10. Landscape and Visual Impact Assessment

10.1 Introduction

This Chapter assesses the likely landscape and visual impacts of the proposed OWTF 2 and proposes strategic mitigation measures to alleviate the anticipated potential impacts. This includes the description of landscape resources (LRs), landscape character areas (LCAs) and visual sensitive receivers (VSRs) 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 and visual impact assessment 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 8/2010;
- Town Planning Ordinance (Cap. 131);
- ETWB No. 36/2004 - Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS);
- ETWB TCW No. 2/2004 - Maintenance of Vegetation and Hard Landscape Features;
- ETWB TCW No. 29/2004 - Registration of Old and Valuable Trees, and Guidelines for their Preservation;
- ETWB TCW No. 3/2006 - Tree Preservation;
- Hong Kong Planning Standards and Guidelines, particularly Chapter 4, Chapter 8 and Chapter 11;
- HyDTC No. 10/2001 - Visibility of Directional Signs;
- Land Administration Office Instruction (LAOI) Section D-12 - Tree Preservation;
- Study on Landscape Value Mapping of Hong Kong; and
- WBTC No. 7/2002 - Tree Planting in Public Works.

10.3 Assessment Area

10.3.1 Landscape Assessment

In accordance with EIAO GN No. 8/2010 and Clause 3.4.10.2 of the EIA Study Brief No. ESB-226/2011, the Landscape Assessment Area includes all areas within 500m extended from the boundary of the Project. The Landscape Assessment Area is shown in **Figure 10.1**.

10.3.2 Visual Assessment

The Visual Assessment Area is identified by the visual envelope of this Project and its associated works as specified in Clause 3.4.10.2 of the EIA Study Brief No. ESB-226/2011. By definition of EIAO GN No. 8/2010, the visual envelope (zone of visual influence) is generally the viewshed formed by natural or man-made features such as ridgeline or building blocks. It contains areas which are fully, partially visible or unseen from this Project and its associated works. The Visual Assessment Area is also illustrated in **Figure 10.1**.

10.4 Assessment Methodology

The landscape and visual impact assessment (LVIA) 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 H of the EIA Study Brief No. ESB-226/2011. The main elements include:

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

The LVIA makes reference to the EIAO GN No. 8/2010 "Preparation of Landscape and Visual Impact Assessment under the EIAO" for evaluation of the landscape and visual impact significance from the construction and operation of the proposed OWTF. **Section 2** of this EIA report describes the details of the Project and this section assesses the landscape and visual impacts that may arise from the Project. The methodology for the LVIA 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 Baseline Study for 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 properly 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.

Tree Survey

In accordance with Environment, Transport and Works Bureau Technical Circular (Works) No.3/2006, all existing trees with trunk diameter measuring 95mm or more at a height of 1.3m above ground level within the proposed works boundary 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 1300mm 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.

10.4.3 Landscape Impact Assessment

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

Sensitivity of LRs and LCAs – To analyse sensitivity, a number of factors needs to be evaluated. These factors include:

- 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,
- 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 of sensitivity:

- **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. They are as follows:

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

The above factors will be analysed carefully and the results of each LR and LCA will be classified into four different categories. They are as follows:

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

It should be noted that the landscape assessment for construction phase and operational phase is conducted separately due to the different potential sources affecting the magnitude of change on landscape impacts.

Assessment of Significant Threshold for LRs and LCAs

Evaluation of the sensitivity and magnitude of change on various LRs and LCAs is conducted in a logical, reasonable and consistent manner for both construction and operational phases. 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 / Significant	Significant
Intermediate	Slight / Moderate	Moderate	Moderate / Significant
Small	Slight	Slight / Moderate	Moderate
Negligible	Insubstantial	Insubstantial	Insubstantial

Note: Significant – 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.

10.4.4 Visual Assessment

First, visual assessment is conducted by identifying key visual sensitive receivers (VSRs). Secondly, assessment of the severity of impact in terms of nature, distance and the number and type of sensitive receivers is conducted. Thirdly, the visual compatibility or impact magnitude of this Project and its associated works with the existing and planned users and possible interference with key views is analysed. Each VSR is given an identity number and used in all relevant tables and figures. The difference between mitigated and unmitigated conditions is properly highlighted to demonstrate the effectiveness of proposed recommended mitigation measures.

Type of sensitive receivers – this is classified according to the activities, the number, availability of alternative views, duration and frequency of the view and the degree of visibility from a sensitive receiver's point of view. In general, the type of receivers can be separated into four categories:

- **Residents** – These VSRs can view the impact from their homes. They are considered to be highly sensitive as their visual perception has a substantial effect on their quality of life and home environment.
- **Workers** – These VSRs can view the impact from their workplace or school. They are considered to be moderately sensitive as the visual perception is less important and has a lesser effect on their quality of life. The degree of impact is dependent on the type of workplace, i.e. industrial, retail or commercial.
- **Outdoor leisure activity participant** – These VSRs can view the impact whilst taking part in an outdoor leisure activity. The degree of sensitivity is denoted by the type and duration of the leisure activity.
- **Travellers** – These VSRs can view the impact whilst travelling to another location. The degree of sensitivity is dependent on the duration and speed of their travel.
- **Community** – These VSRs can view the impact whilst in a community building. The degree of sensitivity is dependent on the type of activities and services that takes place.

Sensitivity of VSR – To analyse sensitivity a number of factors needs to be evaluated. These factors include:

- Value and quality of existing views;
- Availability and amenity of alternative views;
- Type of VSRs;
- Number of VSRs;
- Duration and frequency of view; and,
- Degree of visibility.

The above factors are considered and analysed before the sensitivity of each VSR is classified into the following three categories:

- **High** - The VSRs are highly sensitive to any changes in their visual experience.
- **Medium -** The VSRs are moderately sensitive to any changes in their visual experience.
- **Low -** The VSRs are slightly sensitive to any changes in their viewing experience.

Magnitude of change – this is evaluated by a number of different factors such as:

- Duration of impact, i.e. whether the impact is temporary or permanent
- Compatibility with surrounding landscape
- Reversibility of the impact
- Scale and distance of the impact from the viewer
- Potential blockage of view

The above factors are carefully analysed and classified in the following categories:

- **Large**: The VSRs will suffer a major change in their visual experience.
- **Intermediate**: The VSRs will suffer a moderate change in their visual experience.
- **Small**: The VSRs will suffer a slight change in their visual experience.
- **Negligible**: The VSRs will suffer no discernible change in their visual experience.

The visual impact assessment is conducted individually for the construction and operational phase due to the disparate visual experience from different potential sources of visual impact from this Project and its associated works.

Evaluation of the sensitivity and magnitude of VSRs is conducted in a logical, reasonable and consistent manner for both construction and operational phases. Each VSR is given a degree of visual impact significance depending on the severity of sensitivity and magnitude. The rationale for categorising the degree of visual impact significance into four thresholds is illustrated in **Table 10-1**.

10.4.5 Mitigation Measures

After identifying LRs, LCAs and VSRs 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 avoid, prevent or minimise adverse impacts
- Remedial measures during and after construction phase
- 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.

10.4.6 Residual Impact Assessment

Residual impacts are evaluated by the sensitivity and magnitude of change for both landscape and visual 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 are 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 OZP number S/NE-FTA/12 – Fu Tei Au & Sha Ling. 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 entire Project Area is within the land use type G/IC (Government, Institution or Community). The planning intention of this zone is 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. It is also intended to provide land for uses directly related to or in support of the works of the Government, organisations providing social services to meet community needs, and other institutional establishments. As the proposed OWTF is not a land use listed under Column 1 “Uses always permitted” of the “G/IC” zone in the Schedule of Uses, and the land use “Poultry Slaughtering Centre” is put under the “OU” zone in the same OZP, rezoning of the Project Area from “G/IC” to “OU” under Section 12A Application of the Town Planning Ordinance may be required for the implementation of the Project. **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/NE-FTA/12 – Fu Tei Au & Sha Ling (**Figure 10.2**)			
1. Government, Institution or Community (G/IC)	This zone encompasses the existing Livestock Waste Composting Plant which will be demolished for the construction of the proposed OWTF. This zone is primarily intended 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. It is also intended to provide land for uses directly related to or in support of the work of the Government, organisations providing social services to meet community needs, and other institutional establishment.	The proposed OWTF will be constructed on the land released from the demolition of the existing Livestock Waste Composting Plant. It is compatible with the surrounding environment. However, as the proposed OWTF is not a land use listed under Column 1 “Uses always permitted” of the “G/IC” zone in the Schedule of Uses, rezoning of the Project Area from “G/IC” to “OU” under Section 12A Application of the Town Planning Ordinance may be required.	As the scale of the proposed OWTF is similar to that of the existing Livestock Waste Composting Plant to be demolished, the future outlook of the area in operation stage is expected to be similar to the existing conditions. Proposed mitigation measures are listed in **Tables 10-7** and **10-8**.

10.6 Baseline Study

Aerial photo showing the extent of the Project Area and the Landscape Assessment Area is presented in **Figure 10.3.**

10.6.1 Existing Landscape Conditions

Landscape Resources (LRs)

29 LRs have been identified. They are mapped on **Figure 10.4** and photos of the LRs are illustrated in **Figures 10.5a** to **10.5d**.

LR1 – Plantation

LR1.1 – Plantation by existing Livestock Waste Composting Plant

This LR is approximately 6.99ha in size. It surrounds the proposed works area. Vegetation is mostly located on top of the slope. Dominant tree species include *Acacia auriculiformis, Acacia confusa* and *Macaranga tanarius* var. *tomentosa.* Tree heights range from 3m to 7m at a 3m to 5m spacing. Three seedlings of *Aquilaria sinensis*, which is a species of conservation concern, are observed within this LR. They are treated as a separate landscape resource LR1.3. This type of plantation is very common in this area. The sensitivity for this LR is low.

LR1.2 – Plantation by Kong Nga Po Road

This LR is approximately 3.02ha in size. It is located on a gentle slope and flat areas, south of the proposed works area. Dominant tree species include *Acacia auriculiformis, Casuarina equisetifolia* and *Lophostemon confertus.* Tree heights range from 7 to 12m at a 3m to 5m spacing. This type of resource is very common in this area. The sensitivity for this LR is low.

LR1.3 – *Aquilaria sinensis*

This LR contains at least 3 seedlings of *Aquilaria sinensis*, which is a species of conservation concern as described in **Section 8.4.3.15**. The identified seedlings are small with height less than 1m. As described in **Section 8.4.3.15**, this species is common in Hong Kong. Although the amenity value of these seedlings is considered low as they are small in size, their sensitivity is considered high because they are species of conservation concern.

LR2 – Amenity planting

LR2.1 – Landscape planting within existing Livestock Waste Composting Plant

This LR is approximately 0.10ha in size. It is located on the western periphery of the proposed works area. Vegetation is mostly located on slope and a flat area close to the driveway. Landscaping species include *Acacia confusa, Ligustrum sinense a*nd *Plumeria rubra.* Tree heights range from 5m to 7m at an approximately 3m spacing. Approximately 47 trees are located in this LR. An orchid species *Cattleya spp*.,

which is likely planted as ornamental plant, is found in this LR. This type of landscape is very common in this area. The sensitivity of this resource is medium as this resource shows signs of regular maintenance.

LR2.2 – Roadside amenity planting along Man Kam To Road

This LR is approximately 0.32ha in size. These trees are planted as two single rows along both sides of Man Kam To Road. These roadside trees are mostly semi-mature of common landscape amenity species. Tree heights range from 8m to 12m with 3m to 12m spacing. Dominant tree species include *Melaleuca quinquenervia, Casuarina equisetifolia,* and *Acacia auriculiformis.* Approximately 3 mature *Melaleuca quiquenervia* and 1 mature *Ficus elastica* can be found in this LR. These trees act as a noise and visual barrier for villages and farmlands located along Man Kam To Road. This type of landscape is common in this area. Considering the size of the trees in this LR, the sensitivity of this LR is medium.

LR3 – Shrubland

LR3.1 – Shrubland by existing Livestock Waste Composting Plant

This LR is approximately 1.28ha in size. It is located on slope close to the proposed works area. It is a predominately shrubland area with sparse trees around the foot and on top of the slope. Dominant tree species include *Melia azedarach, Macaranga tanarius* var. *tomentosa, Lophostemon confertus* and *Acacia auriculiformis.* Tree heights range from 2m to 5m with 3m to 10m spacing. This type of resource is very common in this area. The sensitivity for this LR is low.

LR4 – Grassland

LR4.1 – Open grassland by Sha Ling

This LR is approximately 3.46ha in size. It is a flat open space with predominantly grass cover and scattered young trees located close to Man Kam To Road. Electricity poles are erected here. Dominant grass species include *Miscanthus floridulu,* which can reach up to 2m in height. Other grass and herbaceous species such as *Colocasia esculenta, Panicum maximum* and *Bidens alba* are also frequently observed. Dominant tree species found here include *Leucaena leucocephala.* This type of resource is very common in this area. The sensitivity for this LR is low.

