9 LANDSCAPE AND VISUAL IMPACT

9.1 INTRODUCTION

9.1.1 This section presents the assessment of potential landscape and visual impact associated with the construction and operation of the Project in accordance with Clause 3.4.10 and Appendix H of the EIA Study Brief **No. ESB-338/2021**.

9.1.2 The Landscape and Visual Impacts Assessment (LVIA) is prepared in accordance with the criteria and guidelines as stated in Annexes 10 and 18 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) and the Environmental Impact Assessment ordinance (EIAO) Guidance Note No. 8/2010 on "Preparation of Landscape and Visual Impact Assessment under the Environmental Impact Assessment Ordinance".

9.1.3 The assessment area for the landscape impact assessment includes areas within a 500m distance from the site boundary (**Figure 9.1**). The assessment area for the visual impact assessment is defined by the visual envelope (**Figure 9.6.1**).

9.2 ENVIRONMENTAL LEGISLATION, STANDARDS AND GUIDELINES

9.2.1 The following or the latest legislation, standards, circulars and guidelines will be referenced in the LVIA.

- Environmental Impact Assessment Ordinance Guidance Note No. 8/2010;
- Environmental Impact Assessment Ordinance (CAP.499. S16) and EIAO-TM Annexes 3,10,11,18,20 & 21;
- Town Planning Board Guideline No. 41 – Guidelines on submissions of Visual Impact Assessment for Planning Applications to the Town Planning Board;
- Town Planning Ordinance (Cap 131) and Town Planning (Amendment) Ordinance;
- Hong Kong Planning Standards and Guidelines Chapters 4, 10, 11 and Section 7 in Chapter 12;
- Forests and Countryside Ordinance (CAP.96);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap.586);
- AFCD Nature Conservation Practice Note No. 2 – Measurement of Diameter at Breast Height (DBH);
- AFCD Nature Conservation Practice Note No. 3 – The Use of Plant Names;
- DEVB TC(W) No. 2/2012 – Allocation of Space for Quality Greening on Roads;
- DEVB TC(W) No. 3/2012 – Site Coverage of Greenery for Government Building Projects;
- DEVB TC(W) No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features;
- DEVB TC(W) No. 1/2018 – Soft Landscape Provisions for Highway Structures;
- DEVB TC(W) No. 4/2020 – Tree Preservation;
- DEVB TC(W) No. 5/2020 – Registration and Preservation of Old and Valuable Trees;
- DEVB – Guidelines on Tree Transplanting (September 2014);

- Development Bureau, Greening, Landscape and Tree Management Section (GLTMS) – Guidelines on Tree Preservation during Development (April 2015);
- Development Bureau, Greening, Landscape and Tree Management Section (GLTMS) – Guidelines for Tree Risk Assessment and Management Arrangement, ((9th edition (Rev. 3), 26 January 2022));
- ETWB No. 36/ 2004 – Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS);
- GEO Publication No. 1/2011 – Technical Guidelines on Landscape Treatment for Slopes;
- Landscape Character Map of Hong Kong;
- PlanD - Urban Design Guidelines for Hong Kong; and
- Study on Landscape Value Mapping of Hong Kong.

9.3 ASSESSMENT METHODOLOGY

Landscape Impact Assessment Methodology

9.3.1 The landscape impacts have been assessed according to the following procedures.

9.3.2 **Identification of the existing Landscape Resources (LRs) and sensitive Landscape Character Areas (LCAs) found within the assessment boundary**. This is achieved by desktop study of topographical maps, information databases, photographs and subsequent site visits for verification.

9.3.3 **Assessment of the degree of sensitivity of the LRs and LCAs**. This is influenced by a number of factors whether the LR or LCA is common or rare, whether it has any local, regional, national or global importance, whether there are any statutory or regulatory limitations/ requirements, quality, maturity and the ability of the LRs or LCAs to accommodate change. The sensitivity of each LR and LCA 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 values landscape characteristics, reasonably tolerant to changes.
- **Low** – Landscape or landscape resource, largely tolerant to change.

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

9.3.5 **Assessment to the potential magnitude of change in LR or LCA.** This is influenced by a number of factors including the physical extent of the impact, the compatibility of the Project with the existing and planned landscape setting, the landscape heritage setting, recreation and tourism related uses, and scenic spot, duration of the impact and reversibility of the change. The magnitude of change for LR and LCA is classified as follows:

- **Large** – The landscape or landscape resource would suffer from a major change.
- **Intermediate** – The landscape or landscape resource would suffer from a moderate change.
- **Small** – The landscape or landscape resource would suffer from slight or barely perceptible change.
- **Negligible** – The landscape or landscape resource would suffer from no discernible change.

9.3.6 **Identification of potential landscape mitigation measures**. These may take the form of adopting basic engineering design to prevent and/or minimise adverse landscape impact before adopting other mitigation or compensatory measures to alleviate the impacts. Potential mitigation measures should also include the preservation of vegetation and natural landscape resources, transplanting trees with good condition and high amenity value, enhancement of existing landscape quality by providing of planting with screening, shading and ornamental value, re-vegetation of disturbed lands, compensatory planting, aesthetic design of aboveground structures including provision of finishes, colour scheme, texture of materials used and any measures to mitigate the impact on the existing and planned land use and visually sensitive receivers. A programme for the mitigation measures is provided. The agencies responsible for the funding, implementation, management and maintenance of the mitigation measures are identified.

9.3.7 **Prediction of the impact significance of landscape impacts before and after the implementation of mitigation measures**. By synthesizing the magnitude of change and sensitivity of the identified LRs and LCAs, it is possible to categorize impacts in a logical, well-reasoned and consistent fashion.

9.3.8 **Table 9.1** shows the rationale for dividing the degree of significance into four thresholds, Negligible, slight, moderate, and substantial. The thresholds depend on the combination of a negligible, small, intermediate, or large magnitude of change with a low, medium or high degree of sensitivity to change of landscape resource/ character. A derivative for judging the landscape and visual impact significance as required under the Annexes 10 and 18 of the TM. Cumulative landscape and visual impacts of the Project with other existing, committed and planned developments in the assessment area shall be assessed.

Table 9.1 Relationship between Sensitivity and Magnitude of Change in Assessing Impact Significance

Magnitude of Change	**Large**	Moderate	Moderate / Substantial	Substantial
	Intermediate	Moderate / Slight	Moderate	Moderate / Substantial
	Small	Slight	Slight / Moderate	Moderate
	Negligible	Negligible	Negligible	Negligible
		Low	**Medium**	**High**
		Sensitivity of Landscape Character Areas & Resources		

Note:
All impact significance will be adverse unless otherwise stated. Thresholds are defined below.
Substantial *– The Project will cause significant adverse deterioration/ beneficial improvement to the existing landscape.*
Moderate *– The Project will cause a noticeable adverse deterioration/ beneficial improvement to the existing landscape.*
Slight *– The Project will cause a slight adverse deterioration/ beneficial improvement to the existing landscape.*
Negligible *– The Project will cause no discernible change to the existing landscape.*

Visual Impact Assessment Methodology

9.3.9 The visual impacts have been assessed according to the following procedures:

9.3.10 **Identification and plotting of the Visual Envelope**. This is achieved by desktop study of topographic maps, street maps, photographs, cross-sections to determine visibility and subsequent site visits.

9.3.11 **Identification of Visually Sensitive Receivers** (**VSRs) within the Visual Envelope**. VSRs are classified according to whether a person is at home, at work, at play, or travelling and are detailed below.

(a) Those who view the impact from homes are highly sensitive as the character of view quality from their home will have a substantial effect on their perception of quality, acceptability of their home environment and their general quality of life. People residing in temporary

accommodation, such as hotels, are also considered highly sensitive as the view is a key pricing factor in room cost. These VSRs are termed Residents.

(b) Those who view the impact from their workplace and leisure activities are relatively less sensitive to the character of the view. The view is considered to have a less important effect on their perception to quality of life. These VSRs are termed Occupants and Recreational Users.

(c) Those who view the impact while travelling in public/private vehicles or on foot will display varying sensitivity depending on the speed, nature and frequency of travel. These VSRs are termed Travellers.

9.3.12 Assessment of sensitivity of VSR. Factors considered when assessing VSR sensitivity to change include value and quality of existing views, type and estimated number of receiver population, availability and amenity alternative views, duration or frequency of view, and degree of visibility. The sensitivity of the VSRs is classified as follows:

- **High** – The VSR is highly sensitive to any change in their viewing experience.
- **Medium** – The VSR is moderately sensitive to any change in their viewing experience.
- **Low** – The VSR is only slightly sensitive to any change in their viewing experience.

9.3.13 **Identification of potential sources of visual impacts**. These are the various elements of the construction works and operation procedures that have potential to cause visual impacts.

9.3.14 **Assessment of the potential magnitude of change to VSR**. The magnitude of change depends on a number of factors including:

- Compatibility of the Project with the surrounding landscape;
- Duration of impacts;
- Scale of impact;
- Reversibility of the impact;
- Distance of the source of impact from the viewer;
- Degree of visibility of the impact and the degree that the impact dominates the field of vision of the viewer; and
- Duration of Visual impacts under construction and operation phases.

The magnitude of change is classified as follows:

- **Large** – The VSRs will experience a major change in the character of their existing views.
- **Intermediate** – The VSRs will experience a moderate change in the character of their existing views
- **Small** – The VSRs will experience a small change in the character of their existing views.
- **Negligible** – The VSRs will experience no discernible change in the character of their existing views.

9.3.15 Identification of the potential visual mitigation and enhancement measures. These may take the form of adopting alternative designs or revisions to the basic engineering, preservation of vegetation and existing landscape resources, infrastructure and architectural designs to prevent and/ or minimise adverse impacts, remedial measures such as colour and textural treatment of built structures, landscape design and greening; compensatory measures such as tree planting. A programme for the mitigation measures is provided. The agencies responsible for the funding, implementation and management/ maintenance of mitigation measures is identified and detailed. The visual mitigation measures will be recommended for construction phase and operation phase.

9.3.16 **Prediction of the impact significance of visual impacts before and after the implementation of mitigation measures**. By assessing the magnitude of change and the sensitivity of VSR and the number of individuals in the VSR that are affected, it is possible to categorise the degree of significance of the impacts in a logical, well-reasoned and consistent fashion.

9.3.17 **Table 9.2** shows the rationale for dividing the degree of significance into four thresholds, namely, Negligible, Slight, Moderate and Substantial, depending on the combination of a magnitude of change and sensitivity of VSRs.

