11 Landscape and Visual Impact

11.1 Overview

This section describes the legislation and guidelines that have been reviewed in the Landscape & Visual Impact Assessment (LVIA). The landscape baseline reviews the condition of existing landscape resources (LRs) and landscape character areas (LCAs), planning and development control framework, and the visual amenity and visually sensitive receivers (VSRs).

The assessment identifies landscape and visual impacts that would occur during the construction and operational phases for the Lok Ma Chau (LMC) Loop Development proposals including the infrastructure and Designated Projects (DP) comprising the Ecological Area (DP1); Western Connection Road (WCR) (DP2); Direct Link to Mass Transit Railway (MTR) LMC Station (DP3); Drainage System under Internal Transport Networks (DP4); Sewage Treatment Works (DP5); Eastern Connection Road (ECR) (DP6); and Flushing Water Service Reservoir (DP7) and planned institutional development on LMC Loop and its associated infrastructure and utilities. Details are described in Chapters 1 and 2 of the EIA Report. The LVIA recommends landscape mitigation measures to alleviate the predicted impacts and identifies residual effects apparent after mitigation. The LVIA has been conducted in accordance with the requirements of Annexes 10 and 18 of the TM-EIAO as well as the requirements set out under Clause 3.4.10 of the EIA Study Brief.

11.2 Environmental Legislation, Standards and Guidelines

The relevant legislation and associated guidance applicable to the present study for the assessment of landscape and visual impacts include:

- Environmental Impact Assessment Ordinance (Cap. 499) and the Technical Memorandum on EIA Process (TM-EIAO), particularly Annexes 3, 10, 11, 18, 20 and 21;
- EIAO Guidance Note 8/2010 on Preparation of Landscape and Visual Impact Assessment under the EIAO;
- Town Planning Ordinance (Cap. 131);
- Hong Kong Planning Standards and Guidelines Chapter 4 and Chapter 10;
- Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) (TCW) No. 03/2006 on Tree Preservation;
- ETWB TCW No. 2/2004 on Maintenance of Vegetation and Hard Landscape Features;
- ETWB TCW No. 29/2004 on Registration of Old and Valuable Trees, and Guidelines for their Preservation;
- WBTC No. 7/2002 - Tree Planting in Public Works;

- ETWB No. 36/2004 - Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS);
- ETWB TCW No. 13/2003A - Guidelines and Procedures for Environmental Impact Assessment of Government Projects and Proposals Planning for Provision of Noise Barriers;
- Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislations;
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- EPD Guidelines and References on Design of Noise Barriers, Second Issue, January 2003;
- GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment and Bio-engineering for Man-made Slopes and Retaining Walls" and GEO Technical Guidance Note No. 20 (TGN 20); and
- Study on Landscape Value Mapping of Hong Kong, 2005.

11.3 Review of Planning and Development Control Framework

A review of the existing planning studies and documents has been undertaken to gain an insight into the planned role of the site, its surrounding areas, and its landscape context and to help to determine if the project fits into the wider existing and future landscape context. The assessment does not consider all of the areas zoned on the Recommended Outline Development Plan (RODP) but focuses on the areas affected by the proposed works. The compatibility of the proposed works and the planned developments either within or adjacent to the assessment area is also considered in terms of the landscape and visual impacts. The locations of these areas are shown on **Figures 11.1a** to **11.1e**. This review has considered the following aspects of the identified planning designations:

- Zoning areas which would be physically affected by the proposals, that is where the implementation of the proposed works would lead to the actual loss of an area;
- The degradation of the landscape setting of an area which might affect the viability of its landscape planning designation but not result in a loss of zoning area;
- The visual amenity enjoyed by future residents or users; and
- The general fit of the proposals into this future landscape.

The assessment covers areas on the following Outline Zoning Plans (OZPs) and the draft Development Permission Area (DPA) Plan having interfaces with the LMC Loop development:

- No. S/YL-ST/8: Approved San Tin OZP
- No. S/YL-NTM/12: Approved Ngau Tam Mei OZP
- No. S/NE-KTN/8: Approved Kwu Tung North OZP, and

- No. DPA/NE-MTL/2: Approved Ma Tso Lung and Hoo Hok Wai DPA Plan.

The LMC Loop is not currently covered by any statutory plans. The development proposal for the LMC Loop will be incorporated into a statutory town plan upon completion of the study. As the proposed ECR, WCR, the Direct Link to MTR LMC Station and the Flushing Water Service Reservoir will involve land requirement which is outside of the LMC Loop and covered by various zonings on the current statutory town plans, the planning intention of the respective zonings on the concerned OZPs/DPA Plan will be duly considered and followed:

- Small portion not more than 2.5% of "Conservation Area" ("CA") Zone to the east of MTR LMC Station, at Ha Wan Tsuen and along the Ha Wan Tsuen Road will be in conflict with the proposed road works of the WCR (DP2) and Direct Link to MTR LMC Station (viaduct) (DP3).
- Small portion not more than 0.5% of "CA" Zone to the north of Ping Hang will be in conflict with the construction of depressed and underpass road sections of ECR (DP6).
- Some of the proposed road / viaduct works of Direct Link to MTR LMC Station (DP3) will encroach upon the "Other Specified Uses" ("OU") Zone at the MTR LMC Station. Small portion not more than 10% of this zone will be affected.
- Some of the proposed road works of WCR (DP2) will encroach upon the "Undetermined" ("U") Zone along LMC Road located to the east of LMC BCP (not more than 3% of this zone) and "Open Storage" ("OS") Zone located between San Tin Highway and Kwu Tung Road (not more than 0.5% of this zone).
- "Green Belt" ("GB") Zones located to the east and west of the LMC Road (not more than 1.33% of this zone) will also be encroached upon by the proposed road works of the WCR (DP2).
- "GB" Zones located to the north-east of Tse Koo Hang will be encroached upon by the proposed at-grade section of the ECR (DP6) (not more than 0.05% of this zone).
- "GB" Zones located at Ping Hang will be in conflict with the proposed Flushing Water Service Reservoir (DP7) and associated access road from the Boundary Patrol Road. (not more than 0.15% of this zone).
- "Agriculture" ("AGR") Zone located at Ma Tso Lung Sun Tsuen will be encroached upon by the proposed at-grade section of the ECR (DP6) . The "AGR" zone located at Shun Yee San Tsuen will not be affected by the proposed works. (not more than 4.6% of this zone).
- Some of the proposed road works of the ECR (DP6) will encroach upon to the " OU" (Eco-lodge) Zone located to the west of Tse Koo Hang. Some of the proposed road works of the ECR will encroach upon to the "Unspecified Use" Zone located at Hoo Hok Wai fish pond areas. (not more than 0.6% of this zone).

Given the above summary and detailed review in **Table 11.3.1**, the proposed works with mitigation measures including responsive building and structural design, road layout and new tree planting largely fit within the planning and development control framework and can be integrated within the future outlook of the landscape and visual context.

Table 11.3.1 Review of existing planning and development control framework

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Impacts/Approx. Area Affected by the Proposed Works / Total Zoning Area	Mitigation Measures and Future Outlook of the Area with the Proposed Works
No. S/YL-ST/8: Approved San Tin Outline Zoning Plan			
"Conservation Area" ("CA")	This zone encompasses the fish pond areas surrounding the southern edge of LMC Loop and Shenzhen River. Fish ponds located immediately east of Mai Po Tsuen also under cover of this zone. The planning intention of this zone is to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem in the Deep Bay Area. The wetland and fish ponds functions as a substantial source of food supply for birds and as an important habitat for roosting and foraging of water birds.	The proposed works within the LMC Loop will be away from this zone. However the proposed ECR and WCR (Sections of Ha Wan Tsuen Road and Ping Hang) and Direct Link to MTR LMC Station will be located within this zoning area and some portion of the area will be acquired due to the road extension works. 5.5 / 183.06 ha. (3%) Magnitude: Small	Due to the extension works of the proposed ECR and WCR, and Direct Link to MTR LMC Station (viaduct) a portion of areas will be affected. Some of the mature trees and significant/important trees along the eastern side of Ha Wan Tsuen Road, some trees located around fish ponds to the north of Ha Wan Tsuen and some trees in mitigation wetland located to the east and within the MTR LMC Station would be affected. It would also lead to the loss of the existing trees and vegetation, fishponds and mitigation wetland. Some mitigation proposals including the implementation of off-site compensation of trees and reinstatement of fishpond areas would be incorporated.
"Green Belt" ("GB")	This zone covers the areas of Ping Hang, Tai Law Hau and areas to the north east of Pun Uk Tsuen and Chau Tau Tsuen. The planning intention of this zone is to define the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets.	A portion of the existing Lok Ma Chau Road located within this zone will be acquired for the construction of WCR. A portion of the existing Boundary Patrol Road to the west of Lin Ma Hang will be acquired for the construction of ECR and the access to the Flushing Water Service Reservoir. A portion of grassed Horn Hill to the south of HKPF Lok Ma Chau Operation Base will be acquired for the construction of the proposed Flushing Water Service Reservoir.	Given that some portions of the existing roads and the vegetated areas alongside the road and grassed knoll within the zone will be affected, mitigation measures are thus considered to minimise impacts. The main mitigation measures include the preservation of existing roadside trees; and new tree and shrub planting alongside the proposed WCR and ECR. The mitigation measures for the Flushing Water Service Reservoir include semi-sunken built structures, tree and shrub planting and

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Impacts/Approx. Area Affected by the Proposed Works / Total Zoning Area	Mitigation Measures and Future Outlook of the Area with the Proposed Works
		2.5 / 188.62 ha. (1.3%) Magnitude: Small	hydroseeding on sloping areas.
"Other Specified Uses" ("OU") (Railway Terminus and Public Transport Terminus)	This zone covers the areas of MTR LMC Station and its associated LMC BCP and PTI. The planning intention of this zone is to provide land for the development of the MTR East Rail Extension LMC Railway Terminus and public transport interchange.	The proposed works within the LMC Loop and the ECR and WCR will be located away from this zone. However, the existing PTI at MTR LMC Station located within this zone area will be acquired for the construction of the proposed Direct Link to MTR LMC Station (viaduct).. 0.66/ 6.37 Ha. (10%) Magnitude: Small	The proposed Direct Link to MTR LMC Station will utilize the existing PTI within this zone for the construction of viaduct and elevated connection to existing LMC Station and PTI. The construction works with mitigation measures are thus considered to minimise impacts. The main mitigation measures include the off-site transplanting of existing roadside trees.
"Undetermined" ("U")	This zone located to the north of the Fanling Highway, east of San Tin Tsuen Road and south of Chau Tau Tsuen. It is intended to provide an area for the Spur Line and the proposed Northern Link railway system.	The proposed works within the LMC Loop and the ECR will be located away from this zone. However, the existing Lok Ma Chau Road and section of San Tin Highway located within this zone area will be acquired for the construction of the proposed WCR. 0.78/ 25.56 ha. (3%) Magnitude: Small	The proposed WCR will utilize the existing Lok Ma Chau Road and a section of the San Tin Highway within this zone, with construction works carried out along the roads. The construction works with mitigation measures are thus considered to minimise impacts. The main mitigation measures include the preservation of existing roadside trees; and new tree and shrub planting alongside the proposed WCR.
No. S/YL-NTM/12: Approved Ngau Tam Mei OZP			
"Open Storage" ("OS")	This zone located to the south of San Tin Highway and along sides of Kwu Tung Road. It is intended for the provision of land for appropriate open stage uses and to regularize the already haphazard proliferation of open storage uses.	The proposed works within the LMC Loop and the ECR will be located away from this zone. However, a section of San Tin Highway and Kwu Tung Road located within this zone area will be acquired for the construction of the proposed WCR.	The proposed Lok Ma Chau Road/San Tin Highway Connection of the WCR will utilize the existing Lok Ma Chau Road and a section of the San Tin Highway within this zone, with construction works carried out along the roads. The construction works with mitigation

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Impacts/Approx. Area Affected by the Proposed Works / Total Zoning Area	Mitigation Measures and Future Outlook of the Area with the Proposed Works
		0.5/ 91.81 ha. (0.5%) Magnitude: Very Small	measures are thus considered to minimise impacts. The main mitigation measures include the preservation of existing roadside trees; and new tree and shrub planting alongside the proposed WCR.
No. S/NE-KTN/8: Approved Kwu Tung North Outline Zoning Plan			
GB	This zone covers the areas to the north west of Fung Kong Shan. The planning intention of this zone is to define the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets.	The at-grade section of the proposed ECR under this Study will terminate to the north of the Kwu Tung North OZP and so there will be no impact on the zoning within this area. 0 / 107.23 ha. (0%) Magnitude: Nil	As the proposals will not impact upon this zone there is no requirement for mitigation.
No. DPA/NE-MTL/*2*: Approved Ma Tso Lung and Hoo Hok Wai Development Permission Area Plan			
GB	This zone covers the areas to the north-east of Tse Koo Hang and to the north-west of Shun Yee San Tsuen. The planning intention of this zone is to define the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets.	The at-grade section of the proposed ECR will be located at the eastern edge of this zone. This portion will be acquired for the construction of ECR and the associated slope works. 0.5/ 217.75 ha. (0.2%) Magnitude: Very Small	A small portion of the area within this zone will be acquired for the ECR and associated slope works. The vegetated slope and areas affected by the works will be reinstated with the roadside planting of new trees and shrubs to enhance the sense of integration and minimising impacts on the adjacent areas. Therefore the proposed works are considered to be consistent with the planning intention of this zone. The proposed mitigation measures also include the preservation of existing vegetation.
"Agriculture" ("AGR")	This zone covers the areas of Shun Yee San Tsuen and Ma Tso Lung Sun Tsuen. It intended to retain and safeguard good-quality agricultural lands / farms / fish ponds for agricultural	The at-grade section of the proposed ECR will be at the existing village settlements within this zone. This portion will be acquired for the construction of the proposed ECR and the	The disturbance to these areas will include the existing vegetation within the agricultural fields at Fung Kong Shan and the lower vegetated slopes near Ma Tso Lung. There would also be

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Impacts/Approx. Area Affected by the Proposed Works / Total Zoning Area	Mitigation Measures and Future Outlook of the Area with the Proposed Works
	purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.	associated slope works. 1.77 / 38.42 ha. (4.6 %) Magnitude: Small	an impact on the mature tree clusters within the village settlement. Mitigation measures include the preservation of existing tree clusters through the local fine turning of the road alignment. Other measures include the reinstatement of the roadside and rural landscape through the provision of new roadside landscape areas. This includes lining the road with new tree and shrub planting. With implementation of the proposed mitigation works the proposed development within this zoning area is considered to be consistent with the planning intention.
"Other Specified Uses" ("OU") (Eco-lodge)	This zone covers the small knoll to the west of Tse Koo Hang. It intended to provide land for sustainable-based tourism in form of an eco-lodge for development of low-rise, low-density resort type accommodation.	The proposed works within the LMC Loop and the WCR will be located away from this zone. However, proposed at-grade section of the proposed ECR will be located within this zone. A small portion of area alongside of existing Boundary Patrol Road will be acquired for the construction of the ECR. 0.06 / 9.15 ha. (0.6%) Magnitude: Very Small	Given that some portions of the existing road and the vegetated areas alongside the road will be affected, mitigation measures are thus considered to minimise impacts. The main mitigation measures include the preservation of existing roadside trees; and new tree and shrub planting alongside the proposed ECR.
"Unspecified Use"	This zone covers the Hoo Hok Wai fishpond areas located to the north of existing Boundary Patrol Road. The planning intention of this zone is to conserve and enhance the ecological value and functions of the existing fish ponds and wetland in interim, pending a detailed study on the	The at-grade section of the proposed ECR will be located at the southern edge of this zone. This portion will be acquired for the construction of ECR and the associated slope works. 0.85 /246.32 ha. (3.4%)	A small portion of the area within this zone will be acquired for the ECR and associated slope works. The vegetated slope and areas affected by the works will be reinstated with the roadside planting of new trees and shrubs to enhance the sense of integration and

Land Use Zonings	Landscape Planning, Design and Conservation Intention of Zoning	Impacts/Approx. Area Affected by the Proposed Works / Total Zoning Area	Mitigation Measures and Future Outlook of the Area with the Proposed Works
	development content to be undertaken in the future.	Magnitude: Small	minimising impacts on the adjacent areas. Therefore the proposed works are considered to be consistent with the planning intention of this zone. The proposed mitigation measures also include the preservation of existing vegetation.

11.4 Assessment Methodology

11.4.1 Landscape

The assessment of the impacts of a proposed scheme on the existing landscape comprises two distinct sections namely the baseline survey and the landscape impact assessment. Landscape Impact Assessment (LIA) assessment area has been undertaken to include all areas within 500m of the site boundary within HKSAR in accordance with the EIA Study Brief.

A baseline survey of the existing landscape resources and landscape character has been undertaken based on a combination of desktop studies and site surveys. The landscape elements which contribute to the landscape character include:

- Local topography and geology;
- 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 water bodies; and
- Cultural and religious features.

The process of landscape characterisation draws on the information gathered in the desktop and site survey and provides an analysis of the way in which the elements including the identified Landscape Resources (LRs) interact to create the character of the landscape. The assessment area is then divided into broadly homogenous units of similar character, which are called Landscape Character Areas (LCAs).

The sensitivity of the individual LRs and LCAs is rated using low, medium or high depending on the following factors:

- Condition, quality and maturity of the LRs / LCAs (maturity in this context refers to the age of the LR or LCA relative to its constituent components therefore a woodland containing mature trees would be considered to have a high level of maturity);
- Importance and rarity of special landscape elements (rarity being of either local, regional, national or global importance) ;
- Significance of the LRs / LCAs from a local and regional perspective (therefore the sensitivity of a LR or LCA which is either rare in a local or regional context is greater than one which is common place);
- Ability of the LRs / LCAs to accommodate change; and
- Statutory or regulatory requirements relating to the landscape including its resources.

The next stage of the assessment process is the identification of the assessment of the magnitude of change (rated as nil, small, intermediate or large) arising from the implementation of the project and the principal sources of impact based on the following factors:

- Scale of the works and the associated supporting facilities;
- Compatibility of the project with the surrounding landscape;
- Duration of impacts (temporary or permanent) under construction and operation phases; and
- Reversibility of change.

The degree of significance of landscape impact is derived from the magnitude of change which the project will cause to the LRs / LCAs and the sensitivity of the LRs / LCAs. This makes a comparison between the landscapes, which would have existed in the absence of the Project with that predicted as a result of the implementation of the project. The significance threshold for impacts to LRs and LCAs is rated as significant, moderate, slight or negligible. The impacts may be beneficial or adverse.

The assessment of the impacts of a proposed scheme on the existing landscape comprises two distinct sections namely the baseline survey and the LIA. The assessment area for the LIA includes all areas within 500m of the site boundary of the Project which are within HKSAR in accordance with **Section 3.4.12.2** of the EIA Study Brief (ESB-238/2011).

A baseline survey of the existing landscape resources and landscape character has been undertaken based on a combination of desktop studies and site surveys. LRs and LCAs have been identified in **Section 11.5**. In addition, the sensitivities of individual LRs and LCAs have been assessed and presented in **Section 11.5**.

The significance threshold is derived from the matrix as shown in **Table 11.4.1**.

Table 11.4.1 Significance threshold for landscape impact assessment

Magnitude of Change caused by the Project	Large	Moderate Impact	Moderate / Significant Impact	Significant Impact
	Intermediate	Slight / Moderate Impact	Moderate Impact	Moderate / Significant Impact
	Small	Slight Impact	Slight / Moderate Impact	Moderate Impact
	Nil	Negligible	Negligible	Negligible
		Low	Medium	High
		Sensitivity of LRs or LCAs		

11.4.1.1 Tree Survey Methodology

A broad brush group tree survey has been undertaken to minimize conflicts with existing vegetation and inform the assessment of the impacts as part of the LVIA. The tree survey involves the identification of tree groups within the proposed

works area determining for each the range of tree species, tree sizes, health condition, form, and amenity value and their treatment as a result of the implementation of proposed works.

This existing tree data allows the fine tuning of the detailed design for the proposed works and ensures that any significant trees including potential OVTs or rare or protected tree species, will where possible, be protected in their current location or through transplantation during both the construction and operational phases of the Project.

In addition to the broad brush tree survey information concerning the other vegetation cover within the assessment area refers to flora survey description in Chapter 12 Ecology Impact Assessment.

11.4.2 Visual

The assessment of the visual impact of the scheme comprises two distinct parts:

- Baseline survey; and
- Visual impact assessment which includes the identification of the sources of visual impact, and their magnitude, that would be generated during construction and operation phases of the proposed works; and identification of the principal visual impacts primarily in consideration of the degree of change to the baseline conditions.

The assessment area for the Visual Impact Assessment (VIA) is defined by a Visual Envelope (VE) within the HKSAR which includes all areas from which the proposed works can be seen, or the area which forms the view shed. This is shaped by natural / manmade features such as existing ridgelines, built development and for example areas of woodland / large trees. The VE is identified through a combination of detailed walkover surveys, and desk-top study of topographic maps and photographs, and the preparation of cross-sections to determine visibility of the improvement works from various locations.

The baseline survey for all views towards the proposals is undertaken by identifying:

- The Visual Envelope (VE) and Zone of Visual Influence (ZVI) as have been described above and where the proposals may be contained either wholly or partially within views. This must also include indirect effects such as offsite construction activities and temporary works; and
- The Visually Sensitive Receivers (VSRs) within the VE whose views will be affected by the scheme.

The potential receivers are considered as four groups:

- Views from residences – the most sensitive of receivers due to the high potential for intrusion on their visual amenity and quality of life;
- View from workplaces – less sensitive than above due to the visual amenity being less important within the work environment;
- Views from recreational landscapes – including all areas apart from the above, e.g., public parks, recreation grounds, footpaths, cultural sites etc. and the

sensitivity of this group depends on the length of stay and nature of activity, e.g. sitting in a park as opposed to an active sporting pursuit; and

- Views from riverside access, public roads and railways – including vehicle travellers with transitory views.

The assessment of sensitivity has also been based on the quality and extent of the existing view. Therefore a view from a residential property, which would normally be considered the most sensitive view, may be less so if for example it is degraded by existing development or partially screened by intervening visual obstacles such as existing vegetation. Factors affecting the sensitivity of receivers for evaluation of visual impacts include:

- Value and quality of existing views;
- Availability and amenity of alternative views;
- Type and estimated number of receiver population;
- Duration or frequency of view;
- Degree of visibility; and
- Views available to the identified VSRs are rated according to their sensitivity to change using low, medium or high.

The location and direction of its view relative to the scheme also influences the sensitivity of each group. Typical viewpoints from within each of the visually sensitive groups are identified and their views described. Both present and future (planned) visually sensitive receivers (PVSRs), if any, are considered.

The factors affecting the magnitude of change for assessing the visual impacts include the following:

- Scale of the works and the associated supporting facilities;
- Compatibility of the project with the surrounding landscape forming the view extent of visibility (level of potential blockage of the view);
- Viewing distance;
- Duration of impacts under construction and operational phases; and
- Reversibility of change.

The magnitude of change to the views will be classified as follows:

- Large: e.g. large project works extent / extensively blocked the views of VSRs / Project nature is not compatible with existing visual context / works area located in the foreground of the visual context / permanent impacts / irreversible of change;
- Intermediate: e.g. intermediate project works extent / partially blocking the views of VSRs / project nature is fairly compatible with existing visual context / works area located in the middle ground of the visual context and not immediately adjacent to VSRs and/or their views are already partially screened by existing topography, built structures or vegetation / permanent impacts/ irreversible of change;
- Small: e.g. small project works extent / no blockage of views / project nature is compatible with the existing visual context / works area located at distance

from VSRs / permanent impacts and duration of construction impacts is short / irreversible change or temporary change of view; and

- Nil: e.g. no discernible change in visual context.

The significance threshold for visual impact is rated in a similar fashion to the landscape impact, i.e. significant, moderate, slight and negligible. The impacts may be beneficial or adverse.

Therefore the impact is derived from the magnitude of change, which the project will cause, to the existing visual context and the sensitivity of VSRs. The significance threshold is derived from the following matrix in **Table 11.4.2**.

Table 11.4.2 Significance threshold for visual impact assessment

Magnitude of Change caused by the Project	Large	Moderate Impact	Moderate / Significant Impact	Significant Impact
	Intermediate	Slight / Moderate Impact	Moderate Impact	Moderate / Significant Impact
	Small	Slight Impact	Slight / Moderate Impact	Moderate Impact
	Nil	Negligible	Negligible	Negligible
		Low	Medium	High
		Sensitivity of VSRs		

Table 11.4.3 provides an explanation of the degree of impact for both landscape and visual impact of the Project.

Table 11.4.3 Degree of impact

Impact	**Description**
Significant	Adverse / beneficial impact where the proposal would cause significant deterioration or improvement in existing landscape quality or visual amenity.
Moderate	Adverse / beneficial impact where the proposal would cause a noticeable deterioration or improvement in existing landscape quality or visual amenity.
Slight	Adverse / beneficial impact where the proposal would cause a barely perceptible deterioration or improvement in the existing landscape quality or visual amenity.
Negligible	No discernible change in the existing landscape quality or visual amenity.

11.4.3 Mitigation Measures

The purpose of mitigation is to avoid, reduce, and where possible remedy or offset any adverse effects on the environment arising from the proposed works. The ideal strategy for identifiable adverse impacts is one of avoidance. If this is not possible, alternative strategies of reduction, remediation and compensation should be explored.

Mitigation measures may be considered under two categories:

- Primary mitigation measures that intrinsically comprise part of the identification of proposed works through an iterative process and this form of mitigation is generally the most effective; and
- Secondary mitigation measures designed to specifically address the remaining (residual) adverse effects arising from the proposed works.

Primary mitigation measures form integrated mainstream components of the proposed works focusing on the adoption of alternatives to the buildings and structures, and refinements to the basic engineering and architectural design including layout, built structures etc. to avoid and / or minimize potential adverse impacts. The design philosophy can also describe the benefits to the design of alternative solutions, introduced to reduce potential adverse impacts, and indicate how these have been addressed.

Secondary mitigation measures are specifically designed to mitigate the adverse impacts of the proposed works and are considered in the assessment of the landscape and visual impacts, these may take the form of remedial measures such as colour and textural treatment of built structure; and compensatory measures such as the implementation of landscape design measures (e.g. tree planting, creation of new amenity area and reinstatement of marsh land etc.) to compensate for unavoidable adverse impacts and to attempt to generate potentially beneficial long-term impacts.

11.4.4 Residual Impacts

The residual impacts are those, which remain after the proposed mitigation measures, have been implemented. This has been assessed both during the construction period, Day 1 during operation period and during the design year, which is often taken to be 10 to 15 years after the proposed scheme has been opened to normal operation when the soft landscape mitigation measures are deemed to have reached a level of maturity, which allows them to perform their original design objectives.

The level of impact is derived from the magnitude to change, which the project will cause to the LRs / LCAs taking into account the beneficial effects of the proposed mitigation and the sensitivity of LRs / LCAs. The significance threshold is derived from the matrices described separately above for the landscape and visual impacts.

In accordance with Annex 10 of the EIAO-TM a final conclusion is also made concerning the residual landscape and visual impacts attributable to the proposed scheme. The degree of residual impact is considered in accordance with the Residual Impact Significance Threshold Matrix in **Table 11.4.4** below.

Table 11.4.4 Residual impact significance threshold matrix

Residual Impact	Description
Beneficial	The project will complement the landscape and visual character of its setting, will follow the relevant planning objectives and will improve overall and visual quality
Acceptable	There will be no significant effects on the landscape, no significant visual

Residual Impact	Description
	effects caused by the appearance of the project, or no interference with key views.
Acceptable with mitigation measures	There will be some adverse effects, but these can be eliminated, reduced or offset to a large extent by specific measures.
Unacceptable	The adverse effects are considered too excessive and are unable to mitigate practically;
Undetermined	Significant adverse effects are likely, but the extent to which they may occur or may be mitigated cannot be determined from the study. Further detailed study will be required for the specific effects in question.

11.4.5 Graphic Presentation of Mitigation Measures

In order to illustrate the predicted landscape and visual impacts and to demonstrate the effectiveness of the proposed landscape and visual mitigation measures, photomontages at selected representative viewpoints have been prepared. These are based on the following criteria under EIAO Guidance Note 8/2010:

- Where necessary, include photomontages to illustrate the integration of the proposals within the landscape and the effect of the proposed mitigation measures at close range;
- Selection of viewing points for the preparation of photomontage will be located largely from within publicly accessible space at street level and/or within public open spaces and are representative of the views available of the proposed development and project works;
- The main features including the DPs and associated structures such as associated buildings, viaducts, retaining structures, noise barriers, cuttings, embankments, lighting poles and, utility structures etc. should be reflected in the photomontages;
- Viewpoints shall be taken at practical human eye level; and
- The overall impact of the DP on the adjacent setting should be shown.

These photomontages have been prepared to illustrate:

- Existing conditions;
- Day 1 of Operation Phase without Landscape and Visual Mitigation Measures;
- Day 1 of Operation Phase with Landscape and Visual Mitigation Measures implemented; and,
- Year 10 of Operation Phase with Landscape and Visual Mitigation Measures fully established.

11.5 Landscape Baseline, Impact Assessment and Mitigation

11.5.1 Landscape Baseline

The baseline review of the existing landscape establishes the broad characteristics, identifies LRs, and then provides a characterisation and evaluation of the identified LCAs. **Figures 11.2a** to **11.2e** map the existing LRs found within the 500m assessment area located within the HKSAR. The photographs showing the existing LRs are presented as **Figures 11.2f** to **11.2w**.

11.5.1.1 Existing Landscape Context

The original fishponds which once covered the site have largely been filled in and the LMC Loop is now a combination of reedbed and grassland. The reedbeds are largely areas of former fishponds or agricultural lands which have become disused with time and colonised by natural plant species. The reedbed is dominated by herbaceous vegetation such as *Phragmites karka* and *Phragmites australis* and the grassland is covered by *Neyraudia reynaudiana, Panicum* maximum and climbers. It is important where possible that the reedbed be retained and enhanced from both an ecological and landscape perspective. Clusters of self-seeded trees such as *Acacia confusa, Bombax ceiba, Leucaena leucocephala, Macaranga tanarius* and *Melia azedarach* are found on the LMC Loop. These tree clusters are located at the periphery of the Loop and alongside the existing channel maintenance access. Approximately 2,500 nos. existing trees are located within the Loop with 90% of them being *Leucaena leucocephala.*

The western portion of the assessment area at Lok Ma Chau Boundary Control Point (LMC BCP) and MTR LMC Station is characterised by infrastructure, compensatory wetland, and roadside tree planting surrounding the cross-boundary facilities. This developed character extends south to the vehicular waiting areas for the boundary crossing and open container storage at San Tin. The roadside tree planting is dominated by a combination of native and amenity species including *Casuarina equisetifolia, Cassia siamea, Cinnamomum camphora, Ficus microcarpa, Hibiscus tiliaceus, Melaleuca quinquenervia* and *Spathodea campanulata etc.* Existing trees are located within and surrounding the MTR LMC Station and LMC BCP, planted alongside the water channel and at the periphery of the LMC cross-boundary vehicular waiting areas, in fishpond areas located to the east, south and west of these cross-boundary facilities. The southern portion of the assessment area comprises of the vegetated ridges of the LMC and Tai Shek Mo which have an elevation lower than +120mPD and a series of spurs and knolls extending from Sandy Ridge to Lo Wu to the east and Ki Lun Shan to the south. The lower slopes of these upland areas are characterised by mixed woodland dominated by trees planted for reforestation, landscape enhancement or fruit production purposes and include species such as *Acacia confusa, Casuarina equisetifolia, Celtis sinensis, Clausena lansium, Cinnamomum camphora, Citrus maxima, Dimocarpus longan, Litchi chinensis, Lophostemon confertus, Macaranga tanarius* and *Melia azedarach.* At more elevated levels the hillside woodland vegetation gives way to shrubland and eventually coarse grassland near the summits along the ridgeline.