LR4.2 – Hillside grassland by Cheung Po Tau

This LR is approximately 18.83ha in size. It is on slope, covered with grass and scattered young trees. Parts of the hillside have been recently burned by bushfire. Dominant grass species include *Miscanthus sinensis* and *Rhynchelytrum repens.* Scattered young trees found here include *Macaranga tanarius* var. *tomentosa* and *Ficus hispida.* Trees range from 2m to 5m tall. This type of landscape is very common in this area. The sensitivity of this LR is low.

LR4.3 – Grassland by Sandy Ridge

This LR is approximately 19.97ha in size. This resource consists of grassy hillside and gentle slopes with scattered trees and shrubs. Dominant grass and herbaceous species include *Miscanthus sinensis, Bidens alba, Panicum maximum* and *Ipomoea cairica.* Scattered young trees found here include *Macaranga*

tanarius var. *tomentosa* and *Ficus hispida.* Trees range from 2m to 5m tall. This type of landscape is very common in this area. The sensitivity of this resource is low.

LR4.4 – Hillside grassland by Luo Wo

This LR is approximately 10.06ha in size. This resource consists of grassy hillside and gentle slopes with scattered trees and shrubs. Graves can be found on the slope facing Sha Ling. Dominant grass and herbaceous species include *Miscanthus sinensis, Bidens alba* and *Melastoma malabathricum.* Scattered young trees found here include *Acacia confusa, Mallotus apelta, Lophostemon confertus, Litsea glutinosa, Liquidambar formosana, Ficus hirta, Ficus variegata* and *Ficus hispida.* Trees range from 2m to 5m tall. This type of landscape is very common in this area. The sensitivity of this resource is low.

LR5 – Water resource

LR5.1 – Pond by Sha Ling

This LR is approximately 0.11ha in size. It appears to be a man-made pond with a flat terrace planted with young trees. The terrace is used as a temporary storage area. The water in this pond looks clear with fish inside. Approximately 20 to 30 young trees have been planted along the banks of the pond. Tree species include *Citrus limonia* and *Litchi chinensis.* Tree heights range from 1m to 3m. This type of landscape is marginally uncommon in the local context but common in the regional context. The sensitivity of this resource is medium.

LR5.2 – Pond by Kong Nga Po

This LR is approximately 0.16ha in size. It is a man-made pond that had been recently made smaller by filling in the edges of the pond. It is now two ponds with a wide creek connecting them. The water flows from one pond to the next and looks turbid with a muddy colour, but fish is observed inhibiting the ponds. Creek banks on both sides are mostly devoid of vegetation. Scattered trees can be found on the pond boundaries. Dominant species include *Alocasia odora, Macaranga tanarius* var. *tomentosa, Colocasia esculenta* and *Hedychium coronarium.* This type of landscape is uncommon in the local context but common in the regional context. Given that parts of the man-made ponds do have bordering vegetation, the sensitivity of this resource is medium.

LR5.3 – Pond by San Uk Ling Holding Centre

This LR is approximately 0.15ha in size. It appears to be a man-made pond close to vegetable farms. The water looks clear and flows to the adjacent stream. Fish is observed in this pond. The banks of the ponds are mostly bare. Atop the banks is a thin strip of cultivated vegetable farms dominated by *Brassica rapa.* This type of landscape is marginally uncommon in the local context but common in the regional context. The sensitivity of this resource is medium.

LR5.4 – Pond by existing Livestock Waste Composting Plant

This LR is approximately 0.40ha in size. It appears to be a man-made pond that is well-maintained. The water is clear and flows to the adjacent pond. Fish and floating vegetation are observed in this pond. The grass has been cut and footpaths around the pond are swept clean of debris. Scattered shade trees

bordering the pond have seats underneath for recreationists. Species found in this resource include *Cinnamomum camphora* and *Bambusa spp.* This type of landscape is uncommon in the local context but common in the regional context. Since this LR is well-maintained, the sensitivity is considered high.

LR5.5 – Stream by Man Kam To Road

This LR is approximately 0.11ha in size. It appears to be a semi-natural stream channel with modified stream bank at some sections with signs of regular maintenance. Fish is observed in this stream with clear flowing water. Species found in the riparian zone include *Alocasia odora*, *Polygonum barbatum* and *Hedychium coronarium.* This type of landscape is uncommon in the local context but common in the regional context. Since this LR is semi-natural, the sensitivity is considered medium.

LR5.6 – Stream by Kong Nga Po

This LR is approximately 0.09ha in size. It appears to be a modified stream channel with signs of disturbance on the stream banks. Species found in the riparian zone include *Alocasia odora* and *Musa x paradisiaca.* This type of landscape is common in the local and regional context. Since this LR is modified and disturbed, the sensitivity is considered low.

LR6 – Wooded slope

LR6.1 – Wooded slopes by Training School

This LR is approximately 3.26ha in size. These wooded slopes are located close to Border District Police Headquarters and Training School. Vegetation is a mix of exotic and native species. Tree heights range from 8m to 12m with 3m to 5m spacing. Dominant tree species include *Acacia confusa, Lophostemon confertus* and *Pinus massoniana.* These trees act as a noise and visual barrier to the Border District Police Headquarters as well as Sha Ling Village. This type of landscape is common in this area. Due to the sizes of the trees, the sensitivity of this LR is considered medium.

LR6.2 – Wooded slopes by Kong Nga Po

This LR is approximately 9.85ha in size. These are planted slopes located along Kong Nga Po Road. Tree heights range from 3m to 7m with 3m to 5m spacing. Tree species include *Acacia confusa, Acacia auriculiformis, Lophostemon confertus, Casuarina equisetifolia, Ficus hispida, Celtis sinensis, Szygium jambos* and *Pinus massoniana.* This type of landscape is common in this area. The sensitivity of this resource is considered medium.

LR6.3 – Small wooded hill

This LR is approximately 0.69ha in size. These are wooded slopes located close to Man Kam To Road. Tree heights range from 3m to 7m with 3m to 5m spacing. Exotic and native species found include *Lygodium japonicum, Bridelia tomentosa, Casuarina equisetifolia, Ficus microcarpa, Celtis sinensis* and *Senna siamea.* This type of landscape is common in this area. The sensitivity of this resource is considered medium.

LR7 – Open field

LR7.1 – Open field

This LR is approximately 1.01ha in size. It comprises abandoned agricultural land and wasteland which are generally flat and dominated by herbaceous plants. Dominant species found include *Alocasia odora, Hedychium coronarium, Musa x paradiiaca* and *Mikania micrantha.* This type of landscape is common in this area. The sensitivity of this resource is considered low.

LR8 – Orchards

LR8.1 – Orchard by Kong Nga Po

This LR is approximately 0.72ha in size. These are fruit trees planted south of San Uk Ling Holding Centre. Tree heights range from 2m to 6m with 3m to 5m spacing. Dominant species include *Litchi chinensis* and *Citrus maxima.* The majority of these trees are young. This type of landscape is common in this area. As this resource is well-maintained by villagers, the sensitivity of this LR is considered medium.

LR8.2 – Orchard by San Uk Ling Holding Centre

This LR is approximately 0.38ha in size. These are fruit trees planted north of Shan Uk Ling Holding Centre. Tree heights range from 3m to 6m with 4m to 7m spacing. Dominant species found is *Litchi chinensis.* The majority of these trees are young. This type of landscape is common in this area. As this resource is well-maintained by villagers, the sensitivity of this LR is considered medium.

LR8.3 – Orchard by Sha Ling Road

This LR is approximately 0.58ha in size. These are fruit trees planted on the slopes by Sha Ling Road. Tree heights range from 3m to 6m with 4m to 7m spacing. Dominant species found are *Litchi chinensis, Clausena lansium, Musa x paradisaca, Dimocarpus longa* and *Mangifera indica.* This type of landscape is common in this area. As this resource is well-maintained by orchard owner, the sensitivity of this LR is considered medium.

LR8.4 – Orchard by Man Kam To Road

This LR is approximately 0.56ha in size. These are fruit trees planted on the slopes between Sha Ling Road and Man Kam To Road. Tree heights range from 3m to 6m with 4m to 7m spacing. Dominant species found include *Clausena lansium, Musa x paradisaca, Dimocarpus longa* and *Carica papaya.* This type of landscape is common in this area. As this resource is well-maintained by orchard owner, the amenity value of this LR is medium.

LR8.5 – Orchard by Sha Ling

This LR is approximately 0.27ha in size. These are fruit trees planted on the slopes between Sha Ling Road and Man Kam To Road. Tree heights range from 3m to 6m with 4m to 7m spacing. Dominant species found are *Musa x paradisaca, Dimocarpus longa* and *Mangifera indica.* This type of landscape is common in this area. As this resource is well-maintained by orchard owner, the sensitivity of this LR is considered medium.

LR9 – Agricultural resources

LR9.1 – Farmland by San Uk Ling Holding Centre

This LR is approximately 0.20ha in size. This is a small vegetable farm close to San Uk Ling Holding Centre. Most vegetables planted in this location are annual crops. Species include *Brassica juncea* and *Benincasa hispida.* This type of resource is common in this area. The sensitivity is considered medium.

LR9.2 – Farmland by Sha Ling

This LR is approximately 0.15ha in size. This is a small vegetable farm close to Sha Ling village. Most vegetables planted in this location are annual crops. Dominant species include *Lactuca sativa* and *Allium fistulosum.* This type of resource is common in this area. The sensitivity is considered medium.

LR9.3 – Farmland by Man Kam To Road

This LR is approximately 1.98ha in size. This is a small vegetable farm close to Man Kam To Road. It is one of the larger farms found within the study area. Most vegetables planted in this location are annual crops. They include *Capsicum annuum, Brassica juncea, Carica papaya, Benincasa hispida, Lycium chinense* and *Brassica parachinensis.* This type of resource is common in this area. The sensitivity is considered medium.

LR10 – Developed resources

LR10.1 – Developed land

This LR is approximately 32.57ha in size. It contains all the paved area and land dominated by man-made structures. Land uses in this LR include roads, village settlements and other facilities such as holding centre and the existing Livestock Waste Composting Plant. Vegetation coverage in this LR is low and the vegetation is highly disturbed. Most vegetation is either common weeds or scattered landscape planting. Species include landscape plants such as *Impatiens balsamina, Canna x generalis* and *Catharanthus roseus.* This type of resource is common in this area. The sensitivity is considered low.

Landscape Character Areas (LCAs)

2 LCAs have been identified within the Assessment Area. LCAs are mapped and illustrated on **Figure 10.6.** Photos of LCAs are shown in **Figure 10.7**.

LCA1 – Hillside grassland

This LCA is approximately 55.17ha. It is located mainly on hilly slopes by Sha Ling and Luo Wo. Burial grounds and graves can be found scattered in this landscape. Scattered trees, such as *Bridelia tomentosa, Celtis sinensis, Cinnamomum camphora, Ficus hispida, Baeckea frutescens, Bauhinia spp.,* and *Lophostemon confertus,* can be found at the foot of the hills. Native grass and herbaceous species such as *Miscanthus sinensis, Mimosa pudica, Oxalis corniculata, Emilia sonchifolia, Mikania micrantha* and *Rhynchelytrum repens* dominates hilltops. Some parts of the hillside have been burned by a recent

bushfire. As the landscape is partially disturbed by graves and hiking trails, the sensitivity is considered low.

LCA2 – Rural villages and countryside

This LCA is approximately 62.10ha. It is located on the flat terrain in Sha Ling. Low-rise village housing mixed with light industry can be found. Scattered farmlands and orchards can be found along the boundaries of the villages. Amenity or fruit trees such as *Mangifera indica, Michelia x alba, Manikara zapota, Morus alba, Litchi chinensis* and *Prunus persica* can be found within this LCA. Landscaping plants can be found by the boundaries of village properties. These include *Rosa rugosa, Quisqualis indica, Pyrostegia venusta, Plumeria rubra, Dracaena sanderiana* and *Hymenocallis littoralis.* As this LCA is dominated by village settlement with constant human disturbance, the sensitivity is considered low.

Table 10-3 summarises the sensitivity of all LRs and LCAs.

