX Contractor			✓	√	WPCO Water-TM EIAO-TM Annex 6	Implemented
Waste Ma	ınagemen	t – Construction Phase									
7.6.1	WM1	All the necessary waste disposal permits are obtained prior to the commencement of construction work.	To ensure compliance with relevant statutory requirements	Before construction works commence	SENTX Contractor	✓	✓			WDO	Implemented
7.6.1	WM2	Management of Waste Disposal									
		The construction contractor will open a billing account with the EPD. Every construction waste or public fill load to be	To ensure that adverse environmental	SENTX Site	SENTX Contractor		√			WDO Waste Disposal (Charges for Disposal	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the me	to implement casure? ⁽¹⁾ CO/RA	or standards for the	Implementation Status and Remarks
		transferred to the Government waste disposal facilities such as public fill reception facilities,	•					of Construction Waste) Regulation;	
		sorting facilities, landfills will required a valid "chit" which contains the information of the account holder to facilitate waste transaction recording and billing to the waste						Works Bureau Technical Circular No.31/2004; and	
		producer. A trip-ticket system will also be established to monitor the disposal of construction waste at the SENT Landfill and to control fly-tipping. The trip-ticket system will be included as one of the contractual requirements and implemented by the contractor.						Annex 5 and Annex 6 of Appendix G of ETWBTC No. 19/2005)	
		A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established.							
7.6.1	WM3	Measures for the Reduction of Construction Waste Generation							
		Inert and non-inert construction waste will be segregated and stored in different containers	To reduce	SENTX Site	SENTX	✓	•	WDO	Deficiency of
		or skips to facilitate reuse or recycling of the inert waste and proper disposal of the non-inert construction waste. Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	construction waste generation		Contractor			EIAO-TM Annex 7	mitigation measures but rectified by the Contractor
7.6.1	WM4	Chemical Waste					,	IA/DO	
						√		WDO	

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When to implement the measure? (1) D C O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		The construction contractor will register as a chemical waste producer with the EPD. Chemical waste will be handled in accordance with the <i>Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i> .	To ensure proper handling of chemical waste	SENTX Site	SENTX Contractor		Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	Deficiency of mitigation measures but rectified by the Contractor
7.6.1	WM5	Sewage						
		An adequate number of portable toilets will be provided at the site to ensure that sewage	To ensure proper handling of	SENTX Site	SENTX Contractor	✓	WDO	Implemented
		from site staff is properly collected. The portable toilets will be desludged and maintained regularly by a specialist contractor.	sewage				EIAO-TM Annex 7	
7.6.1 and	WM6	General Refuse						
SENTX latest design		General refuse will be stored in enclosed bins separately from construction and chemical wastes. The general refuse will be delivered to a transfer station or other landfill, separately from construction and chemical wastes, on a daily basis to reduce odour, pest and litter impacts.	handling of	SENTX Site	SENTX Contractor	✓	WDO EIAO-TM Annex 7	Deficiency of mitigation measures but rectified by the Contractor
		Recycling bins will be provided at strategic locations to facilitate recovery of aluminium can and waste paper from the SENTX Site. Materials recovered will be sold for recycling.						
7.6.1	WM7	Staff Training						
		At the commencement of the construction	To ensure that	SENTX Site	SENTX	✓		Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to	Location of the Measures	Who to implement the measure?	the m	ıeasu	mplen ure? ⁽¹⁾ O/R	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		works, training will be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling.	address adverse environmental impacts are prevented		Contractor					
7.8	WM8	Environmental Monitoring & Audit Requirements Weekly audits of the waste management practices will be carried out during the construction phase. The audits examine all aspects of waste management including waste generation, storage, recycling, transport and disposal.	To ensure that adverse environmental impacts are prevented	SENTX Site	SENTX Contractor		✓		WDO	Implemented
Waste Ma	ınagemen	t – Operation/Restoration Phase								
7.6.2 and SENTX latest design	WM9	Sludge In case off-site disposal is required, the Contractor will ensure that sludge generated from the LTP will be delivered in closed container to other waste disposal facility e.g. other landfills or a sludge treatment facility, for proper disposal on a daily basis.	To ensure proper handling of sludge	SENTX Site	SENTX Contractor			✓	WDO EIAO-TM Annex 7	Implemented
7.6.2	WM10	Chemical Waste The construction contractor will register as a chemical waste producer with the EPD. Chemical waste will be handled in	To ensure proper handling of chemical waste	SENTX Site	SENTX Contractor			✓	WDO EIAO-TM Annex 7	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the m	easu	mplemen re? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.							Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	
7.6.2	WM11	<u>Sewage</u>								Moved to mitigation
		All sewage from the operation staff will be diverted to the LTP for treatment or public sewer, if available.	To ensure proper handling of sewage	SENTX Site	SENTX Contractor			✓	WDO EIAO-TM Annex 7	measure under water quality WQ19. It is a measure for water quality rather than waste management.