A number of scattered village settlements including Ha Wan Tsuen, Ha Wan Fishermen Village, LMC Tsuen, Tai Law Hau, Ping Hang, Ma Tso Lung and Tse

Koo Hang are located within the assessment area with their associated fishponds and agricultural fields to the south of the LMC Loop alongside Ha Wan Tsuen Road and existing Boundary Patrol Road. The village settlements of San Tin and Chau Tau with their associated extensive open yards for container storage and open car parks are located along sides of LMC Road in close proximity to the LMC Cross-boundary facilities and the Spur Line. Areas of tree planting, largely for fruit production, are located at the periphery of villages and on fishpond bunds with species such as *Clausena lansium, Dimocarpus longan, Litchi chinensis* and *Citrus maxima* and roadside trees and plantingincluding *Casuarina equisetifolia, Lophostemon confertus* and *Melaleuca leucadendron.* A number of mature trees are located within the fishpond areas to the west of Ha Wan Tsuen and along Ha Wan Tsuen Road. In particular, a group of mature specimen *Ficus macrocarpa* and *Cinnamomum camphora* are located within the public square at the entrance of Ha Wan Tsuen. Other mature specimens are also found within LMC Tsuen, Chau Tau and Pun Uk Tsuen, and include species such as *Ficus macrocarpa, Celtis sinensis* and *Cinnamomum camphora.* In addition, some mature roadside trees, including species such as *Lophostemon confertus* and *Melaleuca leucadendron,* are found along LMC Road and Boundary Patrol Road adjacent to Ha Wan Tsuen. These specimens are significant/important trees having a DBH of over 1m and have a relative high amenity value in the local landscape context. These mature specimen will be further investigate at detailed design stage according to the criteria of the Registration of Old and Valuable Trees listed in ETWB TCW No. 29/2004. The secondary woodland to the east and south of Chau Tau and Pun Uk Tsuen are *fung shui* woods according to the findings of the ecology survey. The mature specimen trees within the villages, secondary woodland adjacent to villages and at the lower slopes of LMC and Tai Shek Mo ridges form a locally important landscape resource and major landscape features within the rural landscape context. Existing trees a combination of fruit trees, exotic tree species along drainage channel and native species on the uphill, are found within and area surrounding the villages.

An area of remnant fishponds located to the south of the abandoned meander of the Shenzhen River with their characteristic rectilinear shapes are considered to be a regionally significant landscape resource and a distinctive feature within the assessment area. The main vegetation within this area is reed species interspersed with some fruit trees and self-seeded species such as *Leucaena leucocephala, Macaranga tanarius* and *Hibiscus tiliaceus.* Hoo Hok Wai is an area covered by extensive fishponds located to the east of the abandoned meander of the Shenzhen River and to the north of Ma Tso Lung, it comprises of both active fishponds and wetland which is self-generated from abandoned fishponds.

To the north of the Loop, the channelized Shenzhen River has been widened or modified in phases since the 1990s to improve the drainage and rectify the flooding problems on the coastal plain and lowland areas in the Northwest New Territories (NWNT). This landscape feature is characterised by its engineered nature due to the straightening of the river coarse, modification of the river banks and their lining with concrete; and the associated access and maintenance roads. An area of tree planting, largely consisting of *Hibiscus tiliaceus* is located on the southern side of the access road.

The area to the north of the Shenzhen River has two distinct landscape characters. The first to the northeast is dominated by high-rise residential developments which extend in a grid-like form to the channelized banks of the Shenzhen River.

The second character is that of the facilities associated with the Shenzhen Huanggang, the counterpart to the LMC crossing, with its road development and extensive apron areas for the processing of cross boundary traffic. To the west the crossing is flanked by a small parcel of high-rise residential development designed on spiral layout. The main concentrations of vegetation include amenity tree and shrub planting lining the riverfront adjacent to the residential area in the eastern portion and a landscape buffer from tree and shrub planting adjacent to the hard standing and major infrastructure development associated with the boundary crossing.

11.5.1.2 Landscape Resources

Important determinants of the landscape character within the assessment boundary within the HKSAR include the key LRs such as the cross boundary infrastructure and facilities, village settlements, mixed woodlands, tree planting, roadside trees, shrubland, grassland, agricultural fields, fishponds, natural stream courses, engineered water channels, marsh, developed areas and open storage yards. **Figures 11.2a** to **11.2e** map the LRs within the assessment area and **Figures 11.2f** to **11.2w** provide photographs of each LR. A broad brush group tree survey is contained in **Appendix 11-1** providing a broad picture of existing trees and their distribution within the assessment area. Detailed descriptions of these LRs are provided in the following section and summarised in **Table 11.5.2**.

Broad brush group tree survey in **Appendix 11-1** covered the following areas within the 500m LVIA Study Area and summarised in **Table 11.5.1**. The exact number and the recommended treatment of the existing trees within the project boundary are subject to separate tree survey at detailed design stage of the project.

Table 11.5.1 Broad Brush Tree Group Survey Summary

Tree Group	Survey Area	Approximate Numbers of Existing Trees	LR Reference
A	The Loop	2,500	LR4A
B	Hoo Hok Wai Fishpond Areas	109	LR8.5
C	Lok Ma Chau Fishpond Areas	300	LR8.4
D	Lok Ma Chau Fishpond Areas, agricultural fields at Ping Hang and along sides of Boundary Patrol Road	172	LR2.8, 5.1, 5.2, 7.3, 8.4, 12.3
E1	Alongsides of Boundary Patrol Road from Ping Hang To Ma Tso Lung	560	LR2.9, 2.10, 3.4, 5.2, 8.5, 10.4, 11.2
E2	Mao Tso Lung grassland and agricultural fields	201	LR 2.10,4.5, 6.4, 7.4
F	Ha Wan Tsuen	809	LR2.1, 8.2, 12.2,13.2
G	Along sides of Ha Wan Tsuen Road	706	LR3.1, 4.1, 4.4,8.2, 8.4, 12.2
H	Areas to the west of LMC Road and Lung Hau Road	595	LR 2.2, 3.2, 4.1, 8.3, 13.2
I	Areas to the east of LMC Road	555	LR2.4, 3.2, 4.3, 5.1, 11.4,13.2
J	Areas from LMC Road to Fanling Highway	1,790	LR1.3, 4.2, 4.3, 6.3, 7.1, 10.3, 13.2
K	Areas of MTR LMC Station and BCP	665	LR 1.1, 1.2, 11.5, 12.2
L	Fishpond areas at Sham Po Shue to the south of MTC LMC Station	425	LR8.1, 11.5

Tree Group	Survey Area	Approximate Numbers of Existing Trees	LR Reference
M	LMC BCP Vehicular Areas and along sides of water channel at San Sham Road and Tun Yu Road	1,390	LR1.2, 4.1, 10.2, 13.2
N	Uphill areas to the east of LMC Road	252	LR 2.3, 3.2, 5.1, 7.2, 11.3
O	Along sides of San Tin Highway and Kwu Tung Road	990	LR 2.6, 3.3, 4.2, 13.1, 13.2
P	Areas to the south of Kwu Tung Road	260	LR3.3, 6.2
Q	Along sides of Fanling Highway adjacent to Pak Shek Au	1,265	Outside LVIA Study Area
R	Areas at Chau Tau and Pun Uk Tsuen	411	LR2.5, 3.2, 5.1, 6.3, 7.1
S	Uphill areas at Lok Ma Chau	300	LR 2.7, 6.3, 6.4, 8.4
T	Uphill areas at Lok Ma Chau	405	LR 2.9, 3.4, 4.5, 5.2, 6.4,
U	Hoo Hok Wai Fishpond Areas	370	LR8.5, 11.2
V	Mao Tso lung Uphill	445	LR 2.10, 5.2, 6.4
W	Along sides of Ma Tso Lung Road	535	LR 2.10, 4.5, 6.4, 7.4, 12.3

LR1 Cross-boundary Infrastructure and Facilities

The Cross-border Infrastructure and Facilitates include the boundary crossing infrastructures at LMC and Huanggang and their other associated buildings such as MTR LMC Station and public transport terminus, the bus / mini-bus terminal, immigration office building and infrastructure, and railway and highways, car parking and vehicular queuing up area for boundary crossing. These facilities are characterised by the buildings and extensive concrete paved areas and are heavily modified by human activity and so overall are considered to have a low sensitivity.

LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station)

This LR is dominated by infrastructure buildings and the associated PTI. The periphery of the cross-boundary facilities and internal access roads are lined by tree planting. The majority of the trees were planted for screening and amenity purposes and comprise of common species found in Hong Kong. Approximately 450 nos. of trees are found within the LR including species such as *Casuarina equisetifolia*, *Cassia siamea*, *Cinnamomum camphora*, *Ficus microcarpa*, *Hibiscus tiliaceus*, *Leucaena leucocephala*, *Macaranga tanarius*, *Melaleuca quinquenervia* and *Spathodea campanulata*. Over half of the trees are exotic species and there is little shrub planting within the area. The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (150-200mmDBH) and contribute to the local infrastructure landscape. This LR is composed of manmade features, does not have a high amenity value to the local rural and riverside context, and has a high tolerance to accommodate change, so is considered to have a low sensitivity.

LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau Vehicular Areas)

This LR is composed of vehicular cross-boundary facilities and vehicular waiting areas. It is largely hard paved with trees along its periphery and the Lung Hau Road planting areas. The area includes some 760 nos. of trees consisting of

common roadside / riverside species including *Hibiscus tiliaceus, Casuarina equisetifolia* and *Ficus microcarpa.* There are also a relatively large number of the weed tree species *Leucaena leucocephala* within the planting area. The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (150-300mmDBH) and contribute to the local infrastructure landscape. Given the function of this LR, its relative low amenity value; low importance to the local context and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR1.3 Cross-boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal)

Similar to the above LRs, this LR is largely hard paved and has approximately 50 nos. of trees located at the periphery with the main species being *Casuarina equisetifolia.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (150-200mmDBH) and contribute to the local infrastructure landscape. Given the function of this LR, its relatively low amenity value; low importance to the local context and high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2 Village Settlement

The main concentration of village settlements within the assessment area include Tung Chan Wai at San Tin, Ha Wan Tsuen, Ha Wan Fishermen Village, Pun Uk Tsuen and Chau Tau Tsuen along LMC Road, LMC Tsuen, Tai Law Hau and Ping Hang located alongside the existing Boundary Patrol Road. Some of these village settlements including Ha Wan Tsuen, LMC, Tai Law Hau and Ping Hang are located to the south across the meander and fishponds close to the LMC Loop. Other village settlements are scattered along the road corridors including LMC Road, Ha Wan Tsuen Road and the existing Boundary Patrol Road, and the adjacent lowland rural landscape. These areas are characterized by extensive groups of 3-storey village houses which form the settlement pattern within the lowland landscape. The existing building forms include a combination of traditional dwellings although the majority of the buildings consist of newer type developments connected by narrow lanes and footpaths.

LR2.1 Ha Wan Tsuen Village Settlement

This LR is mainly composed of scattered temporary squatters alongside of fishpond. Two small scale playgrounds for the use of villagers are located to the north and to the south of the village. No ancestral hall or temple in the village. The area contains some 200 nos. trees consisting of common roadside species, fruit trees planted for cultivation purposes or self-seeded species spreading from adjacent wooded areas. Mature specimen trees are also found along Boundary Patrol Road, one *Celtis sinensis*, and *Cinnamomum camphora, Ficus elastic, Ficus virens and Ficus microcarpa* at the entrance of Ha Wan Tsuen. Other tree species include *Casuarina equisetifolia, Ficus variegata, Celtis sinensis, Bombax ceiba, Mangifera indica, Artocarpus heterophyllus, Cinnamomum camphora, Ficus microcarpa, Hibiscus tiliaceus, Lagerstroemia speciosa, Leucaena leucocephala, Macaranga tanarius, Syzygium jambos, Melaleuca quinquenervia, Melia azedarach, Psidium guajava, Averrhoa carambola* and *Dimocarpus longan.* The condition and amenity value of the existing trees within this area are fair to good, the trees are relatively mature (300 to 500mmDBH) and contribute to the

local rural landscape. A few mature specimen have a size over 800mm. Given a combination of the rural setting of this LR, its medium amenity value to the local context; its medium maturity and relatively low regional importance due to its coverage and its medium tolerance to accommodate change; it is considered to have a medium sensitivity.

LR2.2 Lok Ma Chau Road Village Settlement

This LR is composed of a small number of modern styled three-storey village houses and temporary squatters located alongside Lok Ma Chau Road. Approximately 20 nos. trees have been planted in the private gardens or adjacent to the fishponds. The main species are common to Hong Kong and include *Dimocarpus longan, Litchi chinensis, Macaranga tanarius* and *Pinus massoniana etc.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively young (300 to 500mmDBH) and contribute to the local rural landscape. Given a combination of the relatively small extent of this LR, its limited contribution to the amenity value and to the local context of Lok Ma Chau Road amenity value, its low maturity and its relatively low importance due to its limited coverage and have been fragmented by Spur Line railway works and LMC Road works and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2.3 Lok Ma Chau Tsuen Village Settlement

This LR is composed of rows of village houses with traditional style of village establishment. Village houses are largely modern styled two-storey residential houses with a number of historic old village houses built with green bricks and temporary squatters. Extensive fishponds and active agriculture fields are located to the north of the village. The trees are largely self-seeded colonising the area from adjacent wooded areas or planted for agriculture purposes. Approximately 60 nos. trees are found along the southern edge of the village settlement adjacent to the wooded areas with the main species being *Dimocarpus longan, Litchi chinensis, Macaranga tanarius, Melia azedarach and Ficus microcarpa*. The condition and amenity value of the existing trees within this area are fair to good, the trees are relatively mature (300 to 800mmDBH) and contribute to the local rural landscape. Given a combination of the maturity of this LR, its medium amenity value and contribution to the landscape context of Lok Ma Chau and its medium tolerance to accommodate change it is considered to have a medium sensitivity.

LR2.4 Ha Wan Fishermen Village Settlement

This LR is located at the lower slopes of the Lok Ma Chau Ridge and is composed of a small number of temporary squatters orientated in a grid and enclosed pattern. It is established by Ha Wan Tsuen villagers when Ha Wan Tsuen has no room for further expansion due to increase of population. The existing approximately 20 nos. trees are located along the eastern edge of the village settlement adjacent to the wooded areas. These trees are largely self-seeded colonising the area from the adjacent wooded areas or planted for agricultural purposes. The main species include *Dimocarpus longan, Litchi chinensis, Macaranga tanarius, Melia azedarach* and *Ficus microcarpa.* The condition and amenity value of the existing

trees within this area are fair, the trees are relatively young (200 to 500mmDBH) and contribute to the local rural landscape. Given a combination of the small extent of this LR, its limited contribution to the amenity value and local rural context of Lok Ma Chau, its low maturity and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2.5 Chau Tau and Pun Uk Tsuen Village Settlement

This LR is set back from Lok Ma Chau Road, and is formed by rows of village houses. Most of the buildings now are modern styled two-storey residential buildings. Quite a number of historic and traditional old village houses and halls are found in the village. The approximately 30 nos. existing trees are located alongside the access road from Lok Ma Chau and along the access road southern edge of this village settlement adjacent to the wooded areas. These trees are largely self-seed colonising the site from the adjacent wooded areas or planted for amenity purposes. The main tree species include *Celtis sinensis, Cinnamomum camphora, Macaranga tanarius, Dimocarpus longan Archontophoenix alexandrae Casuarina equisetifolia, Cleistocalyx operculata, Lophostemon confertus* and *Eucalyptus tereticornis.* The condition and amenity value of the existing trees within this area are fair to good, the trees are relatively mature (300 to 800mmDBH) and contribute to the local rural landscape. Given a combination of the relatively small extent of this LR, its maturity and medium contribution to the amenity value and to the local context Lok Ma Chau; and its medium tolerance to accommodate change, it is considered to have a medium sensitivity.

LR2.6 San Tin Village Settlement

Within the assessment area San Tin is largely occupied by open container storage, workshops and carparks; and the village settlements bisected by the alignment of the Fanling Highway. Village houses are scattered in location and in form of modern styled three-storey residential buildings. Quite a number of historic and traditional old village houses and halls are found in the village. Given the domination of industrial uses and the density of development there are few trees, approximately 40 trees nos., within the village. The main species include *Casuarina equisetifolia, Cinnamomum camphora, Bombax ceiba, Cassia siamea* and *Eucalyptus tereticornis etc.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (200 to 500mmDBH) and contribute to the local rural landscape. Given factors such as the disturbed rural setting surrounding this LR, its low maturity and relatively small contribution to the amenity value of the local context; and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2.7 Tai Law Hau Village Settlement

This LR is composed of a few temporary squatters only adjacent to abandoned agriculture fields. Given the enclosed nature of the topography, only a few, approximately 10 nos. trees, including *Bombax ceiba, Macaranga tanarius* and *Melia azedarach* are found at the southern edge of the settlement. The condition

and amenity value of the existing trees within this area are fair, the trees are relatively young (100 to 300mmDBH) and contribute to the local rural landscape. Given a combination of the small extent of this LR, its low maturity, its limited contribution to the local amenity value and to the local context of Lok Ma Chau; and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2.8 Ping Hang Village Settlement

Similar to LR 2.7, this LR is composed of only two numbers of temporary squatters adjacent to abandoned agriculture fields. The condition and amenity value of the existing trees within this area are fair, the trees are relatively young (100 to 300mmDBH) and contribute to the local rural landscape. Given the size of the area and its enclosed topography, only a few, approximately 10 nos., of *Macaranga tanarius* and *Melia azedarach* are located along the southern edge of the settlement. Given a combination of the limited extent of this LR, its low maturity, its small contribution to the amenity value and local context of Ma Tso Lung; and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2.9 Tse Koo Hang Village Settlement

Similar to LRs 2.7 and 2.8, this LR is composed of ten numbers of temporary squatters adjacent to abandoned agriculture fields which are largely abandoned and was originally utilised for cultivation and framing purpose. Given its size and enclosed topography, only a few, approximately 60 nos. trees including *Bombax ceiba, Macaranga tanarius* and *Melia azedarach* are found at the edge of the settlement. The condition and amenity value of the existing trees within this area are fair, the trees are relatively young (300 to 500mmDBH) and contribute to the local rural landscape. Given the small size of this LR, its low maturity, its low contribution to the amenity value and local context Ma Tso Lung; and its high tolerance to accommodate change, it is considered to have a low sensitivity.

LR2.10 Ma Tso Lung Village Settlement

This LR is composed of an intermediate number of three storey village houses and temporary squatters adjacent to agriculture fields. The houses and structures are located on a series of terraced platforms extending to the mid-slopes of Crest Hill. Some 245 nos. trees have been planted along Ma Tso Lung Road, in garden areas for amenity or cultivation proposes; and areas of self-seeded trees adjacent to nearby wooded areas. The main species found within this LR include *Celtis sinensis, Cinnamomum camphora, Microcos paniculata, Dimocarpus longan, Litchi chinensis, Macaranga tanarius, Mangifera indica* and *Melia azedarach*. The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (300 to 800mmDBH) and contribute to the local rural landscape. Given a combination of factors such as the density of the village development; the quality of the setting; its medium maturity and contribution to the amenity value and local context Ma Tso; and its medium tolerance to accommodate change, it is considered to have a medium sensitivity.

LR3 Mixed Woodland

The majority of the woodlands within the assessment area are mixed woodland located away from the LMC Loop. This includes mixed woodlands located adjacent to the Ha Wan Tsuen, Chau Tau, Pun Uk Tsuen, Ma Tso Lung and along Lok Ma Chau Road.. The dominant species within these areas are native tree and shrub species such as *Aquilaria sinensis* (protected under Cap. 586), *Aporusa dioica, Celtis sinensis, Cinnamomum camphora, Cratoxylum cochinchinense, Mallotus paniculatus, Schefflera heptaphylla, Schima superba, Psychotria asiatica* and *Uvaria macrophylla*. Due to the unique nature of the woodlands which form this resource overall they are thought to be locally significant and hence their sensitivity is considered to be high.

LR3.1 Ha Wan Tsuen Road Mixed Woodland

This LR is a vegetated slope located to the south of Ha Wan Tsuen. It is composed of woodland trees and scrubland surrounding abandoned fishponds with some 506 nos. trees including species such as *Celtis sinensis, Cinnamomum camphora, Ficus microcarpa, Lophostemon confertus, Macaranga tanarius, Melia azedarach, Psidium guajava* and *Sapium sebiferum.* The condition and amenity value of the existing trees within this area are fair to poor, the trees are relatively young (300 to 600mmDBH) and contribute to the local rural landscape. The woodland area is traversed by Ha Wan Tsuen Road and Lung Hau Road and so is fragmented. Given the contribution of this LR to the amenity and landscape context of Ha Wan Tsuen village and despite its small size and the area being disturbed by the existing cross-boundary facilities and infrastructure works it is considered to have a high amenity value; to be relatively locally important and is less tolerant to change, and so is considered to have a high sensitivity.

LR3.2 Lok Ma Chau Road Mixed Woodland

This LR is formed by a vegetated slope extending west down from the Lok Ma Chau Ridge to Lok Ma Chau Road. It is composed of woodland trees and shrubland; and is important in its contribution to the landscape backdrop for Lok Ma Chau Tsuen, Ha Wan Fishermen Village, Chau Tau and Pun Uk Tsuen. The woodland comprises of some 1,181 nos. trees including species such as *Celtis sinensis, Cinnamomum camphora, Cleistocalyx operculata, Delonix regia, Ficus microcarpa, Macaranga tanarius, Microcos paniculata, Leucaena leucocephala* and *Lophostemon confertus.* The condition and amenity value of the existing trees within this area are fair to good, the trees are relatively mature (300 to 800mmDBH) and contribute to the local rural landscape. The baseline for the ecological impact assessment also identified specimens of a protected tree species *Aquilaria sinensis* (protected under Cap. 586) with a sapling at the fringe of the secondary woodland adjacent to the access road to LMC Tsuen; and a small number of seedlings and a mature specimen recorded within the secondary woodland close to Pun Uk Tsuen. Given a combination of factors such as its high amenity value; the contribution to the landscape context and amenity of the local area; its maturity and low tolerance to change this LR is considered to have a high sensitivity.

LR3.3 San Tin Mixed Woodland

This LR is composed of small vegetated remnant slopes at San Tin separated by the alignment and structures associated with the San Tin and Fanling Highways; Castle Peak Road and Kwu Tung Road. Although these areas are piecemeal in their distribution they contain a number of mature tree specimens and contain some 710 nos. trees comprising of species such as *Acacia confusa, Bombax ceiba, Cassia siamea, Cinnamomum camphora, Ficus benjamina, Ficus microcarpa, Ficus virens, Macaranga tanarius, Melia azedarach* and *Roystonea regia.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (300 to 800mmDBH) and contribute to the local rural landscape. The trees have been planted as part of the mitigation for the original highway works. The value of this LR is to the landscape setting of Ha Wan Tsuen village which is situated in a village disturbed by a combination of existing development including the LMC infrastructure cross-boundary facilities and infrastructure works located to the west. Despite its relatively small size the LR has a high amenity value to the local context and is relatively locally important; is less tolerant to accommodate change, and so is considered to have a high sensitivity.

LR3.4 Ma Tso Lung Mixed Woodland

This LR is a vegetated slope located to the west of Shun Yee Shun Tsuen at Ma Tso Lung. It was fragmented by infrastructure developments such as the Boundary Patrol Road, Ma Tso Lung and recently completed drainage improvement works. It is composed of some 480 nos. woodland trees and areas of scrubland with the main species being *Bombax ceiba, Celtis sinensis, Cinnamomum camphora, Cratoxylum ligustrinum, Macaranga tanarius, Mallotus paniculatus* and *Melia azedarach.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (300 to 800mmDBH) and contribute to the local rural landscape. Given the contribution of this LR to the landscape setting and backdrop to Ma Tso Lung; its high amenity value; importance to the local context and local importance; it's low tolerance to change it is considered to have a high sensitivity.

LR4 Roadside Planting

Roadside planting are typically associated with the major infrastructural developments including the boundary crossing at LMC, San Sham Road and the LMC Spur Line, Lung Hau Road, Lok Ma Chau Road, Ha Wan Tsuen Road, Ma Tso Lung Road, Fanling and San Tin Highways. The main value of this LR is in its contribution to the landscape as tree groups rather than as individual trees. The reason for this is that many of the trees are fast growing non-native species which were commonly planted as mitigation for infrastructure works including road schemes, reforestation, and landscape amenity and /or fruit production purposes. The trees within these areas are normally planted close together and in rows to create an instant effect and as a result many of them are growing with a leaning or unbalanced form. These areas include species such as *Acacia auriculiformis, Acacia confusa, Albizia lebbek , Lophostemon confertus, Casuarina equisetifolia, Clausena lansium, Dimocarpus longan, Litchi chinensis, Melaleuca quinquenervia,* and *Syzygium jambos*. Some of these areas along Lung Hau Road and Lok Ma Chau Road are also planting with common roadside shrub species including *Calliandra haematocephala, Duranta repens and Hibiscus rosa-*

sinensis etc. It is considered that this resource has less ecological and landscape value than the mixed woodland and is reasonably tolerate to change, hence it is considered to have a medium sensitivity.

LR4.1 Roadside Planting along Lung Hau Road

The planting established along Lung Hau Road was designed as part of the landscape and visual mitigation for the MTR Sheung Shui to LMC Spur Line. The planting includes some 340 nos. trees and areas of shrubs comprising of species commonly used as part of large infrastructure projects including *Casuarina equisetifolia, Ficus benjamina, Lophostemon confertus, Melaleuca quinquenervia* and *Melia azedarach.* Common roadside shrub species are planted including *Calliandra haematocephala, Duranta repens and Hibiscus rosa-sinensis etc.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively young (150 to 300mm DBH) and contribute to the local infrastructure landscape. The trees which form this LR are relatively young being planted some 10 years ago. Given that this area of trees was planted as part of the infrastructure development to mitigate its impacts, it is important to the local landscape context; has a medium amenity value and tolerance to accommodate change; and so are considered to have a medium sensitivity.

LR4.2 Roadside Planting along Fanling and San Tin Highways

The planting within this LR includes some 1,250 nos. relatively mature trees and comprises of typical roadside amenity and exotic species such as *Acacia confusa, Bombax ceiba, Cassia siamea, Casuarina equisetifolia, Cinnamomum camphora, Eucalyptus citriodora, Eucalyptus tereticornis, Ficus benjamina, Ficus virens, Macaranga tanarius, Melia azedarach* and *Roystonea regia.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively young (150 to 250mm DBH) and contribute to the local infrastructure landscape. In addition there are numerous specimens of the aggressive weed tree species *Leucaena leucocephala.* These planting areas are generally covered by grass. Given a combination of factors such as the importance of the tree planting to softening the form of the Fanling and San Tin Highways and its associated structures; its contribution to the to the local landscape context; and that the LR has medium amenity value; is relatively locally important and has a medium tolerance to change it is considered to have a medium sensitivity.

LR4.3 Roadside Planting along Lok Ma Chau Road

This LR is formed by typical roadside amenity planting including some 325 nos. trees along the district road and comprises of commonly utilised species such as *Casuarina equisetifolia, Cinnamomum camphora, Cleistocalyx operculata, Delonix regia, Ficus microcarpa, Lophostemon confertus, Macaranga tanarius, Mangifera indica* and *Melaleuca quinquenervia.* Some common roadside shrub species are planted including *Calliandra haematocephala, Duranta repens and Hibiscus rosa-sinensis etc.* The condition and amenity value of the existing trees within this area are fair, the trees are relatively mature (200 to 800mm DBH) and contribute to the local infrastructure landscape. These resources are relatively mature particularly some of the roadside trees and the trees located within island planters. Given a combination of the contribution of this LR within the local context, the softening of the form of the road and its associated structures; its

medium amenity value; local importance and tolerance to accommodate change this LR is considered to have a medium sensitivity.

LR4.4 Roadside Planting along Ha Wan Tsuen Road

This roadside landscape comprises of some 25 nos. mature tree alongside of Ha Wan Tsuen such as *Albizia lebbek, Ficus microcarpa,* and *Melaleuca quinquenervia.* They are originally planted over 20 years ago when the road being constructed. The condition and amenity value of the existing trees within this area are fair to poor, the trees are relatively mature (600 to 800mm DBH) and contribute to the local roadside landscape. However decay, insect and fungal infestation and structural defects are found in these roadside trees due to its age and naturally succession. No shrub or groundcover found in these planting areas. Given a combination of the contribution of this LR within the local context, the softening of the form of the road and its associated structures; its maturity and medium amenity value; local importance and tolerance to accommodate change this LR is considered to have a medium sensitivity.

LR4.5 Roadside Planting along Ma Tso Lung Road

This roadside landscape comprises of some 375 nos. trees located adjacent to village houses and composed of largely amenity and fruit trees such as *Archontophoenix alexandrae, Bombax ceiba, Celtis sinensis, Cinnamomum camphora, Cratoxylum ligustrinum, Macaranga tanarius, Mallotus paniculatus, Melia azedarach, Pinus massoniana* and *Plumeria rubra var. actifolia*. The condition and amenity value of the existing trees within this area are fair, the trees are relatively young (100 to 300mm DBH) and contribute to the local infrastructure landscape. Common shrub species including *Morus alba Linn., Carmona microphylla, Ligustrum sinense etc.* are found along the road. Despite the relatively random distribution of the trees within this LR they contribute to the local rural context with a medium amenity value, have a medium sensitivity to change and so are considered to have a medium sensitivity.

LR4A Trees on the Loop

This LR comprises of some 2,500 nos. trees including a significant number of the aggressive, self-seeded weed tree species *Leucaena leucocephala*, over 90% of total number of trees, with lesser numbers of self-seeded exotic, naturalized and native trees spreading from adjacent woodland and new tree planting along Boundary Patrol Road newly constructed. The trees are generally found in clusters with many trees shaped by the exposure of the site. Beyond the prevalence of *Leucaena leucocephala* the main tree species include *Acacia confusa, Bischofia javanica, Bombax ceiba, Celtis sinensis, Ficus microcarpa, Hibiscus tiliaceus, Macaranga tanarius* and *Melia azedarach.* Given a combination of the sporadic coverage of the trees which form this LR, their immature age and relatively small size; their relatively low value to the landscape character and amenity of the site; this LR is considered to have a high tolerance to change and a low sensitivity.

LR5 Shrubland

The main area of shrubland is located within the middle slopes of the hillsides below the ridges to the south of the LMC Loop and is bounded by extensive

mixed woodland at lower elevations to the north. The other areas of shrubland are located to the north-east of Ping Hang, and are enclosed by a number of fishponds to the north and extensive woodland to the south. This resource typically forms a succession stage of grassland as it becomes colonised by tree and shrub species. A detailed description of the floristic composition of the shrubland areas is provided in Chapter 12.