Table 10-3: Sensitivity of LRs and LCAs

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)
LR1.1	Plantation by existing Livestock Waste Composting Plant	Low	Low	High	Semi-mature	Low	Low	Low
LR1.2	Plantation by Kong Nga Po Road	Low	Low	High	Semi-mature	Low	Low	Low
LR1.3	*Aquilaria sinensis*	Low	Medium	Medium	Young	Low	Medium	High
LR2.1	Landscape planting within existing Livestock Waste Composting Plant	Medium	Low	Medium	Young	Medium	Low	Medium
LR2.2	Roadside amenity planting along Man Kam To Road	Medium	Low	High	Semi-mature	Low	Low	Medium
LR3.1	Shrubland by existing Livestock Waste Composting Plant	Low	Low	High	Young to Semi-mature	Low	Low	Low
LR4.1	Open grassland by Sha Ling	Low	Low	High	Young	Low	Low	Low
LR4.2	Hillside grassland by Cheung Po Tau	Low	Low	High	Young	Low	Low	Low

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)
LR4.3	Grassland by Sandy Ridge	Low	Low	High	Young	Low	Low	Low
LR4.4	Hillside grassland by Luo Wo	Low	Low	High	Young	Low	Low	Low
LR5.1	Pond by Sha Ling	Medium	Low	Low	Young	Medium	Low	Medium
LR5.2	Pond by Kong Nga Po	Medium	Low	Low	Young	Medium	Low	Medium
LR5.3	Pond by San Uk Ling Holding Centre	Medium	Low	Low	Young	Medium	Low	Medium
LR5.4	Pond by existing Livestock Waste Composting Plant	High	Medium	Low	Young	Medium	Low	High
LR5.5	Stream by Man Kam To Road	High	Medium	Low	Semi-mature	Medium	Low	Medium
LR5.6	Stream by Kong Nga Po	Medium	Low	Medium	Young	Low	Low	Low
LR6.1	Wooded slopes by Training School	High	Low	Low	Young to Semi-mature	Low	Low	Medium
LR6.2	Wooded slopes by Kong Nga Po	Low	Low	Low	Young to Semi-mature	Low	Low	Medium
LR6.3	Small wooded hill	Low	Low	Low	Young to Semi-mature	Low	Low	Medium
LR7.1	Open field	Low	Low	High	Young	Low	Low	Low
LR8.1	Orchard by Kong Nga Po	Medium	Low	Low	Young to Semi-mature	Low	Low	Medium

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)
LR8.2	Orchard by San Uk Ling Holding Centre	Medium	Low	Low	Young to Semi-mature	Low	Low	Medium
LR8.3	Orchard by Sha Ling Road	Medium	Low	Low	Young to Semi-mature	Low	Low	Medium
LR8.4	Orchard by Man Kam To Road	Medium	Low	Low	Young to Semi-mature	Low	Low	Medium
LR8.5	Orchard by Sha Ling	Medium	Low	Low	Young to Semi-mature	Low	Low	Medium
LR9.1	Farmland by San Uk Ling Holding Centre	Low	Low	Medium	Young	Low	Low	Medium
LR9.2	Farmland by Sha Ling	Low	Low	Medium	Young	Low	Low	Medium
LR9.3	Farmland by Man Kam To Road	Low	Low	Medium	Young	Medium	Low	Medium
LR10.1	Developed land	Low	Low	High	Semi-mature	Low	Low	Low
LCA1	Hillside grassland	Medium	Low	High	Young	Low	Low	Low
LCA2	Rural villages and countryside	Low	Low	High	Young to Semi-mature	Low	Low	Low

10.6.2 Tree Survey

A survey of existing trees within the proposed works boundary was conducted between August and September 2012. The findings of the tree survey are summarised in **Appendix 10.1**.

Existing Trees

The survey identified a total number of 458 trees within the proposed works boundary. The dominant tree species are mainly exotic amenity trees including *Acacia auriculiformis*, *Casuarina equisetifolia* and *Acacia confusa.*

There is no registered Old and Valuable Tree (OVT) within the Landscape Assessment Area.

Recommended Treatment of Existing Trees

The recommended treatments for the existing trees are as follows:

- Tree Retention: It is estimated that approximately 441 trees will be retained in their current locations. These trees are recommended to be protected in-situ using protective measures like fencing during the construction phase of the Project.
- Tree Transplantation: All trees in conflict with the proposed works are not suitable to be transplanted because most of them are close to hard structure, hence with imbalanced rootball. Therefore, no tree transplantation is proposed.
- Tree Felling: 14 trees identified within or in close proximity to the proposed Project Area are recommended to be felled because of low survival rate after transplanting, the existing health conditions, and the form of the trees and the locations of the trees.
- Tree Removal: 3 dead trees are in direct conflict with the proposed works and recommended 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	2		161		163
Acacia confusa	台灣相思	3		37		40
Bauhinia spp.	羊蹄甲屬			3		3
Casuarina equisetifolia	木麻黃			86		86
Celtis sinensis	朴樹			1		1
Chukrasia tabularia	麻楝			1		1
Clausena lansium	黃皮			1		1
Dimocarpus longan	龍眼			1		1
Diospyros eriantha	烏柿			1		1

Botanical Name	Chinese Name	Fell	Remove	Retain	Transplant	Quantity
Eucalyptus camaldulensis	赤桉			38		38
Eucalyptus citriodora	檸檬桉			31		31
Ficus elastica	印度橡樹			1		1
Ficus hispida	對葉榕			10		10
Ficus microcarpa	細葉榕			1		1
Ligustrum sinense	山指甲			2		2
Litsea cubeba	山蒼樹			1		1
Litsea glutinosa	潺槁樹			2		2
Macaranga tanarius var. *tomentosa*	血桐			17		17
Mangifera indica	芒果			2		2
Melia azedarach	苦楝			1		1
Melicope pteleifolia	三椏苦			1		1
Musa x paradisiaca	大蕉	9				9
Phyllanthus acidus	酸果葉下珠			1		1
Rhus succedanea	野漆樹			19		19
Syzygium jambos	蒲桃			2		2
Tetradium glabrifolium	楝葉吳茱萸			2		2
Trema tomentosa	山黃麻			2		2
Zanthoxylum avicennae	簕欓花椒			1		1
Dead			3	15		18
Total		**14**	**3**	**441**		**458**

10.6.3 Existing Visual Conditions

Visual Envelope (VE) and Zone of Visual Influence (ZVI)

The VE for the proposed works is mostly confined by ridgeline of nearby hills. Maximum viewing distances ranges from approximately 170m to more than 800m. Within this VE, the extent of existing views is determined by factors such as the presence of intervening visual obstacles, such as vegetation. The VE and Zone of Influence (ZVI) are mapped on **Figure 10.1**.

Visual Sensitive Receivers (VSRs)

Within the VE shown in **Figure 10.1**, the VSRs with the longest duration of potential impact will be the residents of the surrounding village houses. Official recognition within the VE is the Sandy Ridge Village; however the settlements surrounding the Project site have views from different directions towards the Project site that are distinctly different. The residential VSRs (VSR3) cannot be identified or grouped by specific village settlement and therefore the assessment identifies viewing direction of VSRs towards the Project site

There are 11 VSRs identified in the assessment. **Figure 10.1** also shows the locations of VSRs. Existing views representing the views that will be mostly affected from the VSRs are shown in **Figures 10.10a** to **10.10c** with viewing angles shown in **Figure 10.1**.

VSR1 – Indoor Workers

VSR1.1 – Workers in San Uk Ling Holding Centre

This VSR is located approximately 110m east of the Project site. It is surrounded by an outer boundary wall. Views towards the Project site are mainly from atop of the guard posts or on higher levels of the VSR. However, the existing Project site is barely visible from this VSR as the Project site is surrounded by dense vegetation on slopes. Sensitive receivers in this VSR are mainly workers in this holding centre. As unauthorised access to this VSR is prohibited, photograph showing the view of this VSR towards the Project site as shown in **Figure 10.10a** was taken from the access road in front of this VSR as shown in **Figure 10.1**.

VSR2 – Outdoor Workers

VSR2.1 – Farmers from the North

This VSR includes farmers working in the agricultural fields approximately 130m to 180m to the north of the Project site. As the Project site is surrounded by densely vegetated slopes, views of the Project site from this VSR is completely screened by vegetation. The photograph as shown in **Figure 10.10a** was taken from the footpath adjacent to an agricultural field. This location is particularly chosen to represent the views of the farmers with the highest visibility towards the Project site.

VSR2.2 – Farmers from the East

This VSR includes farmers working in the agricultural fields approximately 60m to 150m to the east of the Project site. As the Project site is surrounded by densely vegetated slopes, views of the Project site from this VSR is mostly screened by vegetation. The photograph as shown in **Figure 10.10a** was taken from the footpath adjacent to an agricultural field. This location is particularly chosen to represent the views of the farmers with the highest visibility towards the Project site.

VSR3 - Residents

VSR3.1 – Villagers from the Northwest

This VSR includes all residents in the village settlement approximately 50m to 150m to the northwest of the Project site. The Project site is completely invisible from this village settlement because the dense vegetation on the northwest-facing slope between this VSR and the Project site act as visual barrier. The photograph in **Figure 10.10a** was taken from within the village. It shows the view of the selected vantage point where the visibility of the screening vegetation is the highest. The existing Livestock Waste Composting Plant is completely unnoticeable from the views of this VSR.

VSR3.2 – Villagers from the Northeast

This VSR includes all residents in the village settlement approximately 50m to 150m to the northeast of the Project site. The Project site is barely visible from this village settlement, with only part of the roof of the existing Livestock Waste Composting Plant visible from some parts of the village. Both trees within the village and those on the slope between the village and the Project site act as visual barriers. The photograph in **Figure 10.10b** was taken from within the village. It shows the view of the selected vantage

point where the visibility of the existing Livestock Waste Composting Plant is the highest amongst all village houses in this VSR.

VSR3.3 – Villagers from the Southeast

This VSR includes all residents in the village settlement approximately 20m to 200m to the southeast of the Project site. The Project site is completely invisible from this village settlement because the dense vegetation on the east-facing slope between this VSR and the Project site act as visual barrier. The photograph in **Figure 10.10b** was taken from within the village. It shows the view of the selected vantage point where the visibility of the screening vegetation is the highest. The existing Livestock Waste Composting Plant is completely unnoticeable from the views of this VSR.

VSR3.4 – Villagers from the Southwest

This VSR includes all residents in the village settlement approximately 130m to 250m to the southwest of the Project site. The Project site is completely invisible from this village settlement because both the dense vegetation on both the southwest-facing slope between this VSR and the Project site and the roadside trees along Kong Nga Po Road act as visual barriers. The photograph in **Figure 10.10b** was taken from within the village. It shows the view of the selected vantage point where the visibility of the screening vegetation is the highest with the least screening from vegetation within the village. The existing Livestock Waste Composting Plant is completely unnoticeable from the views of this VSR.

VSR3.5 – Villagers from the West

This VSR includes all residents in the village settlements approximately 150m to 350m to the west of the Project site. The Project site is mostly shielded from this village settlement, with only part of the roof of the existing Livestock Waste Composting Plant visible from the village. Trees on the slope between the village and the Project site act as visual barriers. The photograph in **Figure 10.10c** was taken from within the village. It shows the view of the selected vantage point where the visibility of the existing Livestock Waste Composting Plant is the highest with the shortest viewing distance.

VSR4 – Travellers

VSR4.1 – Travellers along Man Kam To Road

This VSR includes travellers and road users along Man Kam To Road, with minimum viewing distance of approximately 180m. As there are semi-mature to mature roadside trees along most parts of Man Kam To Road, these roadside trees act as visual barriers to this VSR. Also, dense vegetation on the northwest-facing slope between the Project site and Man Kam To Road completely blocks the view of the existing Livestock Waste Composting Plant from the travellers along Man Kam To Road. The photograph in **Figure 10.10c** shows the view of a selected vantage point where roadside trees is absent. The existing Livestock Waste Composting Plant is completely invisible.

VSR4.2 – Travellers along Kong Nga Po Road

This VSR includes travellers and road users along Kong Nga Po Road, with minimum viewing distance of approximately 80m. As there are semi-mature to mature trees on the slopes on both sides along most

parts of Kong Nga Po Road, these trees act as visual barriers to this VSR. Also, dense vegetation on the southwest-facing and southeast-facing slopes between the Project site and Kong Nga Po Road completely blocks the view of the existing Livestock Waste Composting Plant from the travellers along Kong Nga Po Road. The photograph in **Figure 10.10c** shows the view of a selected vantage point at the junction of the road leading to the existing Livestock Composting Plant. The view is selected because it represents the shortest viewing distance and the absence of roadside tree along Kong Nga Po Road. The existing Livestock Waste Composting Plant is completely invisible.

VSR4.3 – Travellers along local village access

This VSR includes travellers and road users along village vehicular accesses and footpaths around the Project site, with viewing distance of approximately 20m to 300m. Although there are village footpaths and roads around the Project site as indicated in **Figure 10.1**, views of the Project site is invisivle from most parts of these local accesses because of visual screens by village houses or vegetation. Only an access road on the northeast and another one on the west of the Project site have views of the Project site which are not completely blocked by vegetation or other features. The photograph in **Figure 10.10c** was carefully selected to represent the worst view of this VSR. Only part of the roof of the existing Livestock Waste Composting Plant is visible from this view.

Table 10-5 gives the description of existing views and analyses the sensitivity of each VSR.