Table 9.2 Relationship between Sensitivity and Magnitude of Change in Assessing Impact Significance

Magnitude of Change	**Large**	Moderate	Moderate / Substantial	Substantial
	Intermediate	Moderate / Slight	Moderate	Moderate / Substantial
	Small	Slight	Slight / Moderate	Moderate
	Negligible	Negligible	Negligible	Negligible
		Low	**Medium**	**High**
		Sensitivity of VSRs		

Note:
All impact significance will be adverse unless otherwise stated.
***Substantial** – The Project will cause significant adverse deterioration/ beneficial improvement to the existing visual quality.*
***Moderate** – The Project will cause a noticeable adverse deterioration/ beneficial improvement to the existing visual quality.*
***Slight** – The Project will cause a slight adverse deterioration/ beneficial improvement to the existing visual quality.*
***Negligible** – The Project will cause no discernible change to the existing visual quality*

9.4 REVIEW OF PLANNING AND DEVELOPMENT CONTROL FRAMEWORK

9.4.1 A review of the existing and planned development framework for the proposed works and for the surroundings was considered. It aims to gain an insight to the outlook of area affected, identify potential resources and sensitive receivers, and evaluated the compatibility between the Project and the existing and planned land-use setting.

9.4.2 The assessment area is covered under the Approved Fanling / Sheung Shui Outline Zoning Plan No. S/FSS/25. The zoning of land use land use is shown in **Figure 9.2**. The existing zonings of land use may be potentially affected by the road works, the future and current outlook of the area is discussed and summarized in the below **Table 9.3**.

Table 9.3 Summary of Review of Planning and Development Control Framework

Land use Zones	Approx. Area Affected (ha)	Current Design and Planning Intention	Anticipated Future Outlook of the Area Caused by Project
Open Space (O)	1.95	This zone is intended primarily for the provision of outdoor open-air public space for active and/or passive recreational uses serving the needs of local residents as well as the general public	The Project involve the reprovision of footpath and cycle track which is in line with the primary intention of the approved OZP. However, a small portion of open space will be affected and buffer planting around the existing So Kwun Po Road will decrease. In general, the quality of the spaces in this area will be decreased slightly after the proposed works are carried out.
Government, Institution or Community (G/IC)	2.28	This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory.	The Project is intended to serve as a safer route for pedestrians and cyclists and involve the construction of a subway access, pedestrian footpath connection, cycle track and landscape planting. The concerned area is small and its significance to the local and regional context is slight. In general, the quality of the space in this area will remain generally the same.
Residential (Group A) (R(A))	0.23	This zone is intended primarily for high-density residential developments.	
Residential (Group B) (R(B))	0.07	This zone is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Town Planning Board	
Other Specified Uses (OU)	0.53	This zone is primarily to provide land for a public transport interchange with commercial uses	

9.5 PRELIMINARY LANDSCAPE BASELINE STUDY

Landscape Resources (LRs)

9.5.1 Details of Baseline LRs which will be potentially affected by the Project, together with their sensitivity are described in **Table 9.4**. Locations of the baseline LRs are indicated in **Figure 9.3** and photographs of identified LRs can be found in **Figures 9.5.1 to 9.5.3**.

Table 9.4 Baseline Landscape Resources (LRs) and Sensitivity

LRs	Description	Sensitivity
LR1.1 Car Park (2.45 ha)	This LR consists of little vegetation cover and is predominant by concrete paved area. Most plantings are found along the edge of carpark. Tree species included *Aleurites moluccana, Bauhinia spp., Cinnamomum camphora, Crateva unilocularis, Delonix regia, Ficus macrocarpa & Michelia × alba.* Shrub species included *Chloris virgata, Cynodon dactylon, Panicum maximum & Solanum Americanum.*	**Low**

LRs	Description	Sensitivity
	Condition of plants range from poor to fair. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: low* *Maturity: Low*	
LR1.2 Public Transit (2.64 ha)	This LR consists of little vegetation cover and is predominant by track on loose gravel. It has limited vegetation with weeds or naturally seeded vegetation growing along the side of the track. Tree species included *Bauhinia spp., Delonix regia, Ficus macrocarpa, Ficus virens, Leucaena leucocephala, Melaleuca cajuputi,& Macaranga tanarius.* Shrub species included *Bidens alba, Epipremnum aureum, Schefflera actinophylla & Schefflera arboricola.* Condition of plants range from poor to fair. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: Low* *Maturity: Low*	**Low**
LR2.1 Roadside Plantation (13.13 ha)	This LR consists of RVGZ and the CMGZ along the local distributors and landscape buffer zones on both sides of Fanling Highway and Railway Line. Tree of Particular Interest (Mature) included: *Ficus virens* (黃葛樹) (T-0776, T-1008, T-1018 and T-1806) and *Melaleuca cajuputi* subsp. *cumingiana* (白千層) (T-1012). Tree species included *Acacia confuse, Archontophoenix alexandrae* *Ficus macrocarpa, Ficus virens, Peltophorum pterocarpum & Melaleuca cajuputi subsp. cumingiana.* Shrub species included *Alocasia macrorrhizos, Bidens alba, Duranta repens & Oxalis corniculate.* Condition of plants range from fair to fair. *Quality: Medium* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Low*	**Medium**
LR2.2 Hillside Woodland (9.47 ha)	This LR consists of undeveloped area situated atop of small knoll. Graves can be found within this LR, mostly situated at mid or top of the knoll. Tree species included *Aleurites moluccana, Roystonea regia, Mangifera indica, Ficus hispida, Macaranga tanarius var. tomentosa & Cratoxylum cochinchinense.* Shrub species included *Alocasia macrorrhizos, Ligustrum sinense, Lophatherum gracile, Microstegium ciliatum, Rhapis excelsa & Wedelia trilobata.* Condition of plants range from poor to fair.	**High**

LRs	Description	Sensitivity
	Quality: High Importance / Rarity: High Ability to Accommodate Change: Low Local / Regional Significance: High Maturity: Medium	
LR3.1 North District Park (8.81 ha)	This is a public park serves for local and district residents. It is divided in the middle by So Kwun Po Road into 2 main areas. The eastern area is mainly for passive recreation and contains an artificial lake and gardens. The western area is mainly for active recreation with some smaller gardens. Tree of Particular Interest (Mature) included: *Ficus microcarpa* (細葉榕) (T-1851). Tree species included*: Ficus microcarpa, Cinnamomum camphora, Khaya senegalensis and Rhodoleia championii. Callistemon viminalis, Elaeocarpus hainanensis & Delonix regia.* Shrub species included *Asparagus densiflorus* 'Myersii', *Cordyline fruticose, Duranta repens* 'Variegata', *Excoecaria cochinchinensis, Ixora stricta & Melastoma malabathricum*. Condition of plants are good, as they are well-maintained. *Quality:* High *Importance / Rarity:* High *Ability to Accommodate Change:* Medium *Local / Regional Significance:* High *Maturity:* High	**High**
LR3.2 Parks & Playgrounds (7.78 ha)	This LR consists small to moderately-sized public parks and playgrounds serve for local residents. They consist of mainly passive recreation areas with smaller areas sectioned off for children's playgrounds, elderly fitness area or ball courts. Tree species included *Bauhinia spp, Ixora chinensis, Cinnamomum burmannii, Tabebuia chrysantha, Ficus benjamina & Sterculia lanceolata.* Shrub species included *Duranta erecta*, *Duranta repens 'Variegata', Ixora stricta, Loropetalum chinense f. rubrum & Lantana camara.* Condition of plants are good, as they are well maintained. *Quality:* Medium *Importance / Rarity:* Medium *Ability to Accommodate Change:* Medium *Local / Regional Significance:* Low *Maturity:* Medium	**High**
LR4.1 Public Housing (30.21 ha)	This LR consists of a high-rise public housing estate with seating areas, children's playgrounds, elderly fitness areas and other public facilities. Tree species included *Bombax ceiba, Livistona chinensis, Bauhinia* spp, *Delonix regia, Ficus microcarpa, Macaranga tanarius* var. *tomentosa, Melaleuca cajuputi.*	**Medium**

LRs	Description	Sensitivity
	Shrub species included *Alpinia zerumbet* "Variegata", *Calliandra haematocephala, Carmona microphylla, Caryota mitis, Hibiscus rosa-sinensis & Ravenala madagascariensis.* Condition of plants are good, as they are well maintained. *Quality: Medium* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Medium*	
LR4.2 Private Residential Development (15.11 ha)	This LR consists of high-rise private residential development with private parks and playground either located at grade or at podium level. It consists of mainly passive recreation areas with swimming pool, scattered ball courts, children's playground and elderly fitness area. Tree species included *Corymbia citriodora, Lagerstroemia speciosa, Pongamia pinnata, Cinnamomum burmannii, Livistona chinensis, Aleurites moluccana & Ficus macrocarpa.* Shrub species included *Bougainvillea spectabilis, Combretum indicum, Cyperus involucratus, Dypsis lutescens, Ixora stricta & Juniperus chinensis.* Condition of plants are good, as they are well maintained and used only by residents. *Quality: Medium* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Medium*	**Medium**
LR4.3 Low-rise Urban Development (11.07 ha)	This LR consists low-rise mix-use building blocks of 2-3 stories building blocks characterized by commercial mix-uses on the ground floor and residential on upper levels, interwoven with narrow streets on orthogonal grid. It is mainly paved with concrete or bitumen and thus have limited vegetation cover within this LR. Tree species included *Juniperus chinensis, Terminalia catappa, Ficus macrocarpa.* Shrub species included *Aloe vera.* Shrub species included *Catharanthus roseus, Cyperus involucratus, Dracaena surculose, Podocarpus macrophyllus & Sansevieria trifasciata.* Condition of plants range from poor to fair. *Quality: Medium* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Low*	**Medium**
LR4.4 Rural Village (13.20 ha)	This LR consists typical villages with low-rise residential settlement and limited infrastructure. The village houses are relatively compacted with limited rooms for planting. Vegetation consists of a mixture of self-seeded and cultivated trees, it tends to be unmanaged and are found mainly at the periphery of the villages.	**Medium**

