10. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

10.1 Background

10.1.1 The objective of this assessment is to identify existing landscape and visual quality in the Study Area so as to evaluate landscape and visual impacts of the Project at both construction and operational phases and where required to propose mitigation measures to minimize adverse impacts. The assessment follows the criteria and guidelines as stated in Annexes 10 and 18 of the EIAO TM and the EIA Study Brief No. ESB-070/2001.

10.1.2 The assessment of landscape and visual impacts is mainly focused on the major intake and outlet structures at both ends of the proposed Hong Kong West Drainage Tunnel. Landscape and visual impacts due to the proposed intake structures and works areas will also be included in the assessment particular for those located at sitting out areas. Associated mitigation measures are summarized in this report.

10.2 Environmental Legislation, Standards and Guidelines

10.2.1 The following legislation, standards and guidelines are applicable to the evaluation of landscape and visual impacts associated with the construction and operation of the project:

- Environmental Impact Assessment Ordinance (Cap.499.S.16) and the Technical Memorandum on EIA Process (EIAO TM), particularly Annexes 3, 10, 11, 18, 20 and 21;
- EIAO Guidance Note 8/2002;
- Hong Kong Planning Standards and Guidelines;
- Forests and Countryside Ordinance (Cap 96) and its subsidiary legislations;
- Waterworks Ordinance (Cap 102);
- Country Parks Ordinance (Cap208);
- Land Drainage Ordinance (Cap 446);
- Animals And Plants (Protection of Endangered Species) Ordinance (Cap 187);
- ETWBTC No. 25/92 - Allocation of Space for Urban Street Trees;
- ETWBTC No. 29/93 - Control of Visual Impact of Slopes;
- ETWBTC No. 12/2000 - Improvement to the Appearance of Slopes in connection with WBTC 23/93;
- ETWBTC No. 7/2002 - Tree Planting in Public Works;
- ETWBTC No. 14/2002 - Management and Maintenance of Natural Vegetation and Landscape Works, and Tree Preservation;
- ETWBTC No. 2/2004 - Maintenance of Vegetation and Hard Landscape Features;
- Land Administration Office Instruction (LAOI) Section D-12 - Tree Preservation;
- GEO publication (1999) - Use of Vegetation as Surface Protection on Slopes;
- GEO 1/2000 - Technical Guidelines on Landscape Treatment and Bio-engineering of Man-made Slopes and Retaining Walls;
- Causeway Bay (HPA 6) Outline Zoning Plan (Plan No. S/H6/13);
- Wong Nai Chung (HPA 7) Outline Zoning Plan (Plan No. S/H7/11);
- Pok Fu Lam (HPA 10) Outline Zoning Plan (Plan No. S/H10/15);
- Mid-levels West (HPA 11) Outline Zoning Plan (Plan No. S/H11/13);
- Mid-levels East (HPA 12 Pt.) Outline Zoning Plan (Plan No. S/H12/9);
- Jardine's Lookout & Wong Nai Chung Gap (HPA 13 Pt. & 17 Pt.) Outline Zoning Plan (Plan No. S/H13/9); and
- The Peak Area (HPA 14) Outline Zoning Plan (Plan No. S/H14/7).

10.3 Assessment Methodology

10.3.1 Landscape and visual impacts have been assessed separately for the construction and operational phases.

The assessment of **landscape impacts** has involved the following procedures.

- ***Identification of the baseline landscape resources found within the study area.*** This is achieved by site visit and desktop study of topographical maps, information databases and photographs.

- ***Assessment of the degree of sensitivity to change of the landscape resources.*** This is influenced by a number of factors including whether the resource is common or rare, whether it is considered to be of local, regional, national or global importance, whether there are any statutory or regulatory limitations/ requirements relating to the resource, the quality of the resource, the maturity of the resource, and the ability of the resource to accommodate change.

  The sensitivity of each landscape resource is classified as follows:

High:	Important landscape or landscape resource of particularly distinctive character or high importance, sensitive to relatively small changes.
Medium:	Landscape or landscape resource of moderately valued landscape characteristics reasonably tolerant to change.
Low:	Landscape or landscape resource, the nature of which is largely tolerant to change.

- ***Identification of potential sources of landscape impacts.*** These are the various elements of the construction works and operational procedures that would generate landscape impacts.

- ***Identification of the magnitude of landscape impacts.*** The magnitude of the impact (or magnitude of change) depends on a number of factors including the physical extent of the impact, the landscape and visual context of the impact, the compatibility of the project with the surrounding landscape; and the time-scale of the impact - i.e. whether it is temporary (short, medium or long term), permanent but potentially reversible, or permanent and irreversible. Landscape impacts have been quantified wherever possible.

- ***Identification of potential landscape mitigation measures.*** These may take remedial measures such as colour and textural treatment of engineering structures; and compensatory measures such as the implementation of landscape design measures to compensate for unavoidable adverse impacts and to attempt to generate potentially beneficial long term impacts.

- ***Prediction of the significance of landscape impacts before and after the implementation of the mitigation measures.*** By synthesising the magnitude of the various impacts and the sensitivity of the various landscape resources it is possible to categorise impacts in a logical, well-reasoned and consistent fashion. **Table 10.1** shows the rationale for dividing the degree of significance into four thresholds, namely insubstantial, slight, moderate, and substantial, depending on the

combination of a negligible-small-intermediate-large magnitude of impact and a low-medium-high degree of sensitivity of landscape resources.

- ***Prediction of Acceptability of Impacts.*** An overall assessment of the acceptability, or otherwise, of the landscape impacts according to the five criteria set out in Annex 10 of the EIAOTM.

Table 10.1 Relationship between Landscape Resources Sensitivity and Impact Magnitude in Defining Impact Significance

Magnitude of Impact (Change)	**Large**	Slight / Moderate	Moderate / Substantial	Substantial
	Intermediate	Slight / Moderate	Moderate	Moderate / Substantial
	Small	Insubstantial / Slight	Slight / Moderate	Slight / Moderate
	Negligible	Insubstantial	Insubstantial	Insubstantial
		Low	**Medium**	**High**
		Receptor Sensitivity (of Landscape Resources)		

10.3.2 The assessment of visual impacts involves the identification and assessment of:

- **Visually sensitive receivers (VSRs) within the Zone of Visual Influence (ZVIs) at construction and operational stages.** These are the people who would reside within, work within, play within, or travel through, the ZVIs. (as shown in Table 10.2)

Table 10.2 Impact Rating for VSRs

Receptor	Sensitivity	Motivation
VSRs at home	High	Outlook from home will have a substantial effect on their perception of the quality and acceptability of their home environment and their general quality of life.
VSRs at workplace	Moderate	Outlook will have a less important, although still material, effect on their perception of their quality of life.
VSRs taking part in an outdoor leisure activity	Varies	depends on the type of leisure activity (i.e. ecotourism)
VSRs during	Varie	Depends on speed of travel, commuting or sight seeing, continuous

traveling	s	or occasionally glimpsed view.

- **Degree of sensitivity to change of the VSRs.** Factors affecting the sensitivity of receivers for evaluation of visual impacts:
  - value and quality of existing views
  - availability and amenity alternative views
  - type and estimated number of receiver population
  - duration or frequency of view, and
  - degree of visibility.

- **Potential magnitude of visual impacts.** This depends on a number of factors including:
  - the scale of development
  - the compatibility of the project with the visual context
  - the duration of impacts under construction and operation phases
  - the reversibility of change
  - the scale of impact and distance of the source of impact from the viewer; and
  - the degree of visibility of the impact, and the degree of which the impact dominates the field of vision of the viewer.

- **Potential visual mitigation measures.** These may take the form of revisions/refinements to the engineering and architectural design to minimize potential impacts, and/or the implementation of landscape design measures (e.g. screen tree planting, colour design of hard landscape features etc) to alleviate adverse visual impacts and generate potentially beneficial long term visual impacts.