Table 10-5: Sensitivity of VSRs

ID No.	VSR Name	Type of Receivers	Population of Receivers (Few, Many, Great many)	Description of Existing View	Amenity Value of Existing View (Low, Moderate, High)	Availability of Alternative View (Yes, No)	Amenity of Alternative View (Low, Moderate, High)	Duration of view (Short, Medium, Long)	Frequency of view (Rare, Occasional, Frequent, Very frequent)	Degree of visibility (Low, Medium, High)	Sensitivity (Low, Medium, High)
VSR1.1	Workers in San Uk Ling Holding Centre	Workers	Few	An outer boundary wall surrounds San Uk Ling Holding Centre. Views towards the works area are mainly from atop of the guard posts or on higher levels of the centre. Native and exotic trees and shrubs blocks most of the view of the Project Area.	Moderate	Yes	Moderate	Long	Rare	Low	Low
VSR2.1	Farmers from the North	Workers	Few	The foreground constitutes an agricultural field surrounded by fruit trees which are semi-mature to mature. Native and exotic trees and shrubs on slope completely block the view to the Project Area.	Moderate	Yes	Moderate	Long	Occasional	Low	Low
VSR2.2	Farmers from the East	Workers	Few	The foreground constitutes a partially filled man-made pond with muddy banks. Vegetation has just begun to grow along the banks. Native and exotic trees and shrubs on slope almost completely block the view to the Project Area.	Moderate	Yes	Moderate	Long	Occasional	Low	Low
VSR3.1	Villagers from the Northwest	Residents	Few	The back of the residence is towards the Project Area. The views are dominated by local village with trees and other vegetation within the village. Native and exotic trees and shrubs on slope behind the house completely block the view to the Project Area.	Low	Yes	Moderate	Long	Rare	Low	Low
VSR3.2	Villagers from the Northeast	Residents	Few	The back of the residence is towards the Project Area. Native and exotic trees and shrubs on slope behind the house block most of the view to the Project Area.	Low	Yes	Moderate	Long	Occasional	Low	Medium

ID No.	VSR Name	Type of Receivers	Population of Receivers (Few, Many, Great many)	Description of Existing View	Amenity Value of Existing View (Low, Moderate, High)	Availability of Alternative View (Yes, No)	Amenity of Alternative View (Low, Moderate, High)	Duration of view (Short, Medium, Long)	Frequency of view (Rare, Occasional, Frequent, Very frequent)	Degree of visibility (Low, Medium, High)	Sensitivity (Low, Medium, High)
VSR3.3	Villagers from the Southeast	Residents	Few	The foreground constitutes a partially filled man-made pond with muddy banks. Vegetation has just begun to grow along the banks. Native and exotic trees and shrubs on slope completely block the view to the Project Area.	Moderate	Yes	Moderate	Long	Rare	Low	Low
VSR3.4	Villagers from the Southwest	Residents	Few	The foreground constitutes a local village access. Vegetation is dense within the village. Native and exotic trees and shrubs on slope and along Kong Nga Po Road completely block the view to the Project Area.	Low	Yes	Moderate	Long	Rare	Low	Low
VSR3.5	Villagers from the West	Residents	Few	The foreground constitutes a local village access. There is not much vegetation between village houses. Native and exotic trees and shrubs on slope almost ompletely block the view to the Project Area.	Low	Yes	Moderate	Long	Occasional	Low	Medium
VSR4.1	Travellers along Man Kam To Road	Travellers	Many	The foreground is dominated by village views and roadside trees. Trees and shrubs surrounding the Project site completely block the views of the Project site.	Moderate	Yes	Moderate	Short	Rare	Low	Low
VSR4.2	Travellers along Kong Nga Po Road	Travellers	Few	The foreground is dominated by trees on slopes on both sides of the road. Trees and shrubs surrounding the Project site completely block the views of the Project site.	Moderate	Yes	Moderate	Short	Rare	Low	Low
VSR4.3	Travellers along local village access	Travellers	Few	The foreground is dominated by village views. Trees and shrubs surrounding the Project site block most of the views of the Project site which constitute to the background view.	Moderate	Yes	Moderate	Short	Rare	Low	Low

10.7 Landscape Impact Assessment

During the construction phase, sources of potential landscape impacts would arise from the following:

- Construction of entrances and access roads;
- Construction of main building works of OWTF;
- Construction works for cut and cover of slope;
- Construction of provisional landscaping areas;
- Contractor's temporary works areas, including site accommodation and parking areas; and
- Stockpiling of construction and demolition materials, storage of construction equipment and plant.

During the operation phase, sources of potential landscape impacts would arise from the following:

- Operation of the OWTF;
- Operation of ventilation buildings; and,
- Impact from loss of trees during construction stage.

The magnitude of change (without mitigation measures) for each LRs and LCAs is illustrated in **Table 10-6.**

Table 10-6: Magnitude of change for LRs and LCAs

ID No.	Name	Scale of Works (Negligible, Small, Medium, Large)	Reversibility (Reversible, Irreversible)	Compatibility with surrounding landscape (Low, Medium, High)	Duration of impacts (construction) (Short, Medium, Long)	Duration of impacts (Operation) (Short, Medium, Long)	Magnitude of Change (construction) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Day 1) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Year 10) (Negligible, Small, Intermediate, Large)
LR1.1	Plantation by existing Livestock Waste Composting Plant	Medium	Irreversible	High	Short	Long	Intermediate (Site clearance of 0.84ha and felling of 411 trees)	Intermediate (Loss of 0.84ha and 411 trees)	Intermediate (Loss of 0.84ha and 411 trees)
LR1.2	Plantation by Kong Nga Po Road	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR1.3	*Aquilaria sinensis*	Small	Irreversible	Medium	Short	Long	Small	Small	Small
LR2.1	Landscape planting within existing Livestock Waste Composting Plant	Large	Irreversible	High	Short	Long	Large (Site clearance of entire 0.10ha and felling of 46 trees)	Large (Loss of entire 0.10ha and 46 trees)	Large (Loss of entire 0.10ha and 46 trees)
LR2.2	Roadside amenity planting along Man Kam To Road	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR3.1	Shrubland by existing Livestock Waste Composting Plant	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR4.1	Open grassland by Sha Ling	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR4.2	Hillside grassland by Cheung Po Tau	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR4.3	Grassland by Sandy Ridge	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR4.4	Hillside grassland by Luo Wo	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR5.1	Pond by Sha Ling	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR5.2	Pond by Kong Nga Po	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR5.3	Pond by San Uk Ling Holding Centre	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR5.4	Pond by existing	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible

ID No.	Name	Scale of Works (Negligible, Small, Medium, Large)	Reversibility (Reversible, Irreversible)	Compatibility with surrounding landscape (Low, Medium, High)	Duration of impacts (construction) (Short, Medium, Long)	Duration of impacts (Operation) (Short, Medium, Long)	Magnitude of Change (construction) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Day 1) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Year 10) (Negligible, Small, Intermediate, Large)
	Livestock Waste Composting Plant								
LR5.5	Stream by Man Kam To Road	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR5.6	Stream by Kong Nga Po	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR6.1	Wooded slopes by Training School	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR6.2	Wooded slopes by Kong Nga Po	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR6.3	Small wooded hill	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR7.1	Open field	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR8.1	Orchard by Kong Nga Po	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR8.2	Orchard by San Uk Ling Holding Centre	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR8.3	Orchard by Sha Ling Road	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR8.4	Orchard by Man Kam To Road	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR8.5	Orchard by Sha Ling	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR9.1	Farmland by San Uk Ling Holding Centre	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR9.2	Farmland by Sha Ling	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR9.3	Farmland by Man Kam To Road	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LR10.1	Developed land	Medium	Irreversible	High	Short	Long	Small (Site clearance of 1.51ha of concrete paving)	Small (1.51ha of concrete paving becoming new structure)	Small (1.51ha of concrete paving becoming new structure)

ID No.	Name	Scale of Works (Negligible, Small, Medium, Large)	Reversibility (Reversible, Irreversible)	Compatibility with surrounding landscape (Low, Medium, High)	Duration of impacts (construction) (Short, Medium, Long)	Duration of impacts (Operation) (Short, Medium, Long)	Magnitude of Change (construction) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Day 1) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Year 10) (Negligible, Small, Intermediate, Large)
LCA1	Hillside grassland	Negligible	n/a	n/a	n/a	n/a	Negligible	Negligible	Negligible
LCA2	Rural villages and countryside	Small	Irreversible	High	Short	Long	Small (Site clearance of 2.45ha)	Small (Loss of 2.45ha)	Small (Loss of 2.45ha)

10.7.1 Unmitigated Landscape Impact during Construction Phase

A total of 4 LRs and 1 LCA will be affected by the proposed works. They are identified below:

- LR1.1 – Plantation by existing Livestock Waste Composting Plant
- LR1.3 – *Aquilaria sinensis*
- LR2.1 – Landscape planting within existing Livestock Waste Composting Plant
- LR10.1 – Developed Land
- LCA2 – Rural villages and countryside

LR1.1 – Plantation by existing Livestock Waste Composting Plant

Without mitigation, approximately 411 trees within this LR, will be felled in 0.84ha due to site clearance. These trees are mainly pioneer species such as *Acacia auriculiformis*, *Casuarina equisetifolia* and *Acacia confusa.* They range from 2m to 15m in height, with an average DBH of approximate 200mm. Most of these trees cannot be transplanted as they are located on slope, have a poor tree form and health, or the species is unsuitable for transplanting. Excavation works will also damage tree roots on neighbouring trees located close to the proposed works. This resource will receive a **moderate negative** landscape impact.

LR1.3 – *Aquilaria sinensis*

Without mitigation, 1 of the 3 identified seedlings, which is within the Project Area, will be removed due to site clearance. The other 2 seedlings will not be affected as they are located outside the Project Area. As one of the three seedlings will be affected, this resource will receive a **moderate negative** landscape impact.

LR2.1 – Landscape planting within existing Livestock Waste Composting Plant

The entire 0.10ha of this LR will be removed during the construction phase to make way for the newly built road and ease the movement of construction vehicles during site clearance. A total of approximately 46 trees located in this resource will be felled. This resource has a medium landscape amenity value, contains flowering young shrubs and trees. It is the only regularly maintained landscaped area located inside the proposed works area. Although this LR is small in size with medium sensitivity, the removal of this resource will have a large impact on the landscape amenity value for the works area. This resource will receive a **moderate negative** landscape impact.

LR10.1 – Developed land

Without mitigation, approximately 1.51ha of this LR will be affected by site clearance during the construction phase to make way for the newly built road and ease the movement of construction vehicles. As the affected areas are all concrete paved, no tree in this resource will be felled. Since the affected area is already disturbed with concrete paving, this resource will receive a **slight negative** landscape impact.

LCA2 – Rural villages and countryside

Approximately 2.45ha of LCA2 will be affected due to site clearance. As the scale of the proposed OWTF is relatively large compared to the size of rural homes and villages, it is slightly incompatible with the surrounding environment. This LCA will receive a **slight negative** landscape impact.

All other LRs and LCAs will receive **insubstantial** landscape impact as they are not within the proposed works area.

10.7.2 Unmitigated Landscape Impact during Operational Phase

The unmitigated impacts during the operation phase are the same as the unmitigated impacts during the construction phase.

The impact on existing trees without mitigation is considered to be moderate negative due to the amount of trees felled. Most trees felled are exotic species ranging from young to semi-mature. Dominant tree species felled include *Acacia auriculiformis*, *Casuarina equisetifolia* and *Acacia confusa*. The average DBH of felled trees is approximately 200mm and the average height is approximately 7m.

10.7.3 Recommended Mitigation Measures

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

- Avoid impacts on important landscape resources, landscape character areas and visual sensitive receivers;
- Lessen unavoidable impacts by location, design and reducing the extent of works; and
- Enhancement of existing landscape resources, landscape character areas and visual views of visual sensitive receivers.

Recommended landscape and visual mitigation measures for construction and operational phase impacts are summarised in **Tables 10-7** and **10-8**. The construction phase mitigation measures listed below shall be adopted from the commencement of construction and throughout the entire construction period. The operational phase mitigation measures shall be adopted during detailed design and built as part of the construction works so that they shall be in place at the Day 1 of operational phase.

Table 10-7: Proposed Construction Phase Mitigation Measures

Mitigation Code	Mitigation Measure	Target LR(s), LCA(s) and / or VSR(s)
CP1	**Preservation of Existing Vegetation** - The development proposals would avoid disturbance to the existing trees as far as practicable within the confines of the development site. A preliminary tree survey has been undertaken to establish the existing resources. A tree survey review with formal tree removal application will be submitted to the relevant government departments for approval in accordance with ETWB TC(W) 03/2006 Tree Preservation, during the detailed design phase of the Project. Based on the preliminary findings it would be possible to retain 441 of the existing trees. If possible, all trees which are not in conflict with the proposals would be retained and shall be protected through the means of fencing, where appropriate, to prevent potential damage to tree canopies and root zones from vehicles and materials storage. Specifications for the protection of existing trees will be circulated to the relevant government authorities for approval together with the formal tree removal application.	LR1.1, LR1.3, LR2.1, LCA2, VSR1, VSR2, VSR3, VSR4
CP2	**Control of Site Construction Activities** - The landscape of the works areas would be restored following the completion of the construction phase. Construction site controls shall be enforced, where possible, to ensure that the landscape and visual impacts arising from the construction phase activities are minimised. These construction site controls should include but not limited to the following: • Storage of materials should be carefully arranged to minimise potential landscape and visual impact. • The location and appearance of site accommodation should be carefully designed to minimise potential landscape and visual impact. • Site lighting should be carefully designed to prevent light spillage, • Extent of the works area and construction period should be minimised as far as practicable. • Screen hoarding with compatible design to blend into the surrounding natural environmental should be considered. • Temporary works areas should be reinstated at the earliest possible opportunity.	VSR1, VSR2, VSR3, VSR4
CP3	**Transplantation of Existing Trees** – Under current proposal, no tree is recommended to be transplanted since the trees in conflict with the proposed works are not suitable to be transplanted. However, should transplantation be proposed in the detailed design stage after an update tree survey, the recommended final recipient sites should be adjacent to their current locations. Enough time should be reserved for tree transplantation works to increase the survival rate of the transplanting trees. To ensure the survival of transplanted trees, protection work should be considered. The tree transplantation proposal will be submitted to relevant authorities for approval together with the formal tree removal application.	LR1.1, LR2.1, LCA2, VSR1, VSR2, VSR3, VSR4