7.6.2 and	WM12	General Refuse								Implemented
SENTX latest design		General refuse will be stored in enclosed bins and disposed of at other landfills or transfer station on a daily basis to reduce odour, pest and litter impacts.	To ensure proper handling of general refuse	SENTX Site	SENTX Contractor			✓	WDO EIAO-TM Annex 7	
		Recycling bins will be provided at strategic locations to facilitate recovery of aluminium can and waste paper from the SENTX Site. Materials recovered will be sold for recycling.								
Landfill (Gas Hazar	rds - Design and Construction Phase								
8.6.2 and SENTX latest design	LFG1	Precautionary measures to be adopted by the contractors at the Project site and the adjacent development site within the landfill consultation zone are outlined in Paragraphs 8.3 to 8.49 of EPD's Landfill Gas Hazard Assessment Guidance Notes (the Guidance Note).	•	All construction works area	SENTX Contractor	,	/		Paragraphs 8.3 to 8.49 of EPD's Landfill Gas Hazards Assessment Guidance Note EIAO-TM Annex 7	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the n		implei ure? ⁽¹⁾ O/R		What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		Those precautionary measures applicable to the SENTX will be confirmed in the detailed Qualitative Landfill Gas Hazard Assessment to be submitted by the contractor.									
8.6.2	LFG2	Monitoring will be undertaken when construction works are carried out in confined space within the consultation zone with reference to the monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's <i>Guidance Note</i> will be followed.	To protect workers from landfill gas risk	Confined space within the construction works area	SENTX Contractor		✓				Implemented
		In the event of the trigger levels being exceeded, it is recommended that a person, such as the Safety Officer, is nominated, with deputies, to be responsible for dealing with any emergency which may occur due to landfill gas. In an emergency situation, the nominated person, or his deputies, shall have the necessary authority and shall ensure that the confined space is evacuated and the necessary works implemented for reducing the concentrations of gas. The appropriate organisations shall be contact.									
8.6.3	LFG4	Implementation of engineering measures according to Contract Specification requirements. These measures will include the placement of liner and installation of landfill gas management system to contain, manage and control landfill gas.	To protect workers from landfill gas risk	SENTX Site	SENTX Contractor	√	√	✓	✓	EIAO-TM Annex 7	Implemented

EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Recommended	Location of the Measures	Who to implement	When to implement the measure? (1)				What requirements or standards for the	Implementation Status and Remarks
		Measure & Main Concerns to address		_	D	С	O/R	A	measure to achieve?	
LFG5	Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's <i>Guidance Notes</i>).	To protect workers from landfill gas risk	Infrastructure Area	SENTX Contractor	✓	✓			EPD's Landfill Gas Hazards Assessment Guidance Note EIAO-TM Annex 7	Implemented
	installed at the edge of the waste slope									
Gas Hazaı	rds - Operation, Restoration and Aftercare									
LFG7	To train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected.	To protect workers from landfill gas risk	SENTX Site	SENTX Contractor			√	✓	Landfill Gas Hazards Assessment Guidance Note	Implemented
LFG8	A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. <u>Environmental Monitoring & Audit Requirements</u>	To protect workers from landfill gas risk	Within the SENTX and along the	SENTX Contractor			√	✓		Implemented
	Ref LFG5 LFG7	LFG5 Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. Gas Hazards - Operation, Restoration and Aftercare LFG7 To train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. LFG8 Environmental Monitoring & Audit	Ref Mitigation Measures LFG5 Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. Gas Hazards - Operation, Restoration and Aftercare LFG7 To train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. LFG8 Environmental Monitoring & Audit Requirements Recommended Measure & Main Concerns to address To protect workers from landfill gas risk	Ref Mitigation Measures Recommended Measure & Main Concerns to address LFG5 Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. Gas Hazards - Operation, Restoration and Aftercare LFG7 To train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. 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Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. Fas Hazards - Operation, Restoration and Aftercare LFG7 To train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. LFG8 Environmental Monitoring & Audit Requirements Requirements Recommented Main Concerns to address To protect workers from landfill gas risk To protect Within the SENTX SENT	Ref Mitigation Measures Recommended Measure & Main Concerns to address LFG5 Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. Landfill gas monitoring staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. LFG8 Environmental Monitoring & Audit Requirements Recommended Measure & Main (Concerns to address) Infrastructure SENTX Area Life Measures Main (Portoct workers from landfill gas risk) To protect