LR5.1 Shrubland at Lok Ma Chau

This area of shrubland is located on the hill slopes of Lok Ma Chau Ridges to the east of Ha Wan Fishermen Village and Lok Ma Chau Tsuen, and adjacent to Tai Law Hau and Ping Hang. The hillside shrubland is interspersed with adjoining hillside LRs (i.e. grassland, secondary woodland and other shrubland fragments). It is comprised of common shrub species including *Rhodomyrtus tomentosa, Clerodendrum cyrtophyllum, Callicarpa kochiana, Rhus chinensis* and *Rhaphiolepis indica* and some isolated tree species including *Cratoxylum cochinchinense* and *Sapium discolor*. The area also composed of some 306 self-seeded and fruit trees such as *Averrhoa carambola, Celtis sinensis, Dimocarpus longan, Litchi chinensis, Macaranga tanarius, Melia azedarach and Microcos nervosa*, etc. which are spreading from adjacent woodlands or cultivated by villagers, they are mainly located alongsides of existing Boundary Patrol Road, adjacent to villages and at the lower slopes of Lok Ma Chau Ridges. The main importance of this LR is in combination with the other hillside LRs creating a tapestry of landscape and forming the backdrop to views of the landscape from lower levels. This resource has a medium significance within this landscape context, a medium tolerance to change and hence is considered to have a medium sensitivity.

LR5.2 Shrubland at Ma Tso Lung

The shrubland forming this LR is located on the hill slopes to the north and east of Ma Tso Lung, to the south of Tse Koo Hang and area surrounding the HKPF Lok Ma Chau Operation Base. This shrubland forms the transitional landscape between the wooded lower hill slopes and the grassland at the summit of the hills. The species composition and vegetational structure are similar to that of the Lok Ma Chau area. The area composed of some 305 self-seeded and fruit trees such as *Celtis sinensis, Clausena lansium, Dimocarpus longan, Litchi chinensis, Macaranga tanarius, Melia azedarach and Microcos nervosa*, etc. which are spreading from adjacent woodlands or cultivated by villagers, they are located along sides of existing Boundary Patrol Road, adjacent to villages and at the lower slopes of Tai Shek Mo. Similarly the main importance of this LR is in combination with the other hillside LRs and forming part of the backdrop to views of the landscape from lower levels. This resource has a medium significance within this landscape context, medium tolerance to change and hence is considered to have a medium sensitivity.

LR6 Grassland

The assessment area contains an extensive coverage of grassland, which is the dominant landscape resource on top of the hills and mountains located to the north of Fung Kong Shan and to the west of Tai Shek Mo in the southern part of the assessment area. The other extensive area of grassland is located within the LMC Loop which is surrounded by a natural water course to the east, south and west.

Originally, the area forming the LMC Loop comprised of fishponds however these were filled in to form grassland. The upland grassland areas form part of the green backdrop to many of the views available in locations within the assessment area. Common grass species include *Arundinella spp., Eulalia spp.* and *Ischaemum spp*. Overall these areas are considered to have a low sensitivity.

LR6.1 Grassland on the Loop

The LMC Loop is largely covered by extensive grassland that has established due to the filling in of the fish ponds and through natural succession. This LR is dominated by grassy vegetation (such as *Brachiaria mutica*, *Panicum maximum* and *Imperata koenigii*) and other herbs and creepers (including *Bidens alba*, *Mimosa pudica*, *Sesbania* spp., *Eupatorium catarium*, *Ipomoea cairica* and *Mikania micrantha*). The grassland is interspersed with other LRs including clumps of tree planting and marshland. This resource has a low significance within this landscape context and high tolerant to change and hence is considered to have a low sensitivity.

LR6.2 Grassland at San Tin

The grassland areas of San Tin include a number of small areas which have established on the upland areas and form part of the fire-maintained hillside grassland on the hill slopes of Ki Lun Shan. It is dominated by common species such as the fern *Dicranopteris pedata* and grasses such as *Miscanthus sinensis*, *Imperata koenigii* and *Neyraudia reynaudiana*. Shrubs / small trees (such as *Rhus hypoleuca*, *Rhus succedanea*, *Rhodomyrtus tomentosa*, *Breynia fruticosa* and *Desmodium heterocarpon*) and trees (such as *Cratoxylum cochinchinense*, *Aporusa dioica* and *Pinus massoniana*) are also present. It is also composed of some 50 trees including species *Celtis sinensis, Cinnamomum camphora and Macaranga tanarius* etc., they are self-seeded from adjacent woodland. This LR has a low significance within this landscape context and high tolerant to change and hence is considered to have a low sensitivity.

LR6.3 Grassland at Lok Ma Chau and LR6.4 Grassland at Ma Tso Lung

These two areas form a similar LR to the fire-maintained hillside grassland LR6.2 Grassland at San Tin and have a similar species composition. LR6.3 is located on the hill slopes to the east of Ha Wan Fisherman Village and Lok Mau Chau Tsuen; and LR6.4 an extensive area to the south of Ma Tso Lung and a smaller area to the east. LR6.3 and LR6.4 also compose of 310 and 310 self-seeded trees respectively spreading from adjacent to woodland such as *Celtis sinensis, Cinnamomum camphora, Melia azedarach and Macaranga tanarius* etc. These two areas of grassland have a low significance within this landscape context and high tolerant to change and hence are considered to have a low sensitivity.

LR7 Agricultural Fields

The agricultural fields within the assessment area are associated with the village settlements at Tse Koo Hang and Chau Tau Tsuen. The common plant species in these areas include *Ipomoea cairica, Brachiaria mutica, Conyza bonariensis, Bidens alba, Amaranthus viridis, Ipomoea triloba, Emilia sonchifolia, Youngia*

japonica, Mikania micrantha, Mimosa pudica, Polygonum chinense, Scoparia dulcis, Solanum nigrum, Panicum maximum and *Cynodon dactylon*. The agricultural fields are important to the landscape setting of local villages forming remnants of the historical landscape which was once common in the area and contribute to the scale and texture of the landscape. Therefore the overall ability of this resource to accommodate change is considered to be medium and it is considered to have a medium sensitivity.

LR7.1 Pun Uk Tsuen Agricultural Fields

This small area of agricultural fields to the south west of the village settlement is characterised by a fine textured field pattern cultivated for vegetables and forms an important part of the historical / cultural landscape of the area. Some 160 trees largerly fruit trees such as *Dimocarpus longan and Mangifera indica*, are found within or at the edge the agricultural fields. This area is also relatively less important to the present day landscape setting and so the ability of this resource to accommodate change is considered to be medium and hence has a medium sensitivity.

LR7.2 Lok Ma Chau Tsuen Agricultural Fields

This LR, located to the north west of Lok Ma Chau Tsuen, is formed by cultivated agricultural fields and forms an important part of the historical / cultural landscape. Some 10 trees largely fruit trees such as *Dimocarpus longan and Litchi chinensis*, are found within or at the edge the agricultural fields. Owing to its location and proximity to the village this area is relatively less important to the landscape setting and so the ability of this resource to accommodate change is considered to be medium and hence has a medium sensitivity.

LR7.3 Lok Ma Chau Agricultural Fields

This LR comprises of a small area of wet agricultural land. As with LR7.2 described above the agricultural fields form an important element within the landscape. The main species within the wet agricultural land include common herbaceous vegetation such as *Alocasia odora*, *Colocasia esculenta*, *Ipomoea aquatica*, *Ipomoea batatas* and isolated shrubs (such as *Lantana camara*). Some 25 trees largely fruit trees such as *Averrhoa carambola, Litchi chinen*sis and Syzygium jambos are found within or at the edge the agricultural fields. This area is relatively less important to the landscape setting and so the ability of this resource to accommodate change is considered to be medium and hence has a medium sensitivity.

LR7.4 Ma Tso Lung Agricultural Fields

The agricultural fields to the east of the village of Ma Tso Lung are located on the valley floor between the lower hill slopes of Ma Tso Lung and Tai Shek Mo. Some 210 trees largely fruit trees such as *Annona squamosa , Artocarpus heterophyllus, Averrhoa carambola, Clausena lansium , Dimocarpus longan , Litchi chinensis and Mangifera indi*ca are found within or at the edge the agricultural fields. This area is formed from both active and abandoned agricultural land, and is relatively important to the landscape setting of the adjacent village houses. Its ability to accommodate change is considered to be medium and it has a medium sensitivity.

LR8 Fishponds

The assessment area contains an extensive coverage of fishponds including areas at LMC, Sam Po Shue, Ha Wan Tsuen and Hoo Hok Wai. The fishponds extend from the Deep Bay coastal plain in the west into the lowland rural area along Shenzhen River to the east at Sam Po Shue and Hoo Hok Wai. These fishponds are characterised by their rectilinear shapes and are considered to be a regionally significant landscape resource and a distinctive feature within the assessment area. The main species composition of these areas includes *Brachiaria mutica, Phragmites australis, Panicum maximum* and *Cynodon dactylon*. Overall this resource is considered to be important to the landscape setting of the assessment area and is susceptible to small changes and hence is considered to have a medium to high sensitivity.

LR8.1 Sam Po Shue Fishponds

Located to the south of the wetland created as mitigation for the LMC Spur Line these fishponds form part of a more extensive area stretching from San Tin in the east to Mai Po in the west. The ponds are enclosed by bunds with tree planting which acts to screen views of the adjacent infrastructure. Some 275 trees are found adjacent to the edge of MTR LMC Station and mitigation wetland and alongside of Boundary Patrol Road, they are mainly exotic species such as Casuarina equisetifolia, Hibiscus tiliaceus and Melia azedarach etc. This LR is an important landscape feature contributing to the landscape character and visual amenity of the area. As such and owing to the openness of the landscape forming the LR it is considered to be highly susceptible to small changes and so has a high sensitivity.

LR8.2 Ha Wan Tsuen Fishponds

This LR is enclosed to the north by the engineered slopes of the flood protection works for the Shenzhen River, to the east by the abandoned meander; south by the viaduct of the LMC Spur Line and to the west by San Sham Road and the associated boundary control facilities. Some 259 trees are located on fishpond bunds, adjacent to the Spur Line and Boundary Patrol Road, they are composed of both native and exotic species such as *Casuarina equisetifolia, Celtis sinensis, Hibiscus tiliaceus, Macaranga tanarius, Melaleuca quinquenervia and Melia azedarach etc*. Despite its small size and fragmentation this area of fish ponds is considered to be a less important part of the overall LR and is less important to the landscape setting of the proposed development. It is considered to be medium susceptible to change and has a medium sensitivity.

LR8.3 Lok Ma Chau Road Fishponds

This relatively small area of remnant fish ponds located to the south of Lung Hau Road and to the west of Lok Ma Chau Road and forms the setting to the settlement. Some 100 trees lined bunds serve to enclose the fish ponds and reduce the impact of adjacent developments such as the viaduct for the LMC Spur Line. Species include *Casuarina equisetifolia, Hibiscus tiliaceus, Macaranga tanarius and Melaleuca quinquenervia etc*. Although covering a relatively small area the fishponds form a less important LR and together with adjacent fishpond areas contribute to the landscape character of the area. Owing to their size and

uniqueness this LR is considered to be relatively less susceptible to change and so has a medium sensitivity.

LR8.4 Lok Ma Chau Fishponds

This extensive area of fishponds forms part of the historical landscape of the area with its relationship to the abandoned river meander, the agricultural fields and settlement pattern of villages such as Lok Ma Chau Tsuen, Tai Law Hau and Ping Hang and the wooded hill slopes which form the backdrop. Located to the south and southeast of the LMC Loop the fishponds are rectilinear in shape to the east and west becoming more organically shaped in the central portion. Generally the bunds which separate the ponds are characterised by a combination of coarse grassland, specimen trees and small tree clumps. Some 430 trees are found on wider bunds, they are largely fruit trees cultivated by villagers including species *Artocarpus heterophyllus, Citrus maxim, Clausena lansium, Dimocarpus longan, Litchi chinensis, Mangifera indica and Psidium guajava* etc. and some self-seeded trees *Macaranga tanarius and Melia azedarach.* Given their contribution to the traditional village landscape of the area, their relative openness and their overall importance as a LR this area is considered to be highly susceptible to change and so have a high sensitivity.

LR8.5 Hoo Hok Wai Fishponds

Forming perhaps the largest area of fishponds within the assessment area this LR is part of the transition from the developed landscapes of LMC and the abandoned meander to the more rural, agricultural landscape of Shun Yee San Tsuen and Liu Pok to the east. The fishponds of this LR, located in the eastern part of the assessment area, are interspersed with marshland areas where the water bodies have succumbed to natural succession. The earth bunds which separate the ponds are vegetated with a combination of coarse grassland and small groups and trees and shrubs. Some 379 trees found in the area are largely self-seeded trees such as *Celtis sinensis, Hibiscus tiliaceus, Leucaena leucocephala and Melia azedarach etc.* .Given its size and location this LR is considered to be highly susceptible to change and so has high sensitivity.

LR9 Natural Stream / River Course

Natural watercourse includes LMC Meander (Appendix 12-12, plate 9), its riparian vegetation and a few overgrown natural streams close to LMC; total area is 17.18ha. Common and weedy grassy vegetation (such as *Brachiaria mutica and Panicum maximum*) and wetland herbs (including *Commelina diffusa, Cyperus malaccensis and Phragmites australis*) predominate. Isolated shrubs and trees (such as *Lantana camara, Ficus hispida, Leucaena leucocephala and Macaranga tanarius*) are present along the Meander. Many of the small streams in this area are polluted to some extent, often with domestic sewage.

LR9.1 Natural River (To the South of the Loop)

The natural river course bounding the LMC Loop to the east, south and west, forms an abandoned meander of the Shenzhen River left behind after river training works in 1990. The river course is organically shaped with a natural, earth river bank and associated vegetation which includes a combination of

wetland herbs, grassland and shrubs. This includes common and weedy grass vegetation (such as *Brachiaria mutica* and *Panicum maximum*) and wetland herbs (including *Commelina diffusa*, *Cyperus malaccensis* and *Phragmites australis*) which predominate. There are also isolated shrubs such as *Lantana camara* present along the Meander. The river course forms a regionally significant landscape resource and a distinctive feature within the assessment area, has a low ability to accommodate change and is therefore considered to have a high sensitivity.

LR9.2 Natural Stream at Ha Wan Tsuen

One natural stream/meander bisects the fish ponds at Ha Wan Tsuen North. The bank characterised by a combination of coarse grassland punctuated by small areas of shrubs. The edges of the channels share a common species composition to that described for the river course described above. As an important component of the fishpond landscape this LR forms a regionally significant landscape resource, has a low ability to accommodate change and is therefore considered to have a high sensitivity.

LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang

Two streams have been modified over time to form part of the fishpond landscape. The streams are fed by watersheds on the Lok Ma Chau ridge before flowing northwest to join the river meander. The upper course of each of the streams follows the existing landform carving out gullies which are characteristically lined by grass and shrub growth before adopting an engineered form where they meet the flat plane of the fishpond landscape. Owing to factors such as the natural character of the upper reaches of each stream and their integration with the regionally significant fishponds these LRs are considered to low ability to accommodate change and so have a high sensitivity.

LR 9.4 Natural Stream at Ma Tso Lung

The natural stream course at Ma Tso Lung extends from the uplands of Lok Ma Chau ridge crossing the grassland of the valley floor before joining the fishpond landscapes in the northeast of the assessment area. The upper reaches of the stream course is lined by grass and shrub growth signalling the location of the watershed before adopting a more engineered alignment in the northern portion of the grassland. The natural character of this stream and its integration within the grassland landscape makes this LR less susceptible to change with a medium ability to accommodate change resulting in a medium sensitivity.

LR10 Engineered Water Channels

These water channels have been engineered or channelized as part of drainage improvements for the coastal plain and lowland areas in NWNT since the 1990s to resolve the flooding problem in these areas. The resources are characterised by their engineered nature with the straightening of their alignments, modification of the banks with concrete retaining structures and their associated access and maintenance roads. The common riparian plants found on the concrete banks of the engineered water channels include *Brachiaria mutica, Commelina diffusa, Phragmites australis* and *Sesbania javanica*.

LR10.1 Engineered Water Channel (Shenzhen River)

The engineered water channel to the north of the LMC Loop defines the territory of HKSAR and Shenzhen, China. The channelized Shenzhen River has been widened or modified in phases for the drainage improvement of coastal plain and lowland areas of NWNT. The largest of the engineered water channels within the assessment area this LR is dominant feature in the landscape and although it has been disturbed by engineering works it contributes to the landscape character and visual amenity of the local landscape context. This LR has a high ability to accommodate change and so is considered to have a low sensitivity.

LR10.2 Engineered Water Channel (along Cross-boundary Facilities)

This LR extends north from San Tin Interchange and follows an alignment to the west of the Cross-boundary facilities before joining the Shenzhen River to the east of the LMC BCP. It effectively forms the eastern boundary of the Sam Po Shue fishpond area. It is characterised by the straight, engineered form of the channel and is lined by tree and shrub planting designed to screen views of the Cross-boundary Facilities to the east. Some 450 trees are located in planting areas along sides of the Channel, they are largely exotic species such as *Casuarina equisetifolia and Hibiscus tiliaceus* in combination of quite a large number of self-seeded weeds *Leucaena leucocephala*. Owing to factors such as the engineered form and location this LR is considered to have a high ability to accommodate change and so has a low sensitivity.

LR10.3 Engineered Water Channel (Lok Ma Chau Road)

Extending west from the LMC Road this engineered water channel was designed to provide drainage improvements for the lowland landscape adjacent to Chau Tau Tsuen. The channel is lined to the north and south by tree planting screening both the channel and the adjacent viaduct of the LMC Spur Line in views from the east. Some 300 trees are located in planting areas along sides of the Channel; they are largely exotic species such as *Casuarina equisetifolia, Cleistocalyx operculata and Eucalyptus tereticornis*. As a result of the engineered appearance of this LR, its relatively small size and the proximity of the existing tree planting result in a feature which has a high ability to accommodate change and is considered to have a low sensitivity.

LR10.4 Engineered Water Channel (Newly constructed water channel at Ma Tso Lung)

Located to the north and east of Tse Koo Hang this engineered water channel is designed to provide flood relief for the agricultural valley floor. The channel has a south east – north west alignment feeding into the network of fishponds to the north of the village. Owing to the recent nature of the construction works this LR is considered to have a high ability to accommodate change and a low sensitivity.

LR11 Marsh

The main areas of marshland are found to the west of Hoo Hok Wai and Ma Tso Lung and small scale marshland located at the western side of the LMC Loop. In addition the assessment area contains compensatory marshland established to the east of LMC Cross-boundary Facilities to reinstate and alleviate the marshland habitat affected by the development of the facility and the LMC Spur Line. These marshes are largely areas of former fishponds or agricultural lands which have become disused with time and colonised by natural plant species. The dominant vegetation in the marshland areas is formed by herbaceous species (including grass *Brachiaria mutica*, *Leersia hexandra* and *Panicum paludosum*, and other herbs *Cyclosorus interruptus, Colocasia esculenta* and *Ipomoea cairica*). Smaller numbers of wetland herbs such as *Cyperus spp., Phragmites australis* and *Ludwigia octovalvis* are also present. The ecological impact assessment suggests that the dominance of herbaceous species indicates that part of the marsh areas has been disturbed and is in the process of drying up.

Other areas include small marshes developed from low-lying abandoned agricultural land including the area to the southwest of Shun Yee San Tsuen. These areas are ecologically linked with adjacent seasonally wet grassland and support a limited but typical species composition with the marsh area mainly covered by the fern *Cyclosorus interruptus* and grasses (*Panicum maximum and Brachiaria mutica*). Other wetland-associated herbs include *Alternanthera sessilis, Commelina diffusa, Ludwigia perennis, Ludwigia octovalvis* and *Colocasia esculenta.*

LR11.1 Marsh on the Loop

The central portion of the LMC Loop contains a number of fragmentary marshland areas representing low-lying parts of the modified landform where the water has collected and the area turned to marsh. The species composition of these areas shares many of the plants which are characteristic of other marshlands within the assessment area. This LR is not mature and fragmented, and is not regionally important and not distinctive LR in the local area. Therefore marshlands are considered to be susceptible with a medium ability to accommodate change and a medium sensitivity.

LR11.2 Marsh at Hoo Hok Wai

Approximately seven marshland areas are located within the fishponds to the east of the LMC Loop at Hoo Lok Wai. These areas form a successional stage in the return of disused fishponds to dry land and represent a loss in the distinctive landscape texture of the organically shaped fishponds. Some 160 self-seeeded trees spreading from adjacent woodland located at the southern edge of the marsh near the Boundary Patrol Road including species *Cleistocalyx nervosum, Cratoxylum cochinchinense and Macaranga tanarius etc.*. This marsh area is considered to be a locally important LR and owing to factors such as its size, the nature of the vegetation and its appearance it is considered to have a low ability to accommodate change (including the eventual development of grassland and woodland scrub) and has a high sensitivity.

LR11.3 Marsh at Lok Ma Chau Tsuen

This LR forms an area of agricultural land to the north east of Lok Ma Chau Tsuen at the foot of the wooded hill slopes which has reverted to marshland and includes wet agricultural land which has evolved into marshland with declining agricultural use. Given a combination of its location and the importance of the LR to the local landscape it is considered to have a low ability to accommodate change and has a high sensitivity.

LR11.4 Marsh at Chau Tau

This area of marshland is thought to have developed from a combination of fishponds and wet agricultural land and shares a similar appearance and species composition to the other marshlands with the same origin. The marshland is characterised by a combination of coarse grassland and marshland species, and forms an important component in the setting of the surrounding villages. Some 50 trees are located at the edge of the marsh near Lok Ma Chau Water Channel including species *Casuarina equisetifolia and Cleistocalyx operculata.* Given its location, contribution to the existing landscape setting and the nature of the LR it is considered to have a low ability to accommodate change and a high sensitivity.

LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station

Located to the east of the MTR LMC Station this area forms a created wetland and reedbed designed as part of the mitigation for the LMC Spur Line. Some 165 trees are located near the storage pond and along the Spur Line, they are largely exotic species *Casuarina equisetifolia.* Although relatively large in size and it contributes to the local landscape setting and is considered to have a low ability to accommodate change and a high sensitivity.

LR12 Developed Area and Roads

This resource contains a combination of road and highway, residential and industrial development types which are characteristic of the rural areas of the North West New Territories (NWNT). These include the conversion of agricultural fields to light industrial buildings and small scale workshops. This resource occupies a relatively limited extent of the assessment area which is largely characterised by natural landscape resources such as grassland, mixed woodland and fishponds. The main area is found at the east of MTR LMC Station, at the entrance of Ha Wan Tsuen and at the south of WCR located alongside the Fanling and San Tin Highways. The roadside tree planting associated with these LRs is discussed under LR4. The replacement of the agricultural fields by these developments within the rural areas has significantly degraded the landscape and visual amenity of the area and so the LR is considered to have a low value. Overall given the piecemeal nature of its distribution and level of development within this area it is considered to have a high ability to accommodate change and a low sensitivity.

LR12.1 San Tin Developed Area and Roads

This LR located to the southwest of the assessment area is characterised by a combination of infrastructural development including the San Tin Highway – Fanling Highway, the San Tin Interchange and the roads associated with the LMC BCP. The road corridors are lined by common tree species which are described under LR4 Tree Planting. Given the extent of the development in this area it is

considered to have a high ability to accommodate change and hence has a low sensitivity.

LR 12.2 Lok Ma Chau Developed Area and Roads

Located to the east of the MTR LMC Station, north of the Spur Line viaduct and square and sportground in front of Ha Wan Tsuen, this LR includes access roads and associated infrastructure development and is connected to the maintenance road for the Shenzhen River. Some 200 tree planting are found in these developed areas including species *Albizia lebbek, Casuarina equisetifolia, Hibiscus tiliaceus and Lagerstroemia speciosa* etc. In addition, LMC Police Station is located on a knoll to south of LMC Tsuen is a Graded 2 Historical Building which forms part of this LR, and is still under operation refer to heritage assessment in Chapter 10 of this EIA. Boundary Patrol Road and Lok Ma Chau Road are the main road corridors. As result of its utilitarian function this LR is considered to have a relatively high ability to accommodate change and a low sensitivity.

LR12.3 Ma Tso Lung Developed Area and Roads

The road infrastructure and built areas which forms this LR is located at the south-eastern edge of the assessment area to the north of the Lo Wu Classification Range and extends north to MA Tso Lung San Tsuen. This LR also covered two built structures including the HKPF Lok Ma Chau Operation Base adjacent to Boundary Patrol Road and a tunnel portal at Ma Tso Lung Road for regional waterpipe maintenance. In addition, MacIntosh Fort is located on the hill to the east of Ma Tso Lung Tsuen is a Graded 2 Historical Building which forms part of this LR refer to heritage assessment in Chapter 10 of this EIA. Some 63 trees are located within the built areas including species *Acacia confusa, Macaranga tanarius and Pinus elliottii* etc.. The road corridor is lined by tree planting and secondary woodland however it has little intrinsic value as an LR. As such the LR has a high ability to accommodate change and a low sensitivity.

LR13 Open Yards

Open yards form one of the major development intrusions within the NWNT and were developed in response to the rapid development of transportation and trading between Hong Kong and China which lead to an increasing demand for container storage areas since the 1980s. Opportunities for new storage locations within the urban area are limited and so some abandoned agricultural fields adjacent to village settlements in NWNT were utilised due to their proximity to cross-boundary road corridors and facilities. These agricultural fields were transformed with the construction of concrete hard standing for container storage and car/lorry parking areas. Given the level of disturbance caused by these facilities this use of the land is not considered to be visually compatible with the rural landscapes. Overall this resource is able to accommodate extensive change, hence, is considered to have a low sensitivity.

LR13.1 San Tin Open Yards

The open storage yards adjacent to the San Tin cover an extensive part of the local landscape to the south of the San Tin and Fanling Highways. The areas are bounded to the east and west by mixed woodland on the lower hill slopes of the surrounding uplands. The area contains a number of concrete covered compounds

interspersed by car/lorry parking, access tracks and covered with storage containers. Some 20 trees are located at the edge of open container including species *Ficus benjamina, Leucaena leucocephala and Macaranga tanarius.* As a result of the level of disturbance this area is considered to have a high ability to accommodate change and a low sensitivity.

LR 13.2 Lok Ma Chau Open Yards

Extensive areas of car/lorry parking and open storage yards are located to the north of the San Tin and Fanling Highways infilling the spaces between the village settlements such as Wing Ping Tsuen, Chau Tau and Pun Uk Tsuen; and infrastructure including the road network and LMC Spur Line related facilities. These pockets of open yards, open car parking and light industry are largely surrounded by tree planting including the woodland planting to the east and west of the Cross-boundary Infrastructure and Facilities (Lok Ma Chau Vehicular Areas). Some 570 trees are found at the periphery of individual lots including species *Acacia confusa, Ficus benjamina, Leucaena leucocephala and Macaranga tanarius.* The landscape represented by this LR is highly disturbed, has a high ability to accommodate change and a low sensitivity.

LR13.3 Ma Tso Lung Open Yards

This LR includes relatively small areas of light industrial units located to the south of Ma Tso Lung San Tsuen within a landscape setting of agricultural fields to the west and mixed woodland to the east. The area is characterised by an area of concrete hard standing covering the site and a number of industrial sheds to the east. Another area disturbed as part of the recently constructed engineered channel is located to the north adjacent to the settlement of Shun Yee San Tsuen. Formed as a narrow, rectilinear area it is bounded to the east and west by the wooded hill slopes which form the valley landscape. As both of these areas have been significantly modified they have a high ability to accommodate change and a resulting low sensitivity.

For the purposes of this assessment the landscape resources are represented by the existing land coverage. The condition of these landscape resources is also important in determining the landscape quality of the assessment area and its sensitivity to change as described above. Therefore the preservation and enhancement of the existing landscape resources is important to the successful integration of the proposals within the landscape context of the assessment area.

The location and extent of the LRs are shown on **Figures 11.2a** to **11.2e** and photographs of LRs are provided on **Figures 11.2f to 11.2w**. **Table 11.5.2** provides an assessment of the sensitivity of each of the identified LRs.