- **Predicted significance of visual impacts before and after the implementation of the mitigation measures.** This is achieved by synthesis of the above information leading to an evaluation of the degree of significance of the visual impacts into thresholds of substantial, moderate, slight, or negligible. Impacts are classified depending on whether the impacts are adverse/beneficial, and irreversible/reversible. By synthesizing the magnitude of the various visual impacts and the sensitivity of the various VSR's it is possible to identify a series of thresholds to be used as a basis for the categorization of the degree of significance of the impacts in a logical, well reasoned and consistent fashion. **Table 10.3** shows the rationale for dividing the degree of significance into four thresholds, namely insubstantial, slight, moderate, and substantial, depending on the combination of a negligible-small-intermediate-large magnitude of impact and a low-medium-high degree of sensitivity of VSRs.

- ***Prediction of Acceptability of Impacts.*** An overall assessment of the acceptability, or otherwise, of the visual impacts according to the five criteria set out in Annex 10 of the EIAOTM.

Table 10.3: Relationship between Sensitivity and Impact Magnitude in Defining Significance

Impact Significance			**Sensitivity to Change**		
Level of Impact Description Significant: Adverse / beneficial impact where the proposal would cause significant degradation or improvement in existing landscape baseline conditions. Moderate: adverse / beneficial impact where the proposal would cause noticeable degradation or improvement in existing landscape baseline conditions Slight: adverse / neutral /beneficial impact where the proposal would cause a barely noticeable degradation or improvement in existing landscape conditions or where the changes brought about by the project would not be apparent in visual terms Negligible: The proposal does not affect the existing landscape baseline conditions			The nature of the viewer groups do not expect a high degree of control over their immediate environment, (eg people at their place of employment or temporarily in attendance at the SVR location); or People in transit (e.g. drivers and passengers in vehicles).	The nature of the viewer groups expect a high degree of control over their immediate environment, (e.g. people residing in their homes); but The viewer groups are not in proximity to the Project; and The foreground and middle ground can partially absorb views of the Project.	The nature of the viewer groups expect a high degree of control over their immediate environment, (e.g. people residing in their homes); and The viewer groups are in proximity to the Project; and The foreground and middleground cannot visually absorb the Project.
			Low	**Medium**	**High**
Magnitude of impact on baseline conditions due to the Works	**Large**	Prominent and permanent visual changes in the foreground, middleground or background where the project dominates the view; Permanent visual changes where the project contrasts conspicuously against the middleground and/or background; Temporary visual changes where the project dominates the foreground view.	**Slight/ moderate**	**Moderate/ Significant**	**Significant**
	Inter mediate	Permanent visual changes in the foreground or middleground where the project is prominent but does not dominate the view; Permanent visual changes where the project is discernible against background, but is not conspicuous. Temporary visual changes where the project dominates the middleground view.	**Slight/ moderate**	**Moderate**	**Moderate/ Significant**
	Small	Permanent visual changes in the foreground, middleground or background where the project is present but not noticeable; Temporary visual changes where the project dominates the background view.	**Negligible/ Slight**	**Slight/ Moderate**	**Slight/ Moderate**
	Negligible	No visual changes are apparent.	**Negligible**	**Negligible**	**Negligible**

10.4 Scope and Content of the Study

10.4.1 The nature and scope of the Project is described in **Section 2** of this Report. In accordance with Section 3.2 (i), 3.2(vi), and Section 3.4.7 of the EIA Study Brief No. ESB-070/2001, this report identifies and assesses the landscape and visual impact associated with the Designated Project described in Section 2.

10.4.2 The scope of landscape and visual impact assessment study includes:

- Identification and assessment of the potential landscape impacts on the country parks (Pok Fu Lam Country Park, and Lung Fu Shan Country Park).
- Identification and assessment of the potential landscape and visual impacts arising from the removal of vegetation and the cutting of slope at tunnel portal areas, in particular the area around the proposed western portal which will divide the land zoned "Open Space" on the Pok Fu Lam Outline Zoning Plan No. S/H10/15 into two portions. Appropriate landscape treatments are recommended in this report to enhance the amenity value of the area.
- Description of the visual compatibility of the project, especially the outfall portal and the above ground structures associated with the drop shafts with the surrounding and the planned setting, and its obstruction and interference with key views of the adjacent areas; and the severity of visual impacts in terms of distance, nature and number of sensitive receivers.
- Mitigation measures to minimize the adverse landscape and visual impact identified, including the provision of preliminary landscape design to the cover, the retention of vegetation, transplanting of mature trees, provision of screen planting, re-vegetation of disturbed land, compensatory planting, reinstatement of affected amenity areas and open spaces, aesthetic design of structures, provision of finishes to structures, colour scheme and texture of material used, and any measures to mitigate the disturbance of the existing land use, are provided where appropriate in this study.
- The visual impacts of the proposed project with and without mitigation measures are included so as to demonstrate the effectiveness of the proposed landscape and visual mitigation measures.
- Provision of photomontages at representative locations from key vantage points taken for the proposed ground structures, including Eastern and Western Portals, in the existing and planned urban setting illustrating the effectiveness of visual impact mitigation measures.

10.4.3 The limits of visual impact assessment are the zones of visual influence (ZVIs) of the works during the construction and operation phases. The ZVI for the construction phase will be the same as the operational phase, since there will be no major change in the planned developments that cause changes in ZVI within the project area.

10.4.4 Alternative alignments and design options have been studied at the early stage of this assignment. Findings in the study are summarized in the Section 2.5 of this report. The alignment and design option proposed in this report, as compared with other alignments and design options, has minimum predicted landscape and visual impact.

10.4.5 There are no scheduled concurrent designated projects (DP) in the vicinity of the proposed tunnel portals, intakes or tunnel alignment during the construction and operation phase. No cumulative construction and operational visual impacts are likely to arise from this DP.

10.5 Review of Planning and Development Control Framework

10.5.1 The proposed drainage works has been reviewed against the relevant Outline Zoning Plans of Hong Kong Island. (Plan No. S/H6/13, S/H7/11, S/H10/15, S/H11/13, S/H12/9, S/H13/9 and S/H14/7). The impact on the planning and development control framework is identified and evaluated.

Eastern Portal

10.5.2 The Easter Portal falls within the green belt zone as shown in OZP no. S/H8/10. At the south west of the site, a road and road junction are planned as shown in OZP no. S/H6/13. Part of the drainage improvement works to the existing stream channel will potentially be in conflict with the planned roadwork. The planned roadwork shall be reviewed and realigned to accommodate the proposed drainage improvement works where necessary.

Western Portal

10.5.3 The Western Portal is proposed next to the existing DSD Sewage Treatment Facility at the south of the existing Cyberport Road. The proposed Route 7 will run along the shoreline to the south of the Western Portal. A major portion of the Western Portal falls within the south end of a planned open space as shown in OZP No. S/H10/15. The planned open space will connect to existing Stanley Ho Sport Centre (GIC). The proposed Western Portal will not divide the planned open space into two portions and will not impose significant constraint to the future development of the planned open space (24,000m^2). The impact on the planned open space will mainly be due to the permanently alienation of land. Approximate 1, 185m^2 of the planned open space (4% of the (O)) will be permanently alienated by the proposed western portal and access road.

Intake Shafts

10.5.4 There are a total of 35 Intake Shafts proposed for the Drainage Improvement Works. They are scattered along both sides of the proposed tunnel alignment from the north to the west of Hong Kong Island. They are proposed within existing Open Spaces, GIC sites, Residential sites, Major Roads and Green Belts. The Intake Shaft will cause permanent alienation of land, however, they are localized and occupy relatively small areas. There will not be significant impact on the planned development framework within the area.