workers from landfill gas risk SENTX Site workers from landfill gas risk To protect workers from landfill gas risk SENTX Contractor SENTX Site workers from landfill gas risk SENTX Contractor	Recommended Measures Main Concrus to address LFG5 Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. To protect workers from landfill gas migration. Prepare and all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. LFG8 Environmental Monitoring & Audit Requirements Recommended Measure & Main Concrus to the Measures the measure? Do Contractor and Contractor workers from landfill gas risk area and the measure? To protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas risk area and the protect workers from landfill gas area and the protect workers fro	Recommended Measure & Main Concrens to address LFG5 Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas, if any. Fast Hazards - Operation, Restoration and Aftercare LFG7 To train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter borholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. EFG8 Environmental Monitoring & Audit Requirements Requirements Recommended the Measure & Inhemeasure? 10	Recommended Measure & Main Concerns to address LFGS Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's Guidance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas; if any. Fig. 17 or train and ensure staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. A permanent gas monitoring system with alarm will be installed and operated in all occupied on-site buildings. ELFG8 [Pinvironmental Monitoring & Audit] To protect workers from the measure? 0 the me	Recommended Measures will be installed and the new infrastructure are to monitor the migration of landfill gas risk and active systems (examples are recommended in EIP'D's Guildance Notes). Landfill gas monitoring boreholes will be installed and operated in the prevaitions at all times when entering encautions at all times when entering encluding of off-site landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration. Prepare and implement emergency plan in case off-site landfill gas migration is detected. LFG8 Engineering measures to significant engineering measures include a downward of the engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area to monitor the migration of passive and active systems (examples are recommended in EIP'D's Guildance Notes). Landfill gas monitoring boreholes will be installed at the edge of the waste slope between the waste and the new infrastructure area to monitor the migration of landfill gas in the previous at all times when entering encoded spaces or plant rooms. Undertake regular monitoring of landfill gas at the perimeter boreholes to detect if there are any signs of off-site landfill gas migration is detected. A permanent gas monitoring system with a larm will be installed and operated in all occupied on-site buildings. LFG8 Environmental Monitoring & Audit To protect Within the SENTX of SENTX in S

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When to implement the measure? (1) D C O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		within the SENTX and along the SENTX boundary as required by the Contract Specification.		boundary			Landfill Gas Hazards Assessment Guidance Note	
Ecology -	Construc	tion Phase						
9.10.2	EC1	Measures to control construction runoff:	To minimise	All	SENTX	✓	EIAO-TM Annex 16	Implemented
		• Exposed soil areas will be minimised to	potential water quality impacts	construction works area	Contractor		ProPECC PN 1/94	
		reduce the contamination of runoff and erosion;	affecting ecological resources				Water Pollution Control Ordinance (WPCO)	
							EIAO-TM Annex 6	
		 To prevent stormwater runoff from washing across exposed soil surfaces, perimeter channels will be constructed in advance of site formation works and earthworks and intercepting channels will be provided for example along the edge of excavation; 					-	Implemented
		Silt removal facilities, channels and manholes will be maintained and the deposited silt and grit will be removed regularly to ensure they are functioning properly at all times;					-	Implemented
		Temporary covers such as tarpaulin will also be provided to minimise the generation of high suspended solids					-	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When the me D	easure?		What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		 runoff; The surface runoff contained any oil and grease will pass through the oil interceptors; and, 							-	Implemented
		Control measures, including implementation of excavation schedules, lining and covering of excavated stockpiles will be implemented to minimise contaminated stormwater run-off from the SENTX site.							-	Implemented
9.10.2	EC2	Good Construction Practice:								
and SENTX latest design		• Fences along the boundary of the SENTX Site will be erected before the commencement of works to prevent vehicle movements, and encroachment of personnel, onto adjacent areas.	To minimise potential ecological impacts arising from the Project	SENTX Site	SENTX Contractor	√	•		EIAO-TM Annex 16	Implemented
		• The work site boundaries will be regularly checked to ensure that they are not breached and that damage does not occur to surrounding areas.								