LRs	Description	Sensitivity
	Tree species included *Bauhinia spp., Crateva unilocularis, Ficus hispida, Ficus microcarpa, Mangifera indica, Mallotus paniculatus & Lagerstroemia speciosa.* Vegetation species included *Alocasia macrorrhizos, Lygodium japonicum, Mikania micrantha, Musa x paradisiaca, Passiflora suberosa, Pennisetum purpureum.* Condition of plants range from poor to fair. *Quality: Low* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: high*	
LR5.1 Multi-purpose Sports Facility (2.60 ha)	This LR mainly consists of large sports grounds, such as swimming pools and sports centre intended to serve the district. Most of the landscaping is limited to outside the main sports ground and is well-maintained. Tree species included *Aleurites moluccana, Callistemon viminalis, Ficus virens, Koelreuteria bipinnata, Livistona chinensis, Lagerstroemia speciosa & Roystonea regia.* Shrub species included *Cordyline fruticosa, Calliandra haematocephala, Ixora stricta, Loropetalum chinense f. rubrum.* Condition of plants are in fair condition. Quality: Medium Importance / Rarity: Medium Ability to Accommodate Change: Medium Local / Regional Significance: Low Maturity: Medium	**Medium**
LR6.1 Actively Cultivated Land (9.21 ha)	This LR consists of active and abandoned agriculture area mainly for vegetables, legumes and fruit for locals. Trees can be found scattered within the farmland and along the periphery of the farm. Tree species included *Ficus hispida & Macaranga tanarius var. tomentosa.* Shrub species included *Lophatherum gracile, Musa x paradisiaca & Panicum maximum.* Condition of plants are in fair. Quality: Medium Importance / Rarity: Medium Ability to Accommodate Change: Medium Local / Regional Significance: Low Maturity: Medium	**Medium**
LR7.1 School (12.16 ha)	This LR consists of school grounds including ball courts, seating areas and open plazas on multiple levels. All schools are mostly fenced off by concrete walls, majority of the space are open paved areas to allow for outdoor assembly. Trees are located mainly at the periphery and in small sitting area and pocket space. Tree species included: *Cinnamomum camphora, Eucalyptus spp. & Ficus macrocarpa.*	**Low**

LRs	Description	Sensitivity
	Shrub species included *Dracaena marginata, Hibiscus rosa-sinensis, Juniperus chinensis, Loropetalum chinense f. rubrum & Rhapis excelsa.* Condition of plants are in fair. Quality: Low Importance / Rarity: Low Ability to Accommodate Change: High Local / Regional Significance: Low Maturity: Medium	
LR7.2 Hospital/ Nursing Home (6.90 ha)	This LR consists of hospitals, elderly nursing home and rehibition complex. Open space areas and pocket spaces for passive recreation on multiple levels in institutional settings. Trees are located mainly at the periphery. Tree species included: *Lagerstroemia indica, Ficus microcarpa, Plumeria rubra, Araucaria heterophylla, Terminalia mantaly, Delonix regia & Ficus virens.* Shrub species included *Calliandra haematocephala, Dianella caerulea 'Silvery Stripe' & Ixora stricta.* Condition of plants are in fair. *Quality: Medium* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Medium*	**Medium**
LR7.3 Training Facilities (3.02 ha)	This LR consists training facilities, including Police Driving and Traffic Training Division and PTU. It is on private land which is inaccessible to the public. Woodland can be observed from the street level. Ornamental plantings are found along the roadside. Tree species included *Aleurites moluccana, Bauhinia spp., Celtis sinensis, Ficus elastica, Melaleuca cajuputi subsp. cumingiana, Macaranga tanarius var. tomentosa & Spathodea campanulata.* Shrub species included *Asparagus densiflorus* 'Myersii', *Loropetalum chinense f. rubrum, Schefflera arboricola & Wedelia trilobata.* Condition of plants are in fair. Quality: Medium Importance / Rarity: Medium Ability to Accommodate Change: Medium Local / Regional Significance: Low Maturity: Medium	**Medium**
LR8.1 Government Facilities (1.53 ha)	This LR consists of government / community facilities, including Shek Wu Hui Market and North District Town Hall. There are some amenities planting along the boundary fencing. Tree species included *Macaranga tanarius var. tomentosa, Aleurites moluccana, Ficus religiosa.* Shrub species included *Calliandra haematocephala, Dypsis lutescens, Ixora stricta & Ophiopogon japonicus* 'Nanus'. Condition of plants are in fair.	**Low**

LRs	Description	Sensitivity
	Quality: Low *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: Low* *Maturity: Medium*	
LR9.1 Historic Site (0.18 ha)	This LR consists of the distinctive historic features of the historic features include Pang Ancestral Hall, Sam Shing Kung Pak Tai Temple and Tsz Tak Study Hall. Potted plants can be found near the main entrances of the buildings. Tree species included: *Acacia confusa, Cinnamomum camphora, Delonix regia, Juniperus chinensis, Podocarpus macrophyllus, Melaleuca cajuputi & Lagerstroemia speciosa.* Shrub species included*: Hibiscus rosa-sinensis & Podocarpus macrophyllus.* Condition of plants range from poor to fair. *Quality: High* *Importance / Rarity: Medium* *Ability to Accommodate Change: Low* *Local / Regional Significance: Medium* *Maturity: Low*	**High**
LR10.1 Church (0.65 ha)	This LR consists of religious use site, including Mother of Christ Church and Kowloon Tong Church of the C.C. & M.A. Sheung Shui Church. Well-maintained trees and shrubs planted along the main entrance for amenity purposes. Tree species included *Araucaria heterophylla, Ficus macrocarpa.* Shrub species included *Panicum maximum & Wedelia trilobata.* Condition of plants are in fair condition. *Quality: Low* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Medium*	**Medium**
LR11.1 Shopping Mall (0.79 ha)	This LR consists Landmark North, with majority of the building footprint covering the site and thus have limited vegetation cover within this LR. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Low*	**Low**
LR12.1 River Channel (1.18 ha)	This LR consists of a man-made nullah of concrete banks with vegetation on both sides at the top of the riverbanks. The nullah flows from south to north, from agricultural lands upstream to the underground. Shrub species included *Duranta erecta & Panicum maximum.*	**Medium**

LRs	Description	Sensitivity
	Quality: Medium *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Medium*	
LR13.1 Construction Site (4.80 ha)	This LR refers to the construction site where public housing development is currently underway. Limited landscape remains within the site. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: Local* *Maturity: Low*	**Low**

Landscape Character Areas (LCAs)

9.5.2 Details of Baseline LCAs which will be potentially affected by the Project, together with their sensitivity are described in **Table 9.5**. The locations of baseline LCAs are mapped in **Figure 9.4**. Photo views illustrating the LCAs within the study area are illustrated in **Figure 9.5.4**.

Table 9.5 Baseline LCAs and their Sensitivity

LCAs	Description	Sensitivity
LCA1 Transportation Corridor Landscape (24.78 ha)	This LCA consists of Fanling Highway and East Railway Line running in parallel and in close proximity to each other. This is a linear landscape character with landscaped embankments and islands of mostly young to semi-mature amenity vegetation of trees and shrubs. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: Low* *Maturity: Low*	**Low**
LCA2 Park Urban Landscape (9.82 ha)	This LCA consists of the North District Park. This landscape has semi-formal, tranquil and verdant passive recreational area with sports facilities and ball courts. *Quality: High* *Importance / Rarity: High* *Ability to Accommodate Change: Low* *Local / Regional Significance: Medium* *Maturity: High*	**High**
LCA3 Mixed Modern Comprehensive Urban Development Landscape (98.68 ha)	This LCA consists of the main development around Sheung Shui MTRC Station and contains mixed scales of development and mixed land uses. Landscaping is limited to the roadside, intermittent public parks and sitting areas. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: Low* *Maturity: Low*	**Low**

LCAs	Description	Sensitivity
LCA4 "HUI" Urban Landscape (3.85 ha)	This LCA consists of the old town of Shek Wu Hui. It is a small area set out in an orthogonal grid of narrow streets. The buildings are mainly old medium rise with a few newer, taller residential buildings scattered within the area. Mixed commercial and business use can be found at the ground level and residential uses are located above. Vegetation is limited to the sitting-out areas and public parks. *Quality: Medium* *Importance / Rarity: Medium* *Ability to Accommodate Change: Medium* *Local / Regional Significance: Low* *Maturity: Low*	**Medium**
LCA5 Urban Peripheral Village Landscape (57.70ha)	This LCA consists of villages that have been retained despite of the new development around them. They are generally low-rise buildings connected by narrow footpaths and lanes. Traditional village elements, such as ancestral hall and temples can be found within this LCA. Surrounding the village are sitting areas, car parks, agricultural fields and scattered fruit trees. Mature trees and vegetation can be found scattered around the periphery. It is of moderate importance to the locals. *Quality: Low* *Importance / Rarity: Low* *Ability to Accommodate Change: High* *Local / Regional Significance: Medium* *Maturity: Medium*	**Medium**

Tree Survey

9.5.3 A tree survey was carried out in accordance with the Appendix H of the EIA Study Brief to identify dominant tree species, maturity, rarity and any plant species of conservation interest, etc. which would be potentially affected to provide baseline information on the LRs and LCAs. Details of the tree survey findings including tree survey plans and tree schedule are illustrated in **Appendix 9.1**.

9.5.4 A total of 1,971 nos. of trees, including 1,937 individually surveyed trees and approximately 34 nos. of tree in two tree groups were recorded within the tree survey boundary. The majority of the species are common species found in the urban and manmade slopes of Hong Kong. The health, form and structural condition of the surveyed trees ranged from poor to average.

Plants scheduled under Forestry Regulations (CAP.96 sub. leg. of Laws of Hong Kong)

172 nos. surveyed trees have conservation status under Hong Kong legislations CAP.96, including *Lagerstroemia indica* (4 nos.), *Lagerstroemia speciosa* (156 nos.) and *Michelia* x *alba* (12 nos.). Since they are exotic to Hong Kong, and all the surveyed specimens are believed to be cultivated as they were found in landscaped area along public roads or within parks. Although they are TPIs, their conservation importance is not considered to be high.

Trees with DBH equal to or exceeding 1m

9.5.5 6 nos. surveyed trees have measured DBH over 1m. The 6 nos. trees are composed of three species: *Ficus microcarpa* (T1851), *Ficus virens* (T0776, T1008, T1018 and T1806) and *Melaleuca cajuputi* subsp. *cumingiana* (T1012). All of them have medium rating in terms of amenity value. Their form, health and structural conditions were all assessed to be average.

9.5.6 T0776 is a *Ficus virens* (native species), locating on slope in the periphery of Po Wing Road Playground maintained by LCSD. The location is also next to a cycle track and pedestrian

subway underneath the elevated portion of So Kwun Po Road. The tree form, health and structure were all rated average. Suitability of transplanting is low due to the large tree size (that the tree shall be heavily pruned in crown and/or root to facilitate transportation on roads), and location on slope (that the formation of the required root ball is not feasible).