Table 11.5.2 Assessment of the sensitivity of landscape resources (LRs)

Landscape Resources (LRs)	**Criteria**						**Sensitivity**
	Area	**Quality**	**Importance / Rarity**	**Ability to accommodate change**	**Local / Regional Significance**	**Maturity**	
LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station)	8.6Ha. (approx. 450 trees)	Low	Low	High	Low / Low	Low	Low
LR1.2 Cross boundary Infrastructure and Facilities (Lok Ma Chau Vehicular Area)	16Ha. (approx. 760 trees)	Low	Low	High	Low / Low	Low	Low
LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal)	3 ha. (approx. 50 trees)	Low	Low	High	Low / Low	Low	Low
LR2.1 Ha Wan Tsuen Village Settlement	1.6 ha. (approx. 200 trees)	Medium	Medium	Medium	Medium / / Low	Medium	Medium
LR2.2 Lok Ma Chau Road Village Settlement	1.5Ha. (approx. 20 trees)	Low	Low	High	Low / Low	Low	Low
LR2.3 Lok Ma Chau Tsuen Village Settlement	1.7 ha. (approx. 60 trees)	Medium	Medium	Medium	Medium / Low	Medium	Medium
LR2.4 Ha Wan Fishermen Village Settlement	0.8 ha. (approx. 20 trees)	Low	Low	High	Low / Low	Low	Low
LR2.5 Chau Tau and Pun Uk Tsuen Village Settlement	1 ha. (approx. 30 trees)	Medium	Medium	Medium	Medium / Low	Medium	Medium
LR2.6 San Tin Village Settlement	1 ha. (approx. 40 trees)	Low	Low	High	Low / Low	Low	Low
LR2.7 Tai Law Hau Village Settlement	0.7Ha. (approx. 10 trees)	Low	Low	High	Low / Low	Low	Low
LR2.8 Ping Hang Village Settlement	0.5 ha. (approx. 10 trees)	Low	Low	High	Low / Low	Low	Low
LR2.9 Tse Koo Hang Village Settlement	1.3ha. (approx. 60 trees)	Low	Low	High	Low / Low	Low	Low

Landscape Resources (LRs)	Criteria						Sensitivity
	Area	Quality	Importance / Rarity	Ability to accommodate change	Local / Regional Significance	Maturity	
LR2.10 Ma Tso Lung Village Settlement	7.9 ha. (approx. 245 trees)	Medium	Medium	Medium	Medium / Low	Medium	Medium
LR3.1 Ha Wan Tsuen Road Mixed Woodland	1.3ha. (approx. 506 trees)	High	High	Low	High / High	High	High
LR3.2 Lok Ma Chau Road Mixed Woodland	16.8 ha. (approx. 1,181 trees)	High	High	Low	High / High	High	High
LR3.3 San Tin Mixed Woodland	63 ha. (approx. 710 trees)	High	High	Low	High / High	High	High
LR3.4 Ma Tso Lung Mixed Woodland	26 ha. (approx. 480 trees)	High	High	Low	High / High	High	High
LR4.1 Roadside Planting along Lung Hau Road	2.67 ha. (approx. 340 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR4.2 Roadside Planting along Fanling and San Tin Highways	6.4 ha. (approx.1,250 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR4.3 Roadside Planting along Lok Ma Chau Road	2.28 ha. (approx. 325 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR4.4 Roadside Planting along Ha Wan Tsuen Road	1.8 ha. (approx. 25 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR4.5 Roadside Planting along Ma Tso Lung Road	12.6 ha. (approx. 375trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR4A Trees on the Loop	17.7 ha. (approx. 2,500 trees)	Low	Low	High	Low / Low	Medium	Low
LR5.1 Lok Ma Chau Shrubland	28 ha. (approx. 306 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR5.2 Ma Tso Lung Shrubland	10 ha. (approx. 305 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR6.1 Grassland on the Loop	61 ha. (No trees)	Low	Low	High	Low / Low	Low	Low

Landscape Resources (LRs)	Criteria						Sensitivity
	Area	Quality	Importance / Rarity	Ability to accommodate change	Local / Regional Significance	Maturity	
LR6.2 Grassland at San Tin	7 ha. (approx. 50 trees)	Low	Low	High	Low / Low	Low	Low
LR6.3 Grassland at Lok Ma Chau	18ha. (approx. 310 trees)	Low	Low	High	Low / Low	Low	Low
LR6.4 Grassland at Ma Tso Lung	85 ha. (approx. 301 trees)	Low	Low	High	Low / Low	Low	Low
LR7.1 Pun Uk Tsuen Agricultural Fields	3.2ha. (approx. 160 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR7.2 Lok Ma Chau Tsuen Agricultural Fields	2.7ha. (approx. 10 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR7.3 Lok Ma Chau Agricultural Fields	1.4ha. (approx. 25 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR7.4 Ma Tso Lung Agricultural Fields	4.7ha. (approx. 210 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR8.1 Sam Po Shue Fishponds	9 ha. (approx. 275 trees)	High	High	Low	High / High	High	High
LR8.2 Ha Wan Tsuen Fishponds	9.9 ha. (approx. 259 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR8.3 Lok Ma Chau Road Fishponds	6.5 ha. (approx. 100 trees)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR8.4 Lok Ma Chau Fishponds	31 ha. (approx. 430trees)	High	High	Low	High / High	High	High
LR8.5 Hoo Hok Wai Fishponds	72 ha. (approx. 379 trees)	High	High	Low	High / High	High	High
LR9.1 Natural River (to the South of the Loop)	18 ha. (No tree)	High	High	Low	High / High	Medium	High

Landscape Resources (LRs)	Criteria						Sensitivity
	Area	Quality	Importance / Rarity	Ability to accommodate change	Local / Regional Significance	Maturity	
LR9.2 Natural Stream at Ha Wan Tsuen	0.1 ha. (No tree)	High	High	Low	High / High	Medium	High
LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang	0.6 ha. (No tree)	High	High	Low	High / High	Medium	High
LR9.4 Natural Stream at Ma Tso Lung	0.4 ha. (No tree)	Medium	Medium	Medium	High / Medium	Low	Medium
LR10.1 Engineered Water Channel (Shenzhen River)	33 ha. (No tree)	Low	Low	High	Low / Low	Low	Low
LR10.2 Engineered Water Channel (along Cross-boundary Facilities)	7 ha. (approx. 450 trees)	Low	Low	High	Low / Low	Low	Low
LR10.3 Engineered Water Channel (Lok Ma Chau Road)	2 ha. (approx. 300 trees)	Medium	Low	High	Low / Low	Low	Low
LR10.4 Engineered Water Channel (Newly constructed water channel at Ma Tso Lung)	2 ha. (No tree)	Low	Low	High	Low / Low	Low	Low
LR11.1 Marsh on the Loop	12.6 ha. (No tree)	Medium	Medium	Medium	Medium / Medium	Medium	Medium
LR11.2 Marsh at Hoo Hok Wai	33 ha. (approx. 160 trees)	High	High	Low	High / High	High	High
LR11.3 Marsh at Lok Ma Chau Tsuen	1.7 ha. (No tree)	High	High	Low	High / High	High	High
LR11.4 Marsh at Chau Tau	3.5 ha. (approx. 50 trees)	High	High	Low	High / High	High	High
LR11.5 Mitigation Wetland and Reedbad at MTR LMC Station	29ha. (approx. 165 trees)	High	High	Low	High / High	High	High
LR12.1 San Tin Developed Area	12.9 ha. (No tree)	Low	Low	High	Low / Low	Low	Low

Landscape Resources (LRs)	Criteria						Sensitivity
	Area	Quality	Importance / Rarity	Ability to accommodate change	Local / Regional Significance	Maturity	
LR12.2 Lok Ma Chau Developed Area	10 ha. (approx. 200 trees)	Low	Low	High	Low / Low	Low	Low
LR12.3 Ma Tso Lung Developed Area	4.4 ha. (approx. 63 trees)	Low	Low	High	Low / Low	Low	Low
LR13.1 San Tin Open Yard	15.7 ha. (approx. 20 trees)	Low	Low	High	Low / Low	Low	Low
LR13.2 Lok Ma Chau Open Yard	44.9 ha. (approx. 570 trees)	Low	Low	High	Low / Low	Low	Low
LR13.3 Ma Tso Lung Open Yard	1.4 ha. (No tree)	Low	Low	High	Low / Low	Low	Low

11.5.1.3 Landscape Character Areas

The landscape character of the assessment area comprises of the Sam Po Shue lowland rural landscape, LMC Cross-boundary infrastructure and facilities landscape, lowland rural landscape, LMC hillside landscape, Ma Tso Lung lowland rural landscape, LMC Loop riverside landscape and Hoo Hok Wai lowland rural landscape. The detailed descriptions of the landscape character are provided in this section whilst **Figures 11.3a** to **11.3e** show the extent of the identified LCAs and **Figure 11.3f** provides photographs of the character areas.

LCA1 Sam Po Shue Lowland Rural Landscape

This LCA is located to the west of the assessment area and is characterised by extensive fishponds to the south of the Shenzhen River with their largely rectilinear form separated by earth bunds, access tracks and a natural stream courses. This LCA is an important landscape character in NWNT providing an extensive lowland landscape from west to north along the south of the Shenzhen River. This landscape contrasts with the character of the densely developed areas in Shenzhen, Fu Tian to the north of the Shenzhen River. Given its importance to the landscape of the region it is considered to have a high sensitivity.

LCA2 LMC Cross-boundary Infrastructure and Facilities Landscape

The LMC area is dominated by the structures associated with the boundary crossing facilities including the vehicular crossing and the buildings and viaduct associated with the East Rail LMC Spur Line. The vehicular crossing is characterised by the extensive apron for waiting vehicles. The railway crossing is characterised by the modernity of the building and the preserved and enhanced wetland areas (fishponds) to the south, east and west. This LCA is important as a gateway to HKSAR although the landscape quality of the vehicular crossing is degraded by its functional requirements. The railway crossing has given greater consideration to the landscape character of the area although the structures are still dominant within the LCA. Given the level of existing development within this LCA it is considered to have a relatively low sensitivity.

LCA3 San Tin Lowland Rural Landscape

This LCA located along the south western boundary of the assessment area is bounded by the LMC Cross-boundary Infrastructure and Facilities to the east, and extensive fishponds to the north and west at Sam Po Shue. The character of this area is composed of 3-storey high village settlements and open yards currently utilised for car parking and open container storage. The main village settlements which include Wing Ping Tsuen and Tung Chan Wai are located at the southern part of the LCA whilst open storage yards from the major character to the north along the cross-boundary infrastructure corridor. As the local context is largely interrupted by the cross-boundary facilities, highways and open yards which have relatively less landscape value, it is considered to have a low sensitivity.

LCA4 Ki Lun Shan Lowland Rural Landscape

This LCA covers the lower slopes of Ki Lun Shan bounded by the Fanling Highway to the north and mixed woodland to the south. Scattered village houses, open storage areas and light industrial units line the edges of the highway extending into the hinterland and are punctuated by small tree groups and individual trees. The two main areas of development are separated by a vegetated spur of the Ki Lun Shan which runs through the centre of the LCA. The main areas of village housing are located to the north and south. The highway corridor is characterised by mature roadside tree planting which contains views along the carriageway. Given the combination of the development and the natural landscape within this area it is considered to have a medium sensitivity.

LCA5 LMC Lowland Rural Landscape

This LCA covers the areas alongside the LMC Road, Ha Wan Tsuen Road and existing Boundary Road. It is a linear piece of lowland landscape bounded by the Fanling Highway to the south, LMC Cross-boundary facilities to the west, low ridges to the east and fishponds to the north along the abandoned meander. Major village settlements within the area include Chau Tau, Pun Uk Tsuen, Ha Wan Tsuen and LMC Tsuen. Its network of associated fishponds and agricultural fields are dominated to the west along the roads by the structures associated with the LMC Cross-boundary facilities and LMC Spur Line in the background. In contrast a more natural setting with less urban and developed intrusion extends from Hoo Hok Wai in the east. This landscape is dominated by fishponds, scattered village houses at Ping Hang and Tse Koo Hang and vegetated lower slopes in the background to the south of the Boundary Road. The rural landscape of this area forms the counterpoint to the urban setting of Shenzhen to the north. Although the western portion of this LCA has been disturbed by infrastructural development the majority of eastern portion maintains its original lowland character and hence it is considered to have a medium sensitivity.

LCA6 LMC Hillside Landscape

This LCA covers the hillside landscape of low ridges extending from LMC to Tai Shek Mo. Although the ridge has an elevation of not more than +120mPD, it is a dominant landscape feature in the NWNT lowland plane that visually links to Sandy Ridge and Ki Lun Shan to the east and south, particularly in the elevated views from Shenzhen. It also forms a green backdrop to the south of the LMC Loop when viewed from the banks of the Shenzhen River to the north and screens the views from Kwu Tung and other village settlements in the hinterland to the south east along the Fanling Highway. The higher elevations of these ridges are covered by a tapestry of shrub and coarse grassland whilst the lower elevations adjacent to villages and fishponds are dominated by mixed woodland. As this LCA forms the green backdrop to many of the views available in the lowland within the assessment area it is regarded as an important landscape feature contrasting with the dense urban development to the north of the Shenzhen River. Given its importance to the landscape of the region it is considered to have a high sensitivity.

LCA7 Ma Tso Lung Lowland Rural Landscape

This LCA covers Ma Tso Lung and part of Fung Kong Shan village settlements on the lower slopes and within the side valleys which cut through the LMC ridge, Fung Kong Shan and Tai Shek Mo. The landscape character of this area features scattered village house clusters and their network of associated agricultural fields and fishponds. This natural and low profile setting contrasts with the industrial and infrastructural development in Kwu Tung adjacent to the Fanling Highway. There are also a number of marshes identified in Ma Tso Lung to the west of village settlements which have naturally evolved from former fishponds and agricultural fields. Given the significance of its rural landscape character forming a buffer to Hoo Hok Wai wetland area, this LCA is considered to have a medium sensitivity.

LCA8 LMC Loop Riverside Landscape

The LMC Loop; bounded by the engineered Shenzhen River to the north and the abandoned river meander to the east, south and west; has become an island as a result of the river training works for the Shenzhen River. The vehicular access bridging the meander to the west and running along the northern periphery of the LMC Loop also serves as maintenance access for the river channel. The landscape of this area is dominated by coarse grassland with a small orchard at the southwest corner of the LMC Loop and marshes in the central and south-eastern portions adjacent to the meander. These marshes have naturally evolved from the filling of the abandoned fishponds and areas where surface water has collected. With the exception of banana trees within small orchard areas tree growth is limited to a relatively small number of self-seeded trees naturally spreading from adjacent woodland. The majority of the LMC Loop area was disturbed by the river training works and so its character is quite different and fragmented from the adjacent lowland areas which are dominated by fishponds at Sam Po Shue and Hoo Hok Wai. The overall sensitivity of the LMC Loop is considered to be medium although there are areas including the marshes and abandoned meander which are considered to have a higher sensitivity.

LCA9 Hoo Hok Wai Lowland Rural Landscape

This landscape is composed of abandoned fishponds and marshlands which are major landscape components of the natural lowland character extending from Deep Bay to Mai Po to Sam Po Shue and Hoo Hok Wai. The marshes in this area have naturally evolved from abandoned fishponds or agricultural fields. Following the decline of agricultural activity in the territory since 1980, the area of marshland is expanding into Ma Tso Lung. The northern edge of Hoo Hok Wai was largely disturbed by the river training works for the Shenzhen River and a maintenance access for the river channel and forms the only developed element within this natural setting. Given the local significance of these marshes and their unique lowland character extending from the landscape of Deep Bay, this LCA is considered to have a high sensitivity.

These LCAs are mapped on **Figures 11.3a** to **11.3e** and photographs of the LCAs provided on **Figure 11.3f**. **Table 11.5.3** provides an assessment of the sensitivity of each of the identified LCAs.

Table 11.5.3 Assessment of the sensitivity of landscape character areas (LCAs)

Landscape Character Areas (LCAs)	**Criteria**					**Sensitivity**
	Quality	**Importance/ Rarity**	**Ability to accommodate change**	**Local / Regional Significance**	**Maturity**	
LCA1 Sam Po Shue Lowland Rural Landscape	High	High	Low	High	High	High
LCA2 LMC Cross-boundary Infrastructure and Facilities Landscape	Low	Low	High	High	Low	Low
LCA3 San Tin Lowland Rural Landscape	Low	Low	Low	Low	Low	Low
LCA4 Ki Lun Shan Lowland Rural Landscape	Medium	Medium	Medium	Medium	Medium	Medium
LCA5 LMC Lowland Rural Landscape	Medium	Medium	Medium	Medium	Medium	Medium
LCA6 LMC Hillside Landscape	High	High	Low	High	High	High
LCA7 Ma Tso Lung Lowland Rural Landscape	Medium	Medium	Medium	Medium	Medium	Medium
LCA8 LMC Loop Riverside Landscape	Medium	Medium	Medium	Medium	Medium	Medium
LCA9 Hoo Hok Wai Lowland Rural Landscape	High	High	Low	High	High	High

11.5.2 Landscape Impact Assessment

The LMC Loop Development project is a designated project (DP) under Environmental Impact Assessment Ordinance (EIAO) with Schedule 3 Item 1 - Engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100,000.

With reference to Section 2.3.4.1 and **Figure 2.1a** of the EIA Report, the LMC Loop Development is composed of proposed uses of higher education, high-tech R&D and C&C industries. The proposed development will have an estimated total number of workers and students for the LMC Loop of approximately 53,000, based on a maximum Gross Floor Area (GFA) of 1,200,000m2and an overall plot ratio of 1.37. The provision of open spaces, amenity areas, and an ecological area, which comprise about 12%, 18% and 15% of total site area respectively, are also included in the RODP. The RODP shown on Figure 2.1b has incorporated a more dynamic height profile with gradation in building heights for the LMC Loop in response to the general environment of the area. Existing level of the LMC Loop is currently relatively flat at a level of +4.5 to +6.0mPD. The drainage impact assessment indicates that site formation levels at about +5.90mPD would be adequate in terms of coping with the risk of flooding.

The following design considerations are incorporated into the proposed development framework on the LMC Loop during the formulation of RODP to avoid the impact on landscape resources and existing landscape characters, visually pleasant resources and visual quality of visually sensitive receivers, maximize the preservation of landscape resources such as existing trees, roadside and channelside planting areas, woodlands, fishponds and wetlands, and maximize the integration of the proposals with the existing landscape character and visual context etc. including:

- Creation of 12.8 ha Ecological Area (EA) to south of LMC Loop to enhance both ecological and landscape context as well as maintain the riverside landscape.
- Creation of 50m wide landscape buffer zones between the Shenzhen River in the north and the Ecological Area in the south to the proposed development. Besides, other 20 to 30m wide landscape areas are reserved along the eastern and western periphery of the LMC Loop. These landscape buffers will maximize the preservation of trees and will form the tree transplanting final location and compensatory planting for trees affected within the LMC Loop.
- Responsive plot ratio and building height profiles with regards to the adjacent infrastructure and rural landscape characters. Within the framework of 1.2Mm^2 GFA, the overall plot ratio will be 1.37. The building height profile was formulated with regard to the public comments and amenity/activity corridor. The low-rise building will be placed at the south and east of LMC Loop to minimize the impact to flight lines and Ecological Area. Tallest buildings will be located at the western and central part of LMC Loop, where ecological sensitivity is relatively less. The tallest buildings will be approximately 12 storeys from ground level (about 54mPD). It serves as a primary gateway for the site. Building heights along the Shenzhen River would be of lower rise and gradually rise towards the centre of the site and again gradually decrease towards the southern boundary of the site. Furthermore, the building height of the commercial sites near Hoo Hok Wai

has been reduced to minimize the impacts of the proposed buildings on the birds' flight paths. These stepped building height profiles will create a better integration with the rural landscape setting within HKSAR boundary and high-rise urbanized setting in Shenzhen in the north across the river.

- Flushing Water Service Reservoir at Horn Hill: There is a need to maintain adequate head for flushing water supply. In order to save pumping energy for individual buildings, the flushing water service reservoir would be located at Horn Hill, which is the highest hill near LMC Loop. In general, the grassed hill is less sensitive to development than more sensitive landscape resources such as woodlands.
- Sewage Treatment Works (STW) for treatment of sewage arising from the development of LMC Loop is sited at southeast corner of LMC Loop which is the optimum location on site to handle sewage. The buildings of sewage treatment works will be low rise and there will be minor human activities. Thus it has benefits on minimizing ecological and landscape and visual impacts when compared with the alternative site at other locations within LMC Loop.
- Creation of 10.6 ha of Open Space within the proposed development and 15.9 ha of Amenity/Activity Corridor in north-south direction at centre of LMC Loop with provision of both active and passive recreation facilities for the use of future users, greening in form of tree and shrub planting, green wall and green roof system. These greening measures will enhance the quality of the landscape and visual context. The east-west and north south orientation of open space and amenity core also serves as major view corridors and breezeways for the LMC Loop Development.
- In order to support the future development and population in LMC Loop, associated infrastructures will be required including Drainage System under Internal Transport Networks and Sewage Treatment Works within the LMC Loop. Besides there are some associated infrastructures are proposed outside the LMC Loop including Eastern and Western Connection Roads from the Loop to Ma Tso Lung and Kwu Tung, San Tin and Fanling Highways respectively, Direct Link to MTR LMC Station and Flushing Water Service Reservoir.

Due to the scale of the LMC Loop Development project, there are some adverse impacts on the existing landscape characters of the lowland and hillside areas at the north New Territories from LMC to Ma Tso Lung although sensitive areas such as Sham Po Shue located to the west of the LMC Station will be spared impact due to the implementation of the project.

The institutional development and associated utilities and road networks on the LMC Loop would introduce urban components into the existing rural riverside context which is currently only composed of grass, marsh, reed beds and tree clusters with very little urban and human disturbance. Although there are significant change of landscape character from rural to institutional landscapes, the introduction of landscape buffer, Ecological Area and landscaped open space and amenity areas, greening provision on podium, building façade and roof would make the development on the LMC Loop a better integration with surrounding rural context. It should be noted the urbanised and high-rise context at Shenzhen to the north of LMC Loop have been formed the background of the proposed development. The impact on the landscape character of the LMC Loop has been hence largely reduced against this urbanised background.

Besides, there are some associated infrastructure and utilities works proposed outside the LMC Loop. Given to the scale of these works, impacts on the rural and hillside landscape characters to the south of the LMC Loop is not significant. These works include Western and Eastern Connection Roads, Direct Link to MTR LMC Station and Flushing Water Services Reservoir. The responsive selection of road alignment and location of reservoir follows largely existing Boundary Patrol Road and on grassed Horn Hill that would significantly reduce the impacts on landscape resources and hence the Hoo Hok Wai and LMC hillside landscape characters. The use of depressed and underpass road connection from Hoo Hok Wai to the LMC Loop will further reduce the visual intrusion of engineering structures in lowland fishpond areas. The Direct Link To the MTR LMC Station is designed in form of viaduct aligned with existing Spur Line that would have a better integration with existing character of the cross-boundary facilities at LMC.

In addition to the LMC Loop Development under Schedule 3 mentioned above, refer to Section 2.4 and **Figure 2.1a to 2.26c** of the EIA Report, the following associated infrastructures proposed within or outside the LMC Loop are Designated Projects (DPs) under Environmental Impact Assessment Ordinance (EIAO) Schedule 2, they have been also considered as part of the landscape impact assessment:

Ecological Area (DP1)

- Ecological Area (EA) located at the southern portion of the LMC Loop for the creation of reed bed along the meander and the replacement of wetlands within the LMC Loop to compensate the loss of mash and reed bed due to the proposed development. The EA will also enhance the visual quality and character of LMC riverside landscape.

Western Connection Road (DP2)

- The proposed road largely utilises existing road corridors such as Fanling and San Tin Highways, LMC Road and Ha Wan Tsuen Road with road widening/improvement works and traffic circulation rearrangement to accommodate standard footpath and new cycle tracks and new planting areas along roads and in central median. The works area has been fine tuned to maximise the preservation of mature trees along Lok Ma Chau Road and Ha Wan Tsuen Road to maintain visual quality of rural areas.

Direct Link to MTR LMC Station (DP3)

- The alignment of this railway connection largely follows the alignment of existing Spur Line when approaching MTR LMC Station to create a better visual integration with existing infrastructure landscape and less intrusive to existing rural landscape. The impact on existing MTR mitigation wetland and fishponds in Ha Wan Tsuen will be reduced through the use of viaduct instead of at-grade railway structures. Besides, an elevated PTI will be built on top of existing PTI at ground floor of LMC Station extending from existing LMC Station. The introduction of viaduct and elevated PTI will be visually integrated with the existing Spur Line, LMC Station and surrounding cross-boundary facilities.

Drainage System under Internal Transport Networks (DP4)

- Integrated utilities and proposed road networks approach to maximise the provision of roadside planting.

Sewage Treatment Works (DP5)

- On site treatment with the "No net increase in pollution" approach avoids further impact on landscape resources and characters as a result of the introduction of an off-site sewage treatment plant and associated pipe connections. Putting the facilities on the LMC Loop Development site has less visual intrusion than other location options in surrounding rural areas. The STW is designed at-grade due to cost-benefit consideration, reduced waste generation and reduced energy consumptions compared with underground options. In terms of STW design, screw pumps will not be used to minimize visual impact.

Eastern Connection Road (DP6)

- The proposed road largely utilises the existing Boundary Patrol Road with road widening/improvement works to accommodate standard footpath and new cycle tracks and new planting areas along road and in central median. The works area has been fine tuned to maximize the preservation of mature trees at Tse Koo Hang. Besides, depressed and underpass roads are designed for the section at Hoo Hok Wai and LMC fishpond areas and across the meander connection to road network on the LMC Loop to minimize the impact on landscape resources, existing riverside and lowland landscape characters and visual context instead of using at-grade road.

Flushing Water Service Reservoir (DP7)

- The proposed location of this reservoir on Horn Hill which is a grassed knoll and less sensitive to development than woodland. The proposed half-sunken reservoir structure responds to the topography of the hill and located away from VSRs thus minimizing the visual intrusion of engineering structures in the hillside landscape.

The DPs are described in Chapter 1 and 2 of the EIA Report. Other non-DP components were also assessed. The level of detail for the DPs is subject to further refinement at the detailed design stage and is provided to the best knowledge available for the purpose of the assessment.

A Landscape Impact Assessment has been undertaken to define the nature and scale of landscape impacts associated with as a whole the proposed development within the LMC Loop, and the associated infrastructure and utilities facilitating the development including the proposed ECR, WCR, Direct Link to MTR LMC Station and the Flushing Water Service Reservoir. The impacts are discussed specifically in terms of the existing landscape character and resources within the HKSAR boundary. Landscape and visual mitigation measures have been identified for the LMC Loop Development as a whole and their effectiveness and landscape opportunities explored. The acceptability of the development options will derive from the scale of residual impacts and the ability of the proposals to mitigate them to acceptable levels.

The assessment findings will inform the future detailed development proposals within the LMC Loop and the design of its associated infrastructure and utility development options. The conceptual development proposals will be formulated through an iterative design process, further refined and developed to accommodate the future institutional design requirements, and to minimise the predicted residual landscape impacts. As the development proposals may be

further refined the assessment assumes the worst case scenario in terms of the impacts.

The source of impacts of each DPs under schedule 2 on the existing landscape context includes the following:

- SO1 (DP1, DP4 & DP5)– Implementation of development on LMC Loop, and the associated infrastructure and utilities facilitating the development and site formation works.
- SO2 – (DP6) Eastern Connection Road from Ma Tso Lung to the Loop composed of at-grade, depressed and underpass sections of the road works.
- SO3 (DP2)– Western Connection Road from San Tin Highway through Lok Ma Chau Road and Ha Wan Tsuen Road to the Loop composed of mainly road widening works, construction of slip road from LMC Road to San Tin Highway and realignment of NWNT cycle track.
- SO4 (DP7) – Flushing Water Service Reservoir and associated access road at Ping Hang.
- SO5 (DP3) – Direct Link from the WCR to MTR LMC Station composed of mainly the construction of viaduct and PTI.

11.5.2.1 Predicted Impacts on Existing Landscape Resources

The predicted impacts on the Landscape Resources of the assessment area during construction and operational period would be as follows:

- Landscape impacts on the existing reed bed and grassland as a result of site formation works for the development of LMC Loop and associated infrastructure and utilities facilitating the development (DP4 and DP5) although the proposals have sought to reinstate and create new reed bed (DP1) as part of the landscape and ecological mitigation approach.
- Landscape impacts on the existing low-lying fishpond and rural landscape character resulting from the introduction of low density institutional developments and associated infrastructure and utilities facilitating the development (DP4 and DP5) on the LMC Loop. The existing flat topography will be substantially changed to accommodate the built components.
- Loss of existing trees will be limited to trees within the Loop and alongside the proposed Direct Link to MTR LMC Station (DP3), WCR (DP2) and ECR (DP6); and access road for the Flushing Water Service Reservoir (DP7). A large proportion of these trees have naturally colonised the site and their overall amenity value is not considered to be high. Based on the broad brush group tree survey contained in **Appendix 11-1**, the following table provides a summary of preliminary tree impacts arising from the implementation of the proposed works. An individual tree impact assessment will be prepared during the detailed design stage of the project in accordance with ETWB TWC No. 3/2006 Tree Preservation and a formal tree felling application submitted for Government approval. The estimated number of felled / transplanted trees is presented in **Table 11.5.4**

Table 11.5.4 Number of trees to be felled / transplanted

Proposed Works	Trees to be Felled	**Trees to be Transplanted**
SO1 - Development on the Loop (including DP1, DP4, DP5)		
LR4A Tree Planting on the Loop	2250 Main species affected: *Acacia confusa, Leucaena leucocephala, Melia azedarach, Hibiscus tiliaceus*	125 Main species affected: *Ficus microcarpa, Celtis sinensis, Macaranga tanarius.*
Total	**2250** **Over 90% are *Leucaena leucocephala.***	**125**
SO2 - Eastern Connection Road (DP6)		
LR3.4 Ma Tso Lung Mixed Woodland	150 Main species affected: *Cratoxylum cochinchinense, Cinnamomum camphora, Celtis sinensis, Macaranga tanarius.*	15 Main species affected: *Cinnamomum camphora, Macaranga tanarius.*
LR5.2 Ma Tso Lung Shrubland	80 Main species affected: *Cratoxylum cochinchinense, Macaranga tanarius.*	10 Main species affected: *Celtis sinensis, Macaranga tanarius*
LR6.4 Grassland at Ma Tso Lung	10 Main species affected: *Dimocarpus longan, Litchi chinensis*	0
LR7.3 Lok Ma Chau Agricultural Fields	20 Main species affected: *Dimocarpus longan, Litchi chinensis*	5 Main species affected: *Celtis sinensis, Cinnamomum camphora, Macaranga tanarius.*
LR8.4 Lok Ma Chau Fishponds	12 Main species affected: *Melia azedarach, Macaranga tanarius,*	0
LR11.2 Marsh at Hoo Hok Wai	30 Main species affected: Cleistocalyx nervosum, Dimocarpus longan, Litchi chinensis	8 Main species affected: *Celtis sinensis, Macaranga tanarius*
LR12.3 Ma Tso Lung Developed Area and Roads	28 Main species affected: *Cleistocalyx nervosum, Dimocarpus longan, Litchi chinensis*	8 Main species affected: *Celtis sinensis, Macaranga tanarius*
Total	**330** **Largely located at shrubland alongside Boundary Patrol Road and in the ponds and agricultural fields**	**46**
SO3 - Western Connection Road (including LMC Road/San Tin Highway		

Proposed Works	Trees to be Felled	**Trees to be Transplanted**
Connection) (DP2)		
LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal)	15 Main species affected: *Casuarina equisetifolia*	0
LR2.1 Ha Wan Tsuen Village Settlement	48 Main species affected: *Lagerstroemia speciosa, Hibiscus tiliaceus, Casuarina equisetifolia, Melaleuca quinquenervia.*	5 Main species affected: *Lagerstroemia speciosa, Hibiscus tiliaceus.*
LR2.2 Lok Ma Chau Road Village Settlement	10 Main species affected: *Lophostemon confertus, Ficus benjamina, Mangifera indica, and Syzygium jambos.*	0
LR3.1 Ha Wan Tsuen Road Mixed Woodland	30 Main species affected: *Celtis sinensis, Sapium sebiferum, Macaranga tanarius.*	10 Main species affected: *Celtis sinensis, Macaranga tanarius.*
LR3.2 Lok Ma Chau Road Mixed Woodland	53 Main species affected: *Celtis sinensis, Cinnamomum camphora, Macaranga tanarius.*	0
LR4.1 Roadside Planting along Lung Hau Road	50 Main species affected: *Melaleuca quinquenervia, Casuarina equisetifolia.*	10 Main species affected: *Melaleuca quinquenervia,*
LR4.2 Roadside Planting along Fanling Highway	780 Main species affected: *Melaleuca quinquenervia, Casuarina equisetifolia, Cassia siamea, Aleurites moluccana*	10 Main species affected: *Cassia siamea, Aleurites moluccana*
LR4.3 Roadside Planting along Lok Ma Chau Road	35 Main species affected: Melaleuca quinquenervia, Celtis sinensis	15 Main species affected: *Melaleuca quinquenervia, Albizia lebbek, Celtis sinensis*
LR4.4 Roadside Planting along Ha Wan Tsuen	25 Main species affected: *Melaleuca quinquenervia, Albizia lebbek*	0

Proposed Works	Trees to be Felled	**Trees to be Transplanted**
Road		
LR8.2 Ha Wan Tsuen Fishponds	20 Main species affected *Macaranga tanarius. Litchi chinensis, Mangifera indica*	5 Main species affected: *Macaranga tanarius*
LR8.4 Lok Ma Chau Fishponds	20 Main species affected *Macaranga tanarius. Litchi chinensis, Mangifera indica*	0
LR10.3 Engineered Water Channel (Lok Ma Chau Road)	200 Main species affected *Aleurites moluccana, Cinnamomum camphora Casuarina equisetifolia, Cassia siamea, Melaleuca quinquenervia*	10 Main species affected: *Cinnamomum camphora*
LR12.2 Lok Ma Chau Developed Area and Roads	20 Main species affected *Hibiscus tiliaceus , Lagerstroemia speciosa*	5 Main species affected: *Lagerstroemia speciosa*
LR13.2 Lok Ma Chau Open Yard	20 Main species affected *Delonix regia ,Cinnamomum camphora, Ficus benjamina*	0
Total	**1326** **Largely located alongside Ha Wan Tsuen Road and on the Ha Wan Tsuen fishpond bunds.**	**70**
SO4 - Flushing Water Service Reservoir (DP7)		
LR6.4 Grassland at Ma Tso Lung	28 Main species affected: *Leucaena leucocephala, Melia azedarach, Macaranga tanarius.*	0
Total	**28** **Largely located alongside of Boundary Patrol Road and the lower slope of the knoll, the upper slope of the knoll where the Reservoir located is dominated by grassland.**	**0**
SO5 - Direct Link To MTR LMC Station (DP3)		
LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station)	10 Main species affected*:* *Casuarina equisetifolia, Ficus microcarpa, Spathodea campanulata*	20 Main species affected*:* *Ficus microcarpa, Spathodea campanulata*
LR1.2 Cross-boundary Infrastructure	10 Main species affected*:* *Casuarina equisetifolia, Macaranga tanarius, Hibiscus*	0

Proposed Works	Trees to be Felled	**Trees to be Transplanted**
and Facilities (Lok Ma Chau vehicular)	*tiliaceus.*	
LR4.1 Roadside Planting along Lung Hau Road	20 Main species affected*:* *Casuarina equisetifolia, Melaleuca quinquenervia*	10 Main species affected*:* *Melaleuca quinquenervia*
LR8.2 Ha Wan Tsuen Fishponds	10 Main species affected*:* *Dimocarpus longan, Hibiscus tiliaceus,Macaranga tanarius.*	0
LR10.2 Engineered Water Channel (along Cross-boundary Facilities)	10 Main species affected: *Casuarina equisetifolia, Hibiscus tiliaceus, Leucaena leucocephala,*	4 Main species affected: *Macaranga tanarius*
LR11.5 Mitigation Wetland and Reedbad at MTR LMC Station	8 Main species affected: *Casuarina equisetifolia,* Hibiscus tiliaceus	4 Main species affected*:* *Hibiscus tiliaceus*
LR12.2 Lok Ma Chau Developed Area	10 Main species affected*:* *Casuarina equisetifolia, Hibiscus tiliaceus*	0
LR13.2 Lok Ma Chau Open Yard	10 Main species affected*:* *Leucaena leucocephala, Hibiscus tiliaceus,Macaranga tanarius.*	0
Total	**88** **Largely located on landscape buffer within the MTR LMC Station complex.**	**38**

There are approximately 6,660 existing trees on the LMC Loop and within the limit of works areas. No Registered Old and Valuable Trees" and/or "Champion Trees are found. Loss of existing trees will be limited to trees within the Loop and alongside the proposed Direct Link to MTR LMC Station, WCR and ECR; and access road for the Flushing Water Service Reservoir. A large proportion of these trees have naturally colonised the site and their overall amenity value is not considered to be high. Based on the broad brush tree survey contained in Appendix 11-1 and the preliminary engineering layouts of proposed works contained in Chapter 2 of this EIA, approximately 279 trees are proposed to be transplanted to new planting areas proposed on the LMC Loop and alongside of proposed road improvement works, and approximately 4,022 trees are inevitable to be in conflict with the construction works and recommend for felling. The

above recommendation on existing trees is preliminary based on project information available at this stage and subject to the detailed tree survey and tree felling application to be submitted for LandsD/Government approval at detailed design stage of the project in accordance with ETWB TWC No. 3/2006 Tree Preservation.