Table 10-8: Proposed Operational Phase Mitigation Measures

Mitigation Code	Mitigation Measure	Target LR(s), LCA(s) and / or VSR(s)
OP1	**Design of the Proposed OWTF –** OWTF will incorporate design features as part of design mitigation measures including: • **Integrated design approach** - the location of OWTF should be within the existing Livestock Waste Composting Plant, as far as technically feasible. The location and orientation of the OWTF should be away from landscape and visually sensitive areas such as ponds and woodlands. • **Building massing** – the proposed use of simple responsive design includes having specific height profile requirement such as, single-storey, lower than the adjacent building structures, and avoiding large built structure for supporting facilities to reduce the intrusion of mass in the rural areas. • **Treatment of built structures** – the structural design should seek to reduce the	VSR1, VSR2, VSR3, VSR4

Mitigation Code	Mitigation Measure	Target LR(s), LCA(s) and / or VSR(s)
	apparent visual mass of the facilities further through the use of natural materials such as wooden frames or other sustainable materials such as recycled plastics. • **Responsive building finishes** – Natural tones should be considered for the colour palette for proposed structures. Non-reflective finishes are recommended on the outward facing building facades to reduce glare effect. • **Responsive lighting design –** Aesthetic design of architectural and lighting with following glare design measures: – Directional and full cut off lighting is recommended within the boundaries of OWTF to minimise light spillage to the surroundings; – Minimise geographical spread of lighting, only applying for safety at the key access points and staircases; and – Limited lighting intensity to meet the minimum safety and operation requirement.	
OP2	**Amenity / Compensatory Planting** – Tree retention within the works area is considered to be important. New tree plantings will be concentrated in the proposed amenity areas along the boundaries of the site and along the exterior of OWTF buildings. Although a preliminary planting proposal is not yet available at the moment of producing this EIA Report, anticipated new tree planting within the Project site should be able to fully compensate for the loss of 14 trees proposed to be felled in terms of both quantity and quality. 441 existing trees will be retained through preserving them at their current locations. Establishment of newly planted trees is expected. Trees with high amenity value will be placed along the access routes to provide shade and soften the hard structures of OWFT buildings. Amenity plantings will utilise native tree species found on existing neighbouring slopes or woodland areas to improve the ecological connectivity between existing habitats and create a coherent landscape network. Tree species with aggressive roots should be avoided to prevent damage to OWTF buildings and structures. Trees with high or moderate amenity value and low to medium maintenance should be considered as part of landscape resource enhancement. Recommended tree species include *Celtis sinensis* and *Liquidambar formosana*. These proposals will be subjected to review at detail design stage of the Project.	LR1.1, LR2.1, LR10.1, LCA2, VSR1, VSR2, VSR3, VSR4
OP3	**Treatment of Slopes** – In accordance with GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment for Slopes", these engineering structures will be aesthetically enhanced through the use of soft landscape works including tree and shrub planting to give man-made slopes a natural appearance, blending into the natural landscape. Whip-sized plantings are preferred on the face of soil cut slopes, at the crest and toe of the slope and within berm planters. These smaller, younger plants can adapt to their new growing conditions quicker than larger sized stock and establish a naturalistic effect rapidly. Recommended tree species include *Mallotus paniculatus, Broussonetia papyrifera* and *Alangium chinense.*	LR1.1, LR2.1, LR10.1, LCA2, VSR1, VSR2, VSR3, VSR4
OP4	**Amenity enhancement** – Rooftop greening and vertical greening to mitigate the visual impact of taller structures can soften the façade of OWFT structures. Frameworks utilised for vertical greening should appear naturalistic.	LR2.1, LR10.1, VAR1, VSR2, VSR3, VSR4

Other than the mitigation measures listed in **Tables 10-7** and **10-8**, as part of good construction site practice, preservation of existing topsoil is also proposed. Topsoil disturbed during the construction phase should be tested using a standard soil testing methodology. If found to be worthy of retention, it should be stored for later re-use as part of good construction site practices. The soil should be stockpiled to a maximum height of 2m and should be either temporarily vegetated with hydroseeded grass during construction or covered with a waterproof covering to prevent erosion. The stockpile should be turned over on a regular basis to avoid acidification and the degradation of the organic material, and reused after completion. Alternatively, if this is not practicable, it should be considered for use elsewhere, including other projects.

Proposed landscape mitigation measures are also shown in **Figure 10.8**.

10.7.4 Mitigated Landscape Impact during Construction Phase

The magnitude of change for each LRs and LCAs is illustrated in **Table 10-6.** The impact significance thresholds for all LRs and LCAs are shown in **Table 10-9**. Results of landscape impact assessment for affected LRs are also summarized in **Figure 10.9**. The main source of permanent landscape impact would be mainly on the permanent loss of landscape resources in the OWTF works area.

A total of 3 LRs and 1 LCA will be affected by the proposed works. They are identified below:

- LR1.1 – Plantation by existing Livestock Waste Composting Plant
- LR2.1 – Landscape planting within existing Livestock Waste Composting Plant
- LR10.1 – Developed land
- LCA2 – Rural villages and countryside

LR1.1 – Plantation by existing Livestock Waste Composting Plant

With mitigation, only 5 trees in 0.19ha will need to be felled. These trees are exotic landscape species *Acacia auriculiformis* and *Acacia confusa.* They range from 7m to 10m in height, with an average DBH of approximately 300mm. Most of these trees cannot be transplanted as they are located very close to hard structures. As the number of trees affected is greatly reduced with the implementation of mitigation measures and the trees to be felled are individuals at the periphery of the LR, this resource will receive a **slight negative** landscape impact.

LR1.3 – *Aquilaria sinensis*

With mitigation, all 3 identified *Aquilaria sinensis* seedlings will be retained and will not be affected by the proposed works. This resource will receive an **insubstantial** landscape impact.

LR2.1 – Landscape planting within existing Livestock Waste Composting Plant

Most of the LR (0.08ha of 0.10ha) will be preserved during the construction phase. Most trees (approximately 35 out of 46) located in this resource will be retained. Trees to be felled range from 3m to 5m in height, with an average DBH of 130mm. Since most part of this LR could be retained, the mitigated landscape impact for this LR is therefore considered **slight negative**.

LR10.1 – Developed land

With mitigation, approximately 1.51ha of this LR will be affected by site clearance during the construction phase to make way for the newly built road and ease the movement of construction vehicles. As the affected areas are all concrete paved, no tree in this resource will be felled. Since the affected area is already disturbed with concrete paving, this resource will receive only a **slight negative** landscape impact.

LCA2 – Rural villages and countryside

Approximately 1.72ha of this LCA will be affected due to site clearance. As the scale of the proposed OWTF is relatively large compared to the size of rural homes and villages, it is slightly incompatible with the surrounding environment. This LCA will receive a **slight negative** landscape impact.

All other LRs and LCAs will receive **insubstantial** landscape impact.

10.7.5 Mitigated Landscape Impact in Day One of Operational Phase

With the implementation of the proposed mitigation measures, only1 LR will be affected by the proposed works. It is identified below:

- LR1.1 – Plantation by existing Livestock Waste Composting Plant

LR1.1 – Plantation by existing Livestock Waste Composting Plant

Approximately 5 trees in 0.19ha will be felled in this resource due to site clearance. On-site compensatory planting will partially resume the landscape quality of this LR. However, at Day 1 of operation, the compensatory trees will be young. This resource will receive a **slight negative** landscape impact.

LR2.1 – Landscape planting within existing Livestock Waste Composting Plant

Part of this resource will be temporarily loss during construction but reprovided upon completion of works. Amenity tree planting is recommended to provide shade, colour, fragrance and seasonal changes for the workers in OWTF. This resource will receive an **insubstantial** landscape impact.

LR10.1 – Developed land

Part of this resource will be temporarily loss during construction but reprovided upon completion of works. Amenity tree planting is recommended to provide shade, colour, fragrance and seasonal changes for the workers in OWTF. This resource will receive a **slight positive** landscape impact.

LCA2 – Rural villages and countryside

Approximately 0.21ha of this LCA will be affected due to site clearance. Although the scale of the proposed OWTF is relatively large compared to the size of rural homes and villages, it is similar in scale to the demolished Livestock Waste Composting Plant. With the proposed landscape enhancement planting, the proposed OWTF will be compatible with the surrounding environment. This LCA will receive a **insubstantial** landscape impact.

All other LRs and all LCAs will receive **insubstantial** landscape impact.

10.7.6 Mitigated Landscape Impact in Year 10 of Operational Phase

It is expected that the compensatory planting have established sufficiently to perform its full function by Year 10.

With the implementation of the proposed mitigation measures, no negative impact is expected for all LRs and LCAs in Year 10 of the operational phase.

LR1.1 – Plantation by existing Livestock Waste Composting Plant

As the landscape planting within this LR matures after 10 years of operation, expected landscape impact will change from slight negative in Day 1 to **insubstantial** in Year 10 of operation.

All other LRs and all LCAs will receive **insubstantial** or **slight positive** landscape impact.

10.7.7 Cumulative Landscape Impacts

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

Land Use Planning for the Closed Area – Feasibility Study

The implementation of the proposed Man Kam To Development Corridor is not yet confirmed and will depend on market initiatives and circumstances. Should the proposed development be undertaken, no cumulative landscape impact is expected as the footprint of the proposed development does not overlap with the Project site.

Site Formation and Associated Infrastructural Works for Proposed Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Feasibility Study

This Feasibility Study is still in progress and is scheduled for completion in September 2012. According to the currently proposed scheme of works, no cumulative landscape impact is anticipated as no works is proposed within the Project Area. However, this is subject to the conclusion and recommendation including tentative implementation programme in the Feasibility Study.

Engineering Feasibility Study for Kong Nga Po Development

The tentative programme for the proposed Kong Nga Po Development is in 2020. Potential traffic impact along Kong Nga Po Road is a potential issue for the proposed development. The need for improvement of Kong Nga Po Road is under review. Should improvement works of Kong Nga Po Road be proposed, cumulative landscape impact may arise due to removal of existing vegetation along Kong Nga Po Road. Since the scope of the road improvement works has not been proposed, detailed assessment of the cumulative landscape impact cannot be undertaken. However, given that the Project site is about 100m from Kong Nga Po Road and assuming that the road improvement works will involve vegetation clearance only along the existing Kong Nga Po Road, no significant cumulative landscape impact is expected.

Hung Lung Hang Development

The project is still under liaison with Planning Department and there is not enough information for the assessment of cumulative landscape impact at present. However, since Hung Lung Hang is about 500m away from the Project site, no cumulative landscape impact is expected.

North East New Territories New Development Areas Planning and Engineering Study - Investigation

The proposed Fanling North Freshwater Service Reservoir under this study is located approximately 450m to the south of this Project. From the EIA report of this study, construction works period of infrastructure including service reservoir will be from 2018 to 2021, while this Project will be in operation. Since the Fanling North Freshwater Service Reservoir is proposed to be built on developed land (LR10.1) of low landscape value, no cumulative landscape impact is expected from this study.

Potential Activities not included in the Project Area

As identified in **Section 2.6.3**, construction works associated with the Project and outside the Project Area are expected to occur, including the possible gas pipeline to be carried out by Towngas if the biogas export option is chosen, minor road widening, junction improvements, and construction of rising main connecting to the existing sewerage network. Cumulative construction impact is expected if these construction activities are carried out simultaneously with this Project. However, the magnitude of the cumulative impact is expected to be small given the small scale of the associated works outside the Project Area. For operational impact, loss of trees at the edge of the plantation due to minor road widening and junction improvement works is expected. Such cumulative impact is also expected to be small in magnitude and will be insubstantial with compensatory tree planting.

As explained in the above assessment of cumulative impacts, overall, no significant cumulative landscape impact is anticipated from the identified potential interfacing projects.

