10. Landscape Impact Assessment

10.1 Introduction

This Chapter assesses the likely landscape impacts of the proposed decontamination works and proposes strategic mitigation measures to alleviate the anticipated potential impacts. This includes the description of Landscape Resources (LRs) and Landscape Character Areas (LCAs) as well as the corresponding impacts and recommended mitigation measures.

10.2 Environmental Legislation, Standards and Guidelines

The environmental legislations, standards and guidelines below are relevant to the Landscape Impact Assessment (LIA) for this Project.

- Environmental Impact Assessment Ordinance (Cap.499.S.16) - *Technical Memorandum on EIA Process* (EIAO-TM), particularly Annexes 10 and 18;
- Environmental Impact Assessment Ordinance Guidance Note No. 8/2010;
- Town Planning Ordinance (Cap 131);
- ETWB TCW No. 2/2004 - Maintenance of Vegetation and Hard Landscape Features;
- DevB TCW No. 10/2013 - Tree Preservation;
- Hong Kong Planning Standards and Guidelines, particular Chapter 4, Chapter 8 and Chapter 11; and
- Study on Landscape Value Mapping of Hong Kong.

10.3 Assessment Area

As specified in Clause 3.4.10.2 of EIA Study Brief, the study area for landscape impact assessment shall include all areas within the Project site. The Landscape Assessment Area is shown in **Figure 10.1**.

10.4 Assessment Methodology

The LIA is based on the criteria and guidelines stated in Annexes 10 and 18 of the EIAO-TM and covered in the scope outlined in Section 3.4.10 and Appendix E of the EIA Study Brief. The main elements include:

- Identification of the scope of works;
- Review of relevant planning and development control framework;
- Baseline study of LRs and LCAs;
- Identification of potential landscape impacts during the construction and operational phases;
- Recommendation on mitigation measures;
- Identification of cumulative impacts;
- Identification of residual impacts; and,
- Assessment on acceptability according to the criteria set out in Annex 10 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

The LIA makes reference to the EIAO GN No. 8/2010 "Preparation of Landscape and Visual Impact Assessment under the EIAO" in evaluating the significance of landscape impacts from the Project. **Section 2** of this EIA Report describes the details of the Project and the three Reprovisioning Options. This Section assesses the landscape impacts that may arise from the Project under the three Reprovisioning Options. The methodology for the LIA is described in the following sub-sections.

10.4.1 Review of Planning and Development Control Framework

A review of the existing planning studies and documents has been undertaken to gain an insight to the future outlook of the area affected so as to assess whether the Project can fit into surrounding setting. The assessment does not consider all of the areas zoned on the relevant OZP(s) but focuses on those that may be directly affected by the proposed works. The study reviews the following information:

- Plan title/number;
- Land use zonings;
- Potential impacts and approximate area of the land use zones to be affected by the Project;
- Design and conservation intention; and,
- Mitigation measures and future outlook of the area.

10.4.2 Landscape Assessment

Landscape impacts are quantified as much as possible to predict the magnitude and significance of impact arising from this Project and its associated works. Landscape Resources (LRs) and Landscape Character Areas (LCAs) identified are numbered and assessed by a combination of desktop studies and site surveys. The difference between mitigated and unmitigated conditions is highlighted to demonstrate the effectiveness of proposed recommended mitigation measures. Landscape elements that are in consideration include:

- Local topography;
- Woodland extent and type;
- Other Vegetation types;
- Built form;
- Patterns of settlement;
- Land use;
- Scenic spots;
- Details of local materials, styles, streetscapes, etc.;
- Prominent watercourses; and,
- Cultural and religious identity.

After identification of baseline LRs and LCAs, each LR and LCA is analysed and evaluated by the following factors:

Sensitivity of landscape framework – To analyse sensitivity a number of factors needs to be evaluated, including the following:

- the quality, maturity, condition and value of landscape resources or character areas;
- importance and rarity of landscape resources or character areas;

- whether the site is considered to be of local, regional, national or global significance;
- any statutory or regulatory limitations or requirements relating to the landscape resources or character areas on this site; and,
- the ability of landscape resources and character areas to accommodate change.

The above factors are considered and analysed before each LR and LCA is classified into the following three categories:

- **High**: Landscape resource or area has a distinctive character or is of high importance and sensitive to relatively small changes.
- **Medium:** Landscape resource or area has a moderately valued landscape character that is reasonably tolerant to change.
- **Low:** Landscape resource or area has a low-valued landscape character that is highly tolerant to change.

Magnitude of change on landscape impact arising from this Project – A number of factors can influence the magnitude of change on landscape impact, as follows:

- duration of impact, i.e. whether it is temporary or long-term;
- scale of impact;
- reversibility of change; and,
- compatibility of the Project and associated works with existing and planned landscape.

The above factors are analysed and the results of each LR and LCA are classified into four different categories, as follows:

- **Large**: Landscape resource or area will be subject to a major change.
- **Intermediate**: Landscape resource or area will be subject to a moderate change.
- **Small**: Landscape resource or area will be subject to a slight change.
- **Negligible**: Landscape resource or area will be subject to no discernible change.

It should be noted that the landscape assessment for carrying out of the Project and upon completion of the Project is conducted separately due to the different potential sources affecting the magnitude of change on landscape impacts.

Evaluation of the sensitivity and magnitude of change on various LRs and LCAs is conducted in a logical, reasonable and consistent manner for both carrying out of the Project and upon completion of the Project. Each LR and LCA is given a degree of impact significance depending on the severity of sensitivity and magnitude. **Table 10.1** illustrates the underlying principle for each of the four significance thresholds.