9.5.7 T1008 is a *Ficus virens* (native species), locating at landscaped area along San Wan Road maintained by LCSD. The tree has multiple scaffold branches forked low. The form, health and structure were all rated average. Suitability of transplanting is low due to the large tree size (that the tree shall be heavily pruned in crown and/or root to facilitate transportation on roads). The tree is located close to fence and rail track that the formation of the required root ball is not feasible.

9.5.8 T1012 is a *Melaleuca cajuputi* subsp*. cumingiana* (exotic species), locating at landscaped area along San Wan Road maintained by LCSD. Wounds and burls were found on branches and trunk however not rendered instability. The form, health and structure were all rated average. Suitability of transplanting is low due to the large tree size (that the tree shall be heavily pruned in crown and/or root to facilitate transportation on roads). The tree is located close to fence and rail track that the formation of the required root ball is not feasible.

9.5.9 T1018 is a *Ficus virens* (native species), locating at landscaped area along San Wan Road maintained by LCSD. The tree has multiple scaffold branches forked low. The form, health and structure were all rated average. Suitability of transplanting is low due to the large tree size (that the tree shall be heavily pruned in crown and/or root to facilitate transportation on roads). The tree is located close to fence and rail track that the formation of the required root ball is not feasible.

9.5.10 T1806 is a *Ficus virens* (native species), locating on SIMAR feature no. 3SW-A/F99 maintained by HyD. The tree has multiple scaffold branches forked low. The form, health and structure were all rated average. Suitability of transplanting is low due to the large tree size (that the tree shall be heavily pruned in crown and/or root to facilitate transportation on roads). The tree is located on slope that the formation of the required root ball is not feasible.

9.5.11 T1851 is a *Ficus microcarpa* (native species), locating on SIMAR feature no. 3SW-A/F208(1) owned by LCSD and maintained by ArchSD. The form, health and structure were all rated average. Suitability of transplanting is low due to the large tree size that the tree shall be heavily pruned in crown and/or root to facilitate transportation on roads.

9.5.12 No registered “Old and Valuable Trees” (OVTs) was recorded under DEVB TC(W) No. 05/2020 – *Registration and Preservation of Old and Valuable Trees*.

9.5.13 23 nos. surveyed trees consisted of two species have conservation status under the IUCN Red List. *Khaya senegalensis* (8 nos.) has a Vulnerable (VU) status under the List while *Eucalyptus robusta* (15 nos.) is listed as Near Threatened (NT). Both species are exotic to Hong Kong and are commonly found as landscaped planting in the territory. Their conservation importance is not considered to be high, and they are not categorised as Trees of Particular Interest.

9.6 PRELIMINARY VISUAL BASELINE STUDY

Visual Envelope (VE)

9.6.1 The visual envelope (VE) is the viewshed of the Project formed by natural or man-made features. It includes areas from which the Project can be completely visible, partly visible or obstructed. The extent of the VE is shown in **Figure 9.6.1**.

9.6.2 The Project is located in an urban environment that is densely built with medium-rise high-rise residential and Institutional developments in Sheung Shui. Large part of the VE will be confined by existing vegetation, infrastructures, existing developments, and the development of the road corridor. Most of the proposed works will be visible to high-rise buildings that are directly adjacent to the road alignment and vehicle travellers on Fanling Highway and So Kwun Po Road. As a result, the VE is confined to the area that is in relatively close proximity to the proposed road alignment above ground structures.

Visual Resources and Visual Detractors

9.6.3 There are a number of visual resources within the visual envelope that may enhance the visual experience. The key positive visual resources/attractors include:

- North District Park,
- Po Wing Road Playground,
- Kat Cheung Street Garden, and
- Wai Hon Road Garden.

There are also a number of visual detractors within the visual envelope that may degrade the visual experience. Further accumulation of visual detractors may lead to undesirable visual impact. The key negative visual eyesores/detractors include:

- Expressway (Fanling Highway),
- San Wan Road,
- So Kwun Po Road, and
- MTR East Rail Line.

Visually Sensitive Receivers (VSRs)

9.6.4 Within the Visual Envelope of the Project, a number of VSRs have been identified during construction and operation phases. VSRs are categorised into four major types: residential, recreational, occupational, and Travelling as described as follows:

- Residential VSRs – Residential VSRs represent people who view the Project from their home.
- Occupational VSRs – Occupational VSRs represent people who view the Project from their workplace
- Recreational VSRs – Recreational VSRs represent people who view the Project while engaging in recreational activities.
- Travelling VSRs – Travelling VSRs represent people who view the Project during their commute

9.6.5 The VSRs within the VE have been identified and detailed descriptions of the VSRs are provided below and summarized in **Table 9.6** with sensitivities for each. Their locations are shown in **Figure 9.6.1**.

9.6.6 VSR1 – Residents in Ka Shing Court Ka Ming House & VSR15 – Residents in Sheung Shui Disciplined Services Quarters – These VSRs are high-rise residential buildings to the south of Fanling Highway. The existing view compose of existing road corridor and its associated structures, existing roadside vegetation and the existing development of Sheung Shui. Parts of Kwok Shui Road Park can be seen in the distance. The mountain ridgelines of Tin Ping Shan, Kai Kung Leng and Pak Tai To Yan can be seen in the background.

9.6.7 VSR2 – Residents in Green Park Villa, VSR3 – Residents in Cheerful Park, VSR5 – Residents in Vienna Garden, VSR8 – Residents in Ching Ho Estate, VSR9 – Residents in Royal Green VSR14 – Residents in Venice Garden & VSR16 – Residents in Sheung Shui Police Married Quarters – These VSRs are med-rise residential buildings to the south of Fanling Highway. The existing view compose of existing road corridor and its associated structures, existing roadside vegetation and the existing development of Sheung Shui. Part of the mountain ridgelines of Tin Ping Shan, Kai Kung Leng and Pak Tai To Yan can be seen in the background.

9.6.8 VSR6 – Residents in Eden Garden – This VSR is low-rise apartment to the south of Pak Wo Road. The existing view compose of boundary wall, existing roadside vegetation, and mid-rise

residential and institutional buildings in a close view. The mountain ridgelines of Wu Tip Shan and Pak Tai To Yan form the background in a distance toward the South.

9.6.9 VSR19 – Residents in Yuk Po Court, VSR21 – Residents in Sheung Shui Centre, VSR22 – Residents in So Kwun Po, VSR23 – Residents in Sheung Shui Town Centre & VSR24 – Residents in Tin Ping Estate – These VSRs is high-rise residential buildings to the north of Fanling Highway. The existing view compose of existing road corridor and its associated structures, existing roadside vegetation and north district park, and the existing development of Sheung Shui. Parts of Kwok Shui Road Park can be seen in the distance. The mountain ridgelines of Tin Ping Shan, Kai Kung Leng and Pak Tai To Yan can be seen in the background.

9.6.10 VSR4 – Occupants in SKH Wing Chun Primary School, VSR11 – Occupants in Sheung Shui Government Secondary School & VSR13 – Occupants in Po Wing Road Sports Centre – These VSRs represent workers/staffs in med-rise government facilities, and primary and secondary school to the south of Fanling Highway. The existing view compose of existing road corridor and its associated structures, existing roadside vegetation and mid-rise and high-rise residential buildings. Part of the mountain ridgelines of Tin Ping Shan, Kai Kung Leng and Pak Tai To Yan can be seen in the background.

9.6.11 VSR18 – Occupants in Tung Wah Group of Hospitals Kap Yan Directors' College, VSR25 – Occupants in SKH Chan Young Secondary School & VSR26 – Occupants in TWGHs Hong Kong and Kowloon Electrical Appliances Merchants Association Limited School – These VSRs represent workers/staffs in med-rise government facilities, and primary and secondary school to the north of Fanling Highway. The existing view is composed of existing road corridor and its associated structures, roadside vegetation and Po Wing Road Playground and med-rise and high-rise of building. Part of the mountain ridgelines of Tin Ping Shan, Kai Kung Leng and Pak Tai To Yan can be seen in the background.

9.6.12 VSR7 – Recreational Users in Wai Hon Road Garden, VSR12 – Recreational Users in Po Wing Road Playground & VSR29 – Recreational Users in Kat Cheung Street Garden – These VSRs represents recreational users participating in outdoor activities to the south of Fanling Highway. The existing view is composed of existing tree and plantations within the gardens and playground. Parts of the med-rise and high-rise buildings can be seen in the background.

9.6.13 VSR28 – Recreational Users in North District Park – These VSRs represents recreational users participating in outdoor activities to the north of Fanling Highway. The existing view is composed of existing tree and plantations within the park. Parts of the high-rise buildings can be seen in the background.

9.6.14 VSR10 – Travellers along Pak Wo Road, VSR17 – Travellers along Pak Wo Fanling Highway, VSR20 – Travellers along San Wan Road, VSR27 – Travellers along So Kwun Po Road, & VSR30 – Travellers on New Territories Circular Road, Railing Line and Footbridge by Pak Fu Children's Playground – These VSRs represent travellers along existing road corridor within Sheung Shui Town. The existing view is composed of existing road corridor and its associated structures, roadside planation along both sides of the road in a close view.