10.5.5 The proposed works boundary is not within Coastal Protection Areas. Quantified information regarding the impact on landscape related zones, e.g. Green Belt and Open Space, due to the project are shown in Table 10.4:

Table 10.4 Impact on Existing Landscape Planning Framework

Structure No.	Impact on Green Belt Zoning (sq.m.)		Impact on Open Space Zoning (sq.m.)	
	Temporary	Permanent	Temporary	Permanent
B2(P)	288	98	-	-
BR3	901	256	-	-
BR4(P)	276	43	42	53
BR5(P)	450	102	-	-
BR6(P)	568	228	-	-
BR7(P)	168	107	-	-
DG1	322	106	-	-

Structure No.	Impact on Green Belt Zoning (sq.m.)		Impact on Open Space Zoning (sq.m.)	
	Temporary	Permanent	Temporary	Permanent
Eastern Portal	5,890	1,039	-	-
E5(A)(P)/ E5(B)(P)	223	262	-	-
E7(P)	599	107	-	-
GL1(P)	224	211	-	-
HKU1(P)	-	-	-	-
HR1	108	71	-	-
M3(P)	390	131	101	-
MA13(P) & MA14(P)	764	154	-	-
MA15(P)	857	113	-	-
MA17(P)	-	-	-	-
MB16(P)	339	99	-	-
MBD2	773	158	-	-
P5(P)	373	179	-	-
PFLR1(P)	-	-	-	-
RR1(P)	-	-	-	-
THR2(P)	1,220	314	-	-
TP4(P)	409	100	-	-
TP5(P)	397	99	-	-
TP789(P)	199	132	-	-
W0(P)	-	-	449	154
W1(P)	1,235	344	-	-
W3(P)	-	-	-	-
W5(P)	-	-	-	-
W8	-	-	-	-
W10	-	-	-	-
W11	457	119	-	-
W12(P)	-	-	-	-
Western Portal	1,422	-	3,451	1,185
TOTAL :	**18,852**	**4,572**	**4,043**	**1,392**

10.6 Baseline Study

Landscape Resources

10.6.1 The baseline landscape resources that will be affected during the Construction Phase and Operational Phase, together with their sensitivity to change, are described below.

10.6.2 Quantified information to summarize the baseline information on existing landscape resources (trees, vegetated slopes and natural stream courses) that will be affected by intakes and /or tunnel structure is summarized in this report.

Country Parks

10.6.3 Country Parks within the study area are identified and shown in Drawing no. 382403/LR/001 and mapped against the proposed tunnel alignment and proposed shaft location. The magnitude of impact on these Country Parks will be identified and assessed in Section 10.7.

Existing Trees and Vegetation

10.6.4 Based on the preliminary tree survey carried out under this assignment, there are approximate 557 trees found within the proposed works boundary for this project. A schedule of trees with species identified within the works boundary areas are shown in Drawing no. 382403/S/TI/003-032, 034-036. Among these, there are no endangered

and/or protected species. There are no LCSD Champion trees found. There are approximately seven trees which have a tree diameter greater than 1m. Quantified information regarding the magnitude of impact on existing trees is summarized in Table 10.5.

Existing Natural Stream Courses

10.6.5 A baseline study on existing natural stream courses is included in **Section 4** of this report. Quantified information regarding the magnitude of impact on existing natural stream courses is summarized in Section 10.7.

Zone of Visual Influence (ZVI) and VSRs

10.6.6 The ZVI for the Project is illustrated in Drawing nos. 382403/V/003 to 037. The ZVI for the construction phase will be the same as the operational phase, since there will be no major change in the planned developments that cause changes to the ZVI within the project area.

10.6.7 Within the ZVIs for the construction and operational phases, a number of key Visually Sensitive Receivers (VSRs) have been identified. These VSRs are mapped in Drawing no. 382403/V/003 to 037. They are listed, together with their sensitivity, in Table 10.9. For ease of reference, each VSR is given an identity number, which is used in the text, tables and figures.

10.7 Landscape Impact Assessment

Potential Sources of Impacts

10.7.1 The Project will create varying levels of impact on the landscape resources during the construction stage. The potential sources of landscape impacts during the construction phase of the project life cycle will include: -

- potential disturbance on Country Parks due to the construction activities;
- loss of amenity areas and existing open spaces; and
- site clearance works involving the removal of existing vegetation.

Nature and Magnitude of Unmitigated Landscape Impacts in Construction Phase

10.7.2 The magnitude of the impacts, before implementation of mitigation measures, on the landscape resources that would occur in the construction phase are described below and presented in Table 10.8. All impacts are adverse unless otherwise stated.

Country Parks and the Special Areas

10.7.3 The location of portals and intake shafts have been checked against the boundary of Country Parks (CP). (Drawing no. 382403/LR/001) The proposed temporary and permanent works for the portals and intake shafts are not within the Country Parks boundary. There will consequently be no significant impact on the Country Parks due to the proposed works.

Existing Open Space

10.7.4 There will be approximately 42m^2, 101m^2, 449m^2 and 3451m^2 of existing open space will be temporary loss due to the proposed Shaft BR4(P), M3(P), W0(P) and Western

Portal respectively. Since the impact on the existing open spaces is localized and the extent of the impact is small, it is therefore considered that the impact on the existing open spaces during the construction phase will be slight and considered as acceptable with mitigation measures.

Existing Trees and Vegetation

10.7.5 Quantified information regarding the magnitude of impact on existing trees is summarized in Table 10.5.

Table 10.5 Impact on Existing Trees

Structure No.	Tree Surveyed Inside Proposed Works Area Boundary	Impact on Existing Trees inside Works Area Boundary					Quantity of Mature Tree (diameter > 1m)	Quantified Information for Proposed Compensation Planting		
		Trans-plant		Fell		Retain		Wood-land Mix (sq.m.)	Amenity Planting (sq.m.)	Heavy Standard Tree (nos.)
		Affected by Temp. Works	Affected by Perm. Works	Affected by Temp. Works	Affected by Perm. Works					
B2(P)	26	5	4	1	1	15	1	297	-	4
BR3	8	-	-	-	-	8	-	691	-	-
BR4(P)	13	-	-	-	-	13	-	247	-	-
BR5(P)	16	-	2	-	1	13	1	295	-	4
BR6(P)	15	2	3	2	-	8	-	56	-	-
BR7(P)	8	1	-	1	1	5	-	318	-	5
DG1	8	-	-	-	-	8	1	313	-	-
Eastern Portal	84	-	1	-	-	83	2	-	154	17
E5(A)(P)/ E5(B)(P)	19	2	5	-	4	8	-	496	113	7
E7(P)	18	-	2	-	3	13	1	543	-	7
GL1(P)	13	-	2	-	4	7	-	148	-	-
HKU1(P)	39	5	5	5	6	18	1	396	-	-
HR1	6	-	4	-	-	2	-	147	-	-
M3(P)	7	-	3	1	-	3	-	470	-	3
MA13(P) & MA14(P)	48	5	3	2	4	34	-	688	-	-
MA15(P)	30	-	5	-	3	22	-	243	225	11
MA17(P)	5	2	-	-	-	3	-	-	108	2

Structure No.	Tree Surveyed Inside Proposed Works Area Boundary	Impact on Existing Trees inside Works Area Boundary					Quantity of Mature Tree (diameter > 1m)	Quantified Information for Proposed Compensation Planting		
		Trans-plant		Fell		Retain		Wood-land Mix (sq.m.)	Amenity Planting (sq.m.)	Heavy Standard Tree (nos.)
		Affected by Temp. Works	Affected by Perm. Works	Affected by Temp. Works	Affected by Perm. Works					
MB16(P)	21	-	1	2	2	16	-	305	-	-
MBD2	29	-	7	-	-	22	-	269	-	-
P5(P)	4	1	1	-	2	-	-	336	-	3
PFLR1(P)	23	3	3	-	3	14	-	405	-	-
RR1(P)	2	-	1	-	-	1	-	-	171	4
THR2(P)	14	1	-	1	2	10	-	437	-	-
TP4(P)	9	1	1	-	1	6	-	320	-	-
TP5(P)	10	-	-	1	-	9	-	180	-	-
TP789(P)	6	1	-	-	-	5	-	256	-	-
W0(P)	6	-	1	-	-	5	-	-	63	2
W1(P)	26	1	-	7	-	18	-	774	-	-
W3(P)	18	2	-	-	-	16	-	450	-	-
W5(P)	5	1	-	1	-	3	-	-	-	3
W8	-	-	-	-	-	-	-	-	-	-
W10	4	-	1	-	-	3	-	-	225	10
W11	9	-	-	-	-	9	-	443	-	-
W12(P)	8	2	-	-	2	4	-	45	-	-
Western Portal	-	-	-	-	-	-	-	619	-	39
TOTAL	***557***	***35***	***55***	***24***	***39***	***410***	***7***	***10,187***	***1,059***	***121***

Remarks: Mature trees over 1m in diameter is to be preserved on site as far as possible.