Table 10.1: Sensitivity and Magnitude of Change on the Degree of Impact Significance

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

Note: Substantial – Adverse / beneficial impact where the Project would cause significant deterioration or improvement.
Moderate – Adverse / beneficial impact where the Project would cause noticeable deterioration or improvement.
Slight – Adverse / beneficial impact where the Project would cause barely noticeable deterioration or improvement.
Insubstantial – The Project would cause no discernible change.

10.4.3 Tree Survey

In accordance with Development Bureau Technical Circular (Works) No. 10/2013, all existing trees with trunk diameter measuring 95mm or more at a height of 1.3m above ground level were identified.

Every tree surveyed individually is recorded with the following information:

- Species – botanical and Chinese names of surveyed tree recorded
- Height – full height measured from ground level to top branch in meters
- Crown spread – diameter of tree canopy in meters
- Trunk diameter – diameter of main trunk measured at a height of 1.3m above ground level
- Tree form – estimated according to canopy, branch and trunk. This will be rated as good, fair or poor.
- Amenity value – estimated according to species, age, size health condition and tree form. This will be rated as high, medium or low.
- Health condition – estimated according to foliage, exposed roots, branches and trunk. This will be rated as good, fair or poor.
- Survival rate after transplanting – Estimated according to condition of tree, size, maturity, species, access and location. This will be rated as high, medium or low.
- Special features – supplementary special site features identified on site, as well as tree defects, physical characteristics and ground conditions area recorded.

10.4.4 Mitigation Measures

After identifying LRs and LCAs that require mitigation measures to reduce the degree of impact, possible mitigation measures that can be implemented for this Project and its associated works will be reviewed and evaluated. Identification of potential mitigation measures may include:

- Alternative design or revisions to basic engineering or architecture design to prevent or minimise adverse impacts
- Remedial measures during and after carrying out of the Project

- Compensatory measures for unavoidable adverse impacts and attempt to generate beneficial long term impacts.

Recommended mitigation measures are evaluated for comparison before adopting as a mitigation or compensatory measure. This is conducted through evaluating possible mitigation measures by the degree of residual impact assessment to illustrate mitigation effectiveness.

10.4.5 Residual Impact Assessment

Residual impacts are evaluated by the sensitivity and magnitude of change for landscape assessment after the implementation of proposed mitigation measures. In accordance to Annex 10 of EIAO TM, overall assessment of residual landscape and visual impacts for this Project is placed into one of the following five thresholds.

- **Beneficial** – The project complements the landscape and visual character of its setting and follows the relevant planning objectives. It will improve overall landscape or visual quality.
- **Acceptable** – There is no significant effects on landscape or visual effects caused by this Project.
- **Acceptable with mitigation measures** – There will be some adverse effects that may be eliminated, reduced, or offset by specific mitigation measures.
- **Unacceptable** – The adverse effects are considered to be excessive with implemented mitigation measures.
- **Undetermined** – Significant adverse effects are likely but the extent of which they occur or may be mitigated cannot be determined from this study. Further detailed study may be required.

10.5 Review of Planning and Development Control Framework

A review of the existing and planned development for the proposed works and for the surroundings has been undertaken. It aims in identifying issues with neighbouring planned land uses, identifying potential resources and sensitive receivers and ensuring a high compatibility between the proposed Project and the surroundings.

The assessment covers areas shown on the Outline Zoning Plan (OZP) No. S/H1/19 – Kennedy Town & Mount Davis. Zoning in this OZP is overlaid onto the Landscape Assessment Area and illustrated in **Figure 10.2**. A review on this OZP reveals that the part of the Project Area is within the land use type Open Space “O” while the remaining part is Undetermined “U”. The planning intention of the “O” zone is 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 existing Cadogan Street Temporary Garden is within the “O” zone. **Table 10.2** summarises the findings of the planning and development control review on areas within the boundary of the Project.

Table 10.2: Review of Existing Planning and Development Control Framework

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Potential Impacts	Mitigation Measures and Future Outlook of the Area with the Proposed Works
Outline Zoning Plan number S/H1/19 – Kennedy Town & Mount Davis (**Figure 10.2**)			
1. Open Space "O"	This zone encompasses the existing Cadogan Street Temporary Garden. This zone is primarily intended for the provision of outdoor open-air space for active and/ or passive recreational uses serving the needs of local residents and the general public.	All trees within this zone will be felled and all shrub planting, turfed areas and sitting-out areas will be removed for all three Reprovisioning Options.	Felled trees will be compensated with a minimum ratio of 1:1 in terms of quantity by tree planting in the proposed future waterfront promenade (by others). For Reprovisioning Option A, the future waterfront promenade will be provided by others before the existing Cadogan Street Temporary Garden is demolished; temporary refuse collection point and temporary public car park will also be reprovisioned on-site by others with the remaining parts of the site leaving at original ground level for future development; for Reprovisioning Option B, temporary refuse collection point and temporary public car park will be reprovisioned on-site by others with the remaining parts of the site leaving at original ground level for future development; for Reprovisioning Option C, the completion of the Project will end up with the entire site at original ground level for future development. Proposed mitigations measures are listed in **Tables 10.6** and **10.7**.
2. Undetermined "U"	This zone encompasses the entire Project site except the exiting Cadogan Street Temporary Garden. This zone is intended to denote areas where further detailed planning study is required to identify the future uses of the land.	Roadside trees will be felled during the carrying out of the Project for all three Reprovisioning Options.	Future development upon completion of the proposed decontamination works at the Project site is not yet confirmed. However, all proposed development within the "U" zone requires planning permission from the Town Planning Board. This will ensure that any interim development will not pre-empt the recommendations of the land use review. The proposed decontamination works is therefore

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Potential Impacts	Mitigation Measures and Future Outlook of the Area with the Proposed Works
			not in conflict with the planning intention of this zone.