Table 11.5.5 Magnitude of change for landscape resources

Landscape Resource (LR)	**Source of Impact**	**Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected**	**Determinants for Magnitude of Change**				**Magnitude of Change**	
			Compatibility (N/A/Low / Medium / High)	**Scale (N/A / Small / Intermediate / Large)**	**Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)**	**Reversibility (Nil / Low / Medium / High)**	**Construction (Nil / Small / Intermediate / Large)**	**Operation (Nil / Small / Intermediate / Large)**
LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station)	Direct impact on the cross-boundary infrastructure and facilities, PTI only, loss of trees in existing PTI.	SO5 (DP3) - 0.6 / 8.6 ha. (7%) Permanent loss of hard paved PTI vehicular areas and planting areas. 450existing trees / 10 Fell /20 Transplant Main species affected*:* *Casuarina equisetifolia, Ficus microcarpa, Spathodea campanulata*	High	Small	Long / Long	Medium	Small	Small
LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau Vehicular Area)	Direct impact on these cross boundary infrastructures and facilities as the proposed viaduct column will be located within this LR.	SO5 (DP3) - 0.2 / 16Ha. (1.3%) Permanent loss of pavement and planting areas. 760existing trees / 10 Fell) Main species affected*:*	High	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		Casuarina equisetifolia, Macaranga tanarius, Hibiscus tiliaceus.						
LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal)	Direct impact on roadside area of these cross boundary infrastructures and facilities for the construction of WCR LMC Road / San Tin Highway Conneciton	SO3 (DP2) – 0.25 / 3Ha. (8.3%) Permanent loss of pavement and planting areas. 50 existing trees / 15 Fell Main species affected*:* *Casuarina equisetifolia*	High	Small	Long / Long	Medium	Small	Small
LR2.1 Ha Wan Tsuen Village Settlement	Construction of the WCR, loss of existing roadside areas at the northeast of this LR for the construction of WCR.	SO3 (DP2) - 0.14/1.6Ha. (8.8%) Permanent loss of garden/planting areas. 200 existing trees / 48 Fell / 5 Transplant Main species affected:	Medium	Small	Long / Long	Low	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		Lagerstroemia speciosa, Hibiscus tiliaceus, Casuarina equisetifolia, Melaleuca quinquenervia.						
LR2.2 Lok Ma Chau Road Village Settlement	Construction of the WCR, loss of existing village settlement alongside LMC Road.	SO3 (DP2) - 0.02/1.5Ha. (1.3%) Permanent loss of pavement and garden areas. 20 existing trees / 10 Fell Main species affected: *Lophostemon confertus, Ficus benjamina, Mangifera indica, Syzygium jambos.*	Medium	Small	Long / Long	Low	Small	Small
LR2.3 Lok Ma Chau Tsuen Village Settlement	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR2.4 Ha Wan Fishermen	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
Village Settlement								
LR2.5 Chau Tau and Pun Uk Tsuen Village Settlement	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR2.6 San Tin Village Settlement	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR2.7 Tai Law Hau Village Settlement	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR2.8 Ping Hang Village Settlement	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR2.9 Tse Koo Hang Village Settlement	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR2.10 Ma Tso Lung	No works proposed in this	Nil	N/A	N/A	N/A	Nil	Nil	Nil

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
Village Settlement	LR. No impact							
LR3.1 Ha Wan Tsuen Road Mixed Woodland	Construction of WCR along the section of Ha Wan Tsuen Road. Loss of mixed woodland areas.	SO3 (DP2) - 0.44/1.3 ha. (33.8%) Permanent loss of wooded slopes 506 existing trees / 30 Fell / 10 Transplant Main species affected: *Celtis sinensis, Sapium sebiferum, Macaranga tanarius.*	Low	Medium	Long / -Long	Low	Intermediate	Intermediate
LR3.2 Lok Ma Chau Road Mixed Woodland	Construction of WCR along the section of Lok Ma Chau Road. Loss of mixed woodland areas.	SO3 (DP2) - 0.38 / 16.8 ha. (2.26%) Permanent loss of wooded slopes 1,181 existing trees / 53 (Fell) Main species affected:	Low	Small	Long / Long	Low	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		Celtis sinensis, Cinnamomum camphora, Macaranga tanarius.						
LR3.3 San Tin Mixed Woodland	No works proposed in this LR. No impact	Nil	N/A	N/A	N/A	Nil	Nil	Nil
LR3.4 Ma Tso Lung Mixed Woodland	Construction of ECR along a section of the Boundary Patrol Road. Loss of mixed woodland areas.	SO2 (DP6) – 1.2 / 26 ha. (4.6%) Permanent loss of wooded slopes 480 existing trees / 150 Fell / 15 Transplant Main species affected: *Cratoxylum cochinchinense, Cinnamomum camphora, Celtis sinensis, Macaranga tanarius.*	Low	Small	Long / Long	Low	Small	Small
LR4.1 Roadside	Construction of proposed viaduct	SO3 (DP2) - 0.15 / 2.67 ha.	Medium	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
Planting along Lung Hau Road	to MTR LMC Station and WCR. Loss of trees and planting along Lung Hau Road.	(5.6%) SO5 (DP3) 0.04 / 2.67 ha. (1.5%) Permanent loss of roadside planting area. 340 existing trees / SO3 (DP2) - 50 Fell / 10Transplant SO5 (DP3) – 20 Fell / 10Transplant Main species affected: *Melaleuca quinquenervia, Casuarina equisetifolia.*						
LR4.2 Roadside Planting along Fanling and San Tin Highways	Construction of proposed WCR connection to San Tin / Fanling Highways. Loss of trees and planting along Fanling and San	SO3 (DP2) - 1 / 6.4 ha. (15.6%) Permanent loss of roadside planting area.	Medium	Large	Long / Long	Medium	Large	Large

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
	Tin Highways.	1,250 existing trees / 780 Fell / 10 Transplant Main species affected: *Melaleuca quinquenervia, Casuarina equisetifolia, Cassia siamea, Aleurites moluccana*						
LR4.3 Roadside Planting along Lok Ma Chau Road	Construction of proposed WCR along Lok Ma Chau Road Loss of roadside trees and planting.	SO3 (DP2) - 0.90 / 2Ha. (45%) Permanent loss of roadside planting area. 325 existing trees / 35 Fell / 15Transplant) Main species affected: *Melaleuca quinquenervia, Celtis sinensis*	Medium	Intermediate	Long / Long	Medium	Intermediate	Intermediate
LR4.4 Roadside Tree Planting along Ha	Construction of proposed WCR along Lok Ma Chau Road	SO3 (DP2) - 0.11 / 0.28Ha. (39%)	Medium	Intermediate	Long / Long	Medium	Intermediate	Intermediate

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
Wan Tsuen Road	Loss of roadside trees and planting.	Permanent loss of roadside planting area. 25 existing trees / 25 Fell Main species affected: *Melaleuca quinquenervia, Albizia lebbek*						
LR4A Trees on the Loop	Implementation of development on the LMC Loop Loss of self-seeded tree growth.	SO1 (DP1,DP4 & DP5) - 17.7 / 17.7Ha. (100%) Permanent loss of weedy or self-seeded tree clusters. 2,500 existing trees / 2,250 Fell / 125 Transplant Main species affected: *Acacia confusa, Leucaena leucocephala, Melia azedarach, Hibiscus tiliaceus*	Medium	Large	Long / Long	Medium	Large	Large

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
LR4.5 Roadside Planting along Ma Tso Lung Road	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR5.1 Lok Ma Chau Shrubland	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR5.2 Ma Tso Lung Shrubland	Construction of the proposed ECR along Boundary Patrol Road. Loss of roadside vegetation.	SO2 (DP6) 0.7 / 10Ha. (7%) Permanent loss of self-seed shrub along existing Boundary Patrol Road. 305 existing trees / 80 Fell / 10 Transplant) Main species affected: *Celtis sinensis, Cratoxylum cochinchinense, Macaranga tanarius.*	Medium	Small	Long / Long	High	Small	Small
LR6.1 Grassland on the Loop	Construction of the proposed developments on	SO1 (DP1,DP4 & DP5) - 60 / 60Ha. (100%)	Medium	Large	Long / Long	Low	Large	Large

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
	the LMC Loop. Loss of grassland within LMC Loop area.	Permanent loss of grassland. No trees (Trees on the Loop refers to LR4A)						
LR6.2 Grassland at San Tin	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR6.3 Grassland at Lok Ma Chau	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR6.4 Grassland at Ma Tso Lung	Construction of the proposed ECR and Flushing Water Service Reservoir at existing grassland. Loss of grassland and trees.	SO2(DP6) 0.3/ 85Ha. (0.3%) SO4 (DP7) 1.5 / 85Ha. (1.8%) Permanent loss of grassland. 301 existing trees / SO2(DP6) 10 Fell SO4 (DP7)	Medium	Small	Long / Long	High	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		28 Fell Main species affected: *Leucaena leucocephala, Melia azedarach, Macaranga tanarius, Dimocarpus longan, Litchi chinensis*						
LR7.1 Pun Uk Tsuen Agricultural Fields	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR7.2 Lok Ma Chau Tsuen Agricultural Fields	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR7.3 Lok Ma Chau Agricultural Fields	Construction of the proposed ECR, loss of tree and crops in the abandoned fields.	SO2 (DP6) 0.49 / 1.4Ha. (35%) Permanent loss of abandoned agricultural fields	Medium	Intermediate	Long / Long	High	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		25 existing trees / 25 (Fell / Transplant) Main species affected: *Celtis sinensis, Cinnamomum camphora,, Macaranga tanarius, Dimocarpus longan, Litchi chinensis*						
LR7.4 Ma Tso Lung Agricultural Fields	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR8.1 Sam Po Shue Fishponds	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR8.2 Ha Wan Tsuen Fishponds	Construction of the road works for WCR and the columns for Direct Link to MTR LMC Station (viaduct). Impact on the abandoned	SO3 (DP2) 1.76 / 9.9Ha. (17%) SO5 (DP3) 1 / 9.9Ha. (9%) Permanent loss of 16% fishponds due to road works and construction of viaduct. The remaining	Low	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
	fishponds to the north of Ha Wan Tsuen	areas (10%) will be reinstated as fishpond. 259 existing trees / SO3 (DP2) 20 Fell / 5 Transplant SO5 (DP3) 10 Fell Main species affected *Macaranga tanarius. Litchi chinensis, Mangifera indica, Dimocarpus longan, Hibiscus tiliaceus*						
LR8.3 Lok Ma Chau Road Fishponds	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	Nil	Nil	Nil
LR8.4 Lok Ma Chau Fishponds	Construction of the WCR. Impact on fishponds to the north of LMC Tsuen	SO2 (DP6) 6/31Ha. (19.4%) SO3 (DP2) 0.6/31Ha. (1.9%)	Low	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		Permanent loss of 0.6% fishponds due to road works. The remaining areas will be reinstated as fishpond. 430 existing trees / SO2 (DP6) 12 Fell SO3 (DP2) 20 Fell Main species affected: *Melia azedarach, Macaranga tanarius, Litchi chinensis, Mangifera indica*						
LR8.5 Hoo Hok Wai Fishponds	Construction of ECR. Impact on fishponds to the east of the Loop.	SO2 (DP6) 0.34 / 72Ha. (0.0047 %) Permanent loss of 0.003% fishponds due to road works. The remaining areas will be reinstated as fishpond.	Low	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		379 existing trees / 0 (Fell / Transplant)						
LR9.1 Natural River (to the South of the Loop)	Construction of Ecological Area on the southern periphery of the Loop. Construction of the WCR. Impact on this LR due to crossing bridge widening. Enhancement of the reedbed.	SO1 (DP1) 0.16 / 18Ha. (0.8%) SO3 (DP2) 0.35 / 18Ha. (2%) Permanent loss of reeds due to site formation works. No tree	Low	Small	Long / Long	Medium	Small	Small
LR9.2 Natural Stream at Ha Wan Tsuen	Construction of the WCR and Direct Link to LMC Station. Impact on this LR due to crossing bridge widening. Enhancement of the reedbed.	SO3 (DP2) 0.15 / 5 ha. (3%) SO5 (DP3) 0.15 / 5Ha. (3%) Temporary loss of natural stream.	Low	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		No tree						
LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang	Construction of the ECR	SO2 (DP6)- 0.006 / 0.6Ha. (1%) Permanent loss of natural stream. No tree	Low	Small	Long / Long	Medium	Small	Small
LR9.4 Natural Stream at Ma Tso Lung	Construction of the ECR.	SO2 (DP6)- 0.012 / 0.4Ha. (1%) Temporary loss of natural stream. No tree	Low	Small	Long / Long	Medium	Small	Small
LR10.1 Engineered Water Channel (Shenzhen River)	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	N/A	Nil	Nil
LR10.2 Engineered Water Channel (along Cross-	Construction of columns for Direct Link to MTR LMC Station (viaduct). Loss of	SO5 (DP3) - 0.85 / 7Ha. (12%) Permanent loss of channel	Medium	Small	Long / Long	High	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
boundary Facilities)	channel side tree planting.	surface and its adjacent planting areas 450 existing trees / 10 Fell / 4Transplant) Main species affected: *Casuarina equisetifolia, Hibiscus tiliaceus, Leucaena leucocephala*						
LR10.3 Engineered Water Channel (Lok Ma Chau Road)	Construction of the slip road and cycle track realignment for the WCR. Loss of channel side tree planting.	SO3 (DP2) - 0.27 / 2Ha. (13.5%) Permanent loss of channel surface and its adjacent planting areas 300 existing trees / 200 Fell / 10 Transplant Main species affected *Aleurites moluccana, Cinnamomum camphora Casuarina equisetifolia, Cassia siamea, Melaleuca*	Medium	Intermediate	Long / Long	High	Intermediate	Intermediate

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		quinquenervia						
LR10.4 Engineered Water Channel (Newly constructed water channel at Ma Tso Lung)	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	N/A	Nil	Nil
LR11.1 Marsh on the Loop	Construction of development on the LMC Loop Loss of marshland. Site formation, utilities and road network.	SO1 (DP1,4 & 5) 10.09 / 10.09Ha. (100%) Permanent loss of marsh. No tree	Low	Large	Long / Long	Low	Large	Large
LR11.2 Marsh at Hoo Hok Wai	Construction of ECR. Loss of existing trees and vegetation adjacent at the edge of marshland.	SO2 (DP6) 2.33/33Ha. (3%) Permanent loss of marsh and its adjacent planting area.	Low	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		160 existing trees / 38 (Fell / Transplant) Main species affected: *Cleistocalyx nervosum, Dimocarpus longan, Litchi chinensis*						
LR11.3 Marsh at Lok Ma Chau Tsuen	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	N/A	Nil	Nil
LR11.4 Marsh at Chau Tau	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	N/A	Nil	Nil
LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station	Construction of columns for Direct Link to MTR LMC Station (viaduct). Loss of trees at the edge of the wetland.	SO5 (DP3) 0.16 / 29Ha. (0.6%) Permanent wetland and its adjacent planting areas 165 existing trees / 8 Fell / 4 Transplant) Main species affected: *Casuarina equisetifolia,*	Low	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		Hibiscus tiliaceus						
LR12.1 San Tin Developed Area and Roads	Construction of road works along San Tin Highway.	SO3 (DP2) 0.5 / 12.9Ha. (3.9%) Temporary loss of road surface and roadside areas. No tree	High	Small	Long / Long	Medium	Small	Small
LR12.2 Lok Ma Chau Developed Area and Roads	Construction of Direct Link To MTR LMC Station (viaduct) Construction of the WCR through widening of the existing Ha Wan Tsuen Road and Lok Ma Chau Road. Loss of existing road surface and trees	SO3 (DP2) 1 / 10 ha. (10%) SO5 (DP3) 1.5 / 10 ha. (15%) Temporary loss of road surface and roadside areas. 200 existing trees / SO3 (DP2) 20 Fell / 5 Transplant SO5 (DP3) 10 Fell Main species affected *Hibiscus tiliaceus* , *Lagerstroemia speciosa,*	High	Small	Long / Long	Medium	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
		Casuarina equisetifolia, Hibiscus tiliaceus						
LR12.3 Ma Tso Lung Developed Area and Roads	Construction of ECR. Loss of existing trees.	SO2 (DP6) 0.2 / 4.4 ha. (4.5%) Temporary loss of road surface and roadside areas. 63 existing trees / 28 Fell / 8 Transplant Main species affected: *Cleistocalyx nervosum, Dimocarpus longan, Litchi chinensis*	High	Small	Long / Long	Medium	Small	Small
LR13.1 San Tin Open Yard	No works proposed in this LR. No impact	Nil	N/A	N/A	Nil / Nil	N/A	Nil	Nil
LR13.2 Lok Ma Chau Open Yard	Construction of Direct Link To MTR LMC Station (viaduct) at Ha Wan Tsuen. Construction of the WCR through the widening of	SO3 (DP2) 0.8 / 44.9Ha. (1.8%) SO5 (DP3) 0.5 / 44.9Ha. (1.1%) Temporary loss of open yard.	High	Small	Long / Long	High	Small	Small

Landscape Resource (LR)	Source of Impact	Relevant DPs/Area Loss (ha) / Total Area of LR (ha)/ Percentage of the Loss/ Type of Loss/Trees Affected/ Main Species Affected	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A/Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impacts (Construction / Operation) (Nil/Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
	the existing Lok Ma Chau Road. Loss of existing hard surface and existing trees.	570 existing trees / SO3 (DP2) 20 Fell SO5 (DP3) 10 Fell Main species affected*:* *Leucaena leucocephala, Hibiscus tiliaceus,Macaranga tanarius, Delonix regia ,Cinnamomum camphora, Ficus benjamina.*						
LR13.3 Ma Tso Lung Open Yard	Construction of ECR through the DSD construction site at Ma Tso Lung. Loss of disturbed areas.	SO3 (DP6) 0.6 / 1.4Ha. (42%) Temporary loss of open yard. No tree	High	Intermediate	Long / Long	High	Intermediate	Intermediate

Table 11.5.5 describes the source of impacts as a result of the proposed LMC Loop Development and the associated infrastructure as a whole DP under Schedule 3 and presents the magnitude of change on individual LRs. The predicted impacts to LRs and the magnitude of change for individual LRs are shown on **Figures 11.4a** to **11.4s** and are described as follows:

Large

According to the assessment summarised in **Table 11.5.5,** the magnitude of change for individual LRs including areas associated with the LMC Loop and WCR will be relatively large or result in the loss of this LR as a result of the site formation works on the LMC Loop for accommodating road and utilities works, creation of EA and construction of the slip road of WCR and so the magnitude of change would be large. These LRs include Roadside Planting along Fanling and San Tin Highways (LR4.2), Trees on the Loop (LR4A), Grassland on the Loop (LR6.1), and Marsh on the Loop (LR11.1).

Intermediate

For other areas also directly affected by the road improvement works for WCR and ECR and the construction of viaduct for a Direct Link to LMC Loop including Ha Wan Tsuen Road Mixed Woodland (LR3.1); Roadside Planting along Lok Ma Chau Road and Ha Wan Tsuen Road (LR4.3 and 4.4); Lok Ma Chau Agricultural Fields (LR7.3); Lok Ma Chau Road Engineered Water Channel (LR10.3), Mitigation Wetland and Reedbed at MTR LMC Station (LR11.5) and Ma Tso Lung Open Yard (LR13.3) the magnitude of change would be intermediate.

Small

The magnitude of change for individual LRs, including the following would be small as a result of the implementation of the proposed scheme. These include the Cross-boundary Infrastructure and Facilities (MTR LMC Station) (LR1.1); Cross-boundary Infrastructure and Facilities (Lok Ma Chau vehicular) (LR1.2); Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal) (LR1.3); Ha Wan Tsuen Village Settlement (LR2.1); Lok Ma Chau Road Village Settlement (LR2.2); Lok Ma Chau Road Mixed Woodland (LR3.2); Ma Tso Lung Mixed Woodland (LR3.4); Roadside Planting along Lung Hau Road (LR4.1); Ma Tso Lung Shrubland (LR5.2); Grassland at Ma Tso Lung (LR6.4); Ha Wan Tsuen Fishponds (LR8.2): Lok Ma Chau Fishponds (LR8.4); Hoo Hok Wai Fishponds (LR8.5); Natural River to the south of the Loop (LR9.1); Natural Stream at Ha Wan Tsuen (LR9.2); Natural Stream at Lok Ma Chau Tsuen and Ping Hang (LR9.3); Natural Stream at Ma Tso Lung (LR9.4); Engineered Water Channel (along Cross-boundary Facilities) (LR10.2); Marsh at Hoo Hok Wai (LR11.2); Mitigation Wetland and Reedbed at MTR LMC Station (LR11.5); San Tin Developed Area (LR12.1); Lok Ma Chau Developed Area (LR12.2); Ma Tso Lung Developed Area (LR12.3)and Lok Ma Chau Open Yard (LR13.2).

Nil

For the remainder of the LRS the magnitude of change would be nil.

The following section summaries the source of impacts and magnitude of change as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The magnitude of change due to the site formation works on the LMC Loop for accommodating road and utilities works, creation of EA for the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- Large changes on LR4A Trees on the Loop, LR6.1 Grassland on the Loop and LR11.1 Marsh on the Loop
- Small changes on LR9.1 Natural River (to the South of the Loop)

SO2 - Eastern Connection Road (DP6)

The magnitude of change due to road improvement works on existing Boundary Patrol Road at Ma Tso Lung and LMC, slope cutting and stabilisation, permanent and temporary affecting existing fishponds and formation of a new road section on grassland at Ma TSo Lung for ECR includes the followings:

- Small changes on LR3.4 Ma Tso Lung Mixed Woodland, LR5.2 Ma Tso Lung Shrubland, LR6.4 Grassland at Ma Tso Lung, LR7.3 Lok Ma Chau Agricultural Fields, LR8.4 Lok Ma Chau Fishponds, LR8.5 Hoo Hok Wai Fishponds, LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang, LR9.4 Natural Stream at Ma Tso Lung, LR11.2 Marsh at Hoo Hok Wai and LR12.3 Ma Tso Lung Developed Area and Roads

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

The magnitude of change due to road improvement works on LMC Road, slope cutting and stabilisation, and construction of a slip road connecting LMC Road and San Tin Highway for WCR includes the followings:

- Large changes on LR4.2 Roadside Planting along Fanling and San Tin Highways
- Intermediate changes on LR3.1 Ha Wan Tsuen Road Mixed Woodland, LR4.3 Roadside Planting along Lok Ma Chau Road, LR4.4 Roadside Planting along Ha Wan Tsuen Road, LR10.3 Engineered Water Channel (Lok Ma Chau Road) and LR13.3 Ma Tso Lung Open Yard,
- Small changes on LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal), LR2.1 Ha Wan Tsuen Village Settlement, LR2.2 Lok Ma Chau Road Village Settlement, LR2.2 Lok Ma Chau Road Village Settlement, LR3.2 Lok Ma Chau Road Mixed Woodland, LR4.1 Roadside Planting along Lung Hau Road, LR8.2 Ha Wan Tsuen Fishponds, LR8.4 Lok Ma Chau Fishponds, LR9.1 Natural River (to the South of the Loop), LR9.2 Natural Stream at Ha Wan Tsuen, LR12.1 San Tin Developed Area

and Roads, LR12.2 Lok Ma Chau Developed Area and Roads and LR13.2 Lok Ma Chau Open Yard

SO4 - Flushing Water Service Reservoir (DP7)

The magnitude of change due to construction of a service reservoir on the grassed Horn Hill and cut and fill required for the maintenance access road from the existing Boundary Patrol Road includes the following:

- Small changes on LR6.4 Grassland at Ma Tso Lung

SO5 - Direct Link To MTR LMC Station (DP3)

The magnitude of change due to the construction of viaduct from the LMC Loop over Ha Wan Tsuen North and MTR LMC mitigated wetlands connecting to existing MTR LMC Station with an elevated PTI extended from existing station includes the following:

- Small changes on LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station) , LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau), LR4.1 Roadside Planting along Lung Hau Road, LR8.2 Ha Wan Tsuen Fishponds, LR9.2 Natural Stream at Ha Wan Tsuen , LR10.2 Engineered Water Channel (along Cross-boundary Facilities), LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station, LR12.2 Lok Ma Chau Developed Area and Roads and LR13.2 Lok Ma Chau Open Yard.

Table 11.5.6 presents the predicted unmitigated and mitigated (Day 1 and Year 10 / Residual) impacts on the existing landscape resources resulting from the proposed works of LMC Loop Development under Schedule 3 during the construction and operational phases of the project. The mitigated (residual) impacts are assessed during the design year (10 to 15 years after the schemes opening) when the proposed mitigation planting is deemed to have reached a level of maturity, which is sufficient for it to perform the design objectives.

Significance thresholds for the unmitigated impacts are summarised as follows:

Significant Adverse Impact

LRs experiencing significant adverse impacts are those with a relatively higher sensitivity and magnitude of change due to site formation works on the LMC Loop to accommodate the proposed development and associated infrastructure and utilities works. The only LR under this category is Marsh on the Loop (LR11.1) due to permanent loss of the immature and fragmentised marsh on the Loop.

Moderate Adverse Impact

LRs subject to moderate adverse impacts are those which have a high to medium sensitivity including village settlements, mixed woodland, roadside tree planting, planting on the Loop, fishponds, natural river/stream and water channels, marsh and mitigated wetland and experience a small to intermediate magnitude of change due to site formation works on the LMC Loop to accommodate the proposed development and associated infrastructure and utilities works, road improvement works for WCR and ECR and construction of viaduct for Direct Link to LMC Station and slip road for WCR . These LRs include Ha Wan Tsuen Village Settlement (LR2.1), Ha Wan Tsuen Road Mixed Woodland (LR3.1),Lok Ma Chau Road Mixed Woodland (LR3.2), Ma Tso Lung Mixed Woodland (LR3.4), Roadside Planting along Lung Hau Road (LR4.1), Roadside Planting along Fanling and San Tin Highways (LR4.2), Roadside Planting along Lok Ma Chau Road and Ha Wan Tsuen Road (LR4.3 and 4.4), Trees on the Loop (LR4A), Grassland on the Loop (LR6.1), , Ha Wan Tsuen Fishponds (LR8.2), Lok Ma Chau Fishponds (LR8.4), Hoo Hok Wai Fishponds (LR8.5), Natural River to the South of the Loop (LR9.1), Natural Stream at Lok Ma Chau Tsuen and Ping Hang and Ha Wan Tsuen (LR9.2 and 9.3), Natural Stream at Ma Tso Lung (LR9.4), Lok Ma Chau Road Engineered Water Channel (LR10 .3), Marsh at Hoo Hok Wai (LR11.2) and Mitigation Wetland and Reedbed at MTR LMC Station (LR11.5).

Slight Adverse Impact

LRs which are subject to slight adverse impacts include those with a low to medium sensitivity, including cross-boundary infrastructure and facilities, shrubland and grassland, agricultural fields, water channel, developed areas (roads) and open yards and experience a small to intermediate magnitude of change due to road improvement works for WCR and ECR including construction of a new road section, and construction of viaduct for Direct Link to LMC Station and slip road

for WCR. These include Cross-boundary Infrastructure and Facilities (MTR LMC Station) (LR1.1), Cross-boundary Infrastructure and Facilities (Lok Ma Chau Vehicular Area)(LR1.2), Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal) (LR1.3), Lok Ma Chau Road Village Settlement (LR2.2), Ma Tso Lung Shrubland (LR5.2), Grassland at Ma Tso Lung (LR6.4), Lok Ma Chau Agricultural Fields (LR7.3), Engineered Water Channel (along Cross-boundary Facilities) (LR10.2), San Tin Developed Area and Roads (LR12.1), Lok Ma Chau Developed Area and Roads (LR12.2), Ma Tso Lung Developed Area and Roads (LR12.3), Lok Ma Chau Open Yard (LR13.2), Ma Tso Lung Open Yard (LR13.3).

Negligible Impact

In a number of locations the proposed works will not encroach upon the existing LRs and so there would be no perceptible change. These LRs include Lok Ma Chau Tsuen Village Settlement (LR2.3), Ha Wan Fishermen Village Settlement (LR2.4), Chau Tau and Pun Uk Tsuen Village Settlement (LR2.5), San Tin Village Settlement (LR2.6), Tai Law Hau Village Settlement (LR2.7), Ping Hang Village Settlement (LR2.8), Tse Koo Hang Village Settlement (LR2.9), Ma Tso Lung Village Settlement (LR2.10), San Tin Road Mixed Woodland (LR3.3), Roadside Planting along Ma Tso Lung Road (LR4.5), Lok Ma Chau Shrubland (LR5.1), Grassland at San Tin (LR6.2), Grassland at Lok Ma Chau, (LR6.3), Pun Uk Tsuen Agricultural Fields (LR7.1), Lok Ma Chau Tsuen Agricultural Fields (LR7.2), Ma Tso Lung Agricultural Fields (LR7.4), Sam Po Shue Fishponds (LR8.1), Lok Ma Chau Road Fishponds (LR8.3), Engineered Water Channel (Shenzhen River) (LR10 .1), Engineered Water Channel (Newly constructed water channel at Ma Tso Lung) (LR10 .4), Marsh at Lok Ma Chau (LR11.3) and LR11.4 Marsh at Chau Tau.