Ecology -	Operatio	n, Restoration and Aftercare Phases								
9.10.2	EC3	Measures for Controlling Leakage of Landfill Leachate Leachate will be contained within the SENTX Site by the proposed impermeable leachate containment system and collected by the	To minimise potential water quality impact affecting the	SENTX Site	SENTX Contractor		✓	✓	EIAO-TM Annex 16 WPCO Water-TM	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement			implen ure? ⁽¹⁾	nent	What requirements or standards for the	Implementation Status and Remarks
	Kei	whitigation weasures	Measure & Main Concerns to address	the Measures	-	D	С	O/R	A	measure to achieve?	Status and Remarks
		installation of drainage system to prevent potential migration of leachate to habitats in the vicinity.	ecological resources							EIAO-TM Annex 6	
9.10.2	EC4	Measures for Controlling Migration of Landfill Gas									Implemented
		Disturbance to habitat in the vicinity and associated wildlife due to migration of landfill gas will be prevented by proper management of the landfill gas generated from the SENTX. Ignition fires will be prohibited to occur within the boundary of the SENTX Site. Surface emission and offsite migration of landfill gas will be regularly monitored.	To minimise potential landfill gas migration affecting ecological resources	SENTX Site	SENTX Contractor			√	✓	EIAO-TM Annex 16	
9.10.3 and SENTX latest design	EC5	 The following compensation planting is recommended as the mitigation measures for the habitat affected due to the SENTX: Provision of 6 ha of mixed woodland planting to compensate the loss of shrubland; and 	Compensation of habitat loss due to the Project	SENTX Site	SENTX Contractor			✓	✓	EIAO-TM Annex 16	Implemented
		 Provision of a mosaic of grassland and shrubland in the remaining areas of the SENTX Site. Compensatory planting and restoration of the SENTX can be implemented progressively according to the filling plan of SENTX. 									
9.10.3	EC6	The mixture of grassland, shrubland and woodland habitats are recommended to diversify the habitats for supporting various wildlife in particular butterflies, birds and	To diversify habitats	SENTX Site	SENTX Contractor			✓	✓	EIAO-TM Annex 16	Implemented

EIA Ref.	EM&A Ref	Mitigation Measures	Objectives of the Location of Recommended the Measures		Who to implement	When to implement the measure? (1)				What requirements or standards for the	Implementation Status and Remarks
			Measure & Main Concerns to address		the measure?			O/R	A	measure to achieve?	
		herpetofauna and blend into the existing undisturbed ecological environment.									
9.10.3	EC7	Indigenous plant species of shallow root system, softwood in nature and adaptive to sea shore habitat are recommended to be used in the restoration plan, which can establish well in coastal area with exposure to strong wind and salt spray, with sand soil base. Taking consideration of the relative poor substrate and the difficulties of establishment of some native trees in Hong Kong, it is recommended to include approximately 20% of non-native tree species in the compensatory woodland. The non-native tree species can serve as a nurse species to facilitate the establishment of the native tree species, especially the shading, and it can be replaced by established native tree species progressively. Plant species can also make reference to food plants of butterfly species (in particularly butterfly species of conservation interests recorded within the	To enhance ecological value of the habitats	SENTX Site	SENTX Contractor			•		EIAO-TM Annex 16	Implemented
9.10.3	EC8	CWBCP). It is also recommended that a trial nursery for native plant species be set up to fine tone the planting matrix and management intensity of the recommended indigenous tree species for the restoration of the SENTX. It should be noted that native shrubs and tree species had been used for restoration of the existing SENT Landfill, native plant species that could not	To select the most suitable indigenous tree species for the SENTX	SENTX Site	SENTX Contractor	✓		✓	✓	EIAO-TM Annex 16	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement		imple ure? (1	ment	What requirements or standards for the	Implementation Status and Remarks
	KCI	Miligation Measures	Measure & Main Concerns to address	the Measures	the measure?	C	O/R		measure to achieve?	Surus unu Remurks
		successfully be established on the existing SENT Landfill should be reviewed before the preparation of the compensatory planting list. Special care and intensive management of native plant should be implemented in order to ensure proper establishment of the native plants.								