10.6 Baseline Study

An aerial photo showing the extent of the Landscape Assessment Area is shown in **Figure 10.3.**

10.6.1 Existing Landscape Conditions

Landscape Resources (LRs)

Two LRs have been identified. They are mapped on **Figure 10.4** and photos of the LRs are illustrated in **Figure 10.5**.

LR1 – Cadogan Street Temporary Garden

This LR is approximately 0.580ha in size. It is a landscaped urban open space for recreational purpose. There are approximately 180 nos. of trees within this LR. Dominant tree species include *Ficus microcarpa*, *Livistona chinensis* and *Terminalia catappa*. Tree height ranges from 3 to 14 m and the amenity value of the trees ranges from low to medium. Shrub planting in this LR include common landscape species such as *Aglaia odorata*, *Calliandra haematocephala*, *Ficus microcarpa* 'Golden Leaves', *Ixora chinensis*, *Ligustrum sinense* and *Murraya paniculata*. Turfed areas and sitting-out areas are also present within this LR. Though this type of resource is locally common, it is well maintained. The amenity value and sensitivity for this resource are therefore considered to be **high**.

LR2 – Roadside Vegetation

This LR is approximately 0.017ha in size. It comprises approximately 16 trees growing on roadside or in the periphery of the existing public car park and bus depot. Trees in this LR include *Celtis sinensis*, *Ficus microcarpa* and *Morus alba*, with height ranges from 4 to 10 m and crown spread from 2 to 16 m. Though this type of LR is locally common, the amenity value and sensitivity of this LR are considered to be **high** due to the high amenity value of the mature trees.

Landscape Character Area (LCA)

One LCA has been identified within the Assessment Area. The LCA is mapped and illustrated on **Figure 10.6.** Photos of this LCA are shown in **Figure 10.7**.

LCA1 – Urban Developed Area

This LCA is approximately 3.15ha in size. It comprises urban developed areas with various temporary land uses and a temporary garden with tree planting, shrub planting, turfed areas and sitting-out areas. Roadside vegetation is also found within this LCA. All the temporary facilities will be cleared by others and the bare land with scattered trees will be handed over to CEDD for decontamination works. The sensitivity of this LCA is considered to be **medium**.

Table 10.3 below summarises the sensitivity of all LRs and LCA at the Project site.

Table 10.3: Sensitivity of LRs and LCA

ID No.	Name	Quality of Existing Landscape (Low, Medium, High)	Importance / Rarity of Landscape Elements (Low, Medium, High)	Ability to Accommodate Change (Low, Medium, High)	Maturity of Landscape (Young-Semi-mature-Mature)	Significance of Change in Local Context (Low, Medium, High)	Significance of Change in Regional Context (Low, Medium, High)	Sensitivity (Low, Medium, High)
LR1	Cadogan Street Temporary Garden	High	Medium	Medium	Semi-mature	Medium	Low	High
LR2	Roadside Vegetation	High	Medium	Low	Mature	Medium	Low	High
LCA1	Urban Developed Area	Medium	Low	Medium	Semi-mature	Low	Low	Medium

10.6.2 Tree Survey

A survey of existing trees within the Project Area was conducted between December 2012 and January 2013. The findings of the tree survey are summarised in **Appendix 10.1**.

Existing Trees

The survey identified a total number of 196 trees within the proposed works boundary. The dominant tree species are mainly common ornamental trees, composed of both exotic and native species. These trees include *Ficus microcarpa, Livistona chinensis, Terminalia catappa, Hibiscus tiliaceus* and *Syagrus romanzoffiana.*

There is no registered OVT within the Landscape Assessment Area.

Four individuals of *Aquilaria sinensis* were recorded during the tree survey in Cadogan Street Temporary Garden. This species is scheduled under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586), which aims to control the import/export of the scheduled species. *Aquilaria sinensis* is common in Hong Kong and is not listed under the Forestry Regulations of the Forests and Countryside Ordinance (Cap. 96A).

Ailanthus fordii, which is a species listed under the Forestry Regulations of the Forests and Countryside Ordinance (Cap. 96A), was found in Cadogan Street Temporary Garden during the tree survey. In total, two individuals were recorded. Although *A. fordii* is listed under Cap. 96A, it is often planted in urban landscaped areas as ornamental trees. Also, as Cap. 96A does not apply to "plants grown outside Hong Kong or on any land held from the Government under a lease, licence or permit or by virtue of an Ordinance", the two individuals of *A. fordii* in Cadogan Street Temporary Garden, which are on allocated government land, are therefore not protected under Cap. 96A.

Recommended Treatment of Existing Trees

The recommended treatments for the existing trees, which are the same for all three Reprovisioning Options, are as follows:

- Tree Retention: Contaminated soil is found all over the entire Project Area. All identified trees are either adhering to the disused structures or with roots in contaminated soil. On-site tree preservation is infeasible because it necessitates on-site retention of contaminated soil (which contains heavy metals and hydrocarbons) and defeats the purpose of the proposed decontamination works. Therefore, none of the identified trees is proposed to be retained in their current locations.

