4. Air Quality Impact

4.1 Introduction

4.1.1 During the construction phase, there will be potential dust impacts on existing sensitive receivers from the construction activities undertaken at the Project site. During operation phase, the air quality impacts arising from the proposed extension would be minimal. This section presents the assessments of dust impacts during the construction phase since operational air quality is not an issue on this Project.

4.2 Environmental Legislation, Policies, Plans, Standards and Criteria

4.2.1 The air quality impact assessment criteria make reference to the *Hong Kong Planning Standards and Guidelines* (HKPSG), the *Air Pollution Control Ordinance (Cap. 311)* (APCO), and *Annex 4* of the *Technical Memorandum on Environmental Impact Assessment Process* (EIA-TM).

4.2.2 The APCO provides powers for controlling air pollutants from a variety of stationary and mobile sources and encompasses a number of Air Quality Objectives (AQOs). Currently AQOs stipulate concentrations for a range of pollutants namely nitrogen dioxide (NO_2), sulphur dioxide (SO_2), total suspended particulates (TSP), respirable suspended particulates (RSP), carbon monoxide (CO), photochemical oxidants (O_3) and lead (Pb). The AQOs are listed in Table 4.1.

4.2.3 For construction dust, *Annex 4* of EIA-TM specifies a TSP limit in air averaged over a 1-hour period of 500 μg/m^3. The maximum acceptable TSP concentration averaged over a 24-hour period is 260 μg/m^3, as defined in the AQOs.

4.2.4 The HKPSG specifies buffer distances between sources of pollution and sensitive land uses to ensure acceptable air quality at the sensitive land uses. Examples of recommended buffer distances extracted from the HKPSG for relevant source and sensitive land use combinations are given in Table 4.2. The actual buffer distances required to avoid adverse air quality impacts associated with the construction site would be reviewed based on the findings of this assessment.

Table 4.1 Hong Kong Air Quality Objectives

Pollutant (Concentration in micrograms per cubic metre[1])	**Averaging Time**				
	1 hour[2]	**8 hours[3]**	**24 hours[3]**	**3 months[4]**	**1 year[4]**
Sulphur Dioxide (SO_2)	800	-	350	-	80
Total Suspended Particulates (TSP)	500[7]	-	260	-	80
Respirable Suspended Particulates (RSP)[5]		-	180	-	55
Nitrogen Dioxide (NO_2)	300	-	150	-	80
Carbon Monoxide (CO)	30000	10000	-	-	-
Photochemical Oxidants (as Ozone (O_3))[6]	240	-	-	-	-
Lead	-	-	-	1.5	-

Notes:

1 Measured at 298 K and 101.325 kPa.
2 Not to be exceeded more than three times per year.
3 Not to be exceeded more than once per year.
4 Arithmetic mean.
5 Respirable suspended particulates means suspended particulates in air with a nominal aerodynamic diameter of 10 micrometres or smaller.

6 Photochemical oxidants are determined by measurement of ozone only.
7 Not an AQO but is a criteria for evaluating air quality impacts as stated in Annex 4 of EIA-TM.

Table 4.2 HKPSG Recommended Buffer Distances

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	*Type of Road*		
	Trunk Road and Primary Distributor	>20m	Active and passive recreation uses
		3 - 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational uses
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational uses
		<5m	Passive recreational uses
	Under Flyovers	-	Passive recreational uses
Industrial Areas	Difference in Height between Industrial Chimney Exit and the Site		
	<20m	>200m	Active and passive recreational uses
		5 - 200m	Passive recreational uses
	20 - 30m (*)	>100m	Active and passive recreational uses
		5 - 100m	Passive recreational uses
	30m - 40m	>50m	Active and passive recreational uses
		5 - 50m	Passive recreational uses
	>40m	>10m	Active and passive recreational uses
Construction and earth moving activities	-	<50m	Passive recreational uses
		>50m	Active and passive recreational uses

Extracted from Table 3.1 (Guidelines on Usage of Open Space Site) of the HKPSG

Remarks: (a) The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.
(b) Amenity areas are permitted in any situation.

4.2.5 The *Air Pollution Control (Construction Dust) Regulation* specifies processes that require special control. Contractors and site agents are required to inform EPD and adopt dust reduction measures while carrying out “Notifiable Works” or “Regulatory Works” as defined under the regulation. Works relevant to this Project include site formation.