10.7.6 Based on the preliminary tree findings, there are approximate 557 trees surveyed within the proposed works boundary. Having examined the permanent works location, a total of 94 trees are affected by the structures of the permanent works, among which 55 no. of trees are recommended to be transplanted, 39 no. of trees to be felled. It is also anticipated that sufficient working spaces for access and placing crane, store, water treatment facility and generator should be allowed for temporary works. In view of the above requirements, some trees within the temporary works area will be either felled or transplanted. A total of 59 trees are affected by temporary works, among which 35 no. of trees are recommended to be transplanted, 24 no. of trees to be felled. Therefore approximate 410 trees are recommended to be retained on site, 90 trees are recommended to be transplanted and 63 trees are recommended to be felled. The decision for tree felling or transplantation is dependent on the survival rates of the trees after transplantation. Notwithstanding the above, the detailed proposal of trees felling and transplantation is subject to Lands Department's approval on tree felling application at the detailed design stage.

Existing Natural Stream Courses

10.7.7 The existing natural stream courses are scattered among various intake locations and all are close to roads, residential buildings or existing drainage facilities. These stream courses are considered to be of low to medium landscape value and sensitivity. Quantified information regarding the magnitude of impact on existing natural stream courses is summarized in Table 4.4. Approximate 91m of existing stream courses will be temporarily loss due to the proposed works. Since these impacts are scattered among various locations and the magnitude of change on individual locations is small, it is therefore considered the residual impact are slight.

Nature and Magnitude of Unmitigated Landscape Impacts in Operational Phase

10.7.8 The magnitude of the impacts, before implementation of mitigation measures, on the landscape resources that will occur in the operational phase are the same as the permanent and irreversible impacts described above for the construction phase. They are tabulated in Table 10.8 and all impacts are adverse unless otherwise stated.

Landscape and Visual Mitigation Measures in Construction and Operational Phases

10.7.9 The proposed landscape and visual mitigation measures in the construction and operational phases are listed in Tables 10.6 and 10.7 below, together with an indication of Funding, Implementation and Maintenance Agencies. Generally, all landscape mitigation measures are to be implemented as early as possible. The residual landscape and visual impact in construction and operational phases after implementation of the relevant measures are assessed as moderate.

Table 10.6 Proposed Construction Phase Landscape and Visual Mitigation Measures

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implementation Agency
CM1	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	DSD	DSD

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implementation Agency
CM2	The existing natural landscape/ trees should be preserved as far as possible; Existing trees to be retained on site should be carefully protected during construction.	DSD	DSD
CM3	Trees unavoidably affected by the works should be transplanted where practical.	DSD	DSD
CM4	Compensatory tree planting should be provided to compensate for felled trees.	DSD	DSD
CM5	The extent of disturbance on the existing stream course should be minimized. Any temporary works areas within the stream course shall be reinstated after construction.	DSD	DSD
CM7	Control of night-time lighting	DSD	DSD
CM8	Erection of decorative screen hoarding	DSD	DSD

Table 10.7 Proposed Operation Phase Landscape and Visual Mitigation Measures

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implementation Agency	Maintenance Agency
OM1	Aesthetic design of above ground structures with external finishing and color to be compatible with surrounding area	DSD	DSD	DSD
OM2	Toe planter with tall tree, shrub and climber planting shall be provided to screen the Eastern Portal Tunnel and the retaining wall for access road.	DSD	DSD	Maintenance Agency shall be in accordance with ETWBTC No. 2/2004
OM3	Buffer tree and shrub planting shall be provided to screen above ground structures and blend in the structures with the surrounding landscape setting.	DSD	DSD	
OM4	Existing hard and soft landscape areas to be affected by temporary works shall be reinstated.	DSD	DSD	

Programme of Implementation of Landscape and Visual Mitigation Measures

10.7.10 The construction phase measures including erection of decorative hoarding around the as listed above should be adopted from the commencement of construction and should be in place throughout the entire construction period. Except the portal sites, the construction duration for most of the intake shafts would be last for about 8 months with about 12 months for the deepest intake shafts.

10.7.11 The operational phase measures listed above should be adopted during the detailed design, and be built as part of the construction works so that they are in place at the date of commissioning of the Project. The landscape and reinstatement works for each site location would be arranged immediately after completion of the works to minimize the landscape and visual impact to the nearby residents/road users. However, it should be noted that the full effect of the soft landscape mitigation measures would not be

appreciated for several years; the photomontages included in this report illustrate the appearance after 10 years.

Prediction of Significance of Landscape Impacts

10.7.12 The potential significance of the landscape impacts during the construction and operation phases, before and after mitigation, is provided below in Table 10.8. This assessment follows the proposed methodology and assumes that the appropriate mitigation measures identified in Tables 10.6 and 10.7 above would be implemented, and that the full effect of the soft landscape mitigation measures would be realized after ten years.

Residual landscape impacts in Construction Phase

10.7.13 The residual impacts on landscape resources in the Construction Phase are summarized in Tables 10.8. In the construction phase, after the implementation of the proposed mitigation measures, there will be no adverse residual landscape impact.

Residual landscape impacts in Operational Phase

10.7.14 There will be permanent and irreversible loss of existing open spaces due to the operation of the Project. There will be 53m^2 ,154m^2 and 1,185m^2 of open space will be loss due to Shaft BR4(P), Shaft W0(P) and Western Portal respectively. The residual impact on the open space is localized and considered as slight.

10.7.15 Trees are the primary landscape resources in the study area and those affected by the Project will be transplanted to a holding nursery during the construction phase and replanted back to the site after construction or other planting areas subject to the satisfactory arrangement with the relevant departments at the detailed design stage. Approximately 90 nos. of existing trees to be affected will be transplanted and only 63 existing trees will be felled. In addition, there will be approximately 10,187m^2 of woodland mix planting, 1,059m^2 of amenity planting and a minimum of 121 heavy standard trees will be replanted for the Project. After the implementation of the proposed mitigation measures, the residual impact is considered as slight. The proposal of any trees felling and transplantation is still subject to Lands Department's approval on tree felling application at the detailed design stage.

10.7.16 Approximate 85m of existing stream courses will be permanently loss due to the proposed project. Since these impacts are scattered among various locations and the magnitude of change on individual location is small, it is therefore considered the overall residual impact is slight.