- Tree Transplantation: All trees in conflict with the proposed works are not suitable to be transplanted as the soil in the rootball is contaminated with heavy metals and hydrocarbons. Tree transplantation will translocate these contaminants to the soil at the recipient locations, thereby contaminating the recipient site. Decontamination of the tree rootball by "washing" off the contaminated soil before transplanting the trees to their recipient locations is also impracticable because of several reasons. First, by washing off all the soil in the rootball, all the micro-organisms associated with the tree roots will be washed away. This will have a serious adverse impact on tree health and substantially reduce the post-transplantation survival rate of the trees. Second, washing off the soil from the tree roots will not only remove the beneficial micro-organisms associated with the tree roots, but also interrupt the plant

hormone secretion of the trees, thereby causing additional impact on tree health. Third, as preparation for transplantation, root pruning operation is necessary. Physical injury and loss of fine roots (which is crucial to water and nutrient absorption) will be unavoidable. Washing off the soil from the pruned rootball will cause further injury to the tree roots, particularly the fine roots, and largely increase the risk of fungal infection. The survival rate of the trees after such operations is therefore expected to be extremely low. Therefore, no tree transplantation is proposed.

- Tree Felling: 196 trees identified within or in close proximity to the proposed Project Area are recommended to be felled for the implementation of the proposed decontamination works since both on-site retention and transplantation are infeasible. The aggregated DBH of these 196 trees is 43,737 mm.
- Tree Removal: No dead or weedy tree is identified, and therefore no tree is proposed to be removed.

The findings and recommendation of the tree survey are subject to the formal tree removal application to be submitted to relevant government departments for approval. Tree findings and recommendation of their treatment are summarised in **Table 10.4.**

Table 10.4: Summary of Tree Survey Recommendations

Botanical Name	Chinese Name	Fell	Remove	Retain	Transplant	Quantity
Acacia auriculiformis	耳果相思	9				9
Acacia confusa	台灣相思	5				5
Ailanthus fordii	福氏臭椿	2				2
Aleurites moluccana	石栗	1				1
Aquilaria sinensis	牙香樹	4				4
Bauhinia spp.	羊蹄甲屬	11				11
Broussonetia papyrifera	構樹	1				1
Carica papaya	番木瓜	1				1
Caryota mitis	短穗魚尾葵	3				3
Celtis sinensis	朴樹	2				2
Dracontomelon duperreanum	人面子	9				9
Erythrina indica 'Picta'	花葉刺桐	12				12
Erythrina spp.	刺桐	3				3
Ficus benjamina	垂葉榕	1				1
Ficus microcarpa	細葉榕	32				32
Ficus subpisocarpa	筆管榕	1				1
Hibiscus tiliaceus	黃槿	14				14
Livistona chinensis	蒲葵	27				27
Lophostemon confertus	紅膠木	7				7
Macaranga tanarius	血桐	1				1
Michelia alba	白蘭	1				1
Morus alba	桑	2				2
Pterocarpus indicus	紫檀	3				3

Botanical Name	Chinese Name	Fell	Remove	Retain	Transplant	Quantity
Schefflera actinophylla	傘樹	11				11
Syagrus romanzoffiana	皇后葵	14				14
Terminalia catappa	欖仁樹	19				19
Dead	枯樹	0				0
Total		196	0	0	0	196

10.7 Landscape Impact Assessment

10.7.1 Sources of Impact

During the carrying out of the Project, sources of potential landscape impacts would arise from the following:

- Excavation, lateral support works, backfilling and site formation works;
- Biopiling, and
- Construction of surface drainage system.

10.7.2 Magnitude of Change

All LRs and LCA will be affected by the proposed works. The magnitude of change to each of the LRs and LCA under the three Reprovisioning Options as described in **Section 2** are identified below:

Reprovisioning Option A

LR1 – Cadogan Street Temporary Garden

All 180 trees within this LR will be felled in 0.580ha due to site clearance. All shrub planting, turfed areas and sitting-out areas will also be removed. The magnitude of change is considered **large**.

LR2 – Roadside Vegetation

All 16 trees, including some mature ones, will need to be felled in this LR (0.017ha) in phases for the implementation of the proposed decontamination works. The magnitude of change is considered **large**.

LCA1 – Urban Developed Area

All 196 trees within this LCA (3.15ha) will be felled in phases. All shrub planting, turfed areas and sitting-out areas will also be removed. The overall landscape character of the area as an urban developed area will remain unchanged, but the existing open spaces will be lost. The magnitude of change is considered **intermediate**.

Reprovisioning Option B

LR1 – Cadogan Street Temporary Garden

All 180 trees within this LR will be felled in 0.580ha due to site clearance. All shrub planting, turfed areas and sitting-out areas will also be removed. The magnitude of change is considered **large**.

LR2 – Roadside Vegetation

All 16 trees, including some mature ones, will need to be felled in this LR (0.017ha) in phases for the implementation of the proposed decontamination works. The magnitude of change is considered **large**.

LCA1 – Urban Developed Area

All 196 trees within this LCA (3.15ha) will be felled in phases. All shrub planting, turfed areas and sitting-out areas will also be removed. Given that this LCA is dominated by urban development with paved ground and the loss of trees, shrubs, turfed areas and sitting-out areas does not alter the general landscape character of the urban developed area, the magnitude of change is considered **intermediate**.