Table 10-9: Significance Threshold of Landscape Impacts in Construction and Operation Phases

Id No.	Name	Sensitivity (Low, Medium, High)	Magnitude of change		Significance Threshold (unmitigated)		Mitigation Measures	Significance Threshold (mitigated)		
			Construction (Negligible, Small, Intermediate, Large)	Operational (Negligible, Small, Intermediate, Large)	Construction (Insubstantial, Slight, Moderate, Substantial)	Operational (Insubstantial, Slight, Moderate, Substantial)		Construction (Insubstantial, Slight, Moderate, Substantial)	Operational (Day 1) (Insubstantial, Slight, Moderate, Substantial)	Operational (Year 10) (Insubstantial, Slight, Moderate, Substantial)
LR1.1	Plantation by existing Livestock Waste Composting Plant	Low	Intermediate	Intermediate	Moderate negative	Moderate negative	CP1, CP3, OP2, OP3, OP4	Slight negative	Slight negative	Insubstantial
LR1.2	Plantation by Kong Nga Po Road	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR1.3	*Aquilaria sinensis*	High	Small	Small	Moderate negative	Moderate negative	CP1	Insubstantial	Insubstantial	Insubstantial
LR2.1	Landscape planting within existing Livestock Waste Composting Plant	Medium	Large	Large	Moderate negative	Moderate negative	CP1, CP3, OP2, OP3, OP4	Slight negative	Insubstantial	Insubstantial
LR2.2	Roadside amenity planting along Man Kam To Road	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR3.1	Shrubland by existing Livestock Waste Composting Plant	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR4.1	Open grassland by Sha Ling	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR4.2	Hillside grassland by Cheung Po Tau	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR4.3	Grassland by Sandy Ridge	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR4.4	Hillside grassland by Luo Wo	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR5.1	Pond by Sha Ling	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR5.2	Pond by Kong Nga Po	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial

Id No.	Name	Sensitivity (Low, Medium, High)	Magnitude of change		Significance Threshold (unmitigated)		Mitigation Measures	Significance Threshold (mitigated)		
			Construction (Negligible, Small, Intermediate, Large)	Operational (Negligible, Small, Intermediate, Large)	Construction (Insubstantial, Slight, Moderate, Substantial)	Operational (Insubstantial, Slight, Moderate, Substantial)		Construction (Insubstantial, Slight, Moderate, Substantial)	Operational (Day 1) (Insubstantial, Slight, Moderate, Substantial)	Operational (Year 10) (Insubstantial, Slight, Moderate, Substantial)
LR5.3	Pond by San Uk Ling Holding Centre	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR5.4	Pond by existing Livestock Waste Composting Plant	High	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR5.5	Stream by Man Kam To Road	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR5.6	Stream by Kong Nga Po	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR6.1	Wooded slopes by Training School	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR6.2	Wooded slopes by Kong Nga Po	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR6.3	Small wooded hill	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR7.1	Open field	Low	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR8.1	Orchard by Kong Nga Po	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR8.2	Orchard by San Uk Ling Holding Centre	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR8.3	Orchard by Sha Ling Road	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR8.4	Orchard by Man Kam To Road	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR8.5	Orchard by Sha Ling	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR9.1	Farmland by San Uk Ling Holding Centre	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR9.2	Farmland by Sha Ling	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LR9.3	Farmland by Man	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial

Id No.	Name	Sensitivity (Low, Medium, High)	Magnitude of change		Significance Threshold (unmitigated)		Mitigation Measures	Significance Threshold (mitigated)		
			Construction (Negligible, Small, Intermediate, Large)	Operational (Negligible, Small, Intermediate, Large)	Construction (Insubstantial, Slight, Moderate, Substantial)	Operational (Insubstantial, Slight, Moderate, Substantial)		Construction (Insubstantial, Slight, Moderate, Substantial)	Operational (Day 1) (Insubstantial, Slight, Moderate, Substantial)	Operational (Year 10) (Insubstantial, Slight, Moderate, Substantial)
	Kam To Road									
LR10.1	Developed land	Low	Small	Small	Slight negative	Slight negative	OP2, OP3, OP4	Slight negative	Slight positive	Slight positive
LCA1	Hillside grassland	Medium	Negligible	Negligible	Insubstantial	Insubstantial	n/a	Insubstantial	Insubstantial	Insubstantial
LCA2	Rural villages and countryside	Low	Small	Small	Slight negative	Slight negative	CP1, CP3, OP2, OP3, OP4	Slight negative	Insubstantial	Insubstantial

10.8 Visual Impact Assessment

A total of 11 VSRs have been identified and the sensitivity of each VSR is illustrated in **Table 10-5**.

During the construction phase, sources of potential visual impacts would arise from the following:

- Construction of entrances and access roads;
- Construction of main building works of OWTF;
- Construction works for cut and cover of slope;
- Construction of provisional landscaping areas;
- Contractor's temporary works areas, including site accommodation and parking areas;
- Stockpiling of construction and demolition materials, storage of construction equipment and plant; and
- Dust during dry weather.

During the operation phase, sources of potential visual impacts would arise from the following:

- Operation of the OWTF;
- Operation of ventilation buildings; and
- Impact from loss of trees during construction stage.

The layout as shown in **Figure 2.2** is a reduced footprint which keeps all the proposed structures within the currently paved areas to avoid encroachment into the adjacent vegetated areas. As the heights of the proposed structures, as shown in **Figure 2.2,** dictate whether these structures will be visible by VSRs, the following maximum heights of the proposed structures are assumed in the visual impact assessment:

- Gas storage: 10.5m above ground;
- Digesters: 25m above ground;
- Administration Office : 12m above ground;
- Chimney Stack: 30m above ground;
- Reception zone, bin wash and storage: 12m above ground; and
- Composting treatment storage and composting tunnel: 14.7m above ground.

The magnitude of change for each VSR is shown in **Table 10-10**.

10.8.1 Unmitigated Visual Impact during Construction Phase

VSR1.1 – Workers in San Uk Ling Holding Centre

The view of the existing Livestock Waste Composting Plant is largely screened from this VSR by the vegetation on the slopes surrounding the Project site. Since the proposed works will involve vegetation removal at the periphery of the Project site, the visibility of the Project site from this VSR is expected to be slightly higher during the construction phase compared to the existing view. However, given that there are trees and other vegetation around the periphery of this VSR, and the scale of the proposed vegetation removal is small, the magnitude of change is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR2.1 – Farmers from the North

The existing Livestock Waste Composting Plant is invisible from this VSR as vegetation on the slopes surrounding the Project site completely blocks the view. Since the proposed works may involve vegetation removal at the northern periphery of the Project site, part of the Project site may be visible from this VSR during the construction phase. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR2.2 – Farmers from the East

The existing Livestock Waste Composting Plant is barely visible from this VSR as vegetation on the slopes surrounding the Project site blocks most of the view. Since the proposed works may involve vegetation removal at the eastern periphery of the Project site, the visibility of the Project site from this VSR is expected to be slightly higher during the construction phase compared to the existing view. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR3.1 – Villagers from the Northwest

The view of the existing Livestock Waste Composting Plant is completely screened from this VSR by the vegetation on the slopes surrounding the Project site. Since the proposed works may involve vegetation removal at the northern periphery of the Project site, part of the Project site may be visible from this VSR during the construction phase. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR3.2 –Villagers from the Northeast

The view of the existing Livestock Waste Composting Plant is largely screened from this VSR by the vegetation on the slopes surrounding the Project site and the trees within the village around this VSR. Since the proposed works will involve vegetation removal at the eastern periphery of the Project site, the visibility of the Project site from this VSR is expected to be slightly higher during the construction phase compared to the existing view. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR3.3 – Villagers from the Southeast

The view of the existing Livestock Waste Composting Plant is completely screened from this VSR by the vegetation on the slopes surrounding the Project site and the trees within the village around this VSR. Since the proposed works will involve vegetation removal at the eastern and southern periphery of the Project site, part of the Project site may be visible from this VSR during the construction phase. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR3.4 – Villagers from the Southwest

The view of the existing Livestock Waste Composting Plant is completely screened from this VSR by the vegetation on the slopes surrounding the Project site and the trees along Kong Nga Po Road. Since the proposed works will involve vegetation removal at the southern periphery of the Project site, part of the Project site may be visible from this VSR during the construction phase. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR3.5 – Villagers from the West

The view of the existing Livestock Waste Composting Plant is largely screened from this VSR by the vegetation on the slopes surrounding the Project site. Since the proposed works will involve vegetation removal at the western periphery of the Project site, the visibility of the Project site from this VSR is expected to be slightly higher during the construction phase compared to the existing view. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR4.1 – Travellers along Man Kam To Road

The existing Livestock Waste Composting Plant is completely invisible from this VSR as vegetation on the slopes surrounding the Project site blocks the view. Since the proposed works will involve vegetation removal at the northern periphery of the Project site, part of the Project site may be visible from this VSR during the construction phase. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site and the duration of impact is short for travellers, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR4.2 – Travellers along Kong Nga Po Road

The existing Livestock Waste Composting Plant is completely invisible from this VSR as vegetation on the slopes surrounding the Project site blocks the view. Since the proposed works will involve vegetation removal at the western and southern periphery of the Project site, part of the Project site may be visible from this VSR during the construction phase. However, given that the trees along Kong Nga Po Road will be retained as visual barriers, the magnitude of change in terms of visual view is expected to be negligible. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR4.3 – Travellers along local village access

The existing Livestock Waste Composting Plant is barely visible from this VSR as vegetation on the slopes surrounding the Project site and trees near the village access block most of the view. Since the proposed works will involve vegetation removal at the periphery of the Project site, the visibility of the Project site from this VSR is expected to be slightly higher during the construction phase compared to the existing view. However, given that the scale of the proposed vegetation removal is small and limited to only trees within the Project site and the duration of impact is short for travellers, the magnitude of change in terms of visual view is expected to be small. The unmitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

10.8.2 Unmitigated Visual Impact during Operational Phase

VSR1.1 – Workers in San Uk Ling Holding Centre

Vegetation removed during construction phase at the periphery of the Project site will improve the visibility of the site from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will be partially visible by this VSR as illustrated in the photomontage in **Figure 10.12a**. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR2.1 – Farmers from the North

Vegetation removed during construction phase at the periphery of the Project site will make the site partially visible from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will likely be partially visible by this VSR. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR2.2 – Farmers from the East

Vegetation removed during construction phase at the periphery of the Project site will improve the visibility of the site from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, particularly the digesters, will be partially visible by this VSR as illustrated in the photomontage in **Figure 10.12b**. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR3.1 – Villagers from the Northwest

Vegetation removed during construction phase at the periphery of the Project site will make the site partially visible from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will likely be partially visible by this VSR. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR3.2 – Villagers from the Northeast

Vegetation removed during construction phase at the periphery of the Project site will improve the visibility of the site from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will be partially visible by this VSR as illustrated in the photomontage in **Figure 10.12c**. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site and those around the village houses will still be able to partially block the view of these

hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR3.3 – Villagers from the Southeast

Vegetation removed during construction phase at the periphery of the Project site will make the site partially visible from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will likely be partially visible by this VSR. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site and those around the village houses will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR3.4 – Villagers from the Southwest

Vegetation removed during construction phase at the periphery of the Project site will make the site partially visible from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will likely be partially visible by this VSR. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site and those along Kong Nga Po Road will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR3.5 – Villagers from the West

Vegetation removed during construction phase at the periphery of the Project site will improve the visibility of the site from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, particularly the chimney stack, will be partially visible by this VSR as illustrated in the photomontage in **Figure 10.12d**. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR4.1 – Travellers along Man Kam To Road

Vegetation removed during construction phase at the periphery of the Project site will make the site partially visible from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will be visible by this VSR. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR4.2 – Travellers along Kong Nga Po Road

Vegetation removed during construction phase at the periphery of the Project site may allow a partially obstructed view of the site to be seen by this VSR during the operation phase at some particular locations. Also, since the above ground hard structures of the OWTF are in general taller than the structures of the existing Livestock Waste Composting Plant, visibility of the hard structures at the site may be improved during the operation phase. However, given that the proposed structures are small in

scale and the retained vegetation along Kong Nga Po Road will still be able to block most of the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

VSR4.3 – Travellers along local village access

Vegetation removed during construction phase at the periphery of the Project site will improve the visibility of the site from this VSR during the operation phase. Also, the above ground hard structures of the OWTF, which are in general taller than the structures of the existing Livestock Waste Composting Plant, will be partially visible by this VSR. However, given that the proposed structures are small in scale and the retained vegetation on the slopes adjacent to the Project site and those near the village access will still be able to partially block the view of these hard structures from this VSR, the unmitigated visual impact to this VSR during operation phase is considered **slight negative**.

10.8.3 Mitigated Visual Impact during Construction Phase

VSR1.1 – Workers in San Uk Ling Holding Centre

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the eastern periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will largely hide the view of the screen hoarding, so that the construction site will be largely screened from view. Given that part of the screen hoarding may still be visible by the VSR, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR2.1 – Farmers from the North

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the northern and western periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will hide the view of the screen hoarding, so that the construction site will be screened from view. Given that the existing view of this VSR is not expected to be altered, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR2.2 – Farmers from the East

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the eastern periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will largely hide the view of the screen hoarding, so that the construction site will be largely screened from view. Given that part of the screen hoarding may still be visible by the VSR, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR3.1 – Villagers from the Northwest

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the northern periphery of the Project site will all be

preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will hide the view of the screen hoarding, so that the construction site will not be noticeable from view. Given that the view of this VSR will be unaltered and the construction activities will be barely noticeable from view, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR3.2 – Villagers from the Northeast

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the northeastern periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site and those near the village houses will largely hide the view of the screen hoarding, so that the construction site will be barely noticeable from view. Given that the view of this VSR will be largely unaltered and the construction activities will be barely noticeable from view, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR3.3 – Villagers from the Southeast

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the southern periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site and those near the village houses will hide the view of the screen hoarding, so that the construction site will not be noticeable from view. Given that the view of this VSR will be unaltered and the construction activities will be barely noticeable from view, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR3.4 – Villagers from the Southwest

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the southern periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site and those along Kong Nga Po Road will hide the view of the screen hoarding, so that the construction site will not be noticeable from view. Given that the view of this VSR will be unaltered and the construction activities will be barely noticeable from view, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR3.5 – Villagers from the West

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the western periphery of the Project site will be preserved except for a few trees within the Project site. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will largely hide the view of the screen hoarding, so that the construction site will be barely noticeable from view. Given that part of the screen hoarding may still be visible by the VSR, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **slight negative**.