The following section summarizes the unmitigated impacts on the existing landscape resources during construction and operation phase as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The unmitigated impacts on the landscape resources of the assessment area include a slight to significant adverse landscape impact due to the loss of the reedbed, marsh, natural stream and grassland of the LMC Loop during the construction phase of the project. Trees on the Loop will be affected by the site formation works for development sites and associated works for utilities and road networks, as mentioned in **Table 11.5.4**, all weedy trees are recommended to be removed, some existing trees along new Boundary Patrol Road will be retained in the proposed landscape areas.

The landscape impact as a result of the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- Significant Adverse on LR11.1 Marsh on the Loop
- Moderate Adverse impact on LR4A Trees on the Loop and LR9.1 Natural River (to the South of the Loop)

- Slight Adverse impact on LR6.1 Grassland on the Loop

SO2 - Eastern Connection Road (DP6)

The unmitigated landscape impacts resulting from the ECR cutting through the pond areas at Lok Ma Chau and Hoo Hok Wai and grassland at Ma Tso Lung which links the LMC Loop with the new road to KTN NDA would be as follows:

- The proposals would lead to loss of vegetation within the grassland, agricultural fields and lower vegetated slopes at Ma Tso Lung. There would also be an impact on the mature tree clusters on vegetated slopes located to the east of Tse Koo Hang. Some preservation of these tree clusters may be possible through local fine tuning of the road alignment.
- Another key impact would be the extensive loss of marshland and fishponds at Lok Ma Chau and Hoo Hok Wai and the fragmentation of the landscape character within this area due to road widening works and construction of depressed road and underpass section of ECR.
- This loss of roadside and woodland trees, fishponds, marsh, agricultural fields have a moderate adverse impact on the existing landscape resources.

  The landscape impacts resulting from road widening of road widening/ improvement works of existing Boundary Patrol Road at Ma Tso Lung would be as follows:

- Moderate Adverse impact on LR3.4 Ma Tso Lung Mixed Woodland, LR7.3 Lok Ma Chau Agricultural Fields, LR8.4 Lok Ma Chau Fishponds, LR8.5 Hoo Hok Wai Fishponds, LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang, LR11.2 Marsh at Hoo Hok Wai and LR9.4 Natural Stream at Ma Tso Lung.
- Slight Adverse impact on LR5.2 Ma Tso Lung Shrubland, LR6.4 Grassland at Ma Tso Lung and LR12.3 Ma Tso Lung Developed Area and Roads.

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

The landscape impacts resulting from road widening/improvement works of LMC Road and Ha Wan Tsuen Road would be as follows:

- The trees lining the LMC Road fall into two main size ranges with the southern section forming roadside mass tree planting and the northern section being lined by mature trees (with a DBH larger than 500mm). These trees could be affected by the proposed works. As the road would be widened to accommodate the predicted traffic and the provision of a cycle track / footpath and noise barrier there would inevitably be some tree loss. This would be apparent at the roadside, along sections of the existing central median and at the lower slopes adjacent to the road junction of LMC Road and the access road to LMC Tsuen.
- As a result of the road modification works, the introduction of sections of noise barrier and the limitation of land acquisition, the landscape mitigation measures including tree planting will be limited by spatial constraints.

- Open yards and carparking areas and existing roadside corridors along LMC Road, roadside areas at the periphery of Ha Wan Tsuen and villages along LMC Road will be affected by road widening works accommodating new footpath and cycle track.
- The road widening proposal for Ha Wan Tsuen Road will mainly concentrate on the western side of the alignment to minimize impacts on the existing landscape character. Although the road alignment has been adjusted, some of the mature trees and significant/important trees along the eastern side of Ha Wan Tsuen Road would be affected. This proposal would also lead to the loss of the existing trees and vegetation along the western side of Ha Wan Tsuen Road, the existing slopes, fishpond bunds and the mature trees along the eastern side of Ha Wan Tsuen Road.
- Impacts on wooded slopes to the south of Ha Wan Tsuen and fishponds adjacent to the road. The ruminant slopes (with woodland trees) will be affected by construction of retaining structures and slope cutting. This loss of trees and wooded slopes will have a moderate adverse impact on the existing landscape resources and the landscape character of the LMC Lowland Rural Landscape. The existing manmade (with plantation) slopes along LMC Road will also be affected by the construction of retaining structures for road improvement works. This loss of trees and wooded slopes will have a moderate adverse impact on the existing landscape resources and the landscape character of the LMC Lowland Rural Landscape.
- The open yard (currently occupied for car parking), developed areas and road surface along LMC road is subject to a slight impact.

The landscape impacts resulting from slip road connecting LMC Road to San Tin Highway would be as follows:

- The construction of slip road and road surface reconstruction will utilise existing carriageway and roadside areas to accommodate the columns and landing as to minimize impacts on the existing landscape character. Although the road alignment is largely on top of existing highway structures, the proposal would lead to a loss of trees in roadside planting areas along San Tin and Fanling Highways.
- The realignment of planned NWNT cycle track from LMC Road roadside areas to the north along an existing water channel side running parallel to Fanling Highway and Castle Peak Road will utilise the hard paved areas along the channel and preserved tree lined along the channel as far as technically feasible to minimise the landscape impact. Although there would inevitably loss of trees.
- This extensive loss of roadside trees will have a moderate adverse impact on the existing landscape resources and the landscape character of the San Tin Lowland Rural Landscape.

The unmitigated impact as a result of the construction of WCR (DP2) includes the followings:

- Moderate Adverse impact on LR2.1 Ha Wan Tsuen Village Settlement, LR2.2 Lok Ma Chau Road Village Settlement, LR3.1 Ha Wan Tsuen Road

Mixed Woodland, LR3.2 Lok Ma Chau Road Mixed Woodland, LR4.1 Roadside Planting along Lung Hau Road, LR4.2 Roadside Planting along Fanling and San Tin Highways , LR4.3 Roadside Planting along Lok Ma Chau Road, LR4.4 Roadside Planting along Ha Wan Tsuen Road, , LR8.2 Ha Wan Tsuen Fishponds, , LR8.4 Lok Ma Chau Fishponds, LR9.1 Natural River (to the South of the Loop) , LR9.2 Natural Stream at Ha Wan Tsuen and LR10.3 Engineered Water Channel (Lok Ma Chau Road) .

- Slight Adverse impact on LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal), LR12.1 San Tin Developed Area and Roads, LR12.2 Lok Ma Chau Developed Area and Roads, LR13.2 Lok Ma Chau Open Yard and LR13.3 Ma Tso Lung Open Yard.

SO4 - Flushing Water Service Reservoir (DP7)

The construction of Flushing Water Service Reservoir and access road would lead to loss of tree alongside of Boundary Patrol Road and grass on the knoll opposite to the HKPF LMC Operation Base. The proposed works will have a slight Adverse impact on LR6.4 Grassland at Ma Tso Lung.

SO5 - Direct Link To MTR LMC Station (DP3)

The construction of viaduct and columns along the alignment form MTR LMC Station to the Loop and the elevated PTI extending existing station would lead to loss of tree and vegetation within the Station and its mitigation wetland, LMC BCP and fishponds at Ha Wan Tsuen. The construction of this direct link will have unmitigated includes the followings:

- Moderate Adverse on LR4.1 Roadside Planting along Lung Hau Road , LR8.4 Lok Ma Chau Fishponds, LR9.2 Natural Stream at Ha Wan Tsuen and LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station,
- Slight Adverse on LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station) , LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau), LR8.2 Ha Wan Tsuen Fishponds LR10.2 Engineered Water Channel (along Cross-boundary Facilities), LR12.2 Lok Ma Chau Developed Area and Roads and LR13.2 Lok Ma Chau Open Yard.

Table 11.5.6 Predicted impacts on landscape resources

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station)	Low	Small	Small	Slight Adverse	Slight Adverse	**SO5 (DP3)** CP1, CP4, OP7	Slight Adverse	Negligible	Negligible Through preservation of existing trees in PTI through transplanting. No mitigation allowed inside MTR LMC Station and adjacent wetland enhancement areas due to security operation issues. However the proposal is compatible to existing infrastructure landscape.

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau Vehicular Area)	Low	Small	Small	Slight Adverse	Slight Adverse	**SO5 (DP3)** CP1, CP2	Slight Adverse	Negligible	Negligible Through preservation of existing trees. No mitigation allowed inside the vehicular waiting areas due to security and operation issues. However the proposal is compatible to existing infrastructure landscape.
LR1.3 Cross boundary Infrastructure and Facilities	Low	Small	Small	Slight Adverse	Slight Adverse	**SO3 (DP2)** CP1	Slight Adverse	Negligible	Negligible Through preservation of

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
(Lok Ma Chau Bus Terminal)									existing trees. No mitigation allowed inside the terminus due to security and operation issues. However the proposal is compatible to existing infrastructure landscape.
LR2.1 Ha Wan Tsuen Village Settlement	Medium	Small	Small	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP3, CP4,CP5, OP1, OP2	Slight Adverse	Negligible	Negligible Responsive design of road alignment and engineering structures. Preservation of trees. Upon fully establishment of

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
									roadside planting, impact will be largely alleviated.
LR2.2 Lok Ma Chau Road Village Settlement	Low	Small	Small	Slight Adverse	Slight Adverse	**SO3 (DP2)** CP1, CP3, CP4, OP1, OP2	Slight Adverse	Negligible	Negligible Responsive design of road alignment and engineering structures. Preservation of trees. Upon fully establishment of roadside planting, impact will be largely alleviated.
LR2.3 Lok Ma Chau Tsuen Village Settlement	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
LR2.4 Ha Wan Fishermen Village Settlement	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR2.5 Chau Tau and Pun Uk Tsuen Village Settlement	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR2.6 San Tin Village Settlement	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR2.7 Tai Law Hau Village Settlement	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR2.8 Ping Hang Village	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
Settlement									
LR2.9 Tse Koo Hang Village Settlement	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR2.10 Ma Tso Lung Village Settlement	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR3.1 Ha Wan Tsuen Road Mixed Woodland	High	Intermediate	Intermediate	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP2, CP4, CP5, CP7, OP2, OP6	Slight Adverse	Slight Adverse	Negligible Through preservation of woodland trees. Limited works areas. Infilled woodland tree planting and treatment of sloping area and retaining wall structures with greening. Upon full

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
									reinstatement and establishment of woodland and roadside planting, impact will be alleviated.
LR3.2 Lok Ma Chau Road Mixed Woodland	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP2, CP3, CP7, OP2, OP6	Slight Adverse	Slight Adverse	Negligible Through preservation of woodland trees. Limited works areas. Infilled woodland tree planting and treatment of sloping area and retaining wall structures with greening. Upon full reinstatement and establishment of woodland and

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
									roadside planting, impact will be alleviated.
LR3.3 San Tin Road Mixed Woodland	High	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR3.4 Ma Tso Lung Mixed Woodland	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO2 (DP6)** CP1, CP2, CP3, CP4, CP5, CP7, OP2, OP6	Slight Adverse	Slight Adverse	Negligible Through preservation of existing trees. Limited works areas. Infilled woodland tree planting and treatment of sloping area and retaining wall structures with greening. Upon full establishment of roadside planting,

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
									impact will be alleviated.
LR4.1 Roadside Planting along Lung Hau Road	Medium	Small	Small	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** & **SO5 (DP3)** CP1, CP3, CP4, OP1, OP2	Slight Adverse	Slight Adverse	Negligible Through preservation of existing trees. Limited works areas. Upon full establishment of roadside planting, impact will be alleviated.
LR4.2 Roadside Planting along Fanling and San Tin Highways	Medium	Large	Large	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP3, CP4, CP5, OP1, OP2	Slight Adverse	Slight Adverse	Negligible Through preservation of existing trees. Limited works areas. Upon full establishment of roadside planting, impact will be

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
									alleviated.
LR4.3 Roadside Planting along Lok Ma Chau Road	Medium	Intermediate	Intermediate	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP2, CP3, CP4, CP5, OP1, OP2	Slight Adverse	Slight Adverse	Negligible Through preservation of existing trees. Limited works areas. Upon full establishment of roadside planting, impact will be alleviated.
LR4.4 Roadside Planting along Ha Wan Tsuen Road	Medium	Intermediate	Intermediate	Moderate Adverse	Moderate Adverse	**SO3 (DP2**) CP1, CP2, CP3, CP4, CP5, OP1, OP2	Slight Adverse	Slight Adverse	Negligible Through preservation of existing trees. Limited works areas. Upon full establishment of roadside planting, impact will be

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
									alleviated.
LR4A Trees on the Loop	Low	Large	Large	Moderate Adverse	Moderate Adverse	**SO1 (DP1,DP4 & DP5)** CP1, CP3, CP4, CP5, OP1, OP2, OP8	Slight Adverse	Negligible	Slight Beneficial Through replacement of existing weedy trees with new woodland and ornamental planting and ecological planting, new planting and reedbed enhancement scheme will benefit existing rural and planned institutional landscapes.
LR4.5 Roadside Planting	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
along Ma Tso Lung Road									
LR5.1 Lok Ma Chau Shrubland	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR5.2 Ma Tso Lung Shrubland	Medium	Small	Small	Slight Adverse	Slight Adverse	**SO2 (DP6)** CP1, CP3, CP4, CP5, OP1, OP2, OP6	Negligible	Negligible	Negligible Through tree preservation, limited works area and new shrub planting area, impact will be alleviated.
LR6.1 Grassland on the Loop	Low	Large	Large	Moderate Adverse	Moderate Adverse	**SO1 (DP1,DP4 & DP5)** CP2, CP3, CP5, OP1, OP2, OP8	Slight Adverse	Slight Adverse	Negligible
LR6.2	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
Grassland at San Tin									
LR6.3 Grassland at Lok Ma Chau	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR6.4 Grassland at Ma Tso Lung	Low	Small	Small	Slight Adverse	Slight Adverse	**SO2(DP6) & SO4 (DP7)** CP1, CP2, CP3, CP5, OP1, OP2	Negligible	Negligible	Negligible
LR7.1 Pun Uk Tsuen Agricultural Fields	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR7.2 Lok Ma Chau Tsuen Agricultural Fields	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR7.3	Medium	Small	Small	Moderate	Moderate	**SO2 (DP6)**	Slight Adverse	Slight Adverse	Negligible

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
Lok Ma Chau Agricultural Fields				Adverse	Adverse	CP3, CP4, CP5, OP1, OP2			Through limited works area on abandoned fields.
LR7.4 Ma Tso Lung Agricultural Fields	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR8.1 Sam Po Shue Fishponds	High	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR8.2 Ha Wan Tsuen Fishponds	Medium	Small	Small	Moderate Adverse	Moderate Adverse	**SO3 (DP2) & SO5 (DP3)** CP1, CP3, CP4, CP5, OP1, OP2, OP7	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited works area, reinstatement of affected ponds and off-site compensation, the impact will be alleviated.

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR8.3 Lok Ma Chau Road Fishponds	Medium	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR8.4 Lok Ma Chau Fishponds	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO2 (DP6) & SO3 (DP2)** CP1, CP3, OP1, OP2, OP7	Slight Adverse	Slight Adverse	Negligible Through tree preservation, limited works area and reinstatement of affected ponds or offsite compensation, the impact will be alleviated.
LR8.5 Hoo Hok Wai Fishponds	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO2 (DP6)** CP1, CP2, CP3, CP5, OP1, OP7	Slight Adverse	Slight Adverse	Negligible Through tree preservation, limited works area and reinstatement

Landscape Resource (LR)	Sensitivity (Low / Medium/ High)	Magnitude of Change		Significance Threshold (Unmitigated)		Mitigation Measures	Significance Threshold (Mitigated)		
		Construction (Nil/Small / Intermediate /Large)	Operation (Nil /Small / Intermediate /Large)	Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)		Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)	Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)	
								Day 1	Year 10
									of affected ponds or offsite compensation, the impact will be alleviated.
LR9.1 Natural River (to the South of the Loop	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO1 (DP1)** CP2, CP3, CP6	Slight Adverse	Slight Adverse	Negligible Through limited works area and creation of reed bed ,the impact will be alleviated.
LR9.2 Natural Stream at Ha Wan Tsuen	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO3 (DP2) & SO5 (DP3)** CP2	Slight Adverse	Slight Adverse	Negligible Through limited works area .
LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO2 (DP6)** CP2	Slight Adverse	Slight Adverse	Negligible Through limited works area, the impact will be alleviated.

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR9.4 Natural Stream at Ma Tso Lung	Medium	Small	Small	Moderate Adverse	Moderate Adverse	**SO2 (DP6)** CP2	Slight Adverse	Slight Adverse	Negligible Through limited works area the impact will be alleviated.
LR10 .1 Engineered Water Channel (Shenzhen River)	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR10.2 Engineered Water Channel (along Cross-boundary Facilities)	Low	Small	Small	Slight Adverse	Slight Adverse	**SO5 (DP3)** CP1, CP2, CP3, CP4,	Negligible	Negligible	Negligible Through tree preservation and limited works area and planting along the channelsides, the impact will be alleviated.

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR10 .3 Engineered Water Channel (Lok Ma Chau Road)	Low	Intermediate	Intermediate	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP2, CP3,CP4, CP5, OP1, OP2	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited works area and planting along the channelsides, the impact will be alleviated.
LR10 .4 Engineered Water Channel (Newly constructed water channel at Ma Tso Lung)	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR11.1 Marsh on the Loop	Medium	Large	Large	Significant Adverse	Significant Adverse	**SO1 (DP1,4 & 5)** CP3, CP5, CP6	Moderate Adverse	Moderate Adverse	Negligible Through limited works area and creation of wetland on site or compensate to offsite, the impact will be alleviated.
LR11.2 Marsh at Hoo Hok Wai	High	Small	Small	Moderate Adverse	Moderate Adverse	SO2 (DP6) CP1, CP3, CP4, CP5, CP6, OP1, OP2	Slight Adverse	Slight Adverse	Negligible Through tree preservation limited works area and creation of wetland compensate to offsite, the impact will be alleviated.
LR11.3 Marsh at Lok Ma Chau	High	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR11.4 Marsh at Chau Tau	High	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station	High	Small	Small	Moderate Adverse	Moderate Adverse	**SO5 (DP3)** CP1, CP2, CP3, CP4, CP6, OP2	Slight Adverse	Slight Adverse	Negligible Through tree preservation, limited works area, creation off-site compensation, the impact will be alleviated.
LR12.1 San Tin Developed Area and Roads	Low	Small	Small	Slight Adverse	Slight Adverse	**SO3 (DP2)** CP2, CP3, OP1	Negligible	Negligible	Negligible Through limited works area, the impact will be alleviated.
LR12.2 Lok Ma Chau Developed Area and	Low	Small	Small	Slight Adverse	Slight Adverse	**SO3 (DP2) & SO5 (DP3)** CP1, CP2,	Negligible	Negligible	Negligible Through tree preservation,

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
Roads						CP3, CP4, OP1, OP2			limited works area, the impact will be alleviated.
LR12.3 Ma Tso Lung Developed Area and Roads	Low	Small	Small	Slight Adverse	Slight Adverse	**SO2 (DP6)** CP1, CP2, CP3, CP4, OP1, OP2	Negligible	Negligible	Negligible Through tree preservation, limited works area, the impact will be alleviated.
LR13.1 San Tin Open Yard	Low	Nil	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LR13.2 Lok Ma Chau Open Yard	Low	Small	Small	Slight Adverse	Slight Adverse	**SO3 (DP2) & SO5 (DP3)** CP1, CP2, CP3, OP1, OP2	Negligible	Negligible	Negligible Through tree perseration, limited works area, the impact will be alleviated.

Landscape Resource (LR)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change**		**Significance Threshold (Unmitigated)**		**Mitigation Measures**	**Significance Threshold (Mitigated)**		
		Construction (Nil/Small / Intermediate /Large)	**Operation (Nil /Small / Intermediate /Large)**	**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Construction Negligible, Slight, Moderate and Significant (adverse or beneficial)**	**Operation Negligible, Slight, Moderate and Significant (adverse or beneficial)**	
								Day 1	**Year 10**
LR13.3 Ma Tso Lung Open Yard	Low	Intermediate	Intermediate	Slight Adverse	Slight Adverse	**SO3 (DP6)** CP2, CP3, OP1	Negligible	Negligible	Negligible Through tree preservation, limited works area, the impact will be alleviated.

11.5.2.2 Predicted Impacts on Existing Landscape Character Areas

Due to the scale of the LMC Loop Development project, there are some adverse impacts on the existing landscape characters of the lowland and hillside areas at the north New Territories from LMC to Ma Tso Lung although sensitive areas such as Sham Po Shue located to the west of the LMC Station will be spared impact due to the implementation of the project.

The sources of impact on the landscape context of the assessment area according to individual DPs under EIAO Schedule 2 include the following:

SO1 - Development on the Loop (including DP1, DP4, DP5)

Implementation of development for the LMC Loop, and the associated infrastructure and utilities facilitating the development and the site formation works. Change of low intensity lowland rural landscape to a highly developed institutional landscape.

SO2 - Eastern Connection Road (DP6)

ECR from Ma Tso Lung to the LMC Loop composed of on-grade, depressed and underpass sections for the road widening works along Boundary Patrol Road and a new section on grassed area at Ma Tso Lung. There is change of rural character of Ma Tso Lung and Hoo Hok Wai rural landscapes.

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

WCR from the San Tin Highway to the Lok Ma Chau Road and Ha Wan Tsuen Road composed of mainly road widening/improvement works and the construction of a slip road from LMC Road to San Tin Highway involve a change in the road corridor and character of LMC and Ki Lun Shan rural landscapes and LMC cross-boundary infrastructure and facilities landscape .

SO4 - Flushing Water Service Reservoir (DP7)

Flushing Water Service Reservoir and associated access road at Ping Hang. Introduction of new semi-sunken reservoir on grassed Horn Hill will have change on LMC hillside landscape character.

SO5 - Direct Link To MTR LMC Station (DP3)

The Direct Link to the MTR LMC Station composed of viaduct and new PTI connecting to the MTR LMC Station would involve a change on the LMC cross-boundary infrastructure and facilities landscape.

Table 11.5.7 describes the source of impacts as a result of the proposed development in the LMC Loop and its associated infrastructure and presents the magnitude of change for individual LCAs. **Figures 11.5a** to **11.5e** map the predicted impacts to the LCAs within the assessment area. The magnitude of change for individual LCAs as a result of the LMC Loop Development under EIAO Schedule 3 are also described below:

Large

According to the assessment result in **Table 11.5.7**, the landscape character of individual LCAs including LMC Loop Riverside Landscape (LCA8) will be largely affected or lost due to site formation works for the Loop Development and the associated infrastructure and utilities works on the LMC Loop and so the magnitude of change would be large.

Intermediate

According to the assessment the extent of the perceptible change on landscape character as a result of a result of road widening/improvement works for WCR and ECR, Direct Link to MTR LMC Station and Flushing Water Service Reservoir, and the loss of landscape resources such as lowland rural and hillside landscapes would result in an intermediate magnitude of change. This includes the landscape character of LCAs of LMC Cross-boundary Infrastructure and Facilities Landscape (LCA 2), LMC Lowland Rural Landscape (LCA5), LMC Hillside Landscape (LCA6), and Ma Tso Lung Lowland Rural Landscape (LCA 7).

Small

According to the assessment the extent of the perceptible change on landscape character as a result of road widening/improvement works for WCR and ECR, and the loss of landscape resources such as lowland rural landscape their sensitivity, Ki Lun Shan Lowland Rural Landscape (LCA4) and Hoo Hok Wai Lowland Rural Landscape (LCA 9) would be subject to a small magnitude of change owing to the location of the proposed WCR LMC Road to San Tin Highway Connection and ECR at the edge of the LCA and relatively small extent of the area affected.

Nil

The following LCAs have no perceptible change as a result of proposed works, the landscape character remains unchanged and so the magnitude of change is therefore negligible. These LCAs include Sam Po Shue Lowland Rural Landscape (LCA1) and San Tin Lowland Rural Landscape (LCA3).

The following section summaries the source of impacts and magnitude of change on landscape character areas as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The magnitude of change for the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- Large changes on LMC Loop Riverside Landscape (LCA 8)

SO2 - Eastern Connection Road (DP6)

- Intermediate changes on LMC Lowland Rural Landscape (LCA5) and LMC Hillside Landscape (LCA 6) and Ma Tso Lung Lowland Rural Landscape (LCA 7) and
- Small changes on Hoo Hok Wai Lowland Rural Landscape (LCA 9)

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Intermediate changes on LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2) and LMC Lowland Rural Landscape (LCA5)
- Small changes on Ki Lun Shan Lowland Rural Landscape (LCA 4)

SO4 - Flushing Water Service Reservoir (DP7)

- Intermediate changes on LMC Hillside Landscape (LCA 6)

SO5 - Direct Link To MTR LMC Station (DP3)

- Intermediate change on LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2)

Table 11.5.7 Magnitude of change for landscape character areas

Landscape Character Areas (LCAs)	**Description of Impacts**	**Affected Area (ha) / Total Area of LCA (ha)**	**Determinants for Magnitude of Change**				**Magnitude of Change**	
			Compatibility (N/A /Low / Medium / High)	**Scale (N/A / Small / Intermediate / Large)**	**Duration of Impact (Construction / Operation) (Nil / Short / Medium / Long)**	**Reversibility (Nil / Low / Medium / High)**	**Construction (Nil / Small / Intermediate / Large)**	**Operation (Nil / Small / Intermediate / Large)**
LCA1 Sam Po Shue Lowland Rural Landscape	No direct impact on this LCA as all of the proposed developments and the road connection networks will be located away from this LCA.	0 / 58.4 ha. (0%) LCA unaffected	N/A	N/A	Nil	N/A	Nil	Nil
LCA 2 LMC Cross-boundary Infrastructure and Facilities Landscape	Proposed viaduct of Direct Link from the Loop to MTR LMC Station and proposed slip road LMC Road to San Tin Highway.	SO5(DP3) – 1.9 / 94 ha. (2%) SO3 (DP2) – 0.4 / 94 ha. (0.4%)	High	Intermediate	Long/Long	Medium	Intermediate	Intermediate
LCA 3 San Tin Lowland Rural Landscape	No direct impact as the proposed developments will be located	0 / 34 ha. (0%) LCA unaffected	N/A	N/A	Nil	N/A	Nil	Nil

Landscape Character Areas (LCAs)	Description of Impacts	Affected Area (ha) / Total Area of LCA (ha)	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A /Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impact (Construction / Operation) (Nil / Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
	away from this LCA.							
LCA 4 Ki Lun Shan Lowland Rural Landscape	Proposed WCR slip road from LMC Road to San Tin Highway.	SO3 (DP2) – 1.5 / 75.9 ha. (2%)	Medium	Small	Long/Long	Medium	Small	Small
LCA5 LMC Lowland Rural Landscape	Proposed ECR and WCR road works on the existing Boundary Patrol Road, Lok Ma Cha Road and Ha Wan Tsuen Road.	SO2 (DP6)- 1.1/ 140 ha. (0.8%) SO3 (DP2) – 7 /140 ha. (5%)	Medium	Intermediate	Long / Long	Medium	Intermediate	Intermediate
LCA 6 LMC Hillside Landscape	Proposed at-grade ECR road works on the existing Boundary Patrol Road. Proposed Flushing Water Service Reservoir and its access road.	SO2 (DP6)- 2.2 / 92ha (2.4%) SO4 (DP7)- 0.75 / 92 ha. (0.8%)	Low	Intermediate	Long / Long	Medium	Intermediate	Intermediate

Landscape Character Areas (LCAs)	Description of Impacts	Affected Area (ha) / Total Area of LCA (ha)	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A /Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impact (Construction / Operation) (Nil / Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
LCA 7 Ma Tso Lung Lowland Rural Landscape	Proposed at-grade road work of the ECR.	SO2 (DP6)- 2 / 75 ha. (2.7%)	Medium	Intermediate	Long / Long	Medium	Intermediate	Intermediate
LCA 8 LMC Loop Riverside Landscape	The LMC Loop institutional developments and associated infrastructure and utilities on the Loop and the proposed road connection networks at both the south-eastern and western sides of the Loop. Reinstatement and Creation of Ecological Area to the south of the Loop (Reedbed)	SO1(DP1, DP4 & DP5)- 102 / 102 ha. (100%)	Low	Large	Long / Long	Low	Large	Large
LCA 9 Hoo Hok Wai	Proposed at-grade section of ECR.	SO2 (DP6)- 0.5/ 125 ha.	Low	Small	Long / Long	Medium	Small	Small

Landscape Character Areas (LCAs)	Description of Impacts	Affected Area (ha) / Total Area of LCA (ha)	Determinants for Magnitude of Change				Magnitude of Change	
			Compatibility (N/A /Low / Medium / High)	Scale (N/A / Small / Intermediate / Large)	Duration of Impact (Construction / Operation) (Nil / Short / Medium / Long)	Reversibility (Nil / Low / Medium / High)	Construction (Nil / Small / Intermediate / Large)	Operation (Nil / Small / Intermediate / Large)
Lowland Rural Landscape		(0.4 %)						

Table 11.5.8 presents the predicted unmitigated and mitigated (Day 1 and Year 10 / Residual) impacts on the existing landscape character resulting from the proposed works during the construction and operational phases of the project. The mitigated (residual) impacts are assessed during the design year (10 to 15 years after the schemes opening) when the proposed mitigation planting is deemed to have reached a level of maturity, which is sufficient for it to perform the design objectives. Significance thresholds for the unmitigated impacts on landscape character areas for the LMC Loop Development under EIAO Schedule 3 are summarised as follows:

Significant Adverse Impact

LCA8 LMC Loop Riverside Landscape – This area is dominated by coarse grassland with a small orchard at the southwest corner of the LMC Loop. The marshes at the south-eastern portion adjacent to the meander have naturally evolved from the abandoned fishponds. With the exception of the banana trees in the orchard, only a few self-seed trees have naturally colonised the site from the adjacent woodland. The large scale and hence magnitude of change arising from the proposed development and associated infrastructure within the LMC Loop will lead to a comprehensive change in the existing landscape character of this LCA. Given the above this LCA will be subject to significant adverse impact due to the construction works and during the operational phase of the project.

Moderate Adverse Impact

LCA2 LMC Cross-boundary Infrastructure and Facilities Landscape – This LCA covers the areas of MTR LMC Station and its PTI, mitigation wetlands and reed cell for waste water polishing, LMC BCP and its vehicular waiting area. The area extends from LMC BCP next to Shenzhen River to San Tin Interchange. As the PTI of MTR LMC Station and a limited portion of LMC BCP will be renovated to adopt the column of proposed viaduct from the Loop to the Station (Direct Link to MTR LMC Station), this would be inevitably some loss of existing trees and paved landscape areas in this LCA. Besides there is some road surface reconstruction to accommodate the slip road from LMC Road to San Tin Highway (WCR), some roadside planting will be affected by the works.

Given additional planting in these cross-boundary facilities is not allowed, trees affected by proposed works will be transplanted or compensated off-site. The loss of mitigation wetland will be compensated off-site according to ecologist proposal. Given the low sensitivity of this LCA, it would be subject to a moderate adverse unmitigated impact due to the construction works and during the operational phase of the project.

LCA4 Ki Lun Shan Lowland Rural Landscape – This LCA covers the areas to the south of San Tin Interchange and Kwu Tung Road. The area is largely characterised by light industry and open storage and a large construction site. As existing road surface will be reconstructed to accommodate the proposed slip road connecting LMC Road and San Tin Highway, there would inevitably be some loss of roadside planting along the highway and some alternation of access to properties adjacent to the road. However the wooded areas within this LCA will remain unchanged. Given the medium sensitivity of this LCA, it would be subject to a moderate adverse unmitigated impact due to the construction works and during the operational phase of the project.