Reprovisioning Option C

LR1 – Cadogan Street Temporary Garden

All 180 trees within this LR will be felled in 0.580ha due to site clearance. All shrub planting, turfed areas and sitting-out areas will also be removed. The magnitude of change is considered **large**.

LR2 – Roadside Vegetation

All 16 trees, including some mature ones, will need to be felled in this LR (0.017ha) for the implementation of the proposed decontamination works. The magnitude of change is considered **large**.

LCA1 – Urban Developed Area

All 196 trees within this LCA (3.15ha) will be felled. All shrub planting, turfed areas and sitting-out areas will also be removed. Given that this LCA is dominated by urban development with paved ground and the loss of trees, shrubs, turfed areas and sitting-out areas does not alter the general landscape character of the urban developed area, the magnitude of change is considered **intermediate**.

The magnitude of change for each LRs and LCA is illustrated in **Table 10.5.**

Table 10.5: Magnitude of Change of LRs and LCA

ID No.	Name	Reprovisioning Option	Scale of Works (Negligible, Small, Medium, Large)	Reversibility (Reversible, Irreversible)	Compatibility with Surrounding Landscape (Low, Medium, High)	Duration of Impacts (Short, Medium, Long)	Magnitude of Change (Negligible, Small, Intermediate, Large)
LR1	Cadogan Street Temporary Garden	A	Large	Irreversible	Low	Long	Large
		B	Large	Irreversible	Low	Long	Large
		C	Large	Irreversible	Low	Long	Large
LR2	Roadside Vegetation	A	Large	Irreversible	Low	Long	Large
		B	Large	Irreversible	Low	Long	Large
		C	Large	Irreversible	Low	Long	Large
LCA1	Urban Developed Area	A	Large	Irreversible	Low	Long	Intermediate
		B	Large	Irreversible	Low	Long	Intermediate
		C	Large	Irreversible	Low	Long	Intermediate

10.7.3 Unmitigated Landscape Impact

The degrees of impact significance to each of the LRs and LCA without mitigation measures under the three Reprovisioning Options are derived from their sensitivities as shown in **Table 10.3** and the corresponding magnitude of change as shown in **Table 10.5** in accordance with the underlying principle as illustrated in **Table 10.1**. They are summarized in **Table 10.8**.

10.7.4 Recommended Mitigation Measures

Potential landscape impacts have been carefully considered during the development of project design to achieve the following:

- Avoid impacts on important landscape resources;
- Lessen unavoidable impacts by location, design and reducing the extent of works; and
- Enhancement of existing landscape resource.

Recommended landscape mitigation measures for impacts during the carrying out of the Project and upon completion of the Project, which are applicable to all three Reprovisioning Options, are summarised in **Tables 10.6** and **10.7**. The mitigation measures during the carrying out of the Project listed below shall be adopted from the commencement of proposed works and throughout the entire period during the carrying out of the Project.

Figure 10.8 shows all the proposed mitigation measures and **Figure 10.9** shows the existing site condition, the photomontage of the site on Day 1 upon completion of the Project without the proposed mitigation measures, and the site on Day 1 upon completion of the Project with mitigation for Reprovisioning Option A.

Since the proposed mitigation measures as shown in **Table 10.7** will be developed at a later stage and are not expected to be implemented on Day 1 upon completion of the Project for Reprovisioning Options B and C, photomontages of the site on Day 1 with mitigation measures are not provided for Reprovisioning Options B and C.

Table 10.6: Proposed Mitigation Measures during Carrying out of the Project

Mitigation Code	Mitigation Measure
CP1	**Landscape planting around the Works Areas -** Landscape planting should be considered to be placed along the screen hoarding where space is available and feasible, and properly maintained during the carrying out of the Project in order to partially screen and soften the hard structure of the screen hoarding. Species with high tolerance to wind, sun and salt, such as *Ipomoea pes-caprae*, *Lantana montevidensis*, *Melastoma dodecandrum*, *Rusellia equisetiformis* and *Wedelia trilobata*, should be used for such planting. Proposed planters on screen hoarding is shown in **Appendix 10.2**.

Table 10.7: Proposed Mitigation Measures upon Completion of the Project

Mitigation Code	Mitigation Measure
OP1	**Compensatory tree planting** – Compensatory tree planting in the proposed future waterfront promenade will be implemented for all three Reprovisioning Options, so that the felled trees as described in **Section**

Mitigation Code	Mitigation Measure
	10.6.2 will be compensated with a minimum ratio of 1:1 in terms of quantity by tree planting in accordance with DevB TC(Works) No. 10/2013. Since a total of 196 nos. of trees are proposed to be felled for the implementation of the proposed decontamination works, at least 196 nos. of trees will be required to fully compensate for the lost trees in terms of quantity. An Environmental Permit condition requiring the submission of a landscape plan showing the design of the waterfront promenade and details of the tree compensatory proposal to EPD will be included to ensure the implementation of this mitigation measure.

For Reprovisioning Option A, OP1 will be implemented before removal of the existing Cadogan Street Temporary Garden, so that a public open space with greening will be maintained during the carrying out of the Project; for Reprovisioning Options B and C, OP1 will be implemented after the completion of the proposed decontamination works. Therefore, the future waterfront promenade is not expected to have been provided by Day 1 upon completion of the Project. However, it is expected that the future waterfront promenade will have been provided by Year 10 upon completion of the Project.