4.3 Description of Environment

4.3.1 The study area is classified as a rural area as less than 50% of an area within 3 km radius from the source with land use types including industrial, commercial and residential uses. Kau Sai Chau is an island with only one village – Kau Sai Chau Village in the south of the island while the existing public golf course is at the northern portion.

4.3.2 Existing air quality in the area is influenced by emissions from:

- Diesel powered traffic on Kau Sai Chau is limited to maintenance vehicles and a small fleet of transfer buses running between pier and administration building. Other vehicles and golf carts that are battery powered.; and

- traffic emission and to a much lesser extent industrial emission from Sai Kung 5Km distant.

4.3.3 As no monitoring station for particulates is set up by EPD at Kau Sai Chau, five years average pollutants concentrations from Sha Tin Air Quality Monitoring Station were predicted and employed as background concentrations for the air quality impact assessment. The Sha Tin Station is about 10km from Kau Sai Chau and shows similar characteristics with Sai Kung and Kau Sai Chau. Although another station, Tap Mun Air Quality Monitoring Station would also have similar characteristics as that of Kau Sai Chau, the annual average TSP concentrations were not available and therefore not adopted in this study. The latest published air quality monitoring data at Sha Tin Station are tabulated in Table 4.3.

Table 4.3 Five Year Average Pollutants Concentrations at EPD's Sha Tin Station

Pollutant	Annual Average (μg/m^3)					5 Years Average Concentration (μg/m^3)
	1999	2000	2001	2002	2003	
TSP	76	58	67	62	78	68.2

4.4 Air Sensitive Receivers

4.4.1 Air sensitive receivers (ASRs) were identified within the study area (i.e. 500m from the site boundary). They are mainly the existing golf course, administration building and the maintenance building of the golf course. In view of the remoteness of Kau Sai Chau, some other ASRs further away from the Project were also selected for the assessment. They include villages and a campsite. Table 4.4 summarizes the details of the identified ASRs. Locations of the representative assessment points for each ASR are also shown in Figure 4.1.

Table 4.4 Summary of Identified Air Sensitive Receivers

ASR ID	Name	No. of Storey	Base Elevation (mPD)	Distance from the Nearest Work Site Boundary (Approximate, m)
YTTV	Yim Tin Tsai Village	3	+6.8	1300
LLC	Louisa Landale Campsite	2	+17.9	980
GCAB1	Public Golf Course Administration Building	2	+35.0	0[(a)]
GCAB2	Maintenance Building	2	+33.7	0[(a)]
PGC	Public Golf Course	-	various	0[(b)]
KSCV	Kau Sai Chau Village	3	+6.0	1060

Remarks: (a) ASRs are within the proposed work site boundary.
(b) The existing public golf course is right next to the proposed work site boundary.

4.5 Assessment Methodology

Construction Phase

4.5.1 In order to assess the potential dust impacts associated with the construction of the proposed Project, potential sources of air emissions from the construction sites were identified. Dust mitigation measures stipulated in the *Air Pollution Control (Construction Dust) Regulation* which are relevant to the associated construction activities were then identified and presented in this report.

4.5.2 In this assessment, the dispersion of TSP arising from the above construction activities has been modeled using the Fugitive Dust Model (FDM). Hourly meteorological data as recorded at the Sai Kung Weather Station in year 2003 was obtained from the Hong Kong Observatory for modeling the 1-hour and 24-hour average TSP concentrations at the identified ASRs close to the construction site. In addition, contours of the maximum 1-hour TSP concentrations were produced to show the extent of the dust impact. The height of grid receivers used for the analysis was 1.5 meters above local ground level, which is the average height of human breathing zone. As most of the dust will be generated at ground level and the study area is flat, this should represent the worse-case situation.

4.5.3 For the earthworks at the proposed third golf course, the estimated total cut and fill volumes are 530,000 m^3 and 530,000 m^3 respectively. No surplus of material is expected during the construction phase. Crushing activities are anticipated to be undertaken during the construction works. Even there will probably be an on-site concrete batching plant as proposed by the Contractors.