Table 9.6 Baseline Visually Sensitive Receivers (VSRs) and their Sensitivity

Code	Visual Sensitive Receivers (VSR)	Type of VSRs	Population of Viewers (Many/ Intermediate/ Few/)	Quality of Existing View (Good/ Fair/ Poor)	Alternative View (Yes/No)	Degree of Visibility (Full/ Partial/ Glimpsed/ Obstructed)	Frequency of View (Very frequent/ Frequent/ Occasional/ Glimpse/ Rare)	Duration of View (Long, Medium, Short)	Sensitivity
VSR1	Residents in Ka Shing Court Ka Ming House	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR2	Residents in Green Park Villa	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR3	Residents in Cheerful Park	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR4	Occupants in SKH Wing Chun Primary School	Occupational	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR5	Residents in Vienna Garden	Residential	Intermediate	Fair	Yes	Partial	Frequent	Long	**High**
VSR6	Residents in Eden Garden	Residential	Few	Fair	Yes	Partial	Frequent	Long	**Medium**
VSR7	Recreational Users in Wai Hon Road Garden	Residential	Many	Good	Yes	Partial	Occasional	Medium	**Medium**
VSR8	Residents in Ching Ho Estate	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR9	Residents in Royal Green	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR10	Travellers along Pak Wo Road	Travelling	Intermediate	Fair	Yes	Partial	Occasional	Short	**Low**
VSR11	Occupants in Sheung Shui Government Secondary School	Occupational	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR12	Recreational Users in Po Wing Road Playground	Recreational	Few	Good	Yes	Partial	Occasional	Short	**Medium**
VSR13	Occupants in Po Wing Road Sports Centre	Occupational	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR14	Residents in Venice Garden	Residential	Intermediate	Fair	Yes	Partial	Frequent	Long	**Medium**
VSR15	Residents in Sheung Shui Disciplined Services Quarters	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR16	Residents in Sheung Shui Police Married Quarters	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR17	Travellers along Pak Wo Fanling Highway	Travelling	Many	Fair	Yes	Partial	Occasional	Short	**Low**
VSR18	Occupants in Tung Wah Group of Hospitals Kap Yan Directors' College	Residential	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR19	Residents in Yuk Po Court Tsun	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR20	Travellers along San Wan Road	Travelling	Intermediate	Fair	Yes	Partial	Occasional	Short	**Low**
VSR21	Residents in Sheung Shui Centre	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR22	Residents in So Kwun Po	Residential	Many	Fair	Yes	Partial	Frequent	Long	**High**
VSR23	Residents in Sheung Shui Town Centre	Residential	Many	Fair	Yes	Full	Frequent	Long	**High**
VSR24	Residents in Tin Ping Estate	Residential	Many	Fair	Yes	Full	Frequent	Long	**High**
VSR25	Occupants in SKH Chan Young Secondary School	Occupational	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR26	Occupants in TWGHs Hong Kong and Kowloon Electrical Appliances Merchants Association Limited School	Occupational	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR27	Travellers along So Kwun Po Road	Travelling	Intermediate	Fair	Yes	Partial	Occasional	Medium	**Medium**
VSR28	Recreational Users in North District Park	Recreational	Intermediate	Good	Yes	Partial	Occasional	Short	**Medium**
VSR29	Recreational Users in Kat Cheung Street Garden	Recreational	Few	Good	Yes	Partial	Occasional	Short	**Medium**
VSR30	Travellers on New Territories Circular Road, Railing Line and Footbridge by Pak Fu Children's Playground	Travelling	Few	Fair	Yes	Partial	Glimpse	Short	**Low**

9.7 POTENTIAL SOURCES OF LANDSCAPE AND VISUAL IMPACTS

Potential Sources of Impacts

9.7.1 Potential impacts would result from the temporary and permanent above ground structure elements during the construction and operation phases. The sources of impacts are listed in the following **Table 9.7**.

Table 9.7 Sources of Landscape & Visual Impact

Code	Description
Construction Phase	
C1	Site clearance and tree removal/transplanting
C2	Site formation works & excavation works
C3	Construction of proposed new road above Kai Leng Roundabout and associated infrastructure and proposed subways and subway extension
C4	Footpath & Cycle track Diversion
C5	Increased road traffic congestion
C6	Dust from construction works
C7	Potential night-time glare from after construction activities at night
Operation Phase	
O1	Operation of new road and associated subways
O2	Operation of the relocated footpath and cycle track by North District Park
O3	Increased road traffic and road lighting
O4	Permanent removal of existing trees and other vegetation

Landscape Impact Assessment

9.7.2 The Project is designed to improve existing infrastructure, thus most of the works will be located within the existing road framework. The works are largely in line with the nearby transportation landscape character of Fanling Highway. Impacts on vegetation in construction phase will result from clearance of the site in order to construct the infrastructure and associated works.

9.7.3 While in operation phase, the main impacts would result from the introduction-built structures such as road, flyover, noise barriers, and underpass, modification of the existing landform accommodate new retaining walls and their displacement of previous landscape resources which will be permanent and irreversible.

9.7.4 The magnitude of the unmitigated landscape impacts associated with the construction and operation phases of the Project have been assessed and are summarized in **Table 9.8**. A description of each affected LR and LCA is described below.

9.7.5 LR2.1 – Roadside Plantation – Approximately 4.50ha (34.27%) of this LR will be affected. There will be a small, permanent reduction of existing roadside amenity and buffer planting close to Kai Leng Roundabout and at the junction of Pak Wo Road and So Kwun Po Road.

9.7.6 LR3.1 – North District Park – Approximately 0.63ha (0.071%) of this LR will be affected. There will be a small, permanent reduction of existing vegetation and area alteration/ removal of the existing roller-skating rink and parts of the landscaped footpath and cycle track along the periphery of this LR to construct new roads, and reprovisioned cycle track and footpath.

9.7.7 LR3.2 – Parks & Playgrounds – Approximately 0.94ha (0.12%) of this LR will be affected. There will be a small, permanent reduction to the landscaped footpath in Po Wing Road Playground.

9.7.8 LCA1 – Transportation Corridor Landscape – Approximately 6.66 ha (26.87%) of this LCA will be affected. The disturbance is due to construction activities of the elevated structures and its associated works. Although the landscape impact during construction and operation is anticipated and the Project will not alter the landscape character of the transportation corridor. As such, the works will be compatible to this LCA in the operation phase.

9.7.9 LCA2 – Park Urban Landscape – Approximately 1.94 ha (19.75%) of this LCA will be affected. There will be a small, permanent reduction to the size of recreational area, as part of the existing landscape character will change to Transportation Corridor Landscape (LCA1).

9.7.10 LCA3 – Mixed Modern Comprehensive Urban Development Landscape – Approximately 3.62 ha (3.66%) of this LCA will be affected. There will be a small, permanent reduction to the roadside planting area, as part of the existing landscape character will change to Transportation Corridor Landscape (LCA1).

Visual Impact Assessment

9.7.11 During the construction phase, the visual impacts associated with most of the Project will be the scarred landscape due to site formation and excavations works, loss of visual amenity due to the removal of landscape features and the general visual impact of construction equipment.

9.7.12 While in operation phase, the visual impacts will be concentrated from the elevated structures. The flyover spanning over the Fanling Highway and So Kwun Po Road will create a visual hindrance to the surrounding developments.

9.7.13 The magnitude of the unmitigated visual impacts associated with the construction and operation phases of the Project are assessed based on the viewing distance, compatibility of the project with the surrounding landscape, duration of changes, scale of development, reversibility of change and potential blockage of view as shown in **Table 9.9**.

Residential VSRs

9.7.14 The VSRs (VSR1, VSR2, VSR3, VSR5, VSR6, VSR8, VER9, VSR14, VSR15, VSR16 & VSR19), parts of the roadside planting will be affected and there will be an irreversible change to the view with decreased greenery area. Since the climbing lane of N-S link is elevated, existing views towards North District Park may be partially blocked.

9.7.15 The VSRs (VSR21, VSR22, VSR23, VSR24), parts of the buffer planting and landscaped footpaths of North District Park will be affected and there will be an irreversible change to the view with decreased greenery area.

Occupational VSRs

9.7.16 The VSRs (VSR4, VSR11, VSR13, VSR18, VSR25, VSR26), parts of the buffer planting and landscaped footpaths of North District Park will be affected and there will be an irreversible change to the view with decreased greenery area.

Recreational VSRs

9.7.17 VSR28 **–** The Project is mainly within the landscape buffer zone and amenity planting area within the North District Park. This VSR will experience a decreased greenery area seen. Since the Project is at a lower ground level, the works will be mostly screened from view by existing trees during the operation phase.

9.7.18 VSR7 – This VSR is located on Pak Wo Road and So Kwun Po Road Junction and will have close views of the part of the works. The proposed works are largely compatible and similar to existing views in the operation phase.

9.7.19 VSR12 & VSR29 – These VSRs is located at a lower ground level, most of the view are blocked by existing trees within the Garden & playground and the buffer planting along Fanling Highway.

Travelling VSRs

9.7.20 The VSRs (VSR10, VSR17, VSR27 & VSR30) – These VSRs is the existing infrastructure works, which most of the works will be located within. Parts of the roadside planting are affected and there will be an irreversible change to the view with decreased greenery area.

Representative Viewpoints (VPs)

9.7.21 Representative Viewpoints (VPs) have been selected where typical views of the key VSRs within the visual envelops can be demonstrated. Appraisal for each VP is described and summarized in **Table 9.8**, and the existing condition of the VPs is shown in **Figure 9.8.1 to 9.8.9**. They are described as follows:

9.7.22 VP01 – Footbridge at Fanling Highway – This VP is located on the footbridge on Fanling Highway, approximately 400m East from the Project Site. Situated at the elevated level, it represents the potential visual impact from Residents in Ka Shing Court Ka Ming House (VP1) & Travellers on New Territories Circular Road, Railing Line and Footbridge by Pak Fu Children's Playground (VSR30). The view toward the Project Site has a partially view of the Project Site due to the extent of the roadside vegetation and roadside structures.

9.7.23 The Project would cause additional structure mass in the background, above So Kwun Po Interchange, however, the visual composition of skyline and openness of the view will be unaffected. There will be slight obstruction to the view of Yuk Po Court and Choi Yuen Estate at the back. The loss of roadside vegetation along New Territories Circular Road will not remove the visual buffer to these VSRs, the overall visual character will remain generally similar. Therefore, it is considered that the Project shall be visually compatible with the adjacent landscape and visual setting of the area.

9.7.24 VP02 – Kat Cheung Street Garden – This VP is located in Kat Cheung Street Garden, approximately 80m South from the Project Site. It represents the potential visual impact from Residents in Green Park Villa (VSR2), Residents in Cheerful Park (VSR3), Occupants in SKH Wing Chun Primary School (VSR4) & Residents in Vienna Garden (VSR5). The view towards the Project is fully screened by existing plantation. The view toward the Project Site is completely obscured by existing and vegetation within the park.

9.7.25 VP03 – Wai Hon Road Garden – This VP is located in Wai Hon Road Garden, approximately 60m South from the Project Site. It represents the potential visual impact from Residents in Eden Garden (VSR6), Recreational Users in Wai Hon Road Garden (VSR7) & Travellers along Pak Wo Road (VSR10). The view toward the Project Site has a full view of the intersection of So Kwun Po Road and Pak Wo Road.

9.7.26 The Project would cause slight elevated structural mass on top of So Kwun Po Road, however the visual composition of skyline and openness of the view will be unaffected. There will be slight obstruction to the roadside vegetation at the back. The loss of roadside vegetation along So Kwun Po Road will degrade the quality of the existing views, but it will not remove the visual buffer to these VSRs, the overall visual character will remain generally similar. Therefore, it is considered that the Project shall be visually compatible with the adjacent landscape and visual setting of the area.