10.7.5 Mitigated Landscape Impact during Carrying out of the Project

The potential impacts to each of the LRs and LCAs with mitigation measures during the carrying out of the Project under the three Reprovisioning Options are identified below:

Reprovisioning Option A

LR1 – Cadogan Street Temporary Garden

All 180 trees within this LR will be felled after the compensatory trees are provided in the proposed future waterfront promenade. Also, all shrub planting, turfed areas and sitting-out areas will be removed after similar landscape elements are provided in the future waterfront promenade. Therefore, a temporary garden with greening or the proposed future waterfront promenade will be maintained throughout the carrying out of the Project, although the planting in the proposed future waterfront promenade will be small and young compared to the 180 trees to be felled. Furthermore, by provision of landscape planting (CP1), this LR will receive a **slight negative** landscape impact.

LR2 – Roadside Vegetation

All 16 trees, including some mature ones, will be felled. By provision of landscape planting (CP1) as a greening measure, this LR will receive a **moderate negative** landscape impact.

LCA1 – Urban Developed Area

All 196 trees within this LCA will be felled. 180 trees in the existing Cadogan Street Temporary Garden will not be felled until the compensatory trees are provided in the proposed future waterfront promenade. Also, all shrub planting, turfed areas and sitting-out areas will not be removed before similar landscape elements are provided in the future waterfront promenade. Therefore, a temporary garden or proposed future waterfront promenade with greening will be maintained throughout the carrying out of the Project, although the planting in the proposed future waterfront promenade will be small and young compared to the 196 trees to be felled. Furthermore, by provision of landscape planting (CP1), this LCA will receive a **slight negative** landscape impact during carrying out of the Project.

Reprovisioning Option B

LR1 – Cadogan Street Temporary Garden

All 180 trees within this LR will be felled in phases. Also, all shrub planting, turfed areas and sitting-out areas will be removed. By provision of landscape planting (CP1), this LR will still receive a **substantial negative** landscape impact.

LR2 – Roadside Vegetation

All 16 trees, including some mature ones, will be felled in phases. By provision of landscape planting (CP1) as a greening measure, this LR will receive a **moderate negative** landscape impact.

LCA1 – Urban Developed Area

All 196 trees within this LCA will be felled in phases. Also, all shrub planting, turfed areas and sitting-out areas will be removed. By provision of landscape planting (CP1), this LCA will receive a **moderate negative** landscape impact.

Reprovisioning Option C

LR1 – Cadogan Street Temporary Garden

All 180 trees within this LR will be felled. Also, all shrub planting, turfed areas and sitting-out areas will be removed. By provision of landscape planting (CP1), this LR will still receive a **substantial negative** landscape impact.

LR2 – Roadside Vegetation

All 16 trees, including some mature ones, will be felled. By provision of landscape planting (CP1) as a greening measure, this LR will receive a **moderate negative** landscape impact.

LCA1 – Urban Developed Area

All 196 trees within this LCA will be felled. Also, all shrub planting, turfed areas and sitting-out areas will be removed. By provision of landscape planting (CP1), this LCA will receive a **moderate negative** landscape impact.

10.7.6 Mitigated Landscape Impact on Day One upon Completion of the Project

The potential impacts to each of the LRs and LCA with mitigation measures at Day 1 upon completion of the Project under the three Reprovisioning Options are identified below:

Reprovisioning Option A

LR1 – Cadogan Street Temporary Garden

All 180 trees, together with the shrub planting, turfed areas and sitting-out areas, within the existing Cadogan Street Temporary Garden will have been felled / removed for the implementation of the proposed decontamination works, while compensatory tree planting and other landscape elements will have been provided in a temporary garden or the future waterfront promenade. With compensatory tree planting (OP1) in the proposed future waterfront promenade which are young, the landscape impact on this LR will be **slight negative**.

LR2 – Roadside Vegetation

All 16 trees will have been felled for the implementation of the proposed decontamination works. With compensatory tree planting (OP1) in the proposed future waterfront promenade which are young, the landscape impact on this LR will be **moderate negative**.

LCA1 – Urban Developed Area

The overall landscape character of this LCA as an urban developed area will remain unchanged, but the existing trees therein will have been felled and the shrub planting, turfed areas and sitting-out areas removed. Compensatory tree planting and other landscape elements will have been provided. With compensatory tree planting (OP1) in the proposed future waterfront promenade which are young, this LCA will receive a **slight negative** landscape impact.

Reprovisioning Option B

LR1 – Cadogan Street Temporary Garden

All 180 trees, together with the shrub planting, turfed areas and sitting-out areas, within the existing Cadogan Street Temporary Garden will have been felled / removed in phases for the implementation of the proposed decontamination works. With compensatory tree planting (OP1) in the proposed future waterfront promenade to be provided at a later stage, the landscape impact on this LR will be **substantial negative**.

LR2 – Roadside Vegetation

All 16 trees will have been felled in phases for the implementation of the proposed decontamination works. With compensatory tree planting (OP1) in the proposed future waterfront promenade to be provided at a later stage, the landscape impact on this LR will be **moderate negative**.

LCA1 – Urban Developed Area

The overall landscape character of this LCA as an urban developed area will remain unchanged, but the existing trees therein will have been felled and the shrub planting, turfed areas and sitting-out areas removed. With compensatory tree planting (OP1) in the proposed future waterfront promenade to be provided at a later stage, the landscape impact on this LR will be **moderate negative**.