LCA5 LMC Lowland Rural Landscape – This LCA covers the areas alongside the LMC Road, Ha Wan Tsuen Road and the existing Boundary Road; and at another location the proposed LMC Road will pass through this LCA. As LMC Road will be widened to accommodate the predicted traffic and the provision of a cycle track / footpath and introduction of sections of noise barrier there would inevitably be some tree loss. Some of the trees lining LMC Road including a number of mature specimens could be affected by the proposed works although they will be preserved wherever technically feasible through the adoption of mitigation measures outlined below. The loss of trees would be apparent at the roadside, along sections of the existing central median and at the lower slopes adjacent to the road junction of LMC Road and the access road to LMC Tsuen.

In addition, the extent of the land acquisition and the spatial requirements for the proposed noise barriers would limit the scope for new tree planting. The proposals would also lead to the loss of existing trees and vegetation along the western side of Ha Wan Tsuen Road, the existing slopes, fishpond bunds and the mature trees and significant/important along the eastern side of Ha Wan Tsuen Road. Given the medium sensitivity of this LCA, it would be subject to a moderate adverse unmitigated impact due to the construction works and during the operational phase of the project.

LCA6 LMC Hillside Landscape – This area covers the uphill areas of LMC ridges, it is largely characterised by shrub and grassland with very few trees interspersed in the shrubland. As the grass knoll located to the south of HKPF Operation Base will be reformed to accommodate the proposed Flushing Water Service Reservoir and its access road from Boundary Patrol Road, there would inevitably be a few loss of trees and shrub adjacent to Boundary Patrol Road. The proposed mitigation measures are designed to reinstate the hillside landscape through provision of a new tree and shrub planting along access road and surrounding the built structures. Given the high sensitivity of this LCA, it would be subject to a moderate adverse unmitigated impact due to the construction works and during the operational phase of the project.

LCA7 Ma Tso Lung Lowland Rural Landscape – The introduction of the proposed Eastern Connection Road would lead to loss of vegetation within the vegetated hill slopes, grassland and abandoned agricultural fields at Ma Tso Lung. There would also be an impact on the mature tree clusters on vegetated knolls to the east of Tse Koo Hang. Some preservation of tree clusters may be possible through local fine tuning of the road alignment. The proposed mitigation measures are designed to reinstate the roadside and rural landscape through provision of a new roadside landscape area. Given the scale of the proposed road connection network and the high sensitivity of this LCA, it would be subject to a moderate adverse unmitigated impact due to the construction works and during the operational phase of the project.

LCA 9 Hoo Hok Wai Lowland Rural Landscape - The at-grade section of the ECR cuts through two small areas of marshland and fishponds with a correspondingly small impact on the landscape character of the area. Although the landscape features of Hoo Hok Wai are important to the local landscape setting the impacts

would be mitigated to an extent through the restoration or re-provision of the wetland habitats required as part of the ecological mitigation and the proposed roadside tree planting. Owing to the high sensitivity of this LCA, the unmitigated impact on this LCA will be moderate during the construction and operational phases of the project.

Slight Adverse Impact

None of the identified LCAs will be subject to a slight adverse impact in the construction and operational phases of the project.

Negligible Impact

LCA1 Sam Po Shue Lowland Rural Landscape – As the proposed development and road connection network will be located to the east of this LCA there will be no impacts on landscape elements within it or its landscape character. As such there will be no perceptible change in the amenity of the landscape and the LCA will be subject to a negligible impact.

LCA3 San Tin Lowland Rural Landscape – As the proposed development and road connection networks will be located away from this LCA, the landscape character would remain unchanged. Therefore there will be no perceptible change of amenity and so the LCA will be subject to a negligible impact.

The following section summaries the significance thresholds for the unmitigated impacts on landscape character areas as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The significance thresholds for the unmitigated impacts for the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- Significant adverse impact on LMC Loop Riverside Landscape (LCA 8)

SO2 - Eastern Connection Road (DP6)

- Moderate adverse impact on LMC Lowland Rural Landscape (LCA5) , LMC Hillside Landscape (LCA 6), Ma Tso Lung Lowland Rural Landscape (LCA 7) and Hoo Hok Wai Lowland Rural Landscape (LCA 9)

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Moderate adverse impact on LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2), Ki Lun Shan Lowland Rural Landscape (LCA 4) and LMC Lowland Rural Landscape (LCA5)

SO4 - Flushing Water Service Reservoir (DP7)

- Moderate adverse impact on LMC Hillside Landscape (LCA 6)

SO5 - Direct Link To MTR LMC Station (DP3)

- Moderate adverse impact on LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2)

Table 11.5.8 Predicted impacts on landscape character areas

Landscape Character Area (LCA)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change (Construction / Operation Phase) (Nil / Small / Intermediate / Large)**	**Significance Threshold (Unmitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Mitigation Measures**	**Significance Threshold (Mitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		
			Construction	**Operation**		**Construction**	**Operation**	
							Day 1	**Year 10**
LCA1 Sam Po Shue Lowland Rural Landscape	High	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible
LCA 2 LMC Cross-boundary Infrastructure and Facilities Landscape	Low	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	**SO5(DP3) & SO3 (DP2)** CP1, CP2,CP4, CP6 OP1, OP2, OP7	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited works area, and fully establishment of planting proposal, Proposed road and viaduct works is compatible to existing infrastructure landscape.
LCA 3 San Tin	Low	Nil	Negligible	Negligible	N/A	Negligible	Negligible	Negligible

Landscape Character Area (LCA)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change (Construction / Operation Phase) (Nil / Small / Intermediate / Large)**	**Significance Threshold (Unmitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Mitigation Measures**	**Significance Threshold (Mitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		
			Construction	**Operation**		**Construction**	**Operation**	
							Day 1	**Year 10**
Lowland Rural Landscape								
LCA 4 Ki Lun Shan Lowland Rural Landscape	Medium	Small/ Small	Moderate Adverse	Moderate Adverse	**SO3 (DP2)** CP1, CP2, CP3, CP4, OP1,OP2,	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited works area, and fully establishment of planting proposal, proposed works along San Tin Highway is compatible to existing rural landscape.
LCA 5 LMC Lowland Rural Landscape	Medium	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	**SO2 (DP6) & SO3 (DP2)** CP1, CP2, CP3, CP4,CP7	Slight Adverse	Slight Adverse	Negligible Through tree preservation

Landscape Character Area (LCA)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change (Construction / Operation Phase) (Nil / Small / Intermediate / Large)**	**Significance Threshold (Unmitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Mitigation Measures**	**Significance Threshold (Mitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		
			Construction	**Operation**		**Construction**	**Operation**	
							Day 1	**Year 10**
					OP1,OP2, OP6, OP7			and limited works area, and fully establishment of planting proposal, proposed works along Boundary Patrol Road, Ha Wan Tsuen Road and LMC Road is compatible to existing rural landscape.
LCA 6 LMC Hillside Landscape	High	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	**SO2 (DP6) & SO4 (DP7)** CP1, CP2, CP3, CP4, CP5, CP7,	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited

Landscape Character Area (LCA)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change (Construction / Operation Phase) (Nil / Small / Intermediate / Large)**	**Significance Threshold (Unmitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Mitigation Measures**	**Significance Threshold (Mitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		
			Construction	**Operation**		**Construction**	**Operation**	
							Day 1	**Year 10**
					OP1,OP2, OP6			works area, and fully establishment of planting proposal, proposed works along Boundary Patrol Road is compatible to existing hillside landscape.
LCA 7 Ma Tso Lung Lowland Rural Landscape	Medium	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	**SO2 (DP6)** CP1, CP2, CP3, CP4, CP5, CP7, OP1,OP2,	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited works area, and fully establishment of planting proposal,

Landscape Character Area (LCA)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change (Construction / Operation Phase) (Nil / Small / Intermediate / Large)**	**Significance Threshold (Unmitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Mitigation Measures**	**Significance Threshold (Mitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		
			Construction	**Operation**		**Construction**	**Operation**	
							Day 1	**Year 10**
								proposed road works on Ma Tso Lung grassland is compatible to existing rural landscape.
LCA 8 LMC Loop Riverside Landscape	Medium	Large / Large	Significant Adverse	Significant Adverse	**SO1(DP1, DP4 & DP5)** CP1, CP2, CP3, CP4, CP5,CP6, CP7,OP1, OP2, OP8, OP7	Moderate Adverse	Moderate Adverse	Slight Adverse Through tree preservation and fully establishment of planting proposal, proposed works on the Loop and its new institutional landscape is compatible to

Landscape Character Area (LCA)	**Sensitivity (Low / Medium/ High)**	**Magnitude of Change (Construction / Operation Phase) (Nil / Small / Intermediate / Large)**	**Significance Threshold (Unmitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		**Mitigation Measures**	**Significance Threshold (Mitigated) Negligible, Slight, Moderate and Significant (adverse or beneficial)**		
			Construction	**Operation**		**Construction**	**Operation**	
							Day 1	**Year 10**
								existing riverside landscape.
LCA 9 Hoo Hok Wai Lowland Rural Landscape	High	Small / Small	Moderate Adverse	Moderate Adverse	**SO2 (DP6)** CP1, CP2, CP3, CP4, CP7,OP1,OP2, OP6, OP7	Slight Adverse	Slight Adverse	Negligible Through tree preservation and limited works area, and fully establishment of planting proposal, proposed works along Boundary Patrol Road is compatible to existing rural landscape.

11.5.3 Landscape Mitigation Measures

The landscape mitigation measures described in this report are at a level which both demonstrates their ability to alleviate the landscape impacts identified in the assessment and also to allow the proposals to be carried forward during the detailed design stage. The measures are designed to address impacts arising from both the construction and operational phases of the project. More detailed landscape and compensatory planting proposals will be developed during the detailed design of this project. During the detailed design a detailed Tree Survey Report will be prepared separately and submitted for approval by relevant departments.

The landscape mitigation measures are described both in a generic sense for measures, which apply to all of works area and in terms of the proposed landscape strategy for the proposed permanent works. The aim of the mitigation measures is to:

- Alleviate where possible landscape impacts which are unavoidable through the review of the disposition, alignment, scale and massing of the proposed built structures for the LMC Loop development and its associated infrastructure.
- Establish a coherent and integrated landscape strategy creating a framework which draws together visually disparate components of the proposed scheme and where possible reduces its visual prominence and enhances the integration of the structures within their landscape setting.
- Enhance the existing landscape character of the surrounding areas.
- Provide a co-ordinated approach between the ecological and landscape mitigation proposals where there is an interface.

The Preliminary Landscape Master Plan and Landscape Design Concept Drawings for the proposed developments within the LMC Loop, the associated road connection networks, the WCR and ECR are presented as **Figures 11.8, 11.9a** to **11.9zi**. These drawings demonstrate the main landscape and visual mitigation strategies and the application of design mitigation measures including the integrated design approach, new roadside planting proposals and recreation of marsh. The application of the recommended mitigation measures is mapped on the plans.

Overall Landscape Concept for the RODP of the LMC Loop Development

The landscape concept builds on the urban design theme providing integration between the urban intensity of the high-rise development of the SZ skyline with the open rural landscape on the HK side. This is evident in the concept of the two interlocking hands, where the fingers resemble the merging of the landscape and the built environment. This is both symbolic and provides a means of blurring the boundary between the proposed built environment and an open rural landscape characterized by a combination of fish ponds, agricultural areas, small woodland clumps and the slopes of the uplands which enclose the area. This transition is also softened through the use of naturalistic landscape buffer areas including woodland belts, the intermittent woodland and marshland of the Ecological Area in the southern part of the LMC Loop, and the landform and tree planting which screens the Second Boundary Fence to the northwest.

The Landscape Master Plan is illustrated in **Figure 11.8.** The landscape and open space framework adopts a hierarchy of Primary, Secondary and Tertiary Open Spaces together with their associated landscape components. Landscape elevations and perspectives showing the relationship between the different landscape components and the development are shown in **Figure 11.9 a to g.** A hierarchical open space network is designed to create spaces with different levels of intimacy and activities and a thematic approach is adopted to provide an overall cohesive quality, but also imbuing individual spaces with a unique character. Landscape design components are discussed in the following sub sections.

Primary Open Space

Pedestrian Promenade

The Pedestrian Promenade forms a key landscape corridor, orientated on a northeast-southwest axis connecting the key development clusters in the heart of the site and providing the primary space for interaction. Although this is a primary open space the level of intensity of use declines as it nears the central section where it interfaces with the central Ribbon Park and at either end where it opens up into a Riverside Plaza. A sectional elevation of the Pedestrian Promenade is shown in **Figure 11.9b.** It responds to the faceted form of the building frontages along the corridor and provides a flexible series of landscape spaces ranging from Pedestrian Promenade type landscapes to open flexible spaces. This design intends to promote human interaction and vibrancy, allows opportunities for people to gather, and caters for out spill activities brought about by active frontages at the ground floor of the adjacent buildings.

Ribbon Park

The Ribbon Park bisects the Pedestrian Promenade on a northwest-southeast axis. This park serves as a landscape extensions and accentuates (with the Green Connectors described below) the green fingers which form the basis of the integrated urban and landscape design concept. This space also provides a view corridor creating a linkage between the developed areas and the rural landscape beyond, aligning with the peaks and ridges of the uplands to the southeast and the flat agricultural plane to the northeast and southwest. Landscape elevation and perspective of the central portion of the Ribbon Park are shown in **Figure 11.9e to g**.

Secondary Open Space

The second tier of landscape spaces on a northeast-southwest axis intersect and connect the three landscape fingers and or Ribbon Parks and provide the landscape setting for the main building clusters.

Green Connectors

The Green Connector spaces are characterised by the irregular enclosure of the enclosing built form. They will feature tree and shrub planting designed to form continuity with the primary open spaces to which they link. The Green Connectors located to the north east and south west adopt a similar design approach to the Ribbon Park although at a different scale and level of intensity; and provide for connectivity between the other components of the open space network including pedestrian circulation and the Courtyard Spaces associated with each of the lots.

Woodland Transitional Zone

The Woodland Transitional Zone forms an interface between the Ribbon Park and Green Connectors to the north and the Ecological Area to the south forming a buffer between the active use areas and the more sensitive ecology of the wetland. It provides a pedestrian accessible space characterised by naturalistic planting and an undulating footpath network. A combination of woodland structural planting and earth mounding allow this zone to accommodate low density, single storey development, and cycle track and footpath network without disturbing the ecological value of the wetland to the south. Again this area provides a combination of landscape buffer extending the landscape fingers concept, passive open space and ecological resource.

Footbridge Plaza

The footbridge, located at the northern periphery of the LMC Loop, provides for the vital connectivity with SZ. To emphasize the importance of this feature and to provide for visual and physical connectivity between two areas, a plaza will form threshold space establishing the character of the LMC Loop at the point of entry. This plaza is naturalistic in character utilising native tree and shrub species, and is connected to the main pedestrian network within the LMC Loop.

Riverside Platforms

The Riverside Platforms, located on the south western and north eastern periphery of the development, provide pedestrian and visual access to the Old SZ River Meander. These spaces take advantage of the landscape and visual amenity of the less ecologically sensitive part of the river course and form the end points of the main Pedestrian Promenade. These areas represent the least kinetic in terms of the level of activity and a tranquil space beside the river. They are characterised by a combination of a decorative paved area containing seating and enclosed by a canopy of tree planting.

Tertiary Open Space

A third tier of landscape spaces are found at the building level in the form of internal courtyards or quadrant spaces. These spaces provide more intimate enclosure with a character reflecting the modernity of the architecture that embraces them.

Courtyard Spaces

The third tier within the landscape hierarchy is provided by the Courtyard or Quadrant Spaces associated with each of the development plots. These centrally located spaces respond to the unique form of the buildings which enclose them in terms of spatial composition, enclosure and open aspect. The Courtyards provide for the break-out activities from the adjacent buildings and through the use of visually permeable building envelopes create a connection between interior and exterior space. The design for each courtyard spaces will be unique and responds to the modernity of the built environment. Continuity with the surrounding landscape is provided through the use of a common hard and soft landscape design palette. Perspectives of typical courtyard space in the LMC Loop are shown in **Figure 11.9e to g**.

Podium Landscapes

An important aspect of the urban design for the LMC Loop is the creation of series of podium structures lining the main Pedestrian Promenade designed to increase the sense of space at the pedestrian level, reduce the abrupt transition between the built environment and its landscape context, and increase visual access to the landscape beyond the Loop. The podium landscapes will perform a similar role to the Courtyard Spaces described above providing scope for out- spill activities from the active frontages of the adjacent buildings. The transition between the podium level and the ground floor landscapes will be softened though the use of vertical greening on the podium edge, and a combination of tree and shrub planting.

Ecological Area

The Ecological Area, located along the south-eastern boundary of the LMC Loop, forms one of the key ecological design measures. The design of the Ecological Area is driven by the ecological functions to be compensated, as well as, the habitat requirements of the target species. The creation of this area aims to enhance and create areas of reedbed compensating for the habitat loss - one of the most important ecological resources within the area – as well as providing a corridor connecting ecologically important areas to the east and west of the LMC Loop. Owing to the sensitivity of the ecology, this area will be closed to pedestrian movement and protected by the proposed Woodland Transitional Zone which forms a buffer protecting the wetland from disturbance. The landscape of this area will be characterized largely by marshland areas with small areas of naturalistic shrub land and grassland at the periphery. It also serves as a landscape buffer creating a subtle transition between the built development to the north and the landscape of the river corridor and the rural landscape to the south. The marshland has been separated into a number of zones to create a structurally diverse landscape but also to respond to the territorial instincts of the wildlife it will attract.

Parkway Boulevard

The main access route through the site is conceived as a Parkway Boulevard, with generous tree and shrub planting margins integrated with main landscape open spaces and components beyond. It is designed with extensive roadside planting integrated with Landscape Buffer design to create a green entrance gateway to the LMC Loop and establish a unique and strong identity for overall development.

Tree Avenues

The internal access routes and connecting spaces between different developments with the Parkway Boulevard serve as entry and arrival points to individual building plots. These routes and spaces are designed with avenue trees creating a shaded user-friendly and pleasant environment to individual developments and open areas. These tree avenues will be lined with flowering native and ornamental trees to provide an attractive entry experience.

Green Roofs and Vertical Greening

A green roof system is recommended on roof of buildings and vertical greening for the building facades where technically feasible to provide a third dimension of greening framework to the LMC Loop. The roofs will also provide opportunities

for additional landscaped areas potentially open to the students and staff of each building block.

These measures soften the architectural form of the proposed buildings, enhance the landscape integration of the proposed structures particularly in elevated views and enhance the integration of the proposed built environment within its rural context. They will also realize significant environmental benefits both in terms of reducing the heat loading of each building and addressing the potential heat island effect of the hard architectural and landscape surfaces.

11.5.3.1 Primary Mitigation Measures

In accordance with the TM-EIAO, the hierarchy for landscape impact mitigation is first avoidance of impact, then minimisation of impact and finally compensation of impact. The current proposals have been designed to fulfil the following objectives:

- With reference to Section 11.5.2, Avoidance/Minimisation of impacts on landscape resources such as existing trees by review of the alignment for proposed road connections and the disposition of built components.
- Restoration and enhancement of existing landscapes through the planting large sized trees (semi-mature and heavy standard) at key locations following the completion of the construction phase of the project, which will create an instant greening effect on the site.
- Review of the work sites and areas to ensure that sufficient space is reserved within the facilities for compensatory planting and other landscape works.
- In accordance with the TM-EIAO, mitigation measures for the construction and operational phases of the project have been designed to minimize predicted landscape and visual impacts, and to compensate for the loss of landscape resources given the Project constraints.

11.5.3.2 Secondary Mitigation Measures

A series of mitigation measures designed to alleviate impact and where possible compensate for the loss of landscape resources, change of landscape character and visual amenity for VSRs resulting from the construction and operational phases of the project. The implementation, funding, and management and maintenance for the amenity landscape areas associated with the proposed works will be undertaken by project proponent and/or relevant departments. The proposed landscape mitigation measures are summarized in **Tables 11.5.9** and **11.5.10**.

11.5.4 Construction Phase

The proposed landscape impact mitigation measures in the construction phase are summarized in **Table 11.5.9**

Table 11.5.9 Proposed construction phase mitigation measures

Mitigation Code	Mitigation Measure
CP1	*Preservation and Protection of Existing Trees (Good Site Practice)* • The proposed works should avoid disturbance to the existing trees within and close to the works areas. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design stage for further retention of individual trees. • It is recommended that a full detailed tree survey and felling application will be undertaken and submitted for approval by the relevant government departments in accordance with ETWB TCW No. 3/2006, 'Tree Preservation'. This will be conducted during the detailed design stage of the project and submitted to DLO for approval. The methodology and scope including the programme for the tree survey and felling application are also subject to the approval of the relevant authorities. • Trees which are not in conflict with the proposals would be retained and shall be protected by means of fencing during construction stage to prevent damage to tree canopies and root zones from vehicles and storage of materials. • Specifications for the protection of existing trees will be provided during the preparation of the detailed tree survey by Detailed Design consultants at detailed design and construction stage.
CP2	*Works Area and Temporary Works Areas (Good Site Practice)* • The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. • Construction site controls shall be enforced including the storage of materials, the location and appearance of site accommodation and site storage; and the careful design of site lighting to prevent light spillage. • The temporary works areas shall be restored to its original condition or enhanced through the introduction of new amenity areas or planting areas following the completion of the construction phase.
CP3	*Advance Implementation of Mitigation Planting* • Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas.
CP4	*Transplantation of Existing Trees* • Some specimens have relatively higher amenity value which are in conflict with the proposals shall be considered for transplantation. For trees affected by the proposed infrastructure works the final receptor sites shall be preferably adjacent to their current locations alongside of the alignment to retain their contribution to the local landscape context. For the LMC Loop the receptor locations will be selected to allow the trees to be moved directly to their final locations in accordance with the detailed landscape proposals. • The transplanting proposals are subject to review at the detailed design stage and to agreement-in-principle with the relevant management and maintenance agents and/or government departments. The implementation programme for the proposed works shall reserve sufficient time for the advanced tree transplanting preparation works to enhance the survival of

Mitigation Code	Mitigation Measure
	the transplanted trees. • The transplanting proposals will be subject to the findings of the detailed tree survey and felling application to be undertaken by the detailed design consultants and following approval by the relevant departments.
CP5	*Coordination with Concurrent Projects* • Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance.
CP6	*Creation of Wetland and Landscape Buffer* • The existing reedbed acquired for development areas for the project will be reinstated as part of the Ecological Area. The reinstatement shall be undertaken at the earliest possible stage during the construction phase of the project. • Creation of 12.78ha of Ecological Area (EA) containing reed marsh and marsh will be created at the southern portion of the LMC Loop, and a 50m width landscape buffer area will be set up in between the EA and the development area. Wetland creation concepts please refer to **Figure 11.9zf** and Chapter 12 Ecology Imapact Assessment of this EIA. • Native tree and shrub mix will be utilised for the creation of landscape buffer along northern edge of EA to support the creation of avifauna habitat from ecologist perspectives as well as enhance the aesthetic and landscape diversity within the LMC Loop Development. • Creation of minimum 11.72 Ha. of permanent compensatory off-site wetland areas at Sam Po Shue and Hoo Hok Wai. For the potential locations for off-site wetlands please refer to **Figure 11.9zf and 11.9zh**, Chapter 2 Project Description and Chapter 12 Ecology Impact Assessment of this EIA.
CP7	*Design of Retaining Wall and Slopes* • The proposed treatment of Retaining Wall and Slopes will be undertaken in accordance with GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment and Bio-engineering 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 more natural appearance blending into the local rural landscape. Whip sized tree planting is preferred on the face of soil cut slopes and at the crest and toe of the slope, and within berm planters. The smaller, younger plant stock will adapt to their new growing conditions more quickly than larger sized stock and establish a naturalistic effect more rapidly. *Hydroseeding will be applied on slope has a gradient more than 30 degree.*

11.5.5 Operational Phase

The proposed landscape impact mitigation measures in the operational phase are summarized in **Table 11.5.10**.

Table 11.5.10 Proposed operational phase mitigation measures

Mitigation Code	Mitigation Measure
OP1	*Roadside and Amenity Planting*

Mitigation Code	Mitigation Measure
	• The planting proposals will utilise both native and ornamental species which suitable for roadside planting to soften the built structures and enhance visual amenity of existing and proposed road corridors. The implementation of new planting shall be undertaken as soon as technically feasible using a sectional completion approach during construction stage to ensure the effectiveness of this mitigation during operational stage and as early as possible during the operational phase.
OP2	*Compensatory Planting Proposals* • As the works are largely located within rural areas and alongside existing roads the planting proposals have sought to utilise all of the available space for new tree and shrub planting to create comprehensive landscape framework which is connected to areas of retained and preserved vegetation and designed to integrate the proposals within their future landscape setting. • The planting proposals shall be maintained in accordance with good horticultural practice in order to realise the objectives of the mitigation measures. This includes the replacement of defective plant species on the new planting areas to enhance the aesthetic, landscape and ecological quality of the proposals. • Both on-site and off-site opportunities for compensatory planting shall be considered. • The preliminary compensatory planting proposal will follow the Technical Circular ETWB TCW No. 3/2006 except for felling of trees for slope works which are exempted from the compensation planting ratio requirement. New tree planting in general roadside planting areas and planting areas within the LMC Loop and above ground structures will utilise a combination of semi-mature to light standard sized stock as shown in **Figures 11.9a and 11.9h to 11.9zi** to create an instant greening effect at local level. • New planting areas within the LMC Loop including tree planting in the landscape buffers, open spaces and roadside planting areas will accommodate approximately 5,000 new trees. Planting of more broad-leaf tree species will be considered where space allows and location is suitable for tree establishment. This planting concept would create comfortable shaded area for pedestrians and visitors in open spaces. • New planting areas along the road alignment of WCR (DP2), ECR (DP6) and access road to Flushing Water Service Reservoir (DP7) will accommodate approximately 2,600 new trees. • For the affected tree on the sloping areas, due to constrained growing conditions, whip planting will be proposed on slopes which have gentler gradient at a planting distance of about 1500mm. Slopes that have a gradient more than 30 degree, hydroseeding will be applied instead. Upon full establishment of whip planting and hydroseeding, greening coverage on affected sloping areas will be reinstated. Following the above planting principles, the newly formed and remnant sloping areas along the road alignment would accommodate approximately 500 whips. • Based on a preliminary estimation, the above planting proposal would achieve a replanting ratio of minimum 1:1 in terms of quantity and quality except for slope works according to ETWB TCW No. 3/2006. This tree replanting ratio would compensate the total girth and number of tree loss as

Mitigation Code	Mitigation Measure
	well as the total number of tree loss on sloping area. Given the constraints of growing condition and safety reasons of planting larger size tree stock on sloping areas, greening measures on new formed and remnant slopes, including extensive hydroseeding and whips planting, would restore the quality of these greenback drop in rural area. • The species selection for planting areas within the LMC Loop will utilise a range of native, ornamental and amenity tree species. These proposals will be subject to further development during the detailed design stage of the project.. • Proposed planting on slopes will utilise woodland mix with majority of native species on new or disturbed slopes along the WCR and ECR.
OP6	*Creation of Woodland* • 1.1 Ha. of woodland areas will be created off-site as ecological mitigation measures for the loss of woodland. The creation of a woodland compensation area will involve planting of woodland and shrubland species in grassland areas currently of low ecological value along the existing Boundary Patrol Road near Horn Hill at Ping Hang. For details of the off-site woodland compensation please refer to **Figure 11.9zi**, Chapter 2 Project Description and Chapter 12 Ecology Impact Assessment of this EIA. • In addition to the above, disturbed wooded slopes along WCR (DP2) and ECR (DP6) by the road widening and improvement works will be infilled with woodland planting of light standard size trees or whips where space allows to restore and enhance the ecological and landscape value of the remnant woodland areas.
OP7	*Reinstatement of Affected Fishponds* • Enhancement of 11.72 Ha. of wetland/fishponds at Sham Po Shue and Hoo Hok Wai with ecological function for the off-site compensation of the permanent loss of fishponds. Off-site fishponds enhancement proposal refer to **Figure 11.9zh**, Chapter 2 Project description and Chapter 12 Ecology Impact Assessment of this EIA. • Temporary loss of fishponds along WCR (DP2), Direct Link to LMC Station (DP4) and ECR (DP6) by the road widening and improvement works will be largely reinstated to fishponds with tree planting at selected locations. Reinstatement of affected fishponds refer to **Figure 11.9j,k,l,m,r, t and u.** These ponds will be used for both functional or amenity purposes to enhance the existing landscape and visual context.
OP8	*Application of Terraced Podium Landscape, Vertical Greening and Green Roof* • Terraced podium design shall be incorporated into the building design of the LMC Loop Development to maximise the greening opportunities on upper level of the development, reduce the apparent visual mass of the structure and provide visual amenity for views looking from street level as well as in distance at elevated levels as to create better integration with existing landscape and visual context. • Incorporation of alternative greening measures including vertical and roof greening on building or built structures where condition allow particularly those fronting the public realm to reduce the apparent visual mass of the structure.

11.6 Visual Baseline, Impact Assessment and Mitigation

11.6.1 Visual Baseline

11.6.1.1 Existing Visual Context and Visual Envelope

The visual envelope (VE) is the area within HKSAR from which the proposed development will be seen, and is shaped by a combination of the existing adjacent built development, the landform of the surrounding area and in some locations existing vegetation. It extends from the summits of the LMC ridge line (overall height below +120mPD) to Tai Shek Mo in the south, Hoo Hok Wai in the east and Sam Po Shue in the west with visibility extending inland through the valleys which bisect the upland areas including that at LMC and the Ng Tung River valleys.

There are panoramic views across the flat expanse of the fishponds towards the LMC Loop (i.e. Area A) with its pockets of trees and shrub and tall grass / reed growth. The villagers in lowland settlements located in the areas proximate to Area A form the main VSRs including those living in Ha Wan Tsuen, Ha Wan Fishermen Village, LMC Tsuen, Tai Law Hau, Ping Hang and Tse Koo Hang alongside Ha Wan Tsuen Road and existing Boundary Patrol Road and some villagers in San Tin, Chau Tau and Ma Tso Lung. There are two aspects to the views available to many of these VSRs. At lower levels VSRs will have glimpsed views of the proposed development because the majority of low-level views to the LMC Loop are interrupted and obstructed by the intervening topography and/or vegetation. For some VSRs more elevated views extend towards the upper part of the future development on Area A.

An important consideration in the design of the proposals is respect for the ridgeline from LMC to Tai Shek Mo which will form the backdrop to views of the future LMC Loop and serve to screen views available to the future residents of the proposed KTN NDA.

The VE for the proposed ECR is formed by two main components. To the west of the alignment the VE extends across the flat expanse of the existing fishponds north towards Hoo Hok Wai and south west along the corridor formed by the fishponds adjacent to Ping Hang and Tai Law Hau. The alignment will also be visible from the uplands to the south and south east particularly the hills between Ping Hang and Ma Tso Lung. The second component of the VE lies within the agricultural valley of Ma Tso Lung San Tsuen and Shun Yee San Tsuen. In this second area there will be largely open views across the valley floor although there will be some partial screening due to intervening trees and small woodland clumps. At a more elevated level views extend from the valley sides to the east and west of the alignment although these views are available to few VSRs.

The VE for the proposed Flushing Water Service Reservoir is similar to the western part of the ECR alignment extending north across the existing fishponds

at Hoo Hok Wai and south west along the corridor formed by the fishponds adjacent to Ping Hang and Tai Law Hau. Owing to its higher elevation views of the reservoir also extend north west and west to the area of the LMC Loop.

Owing to the locations of the VSRs and the nature of the existing view which is shaped by the existing topography and/or vegetation, the main visual mitigation will come from the preservation of the existing landform and vegetation, the overall layout, the scale and disposition of the proposed built environment; and the integration of significant landscape features within the proposed development and the surrounding landscape context.