4.5.4 We have adopted the tentative construction programme that will start from February 2006 to February 2007 and details are shown in Appendix 4.1. Earthwork will be carried out in phases at different areas as shown in Figure 4.2. Based on the construction programme, the earthworks will be carried out separately in three groups: Group A includes Hole 11, 12, 13, 14, 15 and 16 with a cut-and-fill volume of 2200 m^3/day. Group B includes Hole 3, 4, 5, 6, 7, 8 and 9 with a cut-and-fill volume of 3520 m^3/day. Group C includes Hole 1, 2, 10, 17 and 18 with a cut-and-fill volume of 4174 m^3/day. The approximate earthworks time of Group A, B and C is approximately 100 days, 106 days and 108 days respectively and the approximate cut-and-fill area is 13.7 ha, 15.6 ha and 20.8 ha respectively.

4.5.5 The quantity of dust generated from construction is a function of the size of the construction area and the intensity of activity. For the dust calculations for cut-and-fill operations and haul road constructions, the emission factor as suggested by the *Section 13.2.3.3 of USEPA's Compilation of Air Pollutant Emission Factors, 5th edition, 1995* (AP-42) for general heavy construction operations including land clearing, ground excavation, cut and fill operations, the construction of the facilities and crushing activities was adopted. Also the emission factor for industrial wind erosion described in *Section 13.2.5* of AP-42 was employed for considering the wind erosion from the inactive works areas during the nighttime.

4.5.6 According to *Section 11.12* of AP-42, the emission factor for mixer loading was adopted for estimating the emission from the operations of the anticipated concrete batching plant. The maximum daily production rate will be 100 m^3/day. The other emissions such as aggregate transfers, sand transfers, cement unloading to elevated storage silo, cement supplement unloading to elevated storage silo (pneumatic), weigh hopper loading and truck loading from the concrete batching plant were assumed to be absorbed by other emission factors such as heavy construction activities and emission from unpaved access roads.

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4.5.7 To determine the emissions from the access roads, the emission factors in *Sections 13.2.1 and 13.2.2* of AP-42 were referred to paved and unpaved roads respectively. The daily excavation rate for Group A, B and C will be approximately 1100 m^3/day, 1760 m^3/day and 2087 m^3/day respectively. The maximum number of trucks on the site will be 24 with a capacity of 8m^3 each. As the access road will be round trip travelling, the number of trips required for handling the excavated materials for Group A will be 2 x 1100 m^3/day / 8m^3/veh / 10 hours/day = 28 vehicle trips per hour. Similarly, the number of trip required for Group B and C will be 44 trip/hr and 52 trip/hr respectively. In most cases, the excavated materials will be directly delivered to the fill areas to avoid double handling and temporary storage. In order to model conservatively, a 20% mark-up on hourly trip for stockpile handling is assumed and 52 x 1.2 = 62.4 vehicles travelled per hour on each active unpaved roads within the construction site have been adopted. In addition, the access road to the existing public pier is

considered as a paved access road. The round trip traffic will be about 6 vehicles per hour as the schedule of the ferry shuttling to and from Sai Kung Public Pier is in a 20-minute interval.

4.5.8 As the dust arising activities from the Project construction will be mainly excavation and filling, crushing activities, wind erosion, operation of concrete batching plant and traffic dust on haul roads, the selected emission factors are conservative. Appendix 4.2 provides the detailed calculation of emission factors for different dust emission activities.

4.5.9 The tentative construction programme is presented in Appendix 4.1. The details description of works is listed in Table 4.5.

Table 4.5 Description of Construction Works at the Proposed Third Golf Course

Section	ID	Work	Work description
Section 1 – Construction work in portion 1	S10500200	Construction of low level intake & pumping station	mainly formworks and steel works and concreting
	S10500400	Construction of gravity drain	minor excavation
Section 2 - Construction work in portion 2	S20400200	Excavation and construction of desalination plant	Sand dredging in the sea and mainly formworks and steel works and concreting
	S20400300	Construct transformer/switch room	mainly formworks and steel works and concreting
	S20400400	Construction of storage area	-
Section 5		Establishment works	Planting
Section 9 – Construction Works in Portion 5	S91101010	Construction of slope works	Minor cut and fill along haul road
	S91101050	Construction of halfway house & rain shelter	Concreting
	S91101100	Earth/slope construction works	Major cut and fill
	(S91101350, 490, 590, 690, 790, 890)	Construction of golf course no.11-16	Minor grading, landscape, planting
	(S91101350, 115, 290, 390, 490, 590, 690)	Construction of golf course no.3-9	Minor grading, landscape, planting
	(S91303125, 250,390, 490, 590)	Construction of golf course no.1,2,10,17,18	Minor grading, landscape, planting
Slope restoration	S92300400	Slope restoration works	Soil nail, slope reinstatement