Reprovisioning Option C

LR1 – Cadogan Street Temporary Garden

All 180 trees, together with the shrub planting, turfed areas and sitting-out areas, within the existing Cadogan Street Temporary Garden will have been felled / removed for the implementation of the proposed decontamination works, leaving the site at original ground level. With compensatory tree planting (OP1) in the proposed future waterfront promenade to be provided at a later stage, the landscape impact on this LR will be **substantial negative**.

LR2 – Roadside Vegetation

All 16 trees will have been felled for the implementation of the proposed decontamination works, leaving the site at original ground level. With compensatory tree planting (OP1) in the proposed future waterfront promenade to be provided at a later stage, the landscape impact on this LR will be **moderate negative**.

LCA1 – Urban Developed Area

The overall landscape character of this LCA as an urban developed area will remain unchanged, but the existing trees therein will have been felled and the shrub planting, turfed areas and sitting-out areas removed. With compensatory tree planting (OP1) in the proposed future waterfront promenade to be provided at a later stage, the landscape impact on this LR will be **moderate negative**.

10.7.7 Mitigated Landscape Impact in Year 10 upon Completion of the Project

The potential impacts to each of the LRs and LCA with mitigation measures at Year 10 upon completion of the Project under the three Reprovisioning Options are identified below:

Reprovisioning Option A

LR1 – Cadogan Street Temporary Garden

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade is expected to have already reached a size that could largely compensate for the loss of the felled trees in this LR. The landscape impact on this LR will therefore be **insubstantial** in year 10 following completion of the Project.

LR2 – Roadside Vegetation

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade is expected to have already reached a size that could largely compensate for the loss of the felled trees in this LR. The landscape impact on this LR will therefore be **slight negative** in year 10 following completion of the Project.

LCA1 – Urban Developed Area

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade will have already reached a size that could largely compensate for the loss of the felled trees in this LCA. The landscape impact on this LCA will therefore be **insubstantial** in year 10 following completion of the Project.

Reprovisioning Option B

LR1 – Cadogan Street Temporary Garden

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade are expected to have already been provided and have reached a size that could largely compensate for the loss of the felled trees in this LR. The landscape impact on this LR will therefore be **slight negative**.

LR2 – Roadside Vegetation

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade are expected to have been provided and have already reached a size that could largely compensate for the loss of the felled trees in this LR. The landscape impact on this LR will therefore be **slight negative**.

LCA1 – Urban Developed Area

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade will have been provided and have already reached a size that could largely compensate for the loss of the felled trees in this LCA. The landscape impact on this LCA will therefore be **slight negative** in year 10 following completion of the Project.

Reprovisioning Option C

LR1 – Cadogan Street Temporary Garden

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade are expected to have been provided and have already reached a size that could largely compensate for the loss of the felled trees in this LR. The landscape impact on this LR will therefore be **slight negative**.

LR2 – Roadside Vegetation

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade are expected to have been provided and have already reached a size that could largely compensate for the loss of the felled trees in this LR. The landscape impact on this LR will therefore be **slight negative**.

LCA1 – Urban Developed Area

By year 10 following completion of the Project, compensatory tree planting (OP1) in the proposed future waterfront promenade will have been provided and have already reached a size that could largely compensate for the loss of the felled trees in this LCA. The landscape impact on this LCA will therefore be **slight negative** in year 10 following completion of the Project.

The impact significance thresholds for all LRs and LCA are shown in **Table 10.8**.

Table 10.8: Significance Threshold of Landscape Impacts during Carrying out and Upon Completion of the Project

Id No.	Name	Sensitivity (Low, Medium, High)	Reprovisioning Option	Magnitude of Change during Carrying out of the Project (Negligible, Small, Intermediate, Large)	Significance Threshold (unmitigated)		Mitigation Measures	Significance Threshold (mitigated)		
					During Carrying out of the Project (Insubstantial, Slight, Moderate, Substantial)	Upon Completion of the Project (Insubstantial, Slight, Moderate, Substantial)		During Carrying out of the Project (Insubstantial, Slight, Moderate, Substantial)	Day 1 upon Completion of the Project (Insubstantial, Slight, Moderate, Substantial)	Year 10 upon Completion of the Project (Insubstantial, Slight, Moderate, Substantial)
LR1	Cadogan Street Temporary Garden	High	A	Large	Substantial negative	Substantial negative	CP1, OP1	Slight negative	Slight negative	Insubstantial
			B	Large	Substantial negative	Substantial negative		Substantial negative	Substantial negative	Slight negative
			C	Large	Substantial negative	Substantial negative		Substantial negative	Substantial negative	Slight negative
LR2	Roadside Vegetation	High	A	Large	Substantial negative	Substantial negative	CP1, OP1	Moderate negative	Moderate negative	Slight negative
			B	Large	Substantial negative	Substantial negative		Moderate negative	Moderate negative	Slight negative
			C	Large	Substantial negative	Substantial negative		Moderate negative	Moderate negative	Slight negative
LCA1	Urban Developed Area	Medium	A	Intermediate	Moderate negative	Moderate negative	CP1, OP1	Slight negative	Slight negative	Insubstantial
			B	Intermediate	Moderate negative	Moderate negative		Moderate negative	Moderate negative	Slight negative
			C	Intermediate	Moderate negative	Moderate negative		Moderate negative	Moderate negative	Slight negative

10.7.8 Cumulative Impact

Potential concurrent and interfacing projects were identified in **Section 2** and shown in **Figure 2.4**. The following is the assessment of potential cumulative landscape impacts of the identified projects.