VSR4.1 – Travellers along Man Kam To Road

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the northern periphery of the Project site will all be preserved. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will hide the view of the screen hoarding, so that the construction site will be screened from view. Given that the view of this VSR will be unaltered and the duration of view is short for travellers, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR4.2 – Travellers along Kong Nga Po Road

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the southern and western periphery of the Project site will be preserved except for a few trees within the Project site. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will hide the view of the screen hoarding, so that the construction site will be screened from view. Given that the view of this VSR will be unaltered and the trees along Kong Nga Po Road will be retained to screen the views of the Project site, the mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

VSR4.3 – Travellers along local village access

With the implementation of proposed mitigation measures, existing trees will be preserved as far as practicable to retain the screening effect. Trees at the periphery of the Project site will be preserved except for a few trees on the west side within the Project site. Screen hoarding will completely block the unsightly construction works from view while retained trees on the slopes adjacent to the Project site will largely hide the view of the screen hoarding, so that the construction site will be largely screened from view. Although part of the screen hoarding may still be visible by the VSR, the duration of view is short for travellers. The mitigated visual impact to this VSR during construction phase is therefore anticipated to be **insubstantial**.

10.8.4 Mitigated Visual Impact in Day One of Operational Phase

VSR1.1 – Workers in San Uk Ling Holding Centre

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Climbers and roof-top greening will also soften and partially block the views of the hard structures. Views of the hard structures will be largely screened as shown in **Figure 10.12a**. However, more hard structures are expected to be visible from the views of this VSR in Day 1 of operation in comparison to the existing view. Therefore, the mitigated visual impact to this VSR is considered **slight negative** in Day 1 of operation.

VSR2.1 – Farmers from the North

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site will continue to largely screen the hard structures from the views of this VSR. Climbers on the digesters will also soften and block the views of the digesters. Hard structures are therefore expected to be hardly visible. The views in Day 1 of operation

are expected to be comparable to the existing views. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR2.2 – Farmers from the East

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Climbers on the digesters will also soften and partially block the views of the digesters from this VSR. However, as the newly planted vegetation and climbers are pre-mature in Day 1 of operation, parts of the digesters will still be clearly visible as shown in **Figure 10.12b**. The mitigated visual impact to this VSR is considered **slight negative** in Day 1 of operation.

VSR3.1 – Villagers from the Northwest

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site will continue to largely screen the hard structures from the views of this VSR. Climbers and roof-top greening will also soften and partially block the views of the hard structures. Hard structures are therefore expected to be hardly visible. The views in Day 1 of operation are expected to be comparable to the existing views. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR3.2 – Villagers from the Northeast

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site and those near the village houses will continue to largely screen the hard structures from the views of this VSR. Climbers and roof-top greening will also soften and partially block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views as shown in **Figure 10.12c**. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR3.3 – Villagers from the Southeast

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site will continue to largely screen the hard structures from the views of this VSR. Climbers and roof-top greening will also soften and partially block the views of the digesters. Hard structures are therefore expected to be hardly visible. The views in Day 1 of operation are expected to be comparable to the existing views. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR3.4 – Villagers from the Southwest

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site and those along Kong Nga Po Road will continue to largely screen the hard structures from the views of this VSR. Climbers and roof-top greening will also soften and partially block the views of the hard structures. Hard structures are therefore expected to be

hardly visible. The views in Day 1 of operation are expected to be comparable to the existing views. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR3.5 – Villagers from the West

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site will continue to largely screen the hard structures from the views of this VSR. Climbers and roof-top greening will also soften and partially block the views of the hard structures. Views of the hard structures will be partially screened. The chimney stack is expected to be clearly visible as shown in **Figure 10.12d**. Therefore, the mitigated visual impact to this VSR is considered **slight negative** in Day 1 of operation.

VSR4.1 – Travellers along Man Kam To Road

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site will continue to largely screen the hard structures from the views of this VSR. Climbers on the digesters will also soften and partially block the views of the hard structures from this VSR. Hard structures are therefore expected to be hardly visible. The views in Day 1 of operation are expected to be comparable to the existing views. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR4.2 – Travellers along Kong Nga Po Road

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site and those along Kong Nga Po Road will continue to largely screen the hard structures from the views of this VSR. Climbers on the digesters will also soften and partially block the views of the hard structures from this VSR. Hard structures are therefore expected to be hardly visible. The views in Day 1 of operation are expected to be comparable to the existing views. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

VSR4.3 – Travellers along local village access

With the implementation of the proposed mitigation measures, landscape planting will be available around the hard structures of the OWTF which helps to screen the hard structures from the VSR. Retained trees on the slope adjacent to the Project site will continue to largely screen the hard structures from the views of this VSR. Climbers on the hard structures will also soften and partially block the views of the hard structures from this VSR. Although, as the newly planted vegetation and climbers are pre-mature in Day 1 of operation, parts of the hard structures may still be visible at some particular locations, the duration of view is short for travellers. The mitigated visual impact to this VSR is considered **insubstantial** in Day 1 of operation.

10.8.5 Mitigated Visual Impact in Year 10 of Operational Phase

VSR1.1 – Workers in San Uk Ling Holding Centre

As the proposed landscape planting, climbers and roof-top greening matures during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views as shown in **Figure 10.12a**. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR2.1 – Farmers from the North

As the proposed landscape planting, climbers and roof-top greening, particularly the climbers on the digesters, mature during the first 10 years of the operation phase, they will further soften and block the views of the digesters. Views of the hard structures will be largely screened and hardly noticeable. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR2.2 – Farmers from the East

As the proposed landscape planting, climbers and roof-top greening, particularly the climbers on the digesters, mature during the first 10 years of the operation phase, they will further soften and block the views of the digesters. Views of the hard structures will be largely screened and are comparable to the existing views as shown in **Figure 10.12b**. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR3.1 – Villagers from the Northwest

As the proposed landscape planting, climbers and roof-top greening mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR3.2 – Villagers from the Northeast

As the proposed landscape planting, climbers and roof-top greening mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Trees around the village houses will also grow with more branches blocking the hard structures of the OWTF from the VSR. Views of the hard structures will be largely screened and are comparable to the existing views as shown in **Figure 10.12c**. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR3.3 – Villagers from the Southeast

As the proposed landscape planting, climbers and roof-top greening mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR3.4 – Villagers from the Southwest

As the proposed landscape planting, climbers and roof-top greening matures during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Trees along Kong Nga Po Road and those around the village houses will also grow taller with more branches blocking the hard structures of the OWTF from the VSR. Views of the hard structures will be largely screened and are

comparable to the existing views. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR3.5 – Villagers from the West

As the proposed landscape planting, climbers and roof-top greening mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views as shown in **Figure 10.2d**. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR4.1 – Travellers along Man Kam To Road

As the proposed landscape planting, climbers and roof-top greening mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR4.2 – Travellers along Kong Nga Po Road

As the proposed landscape planting, climbers and roof-top greening mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

VSR4.3 – Travellers along local village access

As the proposed landscape planting, climbers and roof-top greening, particularly the climbers on the digesters, mature during the first 10 years of the operation phase, they will further soften and block the views of the hard structures. Views of the hard structures will be largely screened and are comparable to the existing views. Therefore, the mitigated visual impact to this VSR is considered **insubstantial** in Year 10 of operation.

The description of potential visual impacts on identified VSRs resulting from OWTF during construction and operational phases are summarised in the **Table 10-11**. These impacts are also mapped on **Figure 10.11**. The mitigated (residual) impacts are assessed during operational phase year 10 where the proposed mitigation planting is deemed to have reached a level of maturity to perform the design's intention. Findings of the visual impact assessment are summarised in **Table 10-12**. Photomontages of the views from selected VSRs are shown in **Figures 10.12a** to **10.12d**. The vantage points shown in **Figures 10.12a** to **10.12d** are carefully selected to show the views with the most substantial changes.

Table 10-10: Magnitude of change for VSRs

ID No.	VSR Name	Scale of Works (Small, Medium, Large)	Reversibility (Reversible, Irreversible)	Blockage (None, Partial, Substantial)	Minimum Viewing Distance (m)	Compatibility with surrounding landscape (Low, Medium, High)	Duration of impacts (construction) (Short, Medium, Long)	Duration of impacts (Operation) (Short, Medium, Long)	Magnitude of Change (construction) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Day 1) (Negligible, Small, Intermediate, Large)	Magnitude of Change (operational Year 10) (Negligible, Small, Intermediate, Large)
VSR1.1	Workers in San Uk Ling Holding Centre	Small	Irreversible	Partial	110	Medium	Short	Long	Small	Small	Small
VSR2.1	Farmers from the North	Small	Irreversible	Substantial	130	Medium	Short	Long	Small	Small	Small
VSR2.2	Farmers from the East	Small	Irreversible	Partial	60	Medium	Short	Long	Small	Small	Small
VSR3.1	Villagers from the Northwest	Small	Irreversible	Substantial	50	Medium	Short	Long	Small	Small	Small
VSR3.2	Villagers from the Northeast	Small	Irreversible	Partial	50	Medium	Short	Long	Small	Small	Small
VSR3.3	Villagers from the Southeast	Small	Irreversible	Substantial	20	Medium	Short	Long	Small	Small	Small
VSR3.4	Villagers from the Southwest	Small	Irreversible	Substantial	130	Medium	Short	Long	Small	Small	Small
VSR3.5	Villagers from the West	Small	Irreversible	Partial	150	Medium	Short	Long	Small	Small	Small
VSR4.1	Travellers along Man Kam To Road	Small	Irreversible	Substantial	180	Medium	Short	Long	Small	Small	Small
VSR4.2	Travellers along Kong Nga Po Road	Small	Irreversible	Substantial	80	Medium	Short	Long	Small	Small	Small
VSR4	Travellers along local village access	Small	Irreversible	Partial	20	Medium	Short	Long	Small	Smal	Small

Table 10-11: Description of change for VSRs

ID No.	VSR Name	Construction				Operation			
		Source of impact	Mitigation Measures	Unmitigated Impact Description	Mitigated Impact Description	Source of Impact	Unmitigated Impact Description	Mitigated Impact Description (Day 1)	Mitigated Impact Description (Year 10)

		Construction				Operation			
ID No.	VSR Name	Source of impact	Mitigation Measures	Unmitigated Impact Description	Mitigated Impact Description	Source of Impact	Unmitigated Impact Description	Mitigated Impact Description (Day 1)	Mitigated Impact Description (Year 10)
VSR1.1	Workers in San Uk Ling Holding Centre	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the trees and other vegetation around the perimeter of the Holding Centre.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will partially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF (mainly the Composting System and the Digester Tanks) to this VSR. The view may be partially blocked by the trees and other vegetation around the perimeter of the Holding Centre and OWTF.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. These greening measures can soften and partially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. The view from the VSR would be very similar to the existing view.
VSR2.1	Farmers from the North	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation around the perimeter of the construction site.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will substantially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF (mainly the Composting System) to this VSR. The view may be partially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. Retained trees can soften and substantially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. Retained trees will have grown taller and better screen the views of the hard structures of OWTF, which will be hardly visible.
VSR2.2	Farmers from the East	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF, particularly the digesters, to this VSR. The view may be partially blocked by the trees and other vegetation on the	Although the proposed climbers on the digesters are still young, they can soften and partially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the climbers would have a large extent of coverage on the digesters. Also, the retained trees on the slope around the OWTF will have grown larger and taller, thereby blocking most of the views of the digesters from this VSR. The view

ID No.	VSR Name	Construction				Operation			
		Source of impact	Mitigation Measures	Unmitigated Impact Description	Mitigated Impact Description	Source of Impact	Unmitigated Impact Description	Mitigated Impact Description (Day 1)	Mitigated Impact Description (Year 10)
				around the perimeter of the construction site.	partially hide the view of the screen hoarding.		slopes around the perimeter of OWTF.		from the VSR would be similar to the existing view with hard structures barely visible.
VSR3.1	Villagers from the Northwest	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation around the perimeter of the construction site.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will substantially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF (mainly the Composting System) to this VSR. The view may be partially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. Retained trees can soften and substantially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. Retained trees will have grown taller and better screen the views of the hard structures of OWTF, which will be hardly visible.
VSR3.2	Villagers from the Northeast	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed would partially expose the construction site to the VSR. The view may be partially blocked by the trees and other vegetation around the residences.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed would partially expose the hard structures of OWTF (mainly the Composting System) to the VSR. The view may be partially blocked by the trees near the village houses.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. These greening measures can soften and partially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. Existing trees near the village houses will also have grown larger with enhanced screening effect. The view from the VSR would be very similar to the existing view with the hard

ID No.	VSR Name	Construction				Operation			
		Source of impact	Mitigation Measures	Unmitigated Impact Description	Mitigated Impact Description	Source of Impact	Unmitigated Impact Description	Mitigated Impact Description (Day 1)	Mitigated Impact Description (Year 10)
									structures hardly visible.
VSR3.3	Villagers from the Southeast	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation around the perimeter of the construction site and those near the village houses.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will substantially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF (mainly the Digester Tanks) to this VSR. The view may be partially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF and the trees near the village houses.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. Retained trees can soften and substantially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. Retained trees will have grown taller and better screen the views of the hard structures of OWTF, which will be hardly visible.
VSR3.4	Villagers from the Southwest	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation around the perimeter of the construction site and those along Kong Nga Po Road.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will substantially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF, particularly the chimney stack, to this VSR. The view may be substantially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF and the trees on slopes beside Kong Nga Po Road.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. Retained trees can soften and substantially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. Retained trees will have grown taller and better screen the views of the hard structures of OWTF, which will be hardly visible.