4.5.10 According to the programme in Appendix 4.1 and Table 4.5, the major dusty activities are summarized as follows:-

- Construction of haul road (ID: P00000180);
- Excavation & construction of irrigation Lake 1D (ID: S20401300); and

- Earth/slope construction works (ID: S91101100, S91401010; S91303100).

4.5.11 In the FDM model inputs, three worst scenarios have been considered according to the programme of dusty activities. Scenario A includes the dust sources from Group A activities plus the constructions of haul roads and Lake 1D, wind erosion of the whole site, operation of the proposed concrete batching plant and traffic dust from haul roads within work areas for Scenario A. Scenario B includes the dust sources from Group B activities plus the constructions of Lake 1D, wind erosion of the whole site, operation of the concrete batching plant and traffic dust from haul roads within work areas for Scenario B. Scenario C includes the dust sources from Group C activities plus wind erosion in the whole sites, operations of concrete batching plant and traffic dust from haul roads within work areas for Scenario C. The summary of these scenarios are presented in Table 4.6.

Table 4.6 Description of Worst Scenario

Scenario	Dust Source	Work ID	Emission Factor
A	Construction of haul roads	P00000180	Haul road construction#
	Excavation & construction of irrigation Lake ID	S20401300	Heavy construction
	Earth/slope construction works at Hole 11, 12, 13, 14, 15 and 16	S91101100	Heavy construction
	Operation of concrete batching plant	-	Concrete batching plant
	Traffic at haul roads (within the area of Hole 11, 12, 13, 14, 15 and 16)	-	Unpaved road
	Traffic at existing road	-	Paved road
	Wind erosion at whole site	-	Wind erosion
B	Excavation & construction of irrigation Lake ID	S20401300	Heavy construction
	Earth/slope construction works at Hole 3, 4, 5, 6, 7, 8 and 9	S91401010	Heavy construction
	Operation of concrete batching plant	-	Concrete batching plant
	Traffic at haul roads (within the area of Hole 3, 4, 5, 6, 7, 8 and 9)	-	Unpaved road
	Traffic at existing road	-	Paved road
	Wind erosion at whole site	-	Wind erosion
C	Earth/slope construction works at Hole 1, 2, 10, 17, 18 and S10	S91303100	Heavy construction
	Operation of concrete batching plant	-	Concrete batching plant
	Traffic at haul roads (within the area of Hole 1, 2, 10, 17, 18 and S10)	-	Unpaved road
	Traffic at existing road	-	Paved road
	Wind erosion at whole site	-	Wind erosion

Remarks: The emission factor for heavy construction was adopted in haul road construction. However, as a line source emission for haul road construction, adjustments were made in order to convert an area source to a line source by multiplying the road width. Details calculations are shown in Appendix 4-2.

4.5.12 For the cut-and-fill operations, maximum two holes will be worked simultaneously. The average

concurrent working area for cut-and-fill operations in Group A will be 137000 m^2/100 days = 1370 m^2 /day. Similarly, the concurrent working for area of cut-and-fill operations in Group B and C will be 1472 and 1926 m^2/ day. For a conservative design in the FDM model, a concurrent working area of 4000 m^2 was assumed in two holes (2000m^2 each, which is about twice as actual) where are closest to the ASRs, i.e. Hole 11, 12 for Group A; Hole 7, 8 for Group B; and Hole 18 and S10 (extension of existing golf course) for Group C.

4.5.13 The five years average TSP concentration as presented in Table 4.3 was estimated to be 68.2 µg/m^3. For the purpose of this assessment, this value has been used as an indication of the future TSP background concentration.

Operational Phase

4.5.14 No quantitative assessment for the operational air quality arising from the Project is required.

4.6 Impact Evaluation

Construction Phase

4.6.1 The principal potential source of air quality impact arising from the construction of the proposed works is fugitive dust. The exposed areas, once formed into designed level, will be immediately covered with grass turfs to prevent dust and erosion.