9.7.27 VP04 – Po Wing Road Playground – This VP is located in Po Wing Road Playground, approximately 40m Southwest from the Project Site. It represents the potential visual impact from Occupants in Sheung Shui Government Secondary School 9 VSR11), Recreational Users in Po Wing Road Playground (VSR12), Occupants in Po Wing Road Sports Centre 9 (VSR13). The view toward the Project Site is completely obscured by existing vegetations at the periphery of the park.

9.7.28 VP05 – Footbridge at Pak Wo Road – This VP is located on the footbridge on Pak Wo Road, approximately 400m West from the Project Site. It represents the potential visual impact from Residents in Sheung Shui Police Married Quarters (VSR16), Travellers along Pak Wo Fanling Highway (VSR17), Occupants in Tung Wah Group of Hospitals Kap Yan Directors' College (VSR18) & Residents in Yuk Po Court (VSR19). The view toward the Project Site has a partially view of the Project Site due to the extent of the roadside vegetation and roadside structures.

9.7.29 The Project would cause additional structure mass in the midground, above So Kwun Po Interchange, however, the visual composition of skyline and mountain backdrop of Cloudy Hill will be unaffected. There will be slight obstruction to the view of Cheung Wah Estate at the back. The loss of roadside vegetation along New Territories Circular Road will not remove the visual buffer to these VSRs, the overall visual character will remain generally similar. Therefore, it is considered that the Project shall be visually compatible with the adjacent landscape and visual setting of the area.

9.7.30 VP06 – North District Park (Volleyball Court) – This VP is located in the North District Park (Volleyball Court), approximately 40m North from the Project Site. It represents the potential visual impact from Occupants in SKH Chan Young Secondary School (VSR25), Occupants in TWGHs Hong Kong and Kowloon Electrical Appliances Merchants Association Limited School (VSR26), Travellers along So Kwun Po Road (VSR27). The view toward the Project Site is completely obscured by existing vegetation within the park.

9.7.31 The Project would cause new structure mass in the background, at the periphery of the park. Part of the natural vegetations of North District Park would been replaced by the Project, leading to the changes of visual composition. The loss of vegetation in North District Park will remove the visual buffer to these VSRs, leading to the changes to the overall visual character. Therefore, it is considered that the Project shall be visually affected the adjacent landscape and visual setting of the area.

9.7.32 VP07 – North District Park (East Side) – This VP is located in the North District Park (East side), approximately 100m Northeast from the Project Site. It represents the potential visual impact from Recreational Users in North District Park (VSR28). The view toward the Project Site is completely obscured by existing vegetation within the park.

9.7.33 The Project would cause new structure mass in the background, at the periphery of the park. Part of the natural vegetations of North District Park would been replaced by the Project, however, the visual composition of skyline and openness of the view will be unaffected. The loss of vegetation in North District Park will remove some visual buffer to these VSRs, leading to the slight changes to the overall visual character. Therefore, it is considered that the Project shall be visually affected the adjacent landscape and visual setting of the area.

9.7.34 VP08 – North District Park (West Side) – This VP is located in the North District Park (West side), approximately 20m North from the Project Site. It represents the potential visual impact from Residents in Sheung Shui Centre (VSR21), Residents in So Kwun Po (VSR22), Residents in Sheung Shui Town Centre (VSR23). The view toward the Project Site is completely obscured by existing vegetation within the park.

9.7.35 The Project would cause new structure mass in the background, at the periphery of the park. Part of the natural vegetations of North District Park would been replaced by the Project, however, the visual composition of skyline and openness of the view will be unaffected. The loss of vegetation in North District Park will remove visual buffer to these VSRs, leading to the changes to the overall visual character. Therefore, it is considered that the Project shall be visually affected the adjacent landscape and visual setting of the area.

9.7.36 VP09 - Bus Stop at San Wan Road (East) – This VP is located at bus stop on San Wan Road (North District Park South Gate), approximately 30m East from the Project Site. It represents the potential visual impact from Travellers along San Wan Road (VSR20). The view toward the Project Site has a partially view of the Project Site due to the extent of the roadside vegetation.

9.7.37 The Project would cause new structure mass in the foreground, above San Wan Road, only a portion of Project will be screened by existing vegetations to the east of the viewpoint. Visual composition of open sky view will be replaced by the Project. The Project will stand out across the view, causing a reduction on open sky views and visual openness. Therefore, it is considered that the Project shall be visually affected the adjacent landscape and visual setting of the area.

Table 9.8 Magnitude of Change for Landscape Impacts during Construction and Operation

ID No.	LRs/LCAs	Sources of Impacts from the Project	Scale of LRs/LCAs Affected	Reversibility of Works	Duration of Impact (Temporary / Permanent)		Compatibility with Surrounding Landscape (High/ Medium/ Low)		Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
					Construction	Operation	Construction	Operation	Construction	Operation
Landscape Resources (LRs)										
LR1.1	Car Park	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR1.2	Public Transit	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR2.1	Roadside Plantation	C1-C3, O1, O3, O4	Small	No	Permanent	Permanent	Low	Medium	Intermediate	Intermediate
LR2.2	Hillside Woodland	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR3.1	North District Park	C1–C7, O1–O4	Small	No	Permanent	Permanent	Low	Low	Intermediate	Intermediate
LR3.2	Parks & Playgrounds	C1–C3, O1, O3, O4	Small	No	Permanent	Permanent	Low	Low	Small	Negligible
LR4.1	Public Housing	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR4.2	Private Residential Development	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR4.3	Low-rise Urban Development	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR4.4	Rural Village	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR5.1	Multi-purpose Sports Facility	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR6.1	Actively Cultivated Land	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR7.1	School	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR7.2	Hospital/ Nursing Home	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR7.3	Training Facilities	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR8.1	Government Building	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR9.1	Historic Site	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR10.1	Church	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR11.1	Shopping Mall	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR12.1	River Channel	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LR13.1	Construction Site	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
Landscape Character Areas (LCAs)										
LCA1	Transportation Corridor Landscape	C1–C3, O1, O3, O4	Small	No	Permanent	Permanent	High	High	Small	Negligible
LCA2	Park Urban Landscape	C1-C7, O1–O4	Small	No	Permanent	Permanent	Medium	Medium	Intermediate	Intermediate
LCA3	Mixed Modern Comprehensive Urban Development Landscape	C1–C3, O1, O3, O4	Small	No	Permanent	Permanent	Medium	Medium	Small	Small
LCA4	“HUI” Urban Landscape	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible
LCA5	Urban Peripheral Village Landscape	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Negligible	Negligible

Table 9.9 Magnitude of Visual Impacts during Construction and Operation

ID No.	VSR	Sources of Impacts from the Project	Approx. Viewing Distance (m)	Scale of Project (Large/ Medium/ Small/ Negligible)	Reversibility of Change (Yes/ No)	Potential Blockage of View (Full/ Partial/ Nil)	Compatibility with Surrounding Landscape (High/ Medium/ Low/ Nil)		Duration of Impact (Temporary / Permanent)		Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
							Construction	Operation	Construction	Operation	Construction	Operation
VSR1	Residents in Ka Shing Court Ka Ming House	C1–C7 O1–O4	480	Small	Yes	Partial	High	High	Permanent	Permanent	Small	Small
VSR2	Residents in Green Park Villa	C1–C3, C5–C7 O1, O3, O4	260	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Intermediate
VSR3	Residents in Cheerful Park	C1–C3, C5–C7 O1, O3, O4	210	Large	Yes	Partial	High	High	Permanent	Permanent	Large	Large
VSR4	Occupants in SKH Wing Chun Primary School	C1–C3, C5–C7 O1, O3, O4	110	Large	Yes	Full	High	High	Permanent	Permanent	Large	Large
VSR5	Residents in Vienna Garden	C1–C3, C5–C7 O1, O3, O4	160	Large	Yes	Partial	High	High	Permanent	Permanent	Large	Large
VSR6	Residents in Eden Garden	C1–C3, C5–C7 O1, O3, O4	260	Large	Yes	Partial	High	High	Permanent	Permanent	Large	Small
VSR7	Recreational Users in Wai Hon Road Garden	C1–C3, C5–C7 O1, O3, O4	290	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR8	Residents in Ching Ho Estate	C1–C3, C5–C7 O1, O3, O4	360	Small	Yes	Partial	High	High	Permanent	Permanent	Small	Small
VSR9	Residents in Royal Green	C1–C3, C5–C7 O1, O3, O4	400	Small	Yes	Partial	High	High	Permanent	Permanent	Small	Small
VSR10	Travellers along Pak Wo Road	C1–C7 O1–O4	255	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR11	Occupants in Sheung Shui Government Secondary School	C1–C3, C5–C7 O1, O3, O4	235	Moderate	Yes	Full	High	High	Permanent	Permanent	Intermediate	Small
VSR12	Recreational Users in Po Wing Road Playground	C1–C3, C5–C7 O1, O3, O4	160	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR13	Occupants in Po Wing Road Sports Centre	C1–C3, C5–C7 O1, O3, O4	280	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR14	Residents in Venice Garden	C1–C3, C5–C7 O1, O3, O4	345	Small	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR15	Residents in Sheung Shui Disciplined Services Quarters	C1–C3, C5–C7 O1, O3, O4	175	Large	Yes	Full	High	High	Permanent	Permanent	Large	Large
VSR16	Residents in Sheung Shui Police Married Quarters	C1–C3, C5–C7 O1, O3, O4	270	Small	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR17	Travellers along Pak Wo Fanling Highway	C1–C3, C5–C7 O1, O3, O4	175	Large	Ye	Partial	High	High	Permanent	Permanent	Large	Intermediate
VSR18	Occupants in Tung Wah Group of Hospitals Kap Yan Directors' College	C1–C3, C5–C7 O1, O3, O4	215	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR19	Residents in Yuk Po Court	C1–C3, C5–C7 O1, O3, O4	350	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Intermediate
VSR20	Occupants along San Wan Road	C1–C7 O1–O4	300	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small