Table 10.8 Significance of Landscape Impacts in the Construction and Operation Phases (Note: All impacts adverse unless otherwise stated)

Id. No.	Landscape Resources	Sensitivity to Change (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance Threshold before Mitigation (Nil, Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold after Mitigation (Insubstantial, Slight, Moderate, Substantial)		
									Construction	Operation	
		Construction	Operation	Construction	Operation	Construction	Operation			DAY 1	YEAR 10
CP	Country Parks	High	High	Negligible	Negligible	Negligible	Negligible		Insubstantial	Insubstantial	Insubstantial
O	Existing Open Spaces along the proposed drainage tunnel alignment	High	High	Small	Small	Slight	Slight	OM4	Slight	Slight	Slight
T	Existing trees within the works areas of the project	Medium	Medium	Intermediate	Intermediate	Moderate	Moderate	CM2, CM3, CM4, OM3 and OM4	slight	slight	Insubstantial
S	Existing Stream	Low	Low	Intermediate	Intermediate	Slight	Slight	CM5	Slight	Insubstantial	Insubstantial

10.8 Visual Impact Assessment

Potential Sources of Visual Impacts

10.8.1 The nature and scope of works for the project are described in Section 2. For ease of reference, the extent of works at ground level, including all contractor's temporary works areas and the permanent alienation of land for portals and shaft chambers, are shown on Drawing no. 382403/V/003 to 037. The existing photo viewpoints to the proposed location for the portals and shaft chambers are shown in 382403/P/001 to 006. The locations of photo viewpoints are marked on Drawing no. 382403/V/003 to 037.

10.8.2 The Project will create varying levels of impact on the existing landscape and visual quality of the surrounding areas during the construction stage. Potential sources of visual impacts during the construction phase of the Project life cycle will include: -

- site clearance works involving the removal of existing vegetation;
- construction of site access;
- excavation works for the tunnel portals and intake structures;
- haulage off-site of excavated materials;
- materials stockpiling;
- temporary traffic/road diversions;
- importation and storage of construction equipment and plant;
- storage of existing topsoil for reinstatement works;
- construction of temporary pier at Western Portal; and
- night lighting.

10.8.3 Potential sources of visual impacts during the operational phase of the Project life cycle will include: -

- change in existing visual quality due to the permanent alienation of landscape areas for the Eastern Tunnel Portal, Western Tunnel and the Intake Structures, and
- permanent erection of above ground structures for the Eastern Tunnel Portal, Western Tunnel and Intake Structures

Magnitude of Unmitigated Visual Impacts in Construction Phase

10.8.4 The magnitude of the impacts, before implementation of the mitigation measures, on the visual quality that would occur in the construction phase are tabulated in Table 10.9. All impacts are adverse unless otherwise stated.

Magnitude of Unmitigated Visual Impacts in Operation Phase

10.8.5 The magnitude of the impacts, before implementation of the mitigation measures, on the visual quality that would occur in the operation phase are tabulated in Table 10.9. All impacts are adverse unless otherwise stated.

Mitigation Measures in Construction and Operation Phases

10.8.6 The proposed landscape and visual mitigation measures in the construction and operational phases are listed in Tables 10.6 and 10.7 below, together with an indication of responsibility in respect of funding, implementation and maintenance issues. Generally, all landscape and visual mitigation measures are to be implemented as early as possible. The recommended mitigation measures to minimize the adverse impact identified above are as illustrated in Drawing no. 382403/S/L/001 to 037 and 101 to 105.

Prediction of Significance of Visual Impacts

10.8.7 An assessment of the potential significance of the visual impacts during the construction and operational phases, before and after mitigation, is presented in Table 10.9. This follows the proposed methodology and assumes that the appropriate mitigation measures identified in Tables 10.6 and 10.7 above would be implemented, and that the full effect of the soft landscape mitigation measures would be realized after ten years. Photomontages from the key view points to the Eastern Tunnel Portal and Western tunnel Portal before and after mitigation are illustrated in Drawing nos. 382403/PM/001 to 004 inclusive.

Description of visual compatibility of the project and Residual visual impacts in Construction Phase

10.8.8 The Eastern Tunnel Portal is proposed near the existing carpark to the north of Haw Par Mansion. Currently, Haw Par Mansion is not in use and the planned use and development programme is not known at this stage of the study. To the north of the site, there is existing woodland with dense trees and understory vegetation. There are two very mature trees (*Ficus elastica* and *Aleurites moluccana*) found in the carpark area and they will be preserved throughout the construction. Tai Hang Road is located at the north west of the site. There is an existing water channel running from the south east to the site. Large boulders are scattered along the channel and the basin of the channel is finished with sprayed concrete. The existing landscape and visual quality of the proposed site for Eastern Tunnel Portal is considered medium. The potential sources of visual impacts during the construction phase are described in Section 10.8.2. VSRs identified are motorists and pedestrians along Tai Hang Road and the occupants in the Light Middle School of Hong Kong. Their sensitivity is medium to low. After implementation of the proposed mitigation measures as described in Table 10.6 during the construction phase, the residual visual impacts are considered as slight.

10.8.9 The Western Tunnel Portal is proposed at the south west coastal line of Hong Kong Island. Cyberport Road and an artificial cut slope covered with hydroseeding are located to the north of the proposed site. To the east, there is an existing preliminary Treatment Works Complex. The existing landscape and visual quality of the proposed site for Western Tunnel Portal is considered low. The potential sources of visual impacts during the construction phase are described in Section 10.8.2. VSRs identified are motorists along Cyberport Road, workers in the Preliminary Treatment Works Complex and travelers on ferries at a distance to the south of site and their sensitivity is low. After the implementation of the proposed mitigation measures as described in Table 10.6 during the construction phase, the residual visual impacts are considered as slight.

10.8.10 There are 35 intake structures proposed along the main drainage tunnel from Tai Hang Road to Cyberport. The proposed sites for intake structures are mainly located in existing slopes, amenity areas, playgrounds and sitting out areas, alongside existing roads or paths, e.g. Bowen Road, Tai Hang Road, Blue Pool Road, May Road, Magazine Gap Road, Mt. Butler Road, Po Shan Road, Pokfulam Road, Tregunter Path, Glenealy Road, Breezy Path and Kotewall Road. The existing landscape and visual quality of the proposed sites vary from low to medium. Since the extent of temporary working areas for these intake structures are localized and occupied relatively small areas and there will be no massive temporary structures and construction plants erected within these works areas during construction phase, the magnitude of changes to the VSRs are therefore considered generally small to intermediate. Major VSRs are residential VSRs (high sensitivity) and traveling VSRs (low sensitivity) and a few recreational VSRs (medium

to high sensitivity) and institutional VSRs (medium sensitivity). After implementation of the proposed mitigation measures as described in Table 10.6 during the construction phase including erection of decorative hoarding and relatively short construction period (i.e about 8 months for most of the intake structure and 12 months for the deepest intake structure), the residual visual impacts are considered as slight to insubstantial.

Description of visual compatibility of the project and Residual visual impacts in Operation Phase

10.8.11 The existing visual context of the site for the Eastern Tunnel Portal is described in Section 10.8.8. The existing landscape and visual quality of the area is considered medium. The main source of visual impact is due to the permanent structure for tunnel portal and access road. The sensitivity for identified adjacent VSRs, motorists and pedestrians along Tai Hang Road and occupants in the Light Middle School of Hong Kong, is medium to low as the portal is set back from the carriageway and the screening effect by the existing trees and vegetation. After implementation of the proposed mitigation measures (OM1 and OM2) during the operation phase, the residual visual impacts are considered as slight in Day 1 and insubstantial after Year 10. The effectiveness of visual impact mitigation measures is illustrated in Drawing no. 382403/PM/001, /003 and /004.

10.8.12 The existing visual context of the site for Western Tunnel Portal is described in Section 10.8.9. The existing landscape and visual quality of the proposed site for Western Tunnel Portal is considered low. The main source of visual impact is due to the permanent structure for tunnel portal and access road. The proposed portal head wall is behind the existing Cyberport Road. Only a small portion of the head wall will be seen by the motorists on the Cyberport Road. The proposed tunnel portal will be covered by landscape deck with minimum 1.2m deep soil provided, on which trees and shrub mix suiting the seaside area will be planted. And the side wall will be provided with soft landscape treatment (as shown in Drawing 382403/S/L/103) to mitigate the impact of the tunnel portal. Moreover, the natural stone edging along the existing shoreline will be reinstated as far as possible. After implementation of the proposed mitigation measures (OM1, OM3 and OM4) during the operation phase, the residual visual impacts are considered as slight in Day 1 and insubstantial after Year 10. The effectiveness of visual impact mitigation measures is illustrated in Drawing no. 382403/PM/002.