9.12.1	EC9	Environmental Monitoring & Audit Requirements The implementation of the ecological mitigation measures should be checked as part of the environmental monitoring and audit procedures during the construction period.	To ensure that adverse ecological impacts are prevented	SENTX	SENTX Contractor	✓	✓	✓	EIAO-TM Annex 16	Implemented
Landscap	e and Vis	ual - Construction Phase								
10.6.5	LV1	CM1 - The construction area and area allowed for the contractor's office, leachate treatment plant and laboratory areas will be minimised to a practical minimum, to avoid impacts on adjacent landscape.	To minimise the landscape and visual impacts	SENTX Site	SENTX Contractor	✓			EIAO-TM Annex 18 and ETWBC 3/2006	Implemented
10.6.5	LV2	CM2 - Topsoil, where identified, will be stripped and stored for re-use in the construction of the soft landscape works, where practical. The Contract Specification will include storage and reuse of topsoil as appropriate.	To minimise the landscape and visual impacts	All construction works area	SENTX Contractor	√			EIAO-TM Annex 18	Not applicable
10.6.5	LV3	CM3 - All existing trees at the edges of the landfill will be carefully protected during	To minimise the landscape and	Potential impacted area	SENTX Contractor	✓			EIAO-TM Annex 18 and ETWBC 3/2006	Not applicable

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the		implement oure? (1) O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		construction. Detailed Tree Protection Specification will be provided in the Contract Specification. Under this Specification, the Contractor will be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.	visual impacts							
10.6.5	LV4	CM4 - Trees unavoidably affected by the works will be transplanted, where necessary and practical. A detailed Tree Transplanting Specification will be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods will be allowed in the project programme.	To minimise the landscape and visual impacts	Potential impacted area	SENTX Contractor	✓	✓		EIAO-TM Annex 18 and ETWBC 3/2006	Implemented
10.6.5 and SENTX latest design	LV5	CM5 - Within 3 months of taking possession of the SENTX Site, the Contractor will plant advance screen planting of native species at Light Standard size at 1.5m centres along the High Junk Peak Trail so as to screen views of the Works from the trail. Tree planting locations will be agreed with AFCD. Works will be completed within 9 months of taking possession of the SENTX Site.	To minimise the landscape and visual impacts	At High Junk Peak Hiking Trail	SENTX Contractor		√		EIAO-TM Annex 18	Implemented
10.6.5	LV6	CM6 - The Contractor's office, leachate treatment plant and laboratory will be given an aesthetic treatment in earth tones to reduce their visual impact and albedo and blend	To minimise the landscape and visual impacts	Infrastructure area	SENTX Contractor	✓	√		EIAO-TM Annex 18	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the		o implemer sure? ⁽¹⁾ O/R A	or standards for the	Implementation Status and Remarks
10.6.5	LV7	them into the surrounding landscape. CM7 - The Contractor's office, leachate treatment plant and laboratory will be surrounded by a minimum of 5m wide and 0.75m high earth bund on the west and south sides planted with a dense screen of tree and shrub vegetation. Additional tree planting will be provided in unused spaces with thin infrastructure site, along access roads and in and around car parks. This will be supplemented with shrub planting, where appropriate.	To minimise the landscape and visual impacts	Infrastructure area	SENTX Contractor	✓	✓		EIAO-TM Annex 18 and ETWBC 7/2002	Not applicable
10.6.5	LV8	CM8 - Planting trials will be carried out in an on-site nursery prior to implementation of the first phase of restoration to establish the best planting matrix and management intensity of the recommended plant materials for the restoration.	landscape and	SENTX Site	SENTX Contractor		✓		EIAO-TM Annex 18	Implemented
11.4.1 and SENTX latest design	LV9	During the preparation of the detailed landscape design plan, the design submission will be audited against the recommendation proposed in the <i>ER Report</i> by the Registered Landscape Architect from the ET.	To ensure the implementation of mitigation measures proposed in this EIA Report	SENTX Site	SENTX Contractor/E T	✓	✓		EIAO-TM Annex 18	Implemented
Landscap	e and Visi	ual - Operation/Restoration Phase								
10.6.5 and SENTX	LV10	OM1 - Landfill materials will be covered with general fill material or tarpaulin sheet on a daily basis to reduce visual impact.	To minimise the landscape and visual impacts	Tipping area	SENTX Contractor			✓	EIAO-TM Annex 18	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the m	easu	nplement re? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
latest design										
10.6.5 and SENTX latest design	LV11	OM2 - Filling and restoration will be phased during the course of operations in a minimum of 4 phases, the restoration of each phase to commence immediately on the completion of filling in that phase.	To minimise the landscape and visual impacts	Tipping area	SENTX Contractor			✓	EIAO-TM Annex 18	Implemented
10.6.5	LV12	OM3 - Catch fences will be erected at the perimeter of the waste boundary, to ensure that all waste stays within the site and is not blown into surrounding areas.	To minimise the landscape and visual impacts	Tipping area	SENTX Contractor			✓	EIAO-TM Annex 18	Implemented
10.6.5	LV13	OM4 - All night-time lighting will be reduced to a practical minimum both in terms of number of units and lux level and will be hooded and directional.	To minimise the landscape and visual impacts	Tipping area	SENTX Contractor			✓	EIAO-TM Annex 18	Implemented
11.4.2 and SENTX latest design	LV14	The condition of the restoration plantation will be audited at monthly intervals by a Registered Landscape Architect from the ET.	To check the restoration plantation	SENTX Site	SENTX Contractor/E T			✓	EIAO-TM Annex 18	Implemented