		Construction				Operation			
ID No.	VSR Name	Source of impact	Mitigation Measures	Unmitigated Impact Description	Mitigated Impact Description	Source of Impact	Unmitigated Impact Description	Mitigated Impact Description (Day 1)	Mitigated Impact Description (Year 10)
VSR3.5	Villagers from the West	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed would partially expose the construction site to the VSR. The view may be partially blocked by the trees and other vegetation on the slope adjacent to the OWTF.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed would partially expose OWTF (including the Composting System, the Pretreatment area and the chimney stack) to the VSR. The view may be partially blocked by the trees on the slope adjacent to the OWTF.	Landscape planting around the hard structures of OWTF is young; climbers and roof-top greening are pre-mature. These greening measures can soften and partially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the compensatory trees, landscape planting, climbers and roof-top greening would have grown large enough to almost completely shield the hard structures of OWTF from the VSR. Existing trees on the adjacent slope will also have grown larger with enhanced screening effect. The view from the VSR would be very similar to the existing view with the hard structures hardly visible.
VSR4.1	Travellers along Man Kam To Road	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation around the perimeter of the construction site.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will Substantially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF (mainly the Composting System) to this VSR. The view may be partially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF.	Although the proposed climbers on the digesters are still young, they can soften and partially block the views of the hard structures of OWTF. Retained trees can soften and substantially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the climbers would have a large extent of coverage on the digesters. Also, the retained trees on the slope around the OWTF will have grown larger and taller, thereby blocking most of the views of the hard structures from this VSR. The view from the VSR would be similar to the existing view with hard structures barely visible.

		Construction				Operation			
ID No.	VSR Name	Source of impact	Mitigation Measures	Unmitigated Impact Description	Mitigated Impact Description	Source of Impact	Unmitigated Impact Description	Mitigated Impact Description (Day 1)	Mitigated Impact Description (Year 10)
VSR4.2	Travellers along Kong Nga Po Road	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be substantially blocked by the retained trees and other vegetation around the perimeter of the construction site.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will Substantially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF (manly the Pretreatment area and the chimney stack) to this VSR. The view may be substantially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF.	Although the proposed climbers on the digesters are still young, they can soften and partially block the views of the hard structures of OWTF. Retained trees can soften and substantially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the climbers would have a large extent of coverage on the digesters. Also, the retained trees on the slope around the OWTF will have grown larger and taller, thereby blocking most of the views of the hard structures from this VSR. The view from the VSR would be similar to the existing view with hard structures barely visible.
VSR4.3	Travellers along local village access	Vegetation removal at the periphery of the site and construction of OWTF	CP1-3, OP1-4	Vegetation removed at the periphery of the site would partially expose the construction site to the VSR. The view may be partially blocked by the retained trees and other vegetation around the perimeter of the construction site.	Existing trees will be preserved as far as practicable to retain the screening effect. Screen hoarding will completely block the unsightly construction works from view while retained trees will partially hide the view of the screen hoarding.	Vegetation removal at the periphery of the site and hard structures of OWTF	Vegetation removed at the periphery of the site would partially expose the hard structures of OWTF, particularly the digesters, to this VSR at some particular locations. The view may be partially blocked by the trees and other vegetation on the slopes around the perimeter of OWTF.	Although the proposed climbers on the digesters are still young, they can soften and partially block the views of the hard structures of OWTF. Retained trees can soften and partially block the views of the hard structures of OWTF.	After 10 years with proper maintenance, the climbers would have a large extent of coverage on the digesters. Also, the retained trees on the slope around the OWTF will have grown larger and taller, thereby blocking most of the views of the digesters from this VSR. The view from the VSR would be similar to the existing view with hard structures barely visible.

Table 10-12: Visual Impact Assessment

Id No.	VSR	Sensitivity	Magnitude of change		Significance Threshold (unmitigated)		Mitigation Measures	Significance Threshold (mitigated)		
			Construction	Operational	Construction	Operational		Construction	Operational (Day 1)	Operational (Year 10)
VSR1.1	Workers in San Uk Ling Holding Centre	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Slight negative	Slight negative	Insubstantial
VSR2.1	Farmers from the North	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR2.2	Farmers from the East	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Slight negative	Slight negative	Insubstantial
VSR3.1	Villagers from the Northwest	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR3.2	Villagers from the Northeast	Medium	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR3.3	Villagers from the Southeast	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR3.4	Villagers from the Southwest	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR3.5	Villagers from the West	Medium	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Slight negative	Slight negative	Insubstantial
VSR4.1	Travellers along Man Kam To Road	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR4.2	Travellers along Kong Nga Po Road	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial
VSR4.3	Travellers along local village access	Low	Small	Small	Slight negative	Slight negative	CP1-3, OP1-4	Insubstantial	Insubstantial	Insubstantial

10.8.6 Cumulative Visual Impacts

Potential interfacing projects were identified in **Section 2** and summarised in **Table 2.4**. The following is the assessment of potential cumulative visual impacts of the identified projects.

Land Use Planning for the Closed Area – Feasibility Study

The implementation of the proposed Man Kam To Development Corridor is not yet confirmed and will depend on market initiatives and circumstances. Should the proposed development be undertaken, no cumulative visual impact is expected as Man Kam To Road is out of the views of the VSRs of this Project.

Site Formation and Associated Infrastructural Works for Proposed Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Feasibility Study

This Feasibility Study is still in progress and is scheduled for completion in September 2012. According to the currently proposed scheme of works, no cumulative visual impact is anticipated as Sandy Ridge Cemetery is approximately 700m from the Project site and its view from the VSRs of this Project is blocked by the OWTF and the hillside of Sandy Ridge. However, this is subject to the conclusion and recommendation including tentative implementation programme in the Feasibility Study.

Engineering Feasibility Study for Kong Nga Po Development

The tentative programme for the proposed Kong Nga Po Development is in 2020. Potential traffic impact along Kong Nga Po Road is a concern. The need for improvement of Kong Nga Po Road is under review. Should improvement works of Kong Nga Po Road be proposed, cumulative visual impact may arise due to removal of existing vegetation along Kong Nga Po Road and increased traffic flow. Since the scope of the road improvement works has not been proposed, detailed assessment of the cumulative visual impact cannot be undertaken. However, given that the Kong Nga Po Road is screened from the VSRs by the OWTF and assuming that the road improvement works will involve vegetation clearance only along the existing Kong Nga Po Road, no significant cumulative visual impact is expected.

Hung Lung Hang Development

The project is still under liaison with Planning Department and there is not enough information for the assessment of cumulative visual impact at the moment. However, since Hung Lung Hang is about 500m away from the Project site and its view is blocked from the VSRs of this Project by the hill ridges of Kong Nga Po, no cumulative visual impact is expected.

North East New Territories New Development Areas Planning and Engineering Study - Investigation

The proposed Fanling North Freshwater Service Reservoir under this study is located within the visual envelope of this Project. From the EIA report of this study, construction works period of infrastructure including service reservoir will be from 2018 to 2021, while this Project will be in operation. None of the VSRs identified in the EIA report of this study overlap with any of the VSRs identified for this Project, which means that the views of this proposed Fanling North Freshwater Service Reservoir is unlikely visible by the VSRs of this Project. Hence, no cumulative visual impact is expected.

Potential Activities not included in the Project Area

As identified in **Section 2.6.3**, construction works associated with the Project and outside the Project Area are expected to occur, including the possible gas pipeline to be carried out by Towngas if the biogas export option is chosen, minor road widening, junction improvements, and construction of rising main connecting to the existing sewerage network. However, cumulative visual impact is not expected because the views of these construction works outside the Project Area are blocked from most VSRs by vegetation or natural topography. The only VSRs affected will be the travellers along Kong Nga Po Road who will have a very short duration of impact from these associated construction works duraing construction phase. Such cumulative impact is considered insubstantial.

As explained in the above assessment of cumulative impacts, overall, no significant cumulative visual impact is anticipated from the identified potential interfacing projects.

10.9 Conclusion

Summary of Sources of Landscape and Visual Impacts

10.9.1 Sources of Impacts

Sources of landscape and visual impacts due to the implementation of this Project include mainly site clearance for the construction of new structures for the OWTF and removal of trees which are landscape resources and visual barriers of VSRs. The following are the key LRs, LCA and VSRs potentially affected by the Project without mitigation measures:

- LR1.1 – Plantation by existing Livestock Waste Composting Plant
- LR1.3 – *Aquilaria sinensis*
- LR2.1 – Landscape planting within existing Livestock Waste Composting Plant
- LR10.1 – Developed land
- LCA2 – Rural villages and countryside
- VSR1.1 – Workers in San Uk Ling Holding Centre
- VSR2.1 – Farmers from the North
- VSR2.2 – Farmers from the East
- VSR3.1 – Villagers from the Northwest
- VSR3.2 – Villagers from the Northeast
- VSR3.3 – Villagers from the Southeast
- VSR3.4 – Villagers from the Southwest
- VSR3.5 – Villagers from the West
- VSR4.1 – Travellers along Man Kam To Road
- VSR4.2 – Travellers along Kong Nga Po Road
- VSR4.3 – Travellers along local village access

Summary of Landscape and Visual Mitigation Measures

10.9.2 Construction Phase Mitigation Measures

Other than preservation of existing topsoil as good site practice, Construction Phase mitigation measures comprise the following (Described in detail in **Table 10-7**):

- CP1 – Existing trees are retained whenever possible and protected during construction.
- CP2 – The construction site activities are carefully controlled to minimise impact such as light, noise, tree felling and eyesores.

- CP3 – Transplantation would be performed whenever possible.

While CP2 is proposed to minimize the extent of site clearance, CP1 and CP3 aim at protecting existing vegetation as far as practicable to minimize landscape and visual impacts.

10.9.3 Operational Phase Mitigation Measures

Operational Phase mitigation measures comprise the following (Described in detail in **Table 10-8**):

- OP1 – The location and layout of the proposed OWTF and associated facilities are designed in a way that has the lowest impact to the proposed site.
- OP2 – Amenity / compensatory planting will be utilised throughout the site.
- OP3 – Planting will be added by man-made slopes to give a more natural appearance.
- OP4 – Vertical and rooftop greening will maximise green space and soften hard structures.

While OP1 tries minimize landscape and visual impacts through sensitive design, OP2, OP3 and OP4 aim at enhancing the landscape resources and maximizing visual screening from VSRs.

10.9.4 Summary of Residual Impacts

Summary of Predicted Landscape and Visual Impacts in the Construction Phase

The following LRs, LCA and VSRs will receive a **slight negative** impact with the implementation of mitigation measures. The impacts are resulted from unavoidable vegetation removal and construction activities.

- LR1.1 – Plantation by existing Livestock Waste Composting Plant
- LR2.1 – Landscape planting within existing Livestock Waste Composting Plant
- LR10.1 – Developed land
- LCA2 – Rural villages and countryside
- VSR1.1 – Workers in San Uk Ling Holding Centre
- VSR2.2 – Farmers from the East

All other LRs, LCA and VSRs will receive **insubstantial** impact during the construction phase with mitigation measures.

Summary of Predicted Landscape and Visual Impacts in the Operational Phase (Day 1)

The following LR and VSR will receive a **slight negative** impact with the implementation of mitigation measures. The impacts are resulted from unavoidable tree removal.

- LR1.1 – Plantation by existing Livestock Waste Composting Plant
- VSR1.1 – Workers in San Uk Ling Holding Centre
- VSR2.2 – Farmers from the East

The following LR will receive a **slight positive** impact with the implementation of mitigation measures. The impacts are resulted from the proposed planting in the proposed mitigation measures.

- LR10.1 – Developed land

All other LRs, LCAs and VSRs will receive **insubstantial** impact by Day 1 of operational phase with mitigation measures.

Summary of Predicted Landscape and Visual Impacts in the Operational Phase (Year 10)

The following LR will receive a **slight positive** impact with the implementation of mitigation measures. The impacts are resulted from the proposed planting in the proposed mitigation measures.

- LR10.1 – Developed land

All other LRs, all LCAs and all VSRs will receive **insubstantial** impact by Year 10 of operation.

Conclusion

With the implementation of proposed mitigation measures, the anticipated landscape and visual impacts are generally insubstantial, with slight negative impact expected for some LRs, LCA and VSRs. However, since the duration of the impact is only limited to the construction phase with a small area, such residual impact is therefore considered acceptable. Overall, in terms of Annex 10, Clause 1.1 (c) of the EIAO – TM, the landscape and visual impacts are acceptable with mitigation measures.