10.8.13 The existing visual context of the 35 intake structures proposed is summarized in Section 10.8.10 and their key photo viewpoints are illustrated in Drawing 382403/P/001 to 006. The major source of visual impact is due to the permanent alienation of landscape areas for the provision of intake structures. Since there will be no major above ground structures proposed within boundary of the intake structure, the magnitude of change in visual quality on the existing VSRs is generally considered small except at Shafts BR4(P), MA15(P) and W0(P). The magnitude of change due to these structures on the existing recreational VSRs in the adjacent playground, sitting out area and garden are intermediate because the source of impact is rather close to these VSRs. However, after implementation of the proposed mitigation measures (OM1, OM3 and OM4) including compensatory planting and reinstatement of the open space during the operation phase, the residual visual impacts are considered as slight to insubstantial after Year 10. In particular to W0(P), since the shaft structure is nearby Lingnan Primary School and Kindergarden, the external finishing and color of the proposed shaft chamber will be designed to be compatible with the surrounding.

Table 10.9 Significance of Visual Impacts in the Construction and Operation Phases (Note: All impacts adverse unless otherwise noted)

VSR Type & ID.	Key Visually Sensitive Receiver (VSR)	Main Source of Visual Impact & Degree of Visibility (Full, Partial, Glimpse)	Minimum Distance Between VSR & Source(s) of Impact	Magnitude of Change (Negligible, Small, Intermediate, Large)		Receptor Sensitivity & Number (Low, Medium, High) (Very Few, Few, Many, Very Many)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
Sheet 1 - Shaft B2(P)													
(1)R1	Residential Blocks north of Shaft B2(P)	Shaft B2(P) (Partial)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(1)R2	Borrett Mansions	Shaft B2(P) (Full)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(1)T1	Motorists and Pedestrian along Bowen Road	Shaft B2(P) (Glimpse)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM3	Insubstantial	Insubstantial	Insubstantial
Sheet 2 - Shaft BR3													
(2)T1	Visitors to Bowen Road	Shaft BR3 (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1, OM3	Slight	Slight	Insubstantial
Sheet 3 - Shaft BR4(P)													
(3)O1	User in existing playground near Shaft BR4	Shaft BR4(P) (Full)	0m	Intermediate	Intermediate	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Slight
(3)T1	Visitors to Bowen Road	Shaft BR4(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Insubstantial
Sheet 4 - Shaft BR5(P)													

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(4)T1	Visitors to Bowen Road	Shaft BR5(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 5 - Shaft BR6(P)													
(5)R1	Caronia (No. 16 & 17 Bowen Road)	Shaft BR6(P) (Full)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(5)T1	Visitors to Bowen Road	Shaft BR6(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 6 - Shaft BR7(P) - ..													
(6)R1	Caronia (No. 16 Bowen Road)	Shaft BR7(P) (Full)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(6)R2	Residential block north of Bowen Road	Shaft BR7(P) (Partial)	5m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(6)T1	Visitors to Bowen Road	Shaft BR7(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 7 – Shaft DG1(P)													
(7)R1	Villa Monte Rosa	Shaft DG1(P)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial

VSR Type & ID.	Key Visually Sensitive Receiver (VSR)	Main Source of Visual Impact & Degree of Visibility (Full, Partial, Glimpse)	Minimum Distance Between VSR & Source(s) of Impact	Magnitude of Change (Negligible, Small, Intermediate, Large)		Receptor Sensitivity & Number (Low, Medium, High) (Very Few, Few, Many, Very Many)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			DAY 1	YEAR 10
(7)R2	Evergreen Villa	Shaft DG1(P)	50m	Small	Small	High (Few)	High (Few)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(7)GIC1	Rosaryhill School	Shaft DG1(P)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 8 - Eastern Portal													
(8)GIC1	True Light Middle School of Hong Kong	Eastern Portal (Partial)	20m	Large	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1, OM2 and OM4	Slight	Slight	Insubstantial
(8)T1	Motorists and Pedestrian along Tai Hang Road and existing carpark	Eastern Portal (Partial)	0-5m	Large	Small	Low (Many)	Low (Many)	Moderate	Slight	CM1 to CM8, OM1, OM2 and OM4	Slight	Slight	Insubstantial
Sheet 9 - Shaft E5(A)(P) & E5(B)(P)													
(9)R1	Buddist Li Ka Shing Care and Attention Home for Elderly	Shaft E5(A)(P) (Full)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(9)R2	Government Quarters, 135 Tai Hang Road	Shaft E5(A)(P) & E5(B)(P) (Full)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(9)T1	Motorists and Pedestrian along Tai Hang Road	Shaft E5(A)(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Insubstantial	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
Sheet 10 – Shaft E7(P)													
(10)R1	Greenside Villa	Shaft E7(P) (Partial)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(10)R2	Wendy Apartments	Shaft E7(P) (Partial)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(10)R3	Villa Dorada	Shaft E7(P) (Partial)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(10)GIC1	Marymount Primary School	Shaft E7(P) (Full)	10m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(10)T1	Motorists and Pedestrians along Blue Pool Road	Shaft E7(P) (Glimpse)	0m	Small	Small	Low (Many)	Low (Many)	Slight	Insubstantial	CM1 to CM8, OM1 and OM3	Insubstantial	Insubstantial	Insubstantial
Sheet 11 – Shaft GL1(P)													
(11)R1	Green Lane Hall	Shaft GL1(P) (Partial)	5m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 12 – Shaft HKU1(P)													
(12)R1	HKU Staff Quarters	Shaft HKU1(P) (Glimpse)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(12)GIC1	Chow Yei Ching Building	Shaft HKU1(P) (Full)	10m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(12)GIC2	Elliot Fresh Water and Salt Water Pumping Station	Shaft HKU1(P) (Full)	15m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 13 – Shaft HR1													
(13)R1	The Hong Kong Jockey Club Happy Valley Clubhouse	Shaft HR1 (Partial)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 14 – Shaft M3(P)													
(14)R1	Mayfair	Shaft M3(P) (Partial)	15m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(14)T1	Motorists and pedestrians in May Road	Shaft M3(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 15 – Shaft MA13(P) & MA14(P)													
(15)R1	Residential Blocks south of Magazine Gap Road	Shaft MA13(P) & MA14(P) (Partial)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(15)T1	Motorists and Pedestrians along Magazine Gap Road	Shaft MA13(P) & MA14(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 16 – Shaft MA15(P)													

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(16)R1	The Habour View	Shaft MA15(P) (Full)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Insubstantial
(16)R2	Rose Garden	Shaft MA15(P) (Partial)	40m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Insubstantial
(16)R3	Magazine Court	Shaft MA15(P) (Partial)	60m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Insubstantial
(16)O1	Visitor to existing garden adjacent to Shaft MA15(P)	Shaft MA15(P) (Full)	0m	Intermediate	Intermediate	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Insubstantial
(16)T1	Motorists and Pedestrians along Magazine Gap Road	Shaft MA15(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Slight	Insubstantial
Sheet 17 – Shaft MA17(P)													
(17)T1	Motorists and Pedestrians along Magazine Gap Road	Shaft MA17(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
Sheet 18 – Shaft MB16(P)													
(18)R1	Clement Court	Shaft MB16(P) (Partial)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(18)R2	Residential Blocks along Mt. Butler Road	Shaft MB16(P) (Full)	15m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial

VSR Type & ID.	Key Visually Sensitive Receiver (VSR)	Main Source of Visual Impact & Degree of Visibility (Full, Partial, Glimpse)	Minimum Distance Between VSR & Source(s) of Impact	Magnitude of Change (Negligible, Small, Intermediate, Large)		Receptor Sensitivity & Number (Low, Medium, High) (Very Few, Few, Many, Very Many)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(18)T1	Motorists and Pedestrians along Mt. Butler Road	Shaft MB16(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 19 – Shaft MBD2													
(19)R1	Amber Lodge	Shaft MBD2 (Full)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, and OM1	Slight	Slight	Insubstantial
(19)R2	Vardine Terrace	Shaft MBD2 (Glimpse)	40m	Small	Negligible	High (Few)	High (Few)	Slight	Insubstantial	CM1 to CM8, and OM1	Insubstantial	Insubstantial	Insubstantial
(19)T1	Motorists and Pedestrians along Mt. Butler Road	Shaft MBD2 (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, and OM1	Slight	Insubstantial	Insubstantial
Sheet 20 – Shaft P5(P)													
(20)R1	Haddon Court	Shaft P5(P) (Partial)	40m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(20)R2	Residential Block South of Po Shan Road	Shaft P5(P) (Full)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(20)R3	Residential Block North of Po Shan Road	Shaft P5(P) (Partial)	15m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(20)T1	Motorists and Pedestrians along Po Shan Road	Shaft P5(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial

VSR Type & ID.	Key Visually Sensitive Receiver (VSR)	Main Source of Visual Impact & Degree of Visibility (Full, Partial, Glimpse)	Minimum Distance Between VSR & Source(s) of Impact	Magnitude of Change (Negligible, Small, Intermediate, Large)		Receptor Sensitivity & Number (Low, Medium, High) (Very Few, Few, Many, Very Many)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
Sheet 21 – Shaft PFLR1(P)													
(21)R1	Emerald Garden	Shaft PFLR1(P) (Partial)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(21)R2	Pokfulam Heights	Shaft PFLR1(P) (Partial)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(21)R3	Honey Court	Shaft PFLR1(P) (Partial)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(21)O1	Pokfulam Road Playground	Shaft PFLR1(P) (Full)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(21)T1	Pokfulam Road	Shaft PFLR1(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM3	Insubstantial	Slight	Insubstantial
Sheet 22 – Shaft RR1(P)													
(22)R1	Blessings Garden	Shaft RR1(P) (Glimpse)	30m	Small	Negligible	High (Few)	High (Few)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(22)R2	Scenic Heights	Shaft RR1(P) (Glimpse)	20m	Small	Negligible	High (Few)	High (Few)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(22)R3	Parksville and Merry Court	Shaft RR1(P) (Full)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial

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											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(22)T1	Motorist and Pedestrian along Robinson Road and Castle Road	Shaft RR1(P) (Full)	0m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
Sheet 23 – Shaft THR2(P)													
(23)R1	Wan Chui Yuen	Shaft THR2(P) (Partial)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(23)GIC1	French International School	Shaft THR2(P) (Partial)	10m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(23)GIC2	Hong Chi Lions Morninghill School	Shaft THR2(P) (Partial)	10m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(23)GIC3	Hong Kong Japanese School	Shaft THR2(P) (Partial)	10m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 24 – Shaft TP4(P)													
(24)R1	Tregunter	Shaft TP4(P) (Full)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(24)T1	Motorists and Pedestrians along Tregunter Path	Shaft TP4(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 25 – Shaft TP5(P)													

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(25)R1	Tavistock	Shaft TP4(P) (Full)	20m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(25)R2	Valverde	Shaft TP4(P) (Full)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(25)T1	Motorists and Pedestrians along Tregunter Path	Shaft TP5(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 26 – Shaft TP789(P)													
(26)R1	May Tower	Shaft TP789(P) (Partial)	50m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(26)R2	Tavistock	Shaft TP789(P) (Full)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(26)T1	Motorists and Pedestrians along Tregunter Path	Shaft T789(P) (Full)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial
Sheet 27 – Shaft W0(P)													
(27)R1	Residential Blocks south of Stubbs Road	Shaft W0(P) (Partial)	30m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(27)GIC1	Lingnan School	Shaft W0(P) (Full)	20m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(27)GIC2	Sr. Ellis Kadoorie Secondary School	Shaft W0(P) (Full)	20m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(27)O1	Stubbs Road Sitting Out Area	Shaft W0(P) (Full)	0m	Intermediate	Intermediate	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
Sheet 28 – Shaft W1(P)													
(28)R1	Residential Blocks south of Shaft W1(P)	Shaft W1(P) (Partial)	5m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial
(28)T1	Wan Chai Gap Road	Shaft W1(P) (Glimpse)	10m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial
Sheet 29 – Shaft W3(P)													
(29)GIC1	ASD/EMSD Depot	Shaft W3(P) (Full)	0m	Intermediate	Small	Low (Few)	Low (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 30 – Shaft W5(P)													
(30)GIC1	Raimongi College	Shaft W5(P) (Partial)	0m	Intermediate	Small	Medium (Few)	Medium (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(30)\T1	Motorists and Pedestrians along Glenealy Road	Shaft W5(P) (Full)	0m	Intermediate	Small	Low (Few)	Low (Few)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
Sheet 31 – Shaft W8(P)													

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(31)R1	80 Robinson Road	Shaft W8(P) (Partial)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Insubstantial	Insubstantial
(31)R2	Boham Court	Shaft W8(P) (Full)	5m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Insubstantial	Insubstantial
(31)T1	Motorists and Pedestrians along Breezy Path	Shaft W8(P) (Partial)	0m	Intermediate	Small	Low (Few)	Low (Few)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Insubstantial	Insubstantial
Sheet 32 – Shaft W10													
(32)R1	University Heights	Shaft W10 (Partial)	20m	Small	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(32)R2	Residential Development south of Conduit Road	Shaft W10 (Partial)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(32)R3	University Lodge	Shaft W10 (Partial)	40m	Small	Small	High (Few)	High (Few)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
(32)T1	Motorists and Pedestrians along Conduit Road and Kotewall Road	Shaft W10 (Full)	0m	Intermediate	Small	Low (Few)	Low (Few)	Slight	Slight	CM1 to CM8, OM1 and OM4	Slight	Slight	Insubstantial
Sheet 33 – Shaft W11													
(33)O1	Sitting Out Area east of Kotewall Road	Shaft W11 (Full)	10m	Intermediate	Small	High (Few)	High (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(33)GIC1	Kotewall Fire Station	Shaft W11 (Partial)	10m	Intermediate	Small	Low (Few)	Low (Few)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(33)T1	Motorists and Pedestrians along Kotewall Road	Shaft W11 (Full)	0m	Intermediate	Small	Low (Few)	Low (Few)	Moderate	Slight	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
Sheet 34 – Shaft W12(P)													
(34)R1	La Ciare Mansion	Shaft W12(P) (Glimpse)	30m	Small	Small	High (Few)	High (Few)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial
(34)R2	Sylvanbrook	Shaft W12(P) (Full)	0m	Intermediate	Small	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(34)R3	Pokfulam Mansion and Pokfulam Court	Shaft W12(P) (Partial)	0m	Small	Small	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(34)O1	Pokfulam Road Playground	Shaft W12(P) (Glimpse)	10m	Small	Small	High (Few)	High (Few)	Moderate	Moderate	CM1 to CM8, OM1 and OM3	Slight	Slight	Insubstantial
(34)T1	Motorists and Pedestrians along Pokfulam Road	Shaft W12(P) (Full)	0m	Intermediate	Small	Low (Few)	Low (Few)	Slight	Slight	CM1 to CM8, OM1 and OM3	Slight	Insubstantial	Insubstantial
Sheet 35- Western Portal													
(35)GIC1	Preliminary Treatment Works Complex	Western Portal and Temporary Pier (Full)	5m	Large	Intermediate	Low (Very Few)	Low (Very Few)	Slight	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Insubstantial	Insubstantial