ID No.	VSR	Sources of Impacts from the Project	Approx. Viewing Distance (m)	Scale of Project (Large/ Medium/ Small/ Negligible)	Reversibility of Change (Yes/ No)	Potential Blockage of View (Full/ Partial/ Nil)	Compatibility with Surrounding Landscape (High/ Medium/ Low/ Nil)		Duration of Impact (Temporary / Permanent)		Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
							Construction	Operation	Construction	Operation	Construction	Operation
VSR21	Residents in Sheung Shui Centre	C1–C7 O1–O4	390	Small	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR22	Residents in So Kwun Po	C1–C7 O1–O4	290	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR23	Residents in Sheung Shui Town Centre	C1–C7 O1–O4	365	Moderate	Yes	Partial	High	High	Permanent	Permanent	Large	Intermediate
VSR24	Residents in Tin Ping Estate	C1–C7 O1–O4	555	Small	Yes	Partial	High	High	Permanent	Permanent	Small	Small
VSR25	Occupants in SKH Chan Young Secondary School	C1–C7 O1–O4	410	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR26	Occupants in TWGHs Hong Kong and Kowloon Electrical Appliances Merchants Association Limited School	C1–C7 O1–O4	330	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR27	Travellers along So Kwun Po Road	C1–C7 O1–O4	330	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small
VSR28	Recreational Users in North District Park	C1–C7 O1–O4	250	Large	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Intermediate
VSR29	Recreational Users in Kat Cheung Street Garden	C1–C3, C5–C7 O1, O3, O4	150	Moderate	Yes	Nil	High	High	Permanent	Permanent	Small	Negligible
VSR30	Travellers on New Territories Circular Road, Railing Line and Footbridge by Pak Fu Children's Playground	C1–C7 O1–O4	430	Moderate	Yes	Partial	High	High	Permanent	Permanent	Intermediate	Small

9.8 LANDSCAPE AND VISUAL MITIGATION MEASURES

Potential Sources of Impacts

9.8.1 The following recommendations are proposed in **Table 9.10 and Table 9.11** for the preliminary design in response to the potential landscape and visual impacts. At the planning stage, measures to avoid, reduce and/or compensate for the potential impacts should be considered with priority given to avoidance of impacts

Table 9.10 Proposed Landscape and Visual Mitigation Measures for Construction Phase

Code	Description	Funding Agency	Implementation Agency
CM1	Re-provisioned Cycle Track and Footpath – *Alignment and layout of the Works were carefully planned to minimize works footprint and avoid visual and landscape impact. The layout will be sited in areas of similar landscape character so as to make the works more compatible with the surrounding environment.*	CEDD	CEDD (via Contractor)
CM2	Preservation of Existing Vegetation – *Any existing vegetations, trees and tree of particular interest (TPI) not affected by the Project and within 5m offset from the PDA Boundary shall be carefully preserved and protected in accordance with DEVB TCW No. 4/2020 and the latest Guidelines on Tree Preservation During Development by GLTMS of DEVB. If needed, they shall be transplanted to a suitable location within the PDA as far as feasible.*	CEDD	CEDD (via Contractor)
CM3	Transplanting of Affected Trees – *29 trees have been recommended for transplanting for their moderate transplanting success, and it is recommended to relocate the trees to a permanent receptor site within the Project Boundary directly after the completion of a 2 stages root preparation period (with a minimum of 60 days interval) as far as practicable, and the work should follow the Highways Guidelines HQ/GN/13 - Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation, as well as the latest guidelines issued from the Greening, Landscape and Tree Management Section of the Development Bureau. Details regarding the transplantation will be submitted in the tree survey report to relevant government departments for approval in accordance with ETWB TCW No. 29/2004, DEVB TC (W) No.4/2020 and "Guidelines on Tree Transplanting", GLTMS of DEVB.*	CEDD	CEDD (via Contractor until handover to the future tree maintenance departments)
CM4	Control of Night-time Lighting Glare – *Any lighting provision of the construction works at night shall be carefully control to prevent light overspill to the nearby VSRs and into the sky. Relevant best practices as suggested in the "Guidelines on Industry Best Practices for External Lighting Installations" promulgated by ENB shall be adopted.*	CEDD	CEDD (via Contractor)
CM5	Good Site Practice – *Construction areas' control, such as reducing the extent of working areas, temporary working areas, storage area and shortening construction period, shall be enforced to minimise potential landscape and visual impact arising from construction activities. The proposed site should reduce topographical / landform changes to reduce disturbance with the natural terrain. Earthworks and engineered slopes should be designed to be visually interesting and compatible with the surrounding landscape, mimic contouring and terrain. Temporary landscape treatment such as hydroseeding temporary stockpiles is recommended. Protection measures for the nearby water bodies, will be conducted in accordance with ETWB TCW 5/2005.*	CEDD	CEDD (via Contractor)

CM6	Erection of Decorative Screen Hoarding – *Site hoardings shall be painted in a colour that is compatible with the surroundings and shall screen the views to the construction works. Hoarding should be taken down at the end of the construction period.*	CEDD	CEDD (via Contractor)
CM7	Reinstatement of Temporarily Disturbed Landscape Areas – *All hard and soft landscape areas disturbed temporarily during construction shall be reinstated on like-to-like basis, to the satisfaction of the relevant Government Departments.*	CEDD	CEDD (via Contractor)

Table 9.11 Proposed Landscape and Visual Mitigation Measures for Operational Phase

Code	Description	Funding Agency	Implementation Agency	Maintenance/ Management Agency*
OM1	Compensatory Tree Planting – *Trees felled due to the Project will be compensated as far as practicable in accordance with Development Bureau Technical Circular (Works) No. 4/2020. For trees to be compensated on slopes, the guidelines for tree planting stipulated in GEO Publication No. 1/2011 will be followed.*	HyD	CEDD (via Contractor)	LCSD / CEDD / Allocatee of the SIMAR slopes as per DEVB TC(W) No. 6/2015
OM2	Roadside Planting – *Although most of the works are carried out along the existing transportation corridors, greening opportunities for roadside planting shall be maximized as far as possible to effective visual relief to the adjacent VSRs.* *Planting opportunities shall be also explored in the shaded area underneath the proposed elevated roads to maximize the greening effect by shade-tolerant tree or shrub species.* *The roadside plant species shall be made reference to the Greening Master Plan issued by CEDD and the Street Tree Selection Guide issued by DEVB.*	HyD	CEDD (via Contractor)	LCSD / CEDD as per DEVB TC(W) No. 6/2015
OM3	Aesthetically pleasing design for carriageways and other highways structures – *Footbridges, pedestrian subways, cycle paths, carriageways and other highways structures proposed shall be sensitively designed in the regard of form, tonal colour and texture so as to minimise any potential adverse landscape and visual impact. Greening measures such as climbers along viaduct piers and shrubs along footbridges shall be fully explored in design stage. Early advice from maintenance / management parties and ACABAS shall be sought.*	HyD	CEDD (via Contractor)	LCSD for soft landscape / CEDD for hard landscape
OM4	Provision of Aesthetic Pleasing Treatment on Noise Barriers – *Sensitive design of noise barriers and noise enclosures with chromatic measures. The design and color themes shall be coherent with the existing noise barrier design along the adjourning transportation corridors such as So Kwun Po Road, San Wan Road and Pak Wo Road.*	HyD	CEDD (via Contractor)	CEDD

	The detail design of noise barriers and noise enclosures shall make reference to "Guidelines on Greening of Noise Barriers" published by DEVB in appropriate locations, subject to the agreement of future maintenance departments. Greening measures such as screen planting and/or climbers along the barriers shall be fully explored in design stage. Early advice from maintenance / management parties and ACABAS shall be sought.			

9.8.2 The construction phase mitigation measures listed in **Table 9.10** should be adopted from the commencement of construction and should be in place throughout the entire construction period. The operation phase mitigation measures listed in **Table 9.11** should be adopted during the detailed design and should be built as part of the construction works so that they are in place at the date of commissioning of the Project. However, it should be noted that the full effect of the soft landscape mitigation measures would not be appreciated after year 10 of the operation.

9.9 RESIDUAL IMPACTS

Residual Landscape Impacts

9.9.1 The potential significance of the landscape impacts during the construction and operation phases, before and after mitigation, is provided in **Table 9.12**. The assessment follows the proposed methodology and assumes that the appropriate mitigation measures identified in **Table 9.10 & Table 9.11** above would be implemented, and the full effect of the soft landscape mitigation measures would be realised after ten years. Proposed Mitigation Plan is illustrated in **Figure 9.7**.

9.9.2 During the construction phase, after the implementation of proposed mitigation measures there will be some residual landscape impacts which are acceptable with mitigation. Overall, in terms of residual landscape and visual impacts the main effects will primarily result from the interruption of existing roadside landscapes and some existing trees are unavoidably affected and are recommended for felling.

9.9.3 The proposed works will affect the roadside verges and planting areas near Kai Leng Roundabout, intersection of San Wan Road/ So Kwun Po Road and Pak Wo Road/ So Kwun Po Road and within the North District Park. In addition, the modification of existing slopes near Kai Leng Roundabout and the construction of noise barriers and flyover structure. The extent of the Works is expected to be localized and small in comparison to the scale of the affected LRs (LR2.1, LR3.1 & LR3.2). Landscape mitigation measures (CM1-3, CM5-7, OM1-4) will largely offset the residual impact during operation phase.

9.9.4 The Project is compatible with the surrounding affected LCA1 (Transportation Corridor Landscape) & LCA3 (Mixed Modern Comprehensive Urban Development Landscape). As the proposed Project are infrastructure works, it is expected that a small area of LCA2 (Park Urban Landscape) would be a permanent change to LCA1. Thus, LCA2 will have a slight adverse impact during operation phase with mitigation measures implemented due to its decrease in overall area.

Summary of Recommendation in Tree Survey

9.9.5 A total of 1,971 nos. of trees, including 1,937 nos. individually surveyed trees and approximately 34 nos. trees in tree group survey, are proposed for retention *in situ*.

9.9.6 A total of 29 nos. of trees are proposed for transplantation, all of which are proposed to be transplanted within Site.

9.9.7 A total of 755 nos. of surveyed trees, including 725 nos. individually surveyed trees and approximately 30 nos. in tree groups, are proposed to be removed. Amongst these 15 nos. are *Leucaena leucocephala*. 740 nos. trees shall be compensated.

Plants scheduled under Forestry Regulations (CAP.96 sub. leg. of Laws of Hong Kong)

9.9.8 Amongst the 172 nos. surveyed trees scheduled under CAP.96, 118 nos. are not to be impacted by the proposed works and would be retained *in situ*. 14 nos. of them – 10 nos. *Lagerstroemia speciosa* and 4 nos. *L. indica* impacted by the proposed works are feasible for transplanting. The remaining 40 nos. impacted by the proposed works are unavoidably to be removed due to one or more of the following reasons:

(a) Trees with poor form/health/structural condition and rated "low" in amenity;

(b) Irrecoverable form after transplanting (e.g. transplanting requires substantial crown and root pruning); and

(c) Trees grown under poor conditions which have limited the formation of proper root ball necessary for transplanting.