Residential Development at the Ka Wai Man Road and Ex-Mount Davis Cottage Area

Demolition works are currently underway. It is tentatively assumed that the public housing development would have population intake starting from 2021.

This residential development will be a concurrent project. However, given that this site is distinctly separated from the landscape assessment area of this Project as shown in **Figure 2.4**, and this residential development involves demolition and redevelopment works which does not change the landscape character of the area, minor cumulative landscape impact is expected during the carrying out of the Project due to removal of vegetation within this residential development site and no cumulative impact is expected upon completion of the Project.

Reprovisioning of Kennedy Town Saltwater Pumping Station

As shown in **Figure 2.4**, the proposed site of the reprovisioned Kennedy Town Saltwater Pumping Station is approximately 300 m from the landscape assessment area of this Project where it is currently used as a sitting-out area in Kennedy Town Temporary Recreation Ground with several trees. Information regarding the development programme or construction methods for the reprovisioning works is not currently available.

Under the worst case scenario, this project will be a concurrent project and the trees within the proposed site will be removed. In this case, cumulative landscape impact is expected to be minor both during the carrying out of the Project and upon completion of the Project due to the loss of several trees.

Development within the Kennedy Town CDA Site

The development site is within the landscape assessment area of this Project as shown in **Figure 2.4**. Information regarding the nature, scale and timing of this development is not available at present.

It is conservatively assumed that this potential development will be a concurrent project throughout the entire duration of the Stage 2 of decontamination works of this Project under Reprovisioning Option A. Since the development site will be a decontaminated area with no landscape resource, cumulative impact is not expected both during the carrying out of the Project and upon completion of the Project.

10.8 Environmental Monitoring and Audit Requirement

The implementation of the landscape impact mitigation measures proposed in **Table 10.6** should be checked as part of the EM&A procedures during the carrying out of the Project as presented in the standalone EM&A Manual.

10.9 Summary

Summary of Landscape Mitigation Measures

10.9.1 Mitigation Measures during Carrying out of the Project

Mitigation measures during carrying out of the Project comprise of the following (Described in detail in **Table 10.6**):

- CP1 – Landscape planting along the screen hoarding to soften the hard structure of the screen hoarding.

10.9.2 Mitigation Measures upon Completion of the Project

Mitigation measures upon completion of the Project comprise of the following (Described in detail in **Table 10.7**):

- OP1 – Compensatory tree planting with a minimum ratio of 1:1 in terms of quantity.

Summary of Predicted Residual Landscape Impacts

10.9.3 Landscape Impacts during Carrying out of the Project

Reprovisioning Option A

LR1 and LCA1 will receive a **slight negative** impact while LR2 will receive a **moderate negative** impact during the carrying out of the Project with the implementation of the proposed mitigation measures.

Reprovisioning Option B

LR2 and LCA1 will receive a **moderate negative** impact while LR1 will receive a **substantial negative** impact during the carrying out of the Project with the implementation of the proposed mitigation measures.

Reprovisioning Option C

LR2 and LCA1 will receive a **moderate negative** impact while LR1 will receive a **substantial negative** impact during the carrying out of the Project with the implementation of the proposed mitigation measures.

10.9.4 Landscape Impacts in Day 1 upon completion of the Project

Reprovisioning Option A

LR1 and LCA1 will receive a **slight negative** impact while LR2 will receive a **moderate negative** impact on day 1 upon completion of the Project with the implementation of the proposed mitigation measures.

Reprovisioning Option B

LR2 and LCA1 will receive a **moderate negative** impact while LR1 will receive a **substantial negative** impact on day 1 upon completion of the Project with the implementation of the proposed mitigation measures.

Reprovisioning Option C

LR2 and LCA1 will receive a **moderate negative** impact while LR1 will receive a **substantial negative** impact on day 1 upon completion of the Project with the implementation of the proposed mitigation measures.

10.9.5 Landscape Impacts in Year 10 following completion of the Project

Reprovisioning Option A

LR1 and LCA1 will receive an **insubstantial** impact while LR2 will receive a **slight negative** impact in year 10 following completion of the Project with the implementation of the proposed mitigation measures.

Reprovisioning Option B

All LRs and LCA will receive a **slight negative** impact in year 10 following completion of the Project with the implementation of the proposed mitigation measures.

Reprovisioning Option C

All LRs and LCA will receive a **slight negative** impact in year 10 following completion of the Project with the implementation of the proposed mitigation measures.

10.10 Conclusion

With the implementation of proposed mitigation measures, the anticipated landscape impacts are generally slight negative under Reprovisioning Option A, and moderate negative under Reprovisioning Options B and C during the carrying out of the Project due to the unavoidable removal of the existing Cadogan Street Temporary Garden (LR1) and removal of roadside vegetation (LR2) for the proposed decontamination works. However, the predicted impact will be temporary. Compensatory tree planting with a minimum ratio of 1:1 in terms of quantity will be provided in the proposed future waterfront promenade. The Project site after decontamination will be handed over to Lands Department for future development with potential overall landscape improvement. The overall residual landscape impact in year 10 following completion of the Project is therefore considered to be insubstantial under Reprovisioning Option A when compensatory tree planting in the proposed future waterfront promenade is expected to have already reached a size that could largely compensate for the loss of the felled trees, and slight negative under Reprovisioning Options B and C when compensatory tree planting in the proposed future waterfront promenade will have become mature. Overall, in terms of Annex 10, Clause 1.1 (c) of the EIAO – TM, the landscape impacts are acceptable with mitigation measures.