VSR Type & ID.	**Key Visually Sensitive Receiver (VSR)**	**Main Source of Visual Impact & Degree of Visibility** (Full, Partial, Glimpse)	**Minimum Distance Between VSR & Source(s) of Impact**	**Magnitude of Change** (Negligible, Small, Intermediate, Large)		**Receptor Sensitivity & Number** (Low, Medium, High) (Very Few, Few, Many, Very Many)		**Impact Significance Threshold BEFORE Mitigation** (Insubstantial, Slight, Moderate, Substantial)		**Recommended Mitigation Measures**	**Residual Impact Significance Threshold AFTER Mitigation** (Insubstantial, Slight, Moderate, Substantial)		
											Construction	Operation	
				Construction	Operation	Construction	Operation	Construction	Operation			**DAY 1**	**YEAR 10**
(35)T1	Motorists along Cyber Port Road	Western Portal and Temporary Pier (Partial)	5m	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Insubstantial	Insubstantial
(35)T2	Travellers on ferries to the south of the Western Portal	Western Portal and Temporary Pier (Glimpse)	700m+	Intermediate	Small	Low (Many)	Low (Many)	Slight	Slight	CM1 to CM8, OM1, OM3 and OM4	Slight	Insubstantial	Insubstantial

10.9 Conclusion

10.9.1 In accordance with with Section 3.2 (i), 3.2(vi), and Section 3.4.7 of the EIA Study Brief No. ESB-070/2001, this report identifies and assesses the landscape and visual impact associated with the Designated Project.

Review of Planning and Development Control Framework

10.9.2 The Eastern Portal falls within the green belt zone as shown in OZP no. S/H8/10. Part of the drainage improvement works to the existing stream channel will potentially be in conflict with the planned roadwork as shown in OZP no. S/H6/13. The planned roadwork shall be reviewed and realigned to accommodate the proposed drainage improvement works where necessary.

10.9.3 The Western Portal is proposed next to the existing DSD Sewage Treatment Facility at the south of the existing Cyberport Road. Major portion of the Western Portal falls within the south end of a planned open space as shown in OZP no. S/H10/15. The proposed Western Portal will not divide the planned open space into two portions and will not impose significant constraint to the future development of the planned open space (24,000m^2). The impact on the planned open space will mainly be arising from the permanent alienation of land. An approximately 1,000m^2 of land will be permanently alienated for the proposed western portal. The alienated area is the minimum area necessary for access purpose as it is the only access point to an underground structure for regular inspection by the maintenance authority. From the safety and security points of view, it is required to fence off the area to prevent unauthorized entry of the public as the underground structure may be flooded during the severe rainstorm event. As the extent of permanently alienated area accounts for 4% of the planned open space in the area, the impact on the planned open space will be considered as slight.

10.9.4 There are a total of 35 Intake Shafts proposed for the Drainage Improvement Works. They are scattered along both sides of the proposed tunnel alignment from the north to the west of Hong Kong Island and located within existing Open Spaces, GIC site, Residential Site, Major Road and Green Belt. Since, the Intake Shafts are localized and occupied relatively small areas. There will not be significant impact on the planned development framework within the area.

Landscape Impact

10.9.5 The location for the proposed temporary and permanent works for the portals and intake shafts has been reviewed and are not within any Country Parks boundary. Hence, there will be no impact on the Country Parks due to the proposed works.

10.9.6 Within the Eastern Portal works areas, there will be one existing tree (*Syzygium cuminii*) in the carpark will potentially be affected by the proposed temporary works and therefore proposed to be transplanted to a holding nursery during the construction period and replanted back to the site after the works are completed. Other trees within the carpark including *Ficus elastica* and *Aleurites moluccana* will be retained and protected on site. All trees on the existing woodland slope will be protected and retained on site. The impact on existing trees due to the proposed works is therefore considered as slight. The residual impact is considered as acceptable with mitigation measures during the construction and operation phase.

10.9.7 Within the Western Portal works areas, there are no existing trees found on site. An existing hydroseeded slope to the north of the Cyberport Road will be permanently alienated by the proposed head wall of the western portal. Since the landscape and amenity value of the hydroseeded slope is low and the magnitude of impact is slight and the loss of hydroseeding area will be compensated by the provision of tree planting on the area above the tunnel structure. The residual impact is considered as acceptable with mitigation measures during the construction and operation phase.

10.9.8 Based on the preliminary tree survey findings, there are approximate 563 trees surveyed within the proposed works boundary. Of these, approximate 410 trees are recommended to be retained on site, 90 trees are recommended to be transplanted and 63 trees are recommended to be felled. As far as possible, mature trees over 1m in diameter are to be preserved on site. There will be approximate 1,600m^2 of existing woodland will be permanently loss due to the proposed works. Approximate 5,300m^2 of existing woodland will be temporarily loss. Approximate 799m2 of amenity area will be temporarily loss. In order to compensate for the loss of existing trees and woodland area, approximate 10,187m^2 of woodland mix planting, 1,059m^2 amenity planting area and minimum 121 heavy standard trees will be provided for the proposed project. The residual impact is considered acceptable with mitigation measures. The detailed proposal of trees felling and transplantation is subject to Lands Department's approval on tree felling application at the detailed design stage.

10.9.9 An approximately 91m of existing stream courses will be temporarily loss and an approximately 85m of existing stream courses will be permanently loss and approximate due to the proposed project. Since these impacts are scattered among various locations and the magnitude of change on individual location is small, it is therefore considered the residual impacts are slight and acceptable with mitigation measures.

10.9.10 There will be permanently and irreversibly loss of existing open spaces due to the operation of the Project. There will be 1,392m^2 of open space will be loss due to Shaft BR4(P), Shaft W0(P) and Western Portal. The residual impact on the open space is localized. It is therefore considered the residual impacts are slight and acceptable with mitigation measures.

10.9.11 Approximate 799m^2 of roadside amenity area will be temporarily loss due to the proposed work. Approximate 548m^2 of these amenity areas will be reinstated after construction. Approximate 215m^2 of amenity area will be permanently and irreversibly loss due to the proposed work. Since these impacts are scattered among several locations and the magnitude of change is small, it is therefore considered the residual impacts are slight and acceptable

Visual Impact

10.9.12 The major sources of visual impact during the construction phase of the project are due to the permanent loss of existing vegetation and temporary construction works. After implementation of proposed mitigation measures, the residual visual impacts during the construction phase are considered acceptable with mitigation measures

10.9.13 The major sources of visual impact during the operational phase of the project are due to the changes in existing visual quality due to the permanent alienation of landscape areas for the Eastern Tunnel Portal, Western Tunnel Portal and the intake structures and permanent erection of the above ground structures for the Eastern and Western Tunnel

Portals. After implementation of proposed mitigation measures, the residual visual impacts during the operation phase are considered acceptable with mitigation measures.

Landscape and Visual Mitigation Measures

10.9.14 The proposed landscape and visual mitigation measures during the construction phase include:

- CM1 Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.
- CM2 The existing natural landscape/ tree should be preserved as far as possible; Existing trees to be retained on site should be carefully protected during construction.
- CM3 Trees unavoidably affected by the works should be transplanted where practical.
- CM4 Compensatory tree planting should be provided to compensate for felled trees.
- CM5 The extent of disturbance on the existing stream course should be minimized. Any temporary works areas within the stream course shall be reinstated after construction.
- CM7 Control of night-time lighting
- CM8 Erection of decorative screen hoarding

10.9.15 The proposed landscape and visual mitigation measures during the operation phase include:

- OM1 Aesthetic design of above ground structures with external finishing and color to be compatible with surrounding area
- OM2 Toe planter with tall tree, shrub and climber planting shall be provided to screen the Eastern Portal Tunnel and the retaining wall for access road.
- OM3 Buffer tree and shrub planting shall be provided to screen above ground structures and blend in the structures with the surrounding landscape setting.
- OM4 Existing hard and soft landscape areas to be affected by temporary works shall be reinstated.