4.6.2 Potentially dusty construction activities include the site formation of the new golf course extension and the construction of a temporary jetty (eastern side) and desalination plant near existing pier. The main dust generation sources will be earthwork. Other works are not expected to generate any significant level of dust.

4.6.3 In addition, the construction activities near the Study area have been reviewed. Site formation, which is the main dust generating activity of the realignment of Hiram's Highway (Ho Chung – Clear Water Bay) Section was complete. Road surfacing and flyover construction is being carried out during this Investigation Study. Another possible dust generating project is the reclamation at Marina Cove by private developer. Although the details of the reclamation works are not yet available as to whether this project will be concurrent with the Kau Sai Chau project. These activities are, however, separated from Kau Sai Chau by more than 6 km distance over marine waters. Further, with a predominant north- south wind direction within the Inner Port Shelter, dust from Ho Chung or Clear Water Bay peninsula is unlikely to reach Kau Sai Chau. Potential concurrent dust impact is therefore negligible.

4.6.4 The construction dust impacts have been predicted using FDM model. The sample input/output files for the FDM modeling are given in Appendix 4.3. The modeling results with background are summarized in Table 4.7.

Table 4.7 Unmitigated Construction Dust Concentrations at the Representative ASRs (Background Included)

Height	ASR	Scenario A		Scenario B		Scenario C	
		1-hr	24-hr	1-hr	24-hr	1-hr	24-hr
1.5m	YTTV	**547.07**	96.83	306.47	85.42	433.08	91.74
	LLC	**691.53**	106.63	384.83	92.67	**542.65**	94.41
	GCAB1	**1503.23**	248.98	**1310.56**	248.32	**2334.39**	**344.68**

	GCAB2	**3285.71**	**434.37**	**2887.85**	**401.73**	**3184.12**	**530.68**
	KSCV	**503.44**	112.00	269.35	85.38	365.57	87.86
10m	YTTV	**567.36**	98.62	310.19	85.91	442.33	93.00
	LLC	**705.54**	107.59	384.27	92.88	**540.75**	95.18
	GCAB1	**1192.66**	207.64	**1024.49**	206.82	**1796.98**	**288.68**
	GCAB2	**1636.30**	**268.49**	**1500.61**	255.40	**1625.29**	**371.24**
	KSCV	**506.17**	113.81	278.58	86.06	376.30	88.89
20m	YTTV	491.87	95.31	266.31	83.76	375.77	89.88
	LLC	**594.78**	101.47	318.68	90.07	439.42	91.23
	GCAB1	**808.03**	154.69	**526.74**	147.29	**824.01**	183.87
	GCAB2	**822.54**	175.31	**625.46**	148.08	**924.26**	206.06
	KSCV	422.47	108.63	249.37	83.73	331.17	86.14

Remarks: Boldfaced value means exceedance of dust limits.

4.6.5 In the absence of any mitigation measures on the construction activities, the construction dust levels at some ASRs in Table 4.7 were higher than the guideline and limits as stipulated in the EIA-TM. Dust suppression measures are therefore recommended to reduce emissions from the site to ensure the criteria would not be exceeded.

Operational Phase

4.6.6 Operational air quality impact is unlikely a key environmental issue as the golfers are transported using battery operated golf carts. The additional traffic generated around Sai Kung Town as a result of the expansion will be minimal gives the even spread of use through the day dictated by specific playing times.

4.7 Mitigation Measures

Construction Phase

4.7.1 In order that nuisance to air sensitive receivers is minimized, it is important to minimize dust emissions from construction activities including cut and fill operations and trucks movements on haul road. In 1997, the *Air Pollution Control (Construction Dust) Regulation* came into effect to control dust emission from construction works. Appropriate dust control measures should be implemented during construction stage in accordance with the requirements in the *Air Pollution Control (Construction Dust) Regulation*. Dust control techniques should be considered to control dust to a level not exceeding the AQOs as well as the 1-hour TSP guideline level. These measures include:

- Adoption of good site practices;
- Avoid practices likely to raise dust level;
- Frequent cleaning and damping down of stockpiles, dusty areas of the Site and the haul roads;
- Reduce the speed of the vehicles (say 10 kph) on the haul road;
- Reducing drop height during material handling;
- Provision of wheel-washing facilities for Site vehicles leaving the Site;
- Regular plant maintenance to minimize exhaust emission;
- Sweep up dust and debris at the end of each shift; and

- If concrete batching plant or rock crushing plant is planned to be used, a license from EPD may be required depending on the total silo capacity since they are specified processes under the APCO. Modern plant should be designed to limit emissions.