Trees with DBH equal to or exceeding 1m

9.9.9 Amongst the 6 nos. surveyed trees with measured DBH over 1m, 3 nos. (T1008, T1012 and T1851) are not to be impacted by the proposed works and would be retained in situ. The other 3 nos. (T0776, T1018 and T1806) are assessed to be in direct conflict with the proposed works. All three trees are *Ficus virens*, locating either on slope or in close proximity to fence and rail that the preparation of root ball of the required size and shape for transplanting is not feasible. These three TPIs are proposed to be removed.

9.9.10 As for compensatory planting, a mix of standard trees and whip trees are proposed to be planted within Site, including flat landscaped areas and roadside planters, as well as gentle slopes adjacent to existing roads, proposed elevated roads, slip roads and reinstated slopes after works completion. A total of no less than 740 trees would be proposed for planting, and the compensation ratio is 1:1. Detailed planting scheme is subject to further liaison with relevant departments and should be provided in Tree Preservation and Removal Proposal (TPRP).

Residual Visual Impacts

9.9.11 The potential significance of the visual impacts during the construction and operation phases, before and after mitigation, is provided in **Table 9.13**. The assessment followed the proposed methodology and assumed that the appropriate mitigation measures identified in **Table 9.10 & Table 9.11** above would be implemented, and the full effect of the visual mitigation measures should be realised after ten years.

9.9.12 During operation phase, portions of amenity planting and roadside planting will be reinstated, which will largely offset the adverse visual impact. Although a decrease in greenery is still expected. Site-sensitive design, careful planning and selection of species will ensure compatibility with the surrounding landscape and visual context.

9.9.13 VSRs in close proximity to the works (VSR3, VSR4, VSR5, VSR6, VSR7, VSR11, VSR12, VSR15, VSR28) and VSRs on higher floors (VSR1, VSR2, VSR3, VSR8, VSR9, VSR13, VSR14, VSR16, VSR18, VSR19, VSR21, VSR23, VSR24, VSR25, VSR26 & VSR29) will mainly be affected during the construction phase where the loss of greenery at roadside and within the North District Park is unavoidable. Construction of noise barriers and/or noise enclosures will further depreciate the existing view. Transient VSRs (VSR10, VSR17, VSR20, VSR27, VSR30) will only view the works for a short duration, thus the residual impact at the construction phase will remain slight.

9.9.14 During operation phase, portions of amenity planting and roadside planting will be reinstated, which will largely offset the adverse visual impact. Although a decrease in greenery is still expected, site-sensitive design, careful planning and selection of species will ensure compatibility with the surrounding landscape and visual context. VSRs located at a distance (VSR19, VSR14, VSR16, VSR18, VSR29, VSR7) with views partially blocked by existing

buildings or vegetation, will have residual impact reduced to negligible, because the works is largely in line with the surrounding landscape character. Transient VSRs (VSR10, VSR17, VSR20, VSR27, VSR30) will only view the Project for a short duration, thus the residual impact will be reduced to negligible. However, as part of the N-S link is elevated, there will be a permanent slight view blockage and/or reduction of a small portion of greenery area for VSRs with a medium and/or high viewing angle (VSR1, VSR2, VSR3, VSR4, VSR5, VSR6, VSR8, VSR9, VSR15, VSR16, VSR21, VSR23, VSR24, VSR25, VSR26,) Thus, a slight adverse residual impact to these VSRs is expected.

9.9.15 After the landscape matures, it is expected that the amenity planting (OM1) will be able to screen out the Project for VSRs located at a lower viewing angle (VSR5, VSR12, VSR15, VSR25, VSR26 & VSR28), thus further reducing residual visual impact at Year 10 of operation phase.

9.10 CONCLUSION

9.10.1 The Project will inevitably result in some landscape and visual impacts during construction and operation phases. These impacts have been minimized through careful consideration of alternatives to minimize works areas within the existing road system, and incorporation of sensitive and aesthetic external designs of the carriage and other highway structures and noise mitigation structures to minimize the disturbance and implement appropriate landscape and visual treatments to the So Kwun Po Road.

9.10.2 The main impact from the Project would be the change in topography resulting in loss of greenery, a total of 755 nos. of surveyed trees (including 15 nos. undesirable species *Leucaena leucocephala*) are proposed to be removed and 29 nos. of trees are proposed to be transplanted within Site. To compensate the loss, landscaped areas within Site and in the vicinity, slopes adjacent to the existing roads, proposed elevated roads and slip roads, as well as reinstated slopes after works completion were optimised for planting. These areas would be optimised to provide planting of not less than 740 trees, the compensation ratio is 1:1.

9.10.3 With the implementation of proposed mitigation measures, residual landscape impact on the LRs (LR2.1, LR3.1 and LR3.2) and LCAs (LCA1, LCA2, and LCA3) is expected to be moderate to slight impact during construction. The residual landscape impact would be further reduced to slight and negligible impact on day 1 and year 10 of operation when the proposed compensatory planting, buffer planting and woodland mix planting become mature in year 10 of operation.

9.10.4 With the implementation of proposed mitigation measures, residual visual impact on the VSRs is expected to be moderate to negligible impact during construction due to loss greenery. The residual impact on VSRs would be further reduced to slight and negligible impact on day 1 operation when the proposed built forms and sensitive treatment and design of external finish of the built elements, blend together with landscape treatment around and within the perimeter of the site, greenery features, compensation of mature trees and trees of high amenity value, can enhance the visual quality for the road system.

9.10.5 Overall, landscape and visual impacts are considered acceptable with mitigation measures implemented during construction and operation stages.

Table 9.12 Significance of Landscape Impacts during Construction and Operation Phases

ID No.	LRs/LCAs	Sensitivity of LRs/LCAs (High / Medium / Low)	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)		Significance Threshold of Potential Landscape Impact* (Before mitigation) (Substantial, Moderate, Slight, Negligible)		Proposed Mitigation Measures	Significance Threshold of Potential Landscape Impact* (After mitigation) (Substantial, Moderate, Slight, Negligible)		
			Construction	Operation	Construction	Operation		Construction	Operation (Day 1)	Operation (Year 10)
Landscape Resources (LRs)										
LR2.1	Roadside Plantation	Medium	Intermediate	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Slight	Negligible
LR3.1	North District Park	High	Intermediate	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
LR3.2	Parks and Playgrounds	High	Small	Negligible	Slight	Negligible	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
Landscape Character Areas (LCAs)										
LCA1	Transportation Corridor Landscape	Low	Small	Negligible	Slight	Negligible	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
LCA2	Park Urban Landscape	High	Intermediate	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Slight	Slight
LCA3	Mixed Modern Comprehensive Urban Development Landscape	Low	Small	Small	Slight	Negligible	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible

Table 9.13 Significance of Visual Impacts during Construction and Operation Phases

ID No.	VSRs	Representative Viewpoints (VPs)	Sensitivity of VSRs (High / Medium / Low)	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)		Significance Threshold of Potential Visual Impact* (before mitigation) (Substantial, Moderate, Slight, Negligible)		Proposed Mitigation Measures	Significance Threshold of Potential Visual Impact* (after mitigation) (Substantial, Moderate, Slight, Negligible)		
				Construction	Operation	Construction	Operation		Construction	Operation (Day 1)	Operation (Year 10)
VSR1	Residents in Ka Shing Court Ka Ming House	VP01	High	Small	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR2	Residents in Green Park Villa	VP02	High	Intermediate	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR3	Residents in Cheerful Park	VP02	High	Large	Large	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Negligible	Negligible
VSR4	Occupants in SKH Wing Chun Primary School	VP02	Medium	Large	Large	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Moderate	Slight
VSR5	Residents in Vienna Garden	VP02	High	Large	Large	Substantial	Substantial	CM1 to CM7 OM1 to OM4	Moderate	Moderate	Slight
VSR6	Residents in Eden Garden	VP03	Medium	Large	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR7	Recreational Users in Wai Hon Road Garden	VP03	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Negligible	Negligible
VSR8	Residents in Ching Ho Estate	-	High	Small	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR9	Residents in Royal Green	-	High	Small	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR10	Travellers along Pak Wo Road	VP03	Low	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR11	Occupants in Sheung Shui Government Secondary School	VP04	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Slight	Negligible
VSR12	Recreational Users in Po Wing Road Playground	VP04	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Negligible
VSR13	Occupants in Po Wing Road Sports Centre	VP04	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Slight	Negligible
VSR14	Residents in Venice Garden	-	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR15	Residents in Sheung Shui Disciplined Services Quarters	VP05	High	Large	Large	Substantial	Substantial	CM1 to CM7 OM1 to OM4	Moderate	Moderate	Slight
VSR16	Residents in Sheung Shui Police Married Quarters	VP05	High	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR17	Travellers along Pak Wo Fanling Highway	VP05	Low	Large	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR18	Occupants in Tung Wah Group of Hospitals Kap Yan Directors' College	VP05	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR19	Residents in Yuk Po Court	VP05	High	Intermediate	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR20	Occupants along San Wan Road	-	Low	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible

ID No.	VSRs	Representative Viewpoints (VPs)	Sensitivity of VSRs (High / Medium / Low)	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)		Significance Threshold of Potential Visual Impact* (before mitigation) (Substantial, Moderate, Slight, Negligible)		Proposed Mitigation Measures	Significance Threshold of Potential Visual Impact* (after mitigation) (Substantial, Moderate, Slight, Negligible)		
				Construction	Operation	Construction	Operation		Construction	Operation (Day 1)	Operation (Year 10)
VSR21	Residents in Sheung Shui Centre	-	High	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR22	Residents in So Kwun Po	VP08	High	Intermediate	Small	Negligible	Negligible		Negligible	Negligible	Negligible
VSR23	Residents in Sheung Shui Town Centre	VP08	High	Large	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR24	Residents in Tin Ping Estate	-	High	Small	Small	Substantial	Substantial	CM1 to CM7 OM1 to OM4	Moderate	Slight	Slight
VSR25	Occupants in SKH Chan Young Secondary School	VP06	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Moderate	Slight
VSR26	Occupants in TWGHs Hong Kong and Kowloon Electrical Appliances Merchants Association Limited School	VP06	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Moderate	Slight
VSR27	Travellers along So Kwun Po Road	VP06	Medium	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR28	Recreational Users in North District Park	VP07	Medium	Intermediate	Intermediate	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Moderate	Slight	Negligible
VSR29	Recreational Users in Kat Cheung Street Garden	-	Medium	Small	Negligible	Slight	Slight	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible
VSR30	Travellers on New Territories Circular Road, Railing Line and Footbridge by Pak Fu Children's Playground	VP01	Low	Intermediate	Small	Moderate	Moderate	CM1 to CM7 OM1 to OM4	Slight	Negligible	Negligible