4.7.2 With the implementation of the above dust suppression measures, the construction dust concentration can be highly reduced. According to the AP-42, a dust removal efficiency of 50% can be achieved by watering twice a day. It is suggested to provide watering eight times a day (i.e. hourly watering) in the working areas such that a dust removal efficiency of 1 – (50% x 50% x 50%) = 87.5% can be achieved. Furthermore, watering of twice a day is suggested in other inactive exposed areas (assumed as wind erosion only). The mitigated construction dust concentrations are summarized in Table 4.8.

Table 4.8 Mitigated Construction Dust Concentrations at the Representative ASRs (Background Included)

Height	ASR	Scenario A		Scenario B		Scenario C	
		1-hr	24-hr	1-hr	24-hr	1-hr	24-hr
1.5m	YTTV	136.21	73.99	102.25	72.56	116.57	73.10
	LLC	152.91	75.92	115.88	74.22	135.87	74.48
	GCAB1	270.92	104.97	250.21	105.11	364.68	116.35
	GCAB2	486.65	132.14	444.61	129.03	480.86	144.36
	KSCV	125.77	76.51	99.88	73.06	107.61	73.54
10m	YTTV	139.04	74.34	102.84	72.79	117.83	73.38
	LLC	154.74	76.14	115.93	74.35	135.81	74.70
	GCAB1	217.61	95.23	198.37	95.29	293.57	105.50
	GCAB2	270.31	104.37	255.17	103.20	269.40	117.76
	KSCV	126.09	76.82	101.26	73.25	109.04	73.79
20m	YTTV	128.30	73.66	96.74	72.25	109.03	72.76
	LLC	139.66	74.96	106.26	73.60	121.64	73.78
	GCAB1	166.89	84.82	129.46	83.92	166.22	88.30
	GCAB2	167.32	86.74	143.65	83.53	179.43	90.80
	KSCV	114.96	75.82	96.62	72.60	103.06	73.03

4.7.3 Based on the results in Table 4.8, no exceedance of the relevant dust limits is identified. Furthermore, it is observed that the highest TSP concentrations take place at 1.5m above the local ground. Contours of 1-Hour and 24-Hour TSP concentrations at this level are presented in Figures 4.3a-c and 4.4a-c, respectively, for different scenarios. According to the presentation of the contours, there will be no sensitive area showing exceedance of relevant AQO and 1-hour dust guideline. In all Figures 4.3a-c and 4.4a-c, no exceedance of 1-hour dust guideline and 24-hour TSP AQO are observed in all identified sensitive receivers and the existing golf course. Therefore, no additional dust suppression measures would be required.

4.8 Residual Impact

Construction Phase

4.8.1 With the implementation of the recommended dust suppression measures, the predicted construction dust levels at all the receivers were below the relevant AQOs and the dust guideline.

Operational Phase

4.8.2 No adverse residual operational air quality impact would be expected.

4.9 Cumulative Impact

4.9.1 Impacts from concurrent projects will be negligible due to the large distance separation.

4.10 Environmental Monitoring and Audit Requirement

4.10.1 An EM&A programme should be undertaken, which would focus on those ASRs of particular concern, in order to identify and rectify any problems. A recommended EM&A programme has been presented separately in the EM&A Manual.

4.11 Conclusion

4.11.1 The construction dust concentration levels at most identified ASRs based on the worse case scenario were predicted to exceed the AQOs and the 1-hour dust guideline. With the implementation of the appropriate dust suppression measures such as regular watering and covering the exposed stockpiles with tarpaulin, the construction dust impacts could be highly reduced to the acceptable levels.

4.11.2 No insurmountable residual construction dust impact would be expected.

4.11.3 No operational air quality impact is expected. Thus, no mitigation measures for air quality during operation phase would be required. No adverse residual operational air quality would also be expected.

4.11.4 An EM&A programme should be undertaken during the construction phase, which would focus on those ASRs of particular concern, in order to identify and rectify any problems.