The alignment of the proposed WCR will follow the route of the existing LMC Road which bisects the agricultural plane at the western base of the uplands which form the setting for the Loop. The WCR will be located within a landscape enclosed by existing features such as the San Sham Road, the LMC Cross-boundary facilities; and the LMC Spur Line to the west; and the development associated with the villages of Chau Tau, Pun Yuk Tsuen, and Ha Wan Fishermen Village to the east of the alignment. In addition the existing road corridor is lined by intermittent mature tree planting with views also being partially obscured by vegetation within the agricultural fields and at the edge of the existing village settlements.

The VE for the proposed viaduct for the Direct Link to MTR LMC Station extends south to the viaduct structure of the LMC Spur Line and the vegetation at the periphery of Ha Wan Tsuen whilst views to the north will extend to the banks of the Shenzhen River and beyond to locations such as the footbridge for the LMC Cross-boundary Facilities. Framed and partially obscured views will also extend west from the future development on the western periphery of the LMC Loop.

In addition to the permanent VSRs described above, vehicle travellers on the LMC and Ha Wan Tsuen Roads, train passengers on the Spur Line and visitors and staff at the boundary crossing facilities, will have partial views of the proposed development on Area A and more open views of the upper portions of the proposed buildings and structures. Visual mitigation for these transient VSRs will come from a combination of the design of the scheme proposals and the integration of proposed development within its local landscape context.

The extent of the visual envelope and the zones of visual influence are presented in **Figures 11.6a** to **11.6g** and photographs showing the views available to each of the VSRs are presented as **Figures 11.6h** to **11.6s.**

11.6.1.2 Visually Sensitive Receivers

VSRs are identified as those groups or individuals, who have a view of the proposed developments based on the preliminary assumptions discussed in the previous sections, are sensitive and will be subject to adverse impacts as a result of the development. The sensitivity of a particular VSR is influenced by location (sensitivity tends to decrease with distance from the proposed scheme), direction and nature of the view relative to the scheme (an open and full views will be more sensitive than a partial of glimpsed view), and VSR type. The number of individual receivers represented by VSR will also affect its sensitivity.

The principal VSRs within the assessment area are the residents of developments and villagers in lowland settlements who might have views to the proposed

development, vehicle travellers, visitors and staff of the boundary crossing, rail and other infrastructural facilities whom have a view of the proposed development.

The selected VSRs are representative of the views available to people surrounding the proposals and include the following:

- VSR1: Residents of Lin Barn Tsuen Village Settlement;
- VSR2: Residents of Tung Chan Wai Village Settlement;
- VSR3: Travellers and Staffs at LMC Cross-boundary Bus Terminal;
- VSR4: Vehicle Travellers along Fanling and San Tin Highways;
- VSR5: Vehicle Travellers and Pedestrians along LMC Road;
- VSR6: Residents of Ha Wan Tsuen Village Settlement;
- VSR7: Residents of LMC Village Settlement;
- VSR8A: Residents of Pun Uk Tsuen Village Settlement;
- VSR8B: Residents of Chau Tau Village Settlement;
- VSR9: Residents of Tai Law Hau Village Settlement;
- VSR10: Residents of Ping Hang Village Settlement;
- PVSR 10A: Planned Visitors to the Eco-lodge;
- VSR11: Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities;
- VSR12: Train Travellers on LMC Spur Line;
- VSR13: Residents of Tse Koo Hang Village Settlement;
- VSR14: Residents of Liu Pok Village Settlement;
- VSR15: Travellers on Planned Boundary Patrol Road to the East of LMC Loop;
- VSR16: Travellers on Planned Boundary Patrol Road to the West of LMC Loop;
- VSR17: Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities;
- VSR18: Residents of Shun Yee San Tsuen;
- VSR19: Residents of Ha Wan Fishermen Village Settlement;
- VSR 20: Public Users of LMC Lookout;
- VSR 21: Residents of Ma Tso Lung Village Settlement;
- VSR 22: Travellers on the Existing Boundary Patrol Road at Ma Tso Lung;
- VSR 23: Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road;
- VSR 24: Residents along Lok Ma Chau Road;
- VSR 25: Workers of Workshops and Container Storage along Kwu Tung Road West; and
- VSR 26: Staffs of HKPF Lok Ma Chau Operation Base.

The following section provides a description of the views available to each of the identified VSRs and should be read in conjunction with the photographs presented as **Figures 11.6h** to **11.6s** Visually Sensitive Receiver Photographs.

VSR 1 Residents of Lin Barn Tsuen Village Settlement

These VSRs have a relatively long distance view looking northeast towards the LMC Loop at a distance of approximately 2250m (**Figure 11.6h** refers). They enjoy low-level panoramic views across the Sam Po Shue fishponds which are partially interrupted by the existing LMC Cross-boundary infrastructural facilities and the Spur Line in the background and largely screened by adjacent in the foreground on fishpond areas. To the north the distant views are dominated by the high-rise urban setting of Shenzhen. These VSRs are few in number and their visual quality is fair. Given a combination of the nature and long distance of existing views; their visual quality, disrupted visibility and that only the higher levels of the proposed buildings on the LMC Loop may be seen by these VSRs, their sensitivity is medium.

VSR 2 Residents of Tung Chan Wai Village Settlement

Only the villagers living at the northeast periphery of Tung Chan Wai at San Tin will have partial views towards the proposed development at the northern portion of the LMC Loop at a distance of 1400m. (**Figure 11.6h** refers). Given their low building height profile, the visual context of these VSRs is largely contained by other village development at San Tin to the south and open storage immediately to the east. Similar to VSR1, the LMC Cross-boundary infrastructural facilities and the Spur Line are apparent in the middle ground to the east and form a major visual intrusion within the available views. These VSRs are few in number and their visual quality is fair. Given a combination of their nature and visual quality, the disrupted visibility and the relatively long viewing distance; and that only the higher levels of the proposed buildings within the LMC Loop will be visible may be seen by these VSRs, their sensitivity is medium.

VSR 3 Travellers and Staffs at LMC Cross-boundary Bus Terminal

The views available to travellers and staff from the bus terminal are at a relatively low-level and largely confined by roadside trees, the structures associated with the adjacent roads and highway and open storage (**Figure 11.6h** refers). These VSRs may have glimpsed views of WCR at a distance of 150m to the east, although this is dependent on the nature of the works in each area and overview of road surface reconstruction to accommodate the LMC Road and San Tin Highway Connection formed part of the WCR. The number of VSRs is large but the views are transient in nature. Their visual quality considered to be poor being dominated by the surrounding infrastructural landscape. Although these VSRs may be in close proximity to the proposed works at LMC Road and San Tin Highway, given the nature and containment of the available views their sensitivity is low.

VSR 4 Vehicle Travellers along Fanling and San Tin Highways

Similar to VSR 3, views available to vehicle travellers on the Fanling and San Tin Highways are transient and interrupted and confined by adjacent highway structures (**Figure 11.6h** refers). Views extending towards the village settlements in the hinterland are largely screened by mature roadside vegetation. These VSRs are large in number and their visual quality is poor. Despite these VSRs being in close proximity to the proposed works at LMC Road and slip road connecting to San Tin Highway, given the nature of the views and their containment within the infrastructure corridor, their sensitivity is low.

VSR 5 Vehicle Travellers and Pedestrians along LMC Road

Views available to vehicle travellers and pedestrians are transient in nature and largely confined within the road corridor by the adjacent car parks, open storage, village houses and mature roadside tree planting along LMC Road and Ha Wan Tsuen Road (**Figures 11.6h to i** refer). Views extending west towards the proposed development are interrupted by the structures associated with the LMC Cross-boundary facilities and the Spur Line. These VSRs are intermediate in number and their visual quality ranges from poor at the southern portion and relatively better at the northern portion when approaching Ha Wan Village and the LMC Loop. Despite being in relatively close proximity to the proposed works at LMC Road, and being able to perceive the proposed developments at the LMC Loop when moving towards Ha Wan Tsuen, the disturbed nature of the views and their visual containment within the road corridor results in their sensitivity being low.

VSR 6 Residents of Ha Wan Tsuen Village Settlement

Although Ha Wan Tsuen is located at a distance of 150m immediately to the west of the LMC Loop, the mature vegetation at the entrance square of the village and along Ha Wan Tsuen Road screens most of the low-level views of the LMC Loop (**Figures 11.6i to j** refer). However any proposed buildings on the LMC Loop with a higher building height profile than the adjacent village houses may lead to changes in the visual context. Existing alternate views to the west of these VSRs are interrupted by the structures associated with the LMC Cross-boundary facilities and the Spur Line in the middle ground and are occasionally screened by mature vegetation on the fishpond bunds and tree planting along the Spur Line. Longer distance views to the north are dominated by the high-rise development of Shenzhen. These VSRs will also has partial views of proposed at-grade works along Ha Wan Tsuen Road and largely screened by existing mature trees at the eastern entrance of Ha Wan Tsuen. These VSRs are small in number and their visual quality contained within the village environs is fair. Given a combination of their permanent nature; quality of their disrupted and confined visual context and their proximity to the proposed works in both the LMC Loop and associated supporting infrastructure outside the LMC Loop, their sensitivity is high.

VSR 7 Residents of LMC Village Settlement

These VSRs, located to the east of Ha Wan Tsuen, have panoramic views across the fishpond areas to the north and the LMC Loop in the middle ground at a distance of 150m with the high-rise development of Shenzhen forming the

background (**Figure 11.6j** refers). Views looking to the south are dominated by mixed woodland at the lower hill slopes emanating from the ridges extending from west to east. These VSRs are small in number and their visual quality is fair. Given their nature and extent of views available and their proximity to the LMC Loop, their sensitivity is high.

VSR 8A Residents of Pun Uk Tsuen Village Settlement

These VSRs are located at a distance of 250m to the east of LMC Road (**Figure 11.6j** refers). The majority of the views looking towards the LMC Loop are screened by the intervening landform. Low-level views looking to the west and the north are dominated by mixed woodland at the lower hill slopes of the LMC ridges. Views to the south are characterised by abandoned agricultural fields in the foreground and trees along Chau Tau West Road and LMC Road in the background, views to LMC Road have been largely screened. View east to Fanling Highway have been blocked by intervening land form, trees and Pun Uk Tsuen. The number of VSRs is small and their visual quality is fair. Given nature of available views and the disrupted viewshed caused by intervening landform, trees and built environment, their distance and extent of views of the proposed works, their sensitivity is medium.

VSR 8B Residents of Chau Tau Village Settlement

These VSRs are located at a distance of 250m to the east of LMC Road (Figure 11.6j refers). The majority of the views looking towards the LMC Loop are screened by the intervening landform. Low-level views looking to the north are dominated by mixed woodland at the lower hill slopes of the LMC ridges. Views to the south are characterised by active agricultural fields, stormdrain pumping stations and retention ponds and trees along Chau Tau South Road. The number of VSRs is small and their visual quality is fair. Views to the west are screened by trees along Chau Tau West Road. Views looking toward the proposed WCR are screened by mature roadside trees and built environment. Given nature of available views and the disrupted viewshed caused by intervening landform, trees and built environment, their distance and extent of views of the proposed works, their sensitivity is medium.

VSR 9 Residents of Tai Law Hau Village Settlement

Residents of this village with a view of the proposals are located at a distance of approximately 150m immediately to the south of the LMC Loop with views across the abandoned meander and fishponds areas along the existing Boundary Road (**Figure 11.6k** refers). They have panoramic views of the wide expanse of the LMC Loop with the high-rise urban setting of Shenzhen in the background. Although due to the relatively low elevation of the viewing position the screening effects of the intervening vegetation particularly tree planting is apparent. These VSRs are few in number and their visual quality is fair. Given the extent and nature of views available and their proximity to the LMC Loop, their sensitivity is high.

VSR 10 Residents of Ping Hang Village Settlement

Located some 150m immediately to the south of the LMC Loop these VSRs enjoy views across the abandoned meander and fishponds areas along the existing Boundary Road (**Figure 11.6k** refers). Similar to VSR9, they have panoramic views of the LMC Loop with the high-rise urban setting of Shenzhen in the background which are interrupted by intervening vegetation particularly trees. Close and open views look towards at-grade ECR works along Boundary Patrol Road is available from these VSRs. These VSRs are few in number and their visual quality is fair. Given the extent and nature of views available and their proximity to the LMC Loop, their sensitivity is high.

PVSR 10A Planned Visitors to the Eco-lodge

This planned development will be located on the lower, northern hill slopes of Ma Tso Lung at a distance of less than 100m from the proposed ECR and approximately 400m from the LMC Loop (**Figures 11.6k** and **r** refer). The views available to the north facing accommodation will be both elevated and panoramic extending over a landscape of agricultural fields and fishponds to the abandoned meander the LMC Loop with the high-rise urban setting of Shenzhen in the background. The programme for the implementation of the Eco-lodge proposals is unknown at this stage. These planned VSRs will be relatively few in number and their visual quality will be fair. Given the extent and nature of views available and their proximity to the LMC Loop, their sensitivity is high.

VSR 11 Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities

Given the configuration of the cross-boundary facilities, the views available to travellers and staff are transient and largely confined within the custom areas with occasional glimpsed views along the Shenzhen River corridor through the windows of the footbridge which crosses the river (**Figure 11.6l** refers). These VSRs have elevated views of proposed development on the LMC Loop at a distance of approximately 1100m whilst have an immediate view of proposed viaduct from MTR LMC Station to the LMC Loop. The number of VSRs is large and the quality of their view is fair. Given the nature and extent of views available, their sensitivity is low.

VSR 12 Train Travellers on LMC Spur Line

Train travellers on the Spur Line enjoy both panoramic views of the lowland areas of the NWNT with its mountain backdrop and the high-rise urban setting on the other side of Shenzhen River (**Figures 11.6i and l** refer). These transient VSRs have an easterly elevated view of the LMC Loop at a distance ranging from 300 to 1000m. These VSRs will also have open views of proposed direct link to MTR LMC Station as proposed viaduct alignment is running in parallel to the Spur Line. The number of VSRs is relatively large and the quality of their view is fair. Given the nature and extent of views available, their sensitivity is low.

VSR 13 Residents of Tse Koo Hang Village Settlement

The relatively small numbers of VSRs at Tse Koo Hang located to the south of the Hoo Hok Wai fishpond area contained by woodland at the lower eastern slope of LMC Ridges are living in single storey village houses (**Figure 11.6l** refers). Views from VSRs located in the northern portion of the village is contained by adjacent woodland and will have a close view of the proposed works for ECR along Boundary Patrol Road. View looking towards the LMC Loop is obstructed by adjacent woodland. Views from VSRs at the southern portion of the villages have an open view of grassland and agricultural fields in the foreground and overview of Ma Tso Lung Tsuen and Shun Yee San Tsuen and uphill Tai Shek Mo in the background. These VSRs will have an overview of the section of ECR located in the grassland. The number of VSRs is very few; quality of main view is good and given their nature and extent of views available, their sensitivity is high.

VSR 14 Residents of Liu Pok Village Settlement

Liu Pok Village is located to the north of Tai Shek Mo. The majority of the villagers enjoy views of Ng Tung River and Lo Wu Cross-boundary Facilities in the middle ground with the high-rise urban setting of Shenzhen beyond (**Figure 11.6m** refers). The low level views are largely screened by the vegetation at the lower slopes of Tai Shek Mo which also serves to frame views towards the fishponds in the foreground to the north. Only villagers living at the western periphery of the village have partially obstructed views looking towards the Hoo Hok Wai lowland areas. Views looking towards the proposed development on the LMC Loop and road works at Ma Tso Lung are largely obscured by intervening uphill topography of Tai Shek Mo and vegetation in the settlement. The number of these VSRs is small and their visual quality is fair due to surrounding vegetation and partially enclosed topography. Given the nature and extent of views available, their sensitivity is high.

VSR 15 Travellers on Planned Boundary Patrol Road to the East of LMC Loop

Based on current operation of the Boundary Patrol Road, the new road along the northern periphery of the LMC Loop will also be utilised by both the Hong Kong Police Force as well as maintenance departments and villagers and operators with closed area permits for the access of Hoo Hok Wai fishponds areas (**Figure 11.6m** refers). These transient VSRs will enjoy views of the Shenzhen River and its riverside areas through the boundary fence alongside the road. Their visual context extends to the lowland rural landscape through a secondary boundary fence newly constructed within the HKSARs territory to the south which forms the foreground, the lower slopes of the LMC ridge in the middle ground and high-rise urban setting of Shenzhen to the north. These VSRs may have an immediate view of the LMC Loop through a secondary boundary fence newly constructed, and a more distant view of the associated infrastructure facilities outside LMC Loop at a distance of 150m across the Hoo Hok Wai fishpond areas. The number of these VSRs is very small and their visual quality is fair due to the intrusion of the fence structure. Given the nature, extent and quality of their views, their sensitivity is medium.

VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop

As with VSR15 these VSRs enjoy partially obstructed views to the riverside areas. Views from the west looking towards the LMC Loop are currently dominated by the LMC Cross-boundary facilities and the structures associated with the Spur Line (**Figure 11.6n** refers). With the integration of the building height profile and building design of proposed LMC Loop development with these existing medium-rise infrastructure facilities, the proposed Direct Link to MTR LMC Station, a new viaduct aligned with the Spur Line, and at-grade WCR crossing the river surrounding the LMC Loop, the cumulative effect on the existing visual quality of the lowland area would not be significant. Given the nature, extent and the quality of their views is fair, their sensitivity is medium.

VSR 17 Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities

Similar to VSR11, views of these transient VSRs are largely confined within the customs area, with occasional glimpsed views of the areas along the Shenzhen River corridor through the windows of the river footbridge (**Figure 11.6n** refers). Views west from these VSRs towards the LMC Loop and associated infrastructure outside LMC Loop at a distance of 2500m are largely obscured by the intervening landform of Tai Shek Mo. The number of VSRs is large and the quality of their view is fair. Given the nature and extent of views available, their sensitivity is low.

VSR18 Residents of Shun Yee San Tsuen

Shun Yee San Tsuen is located to the east of the LMC Loop at a distance over 1200mm. These VSRs have a relatively long distance view looking towards the northwest to the LMC Loop with extensive Hoo Hok Wai fishpond areas in the foreground (**Figure 11.6n** refers). Views are partially interrupted by the existing intervening landform of Ma Tso Lung and LMC Ridges. Alternative views from these VSRs extend to the south across the grassland and agriculture fields at Ma Tso Lung in their foreground and lower slope of LMC Ridges in the background. Given these VSRs located at a higher elevation, they will have an open view of proposed at grade sections of ECR. They are few in number and their visual quality is fair. Given the nature of the available view, its visual quality, disrupted visibility and the relatively long distance it is predicted that only the upper portions of the proposed buildings on the LMC Loop and ECR will be visible to these VSRs and so their sensitivity is medium.

VSR19 Residents of Ha Wan Fishermen Village Settlement

These VSRs are located to the south of LMC Tsuen, and their views are largely contained inside the village due to surrounding landform of the lower slopes of LMC ridges and mixed woodland (**Figure 11.6o** refers). The views towards the LMC Loop will be obstructed by intervening landform and topography and surrounding woodland. Regarding to their proximity to the works along LMC Road for the proposed WCR, these VSRs will have glimpsed views toward the WCR through dense vegetation at the edge of village. VSRs are small in number

and their visual quality is fair. Given the nature and extent of views available to the LMC Loop, their sensitivity is medium.

VSR20 Public Users of LMC Lookout

These VSRs, located at a higher elevation on slope to the south of LMC Tsuen, enjoy panoramic views across the fishpond areas, shrubland, LMC Tsuen and the LMC Loop to the north and mixed woodland at lower slopes of LMC ridges in the foreground (**Figure 11.6o** refers). The viewing location for this VSR is taken as the area adjacent to the Lok Ma Chau Police Station which is publicly accessible and has open views north towards the LMC Loop whilst views from the lookout towards the LMC Loop is partially obstructed by trees surrounding the lookout. From this location VSRs will have views of the construction works and completed development at the LMC Loop, road works at Ha Wan Tsuen Road and Direct Link to MTR LMC Station (viaduct). These VSRs are small in number and their visual quality is fair. Given the nature and extent of views available to the LMC Loop and associated infrastructures outside the Loop, their sensitivity is medium.

VSR 21 Residents of Ma Tso Lung Village Settlement

The main views of these VSRs are confined within the valley surrounding by LMC ridge and Tai Shek Mo. Majority views towards the grassland and agriculture fields from the village are obstructed by intervening village houses and planting in the fields, only the VSRs located at the north-western periphery will have an open view of the grassland and fields. Relatively long distance views for these VSRs looking northwest towards the LMC Loop, these views are largely obstructed by intervening landform of LMC ridge and vegetation. (**Figure 11.6p** refers). Given the VSRs at north-western portion of the settlement enjoy views across the agricultural fields and grassland, these VSRs will have views full or partial views of the proposed ECR. These VSRs are small in number and their visual quality is fair. Given the nature and extent of views available to the LMC Loop, their sensitivity is medium.

VSR 22 Travellers on the Existing Boundary Patrol Road at Ma Tso Lung

Travellers on the existing Boundary Patrol Road currently enjoy views to the southwest through existing boundary fence towards the agricultural land around the settlement of Ping Hang and its setting of wooded hill slopes leading to the LMC ridge; and an open view of Hoo Hok Wai. The existing closed area boundary fence in the foreground degrades the quality of the existing view (**Figure 11.6p** refers). Views of the proposed development will be immediate with the proposals for the ECR with its associated structures and more distant views towards the southern periphery of the development within the LMC Loop. These VSRs are relatively few in number. Given a combination of the visual amenity available to VSRs at this location and the impact of existing infrastructure the sensitivity of these views is medium.

VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road

The view north for these VSRs at a distance of approximately 600m extends along Ha Wan Tsuen Road towards the LMC Loops is characterised by a combination of the existing, remnant fishponds and to the west the infrastructural development associated with the LMC Spur Line (**Figures 11.6p** and **q** refer). Partially interrupted views north east will be restricted to the upper portion of the proposed developments within the Loop with the lower elevations being screened by the intervening vegetation. There will also be immediate views of the proposed road widening works along Ha Wan Tsuen Road. These VSRs are relatively few in number. Given the disturbed nature of the existing view the sensitivity of this VSR is low.

VSR 24 Residents along Lok Ma Chau Road

Views available to residents in the properties lining Lok Ma Chau Road are largely contained within the road corridor although there are partially interrupted views east towards the uplands of the LMC ridge line (**Figure 11.6q** refers). Owing to the orientation of the village houses the views for many of the residents extend away from the proposed development. With the development of the proposals views will be immediate extending to the road widening works for Lok Ma Chau Road and in a number of locations will be partially blocked by the construction of the non-continuous noise barrier ranging in height from 0.8 to 5m. The number of VSRs will be small in number and given a combination of the nature of the existing views and the orientation of many of the village houses, fair quality of their main views, the sensitivity of these views is considered to be low.

VSR 25 Workers of Workshops and Container Storage along Kwu Tung Road West

The views available to workers within this location are largely screened by the existing container storage and workshop structures within the area and the intervening structures associated with the San Tin Interchange (**Figure 11.6q** refers). Although views of the main development within the LMC Loop are unlikely due to the screening effect of the intervening landform and development there will be immediate views towards the proposed road connection from LMC Road to San Tin / Fanling Highways. The number of VSRs in this location is small, and their quality of view is poor. Given a combination of the nature of existing view with its existing highway structures and the limited extent of available views the sensitivity is low.

VSR 26 Staffs of HKPF Lok Ma Chau Operation Base

These VSRs are located at a distance of approximately 700m immediately to the east of the LMC Loop with views across the abandoned meander and fishponds areas along the existing Boundary Patrol Road (**Figures 11.6r and s** refer). Views from within the helicopter base facility are restricted to the upper levels of development at LMC Loop. Views from the entrance to the facility are panoramic extending to the LMC Loop with the high-rise urban setting of Shenzhen in the background. There will also be immediate views from this location towards the

Eastern Connection Road. These VSRs are few in number and their visual quality is fair. Given the extent and nature of views available and their proximity to the proposals, their sensitivity is medium.

The sensitivity of the identified VSRs to further change ranges from high to low due with the value and quality of existing views, visibility of the proposals due to the restrictions caused by intervening local topography, built environment and vegetation including mature trees. The VSRs are represented by both transient or permanent receivers and their populations range from large to small. **Table 11.6.1** describes the sensitivity of the selected VSRs within the ZVI, the quality of their existing views and their ability to accommodate change.

Table 11.6.1 Assessment of the sensitivity of visually sensitive receivers (VSRs)

Visually Sensitive Receivers (VSR)	**Description of Main Views**	**Criteria**					**Sensitivity / Quality of VSR**
		Quality of Main View (Good / Fair / Poor)	**Availability and Amenity of Alternative Views (High / Medium / Low / N/A)**	**Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)**	**Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)**	**Degree of Visibility (Full / Partial / Glimpsed / Obscured)**	
VSR1 Residents of Lin Barn Tsuen Village Settlement	These VSRs have low-level panoramic views across the Sam Po Shue fishpond areas which are interrupted by existing LMC Cross-boundary infrastructural facilities and the Spur Line in the background largely screened by vegetation in the foreground on fishpond areas	Fair	Yes and Medium These VSRs also have alternative views of the high-rise of the Shenzhen urban setting to the north.	Permanent / Few	Long Rare	Partial views. These VSRs will have partial view towards the upper level of the proposed buildings on the LMC Loop.	Medium
VSR2 Residents of Tung Chan Wai Village Settlement	Views for these VSRs are largely contained at a distance by features such as the other village development at San Tin to the south, a small woodland to the north and open storage immediately to the east. LMC Cross-	Fair	Yes and Medium Alternative oblique views extend west across the existing fishponds.	Permanent / Few	Long Rare	Partial views. Only VSRs living at the northeast periphery of Tung Chan Wai at San Tin will have partial views to the proposed developments at the northern portion of the LMC Loop.	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	boundary infrastructural facilities and the Spur Line in the middle ground to the east form a major visual intrusion in the available view.						
VSR3 Travellers and Staffs at Lo Ma Chau Cross-boundary Bus Terminal	The views available to these VSRs are enclosed by roadside trees, existing features such as the surrounding highway infrastructure and open storage. Views extend above these features to the upland areas of the LMC ridgeline.	Poor	Yes and Low Alternative views extend east and south west along the road corridor.	Transient / Large	Short . Occasional	Glimpsed views of associated infrastructure outside LMC Loop and a close proximity view of the proposed works for the WCR LMC Road/San Tin Highway Connection. (DP2)	Low
VSR4 Vehicle Travellers along Fanling and San Tin Highways	Views for these VSRs are largely contained within the existing road corridor by the mature trees at the roadside and the adjacent	Poor	Yes and Low Alternative views revealed at locations along the	Transient / Large	Short Occasional	Glimpsed views of the proposed works for the LMC Road and slip road connection to San Tin Highway.	Low

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	highway structures. Some filtered views extend towards the village settlements, open storage and light industrial areas within the hinterland area.		road corridor where in intercepts a side road or the San Tin Interchange.			(DP2)	
VSR5 Vehicle Travellers and Pedestrians along LMC Road	Views largely restricted to the road corridor by a combination of roadside vegetation, adjacent car parks, open storage and village houses along LMC Road and Ha Wan Tsuen Road. The visible infrastructural landscape extends west to the LMC Spur Line and Cross-boundary facilities.	Poor	Yes and Low Some limited filtered and framed views to the north east in between the village settlements.	Transient / Intermediate	Short Occasional	These VSRs will have a close proximity full and partial views of the proposed works at LMC Road (DP2) and the partial views of the upper portion of the proposed developments on the LMC Loop when moving towards Ha Wan Tsuen.	Low
VSR6 Residents of Ha Wan Tsuen Village Settlement	To the north, elevated views are dominated by the high-rise urban form of Shenzhen whereas low-	Fair	Yes and low Alternative views to the west are	Permanent / Small	Long Very Frequent	Partial views of the upper portion of the higher proposed buildings on the LMC	High

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	level limited and filtered views extend over the fishponds to the north of the village occasionally screened by mature vegetation at the edge of the village settlement. Views limited to residents at the edge of the settlement.		interrupted by the LMC Cross-boundary facilities and the Spur Line in the middle ground.			Loop will be seen by these VSRs. Partial views of proposed works along Ha Wan Tsuen Road (DP2)will be seen at the entrance square of Ha Wan Tsuen.	
VSR7 Residents of LMC Village Settlement	These VSRs have panoramic views across the fishpond areas to the north with the existing LMC Loop in the middle ground and the high-rise urban form of Shenzhen in the background. Views looking to the south are characterised by the mixed woodland at the lower slopes of ridges extending	Fair	Yes and Medium Alternative views extend north east and east along the corridor of fishponds to the south of the Loop and towards the natural uplands of the LMC ridgeline.	Permanent / Small	Long Very Frequent	These VSRs will have a full and direct view to the proposed development in the LMC Loop.	High

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	from west to east.						
VSR8A Residents of Pun Uk Tsuen Village Settlement	The main views for these VSRs are confined within the village. Views extended south and west from the village settlement are dominated by the abandoned agricultural fields in the foreground, vegetated lower slopes of LMC ridge and mature trees along LMC road and Chau Tau West Road in the background . Views looking towards the LMC Road and Fanling Highway are screened by mature trees along the edge of the abandoned agricultural fields, Chau Tau West Road, Lok Ma Chau Road and Fanling	Fair	Yes and Medium Alternative views extend north and east towards the lower slopes of the LMC ridges in the background.	Permanent / Small	Long Rare	Obstructed Views towards the improvements to the LMC Road for the WCR and the development on the LMC Loop due to intervening landform, LMC ridges and mature trees along LMC Road and Chau Tau West Road.	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	Highway. Views looking towards further east are screened by mature trees along Chau Tau West Road and Chau Tau village settlement.						
VSR8B Residents of Chau Tau Village Settlement	The main views for these VSRs are confined within the village. Views extended south from the village settlement are dominated by the active agricultural fields in the foreground, pumping stations and mature trees along Chau Tau South Road and Fanling Highway. Views looking towards the further west and east are screened by mature trees along Chau Tau West Road, pumping	Fair	Yes and Medium Alternative views extend north and east towards the lower slopes of the LMC ridges in the background.	Permanent / Small	Long Rare	Obstructed Views towards the improvements to the LMC Road for the WCR and the development on the LMC Loop due to intervening landform, LMC ridges and mature trees along LMC Road and Chau Tau West Road and Chau Tau South Road.	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	stations and Fanling Highways. View north is confined by LMC lower ridges.						
VSR9 Residents of Tai Law Haul Village Settlement	The main views for these VSRs are open and panoramic extending north and west over the fishponds and the abandoned meander to the LMC Loop with the high-rise urban development of Shenzhen in the background.	Fair	Yes and Medium Alternative views extend northeast and south east along the lower slopes of the LMC ridges; and south east to the uplands of the LMC ridges.	Permanent / Few	Long Very Frequent	Full and open panoramic views of the proposed development within the LMC Loop.	High
VSR10 Residents of Ping Hang Village Settlement	The main views for these VSRs are open and panoramic extending north west over the fishponds and the abandoned meander to the LMC Loop with the high-rise urban development of Shenzhen	Fair	Yes and Medium Alternative views extend north towards the fishponds of Hoo Hok Wai; and northeast and south	Permanent / Few	Long Very Frequent	Full and open panoramic views north west of the proposed development within the LMC Loop; along the alignment of the ECR (DP6) and partial views east	High

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	in the background. These VSRs have panoramic views of the LMC Loop and Shenzhen high-rise urban setting in the background.		east along the lower slopes of the LMC ridges; and south east to the uplands of the LMC ridges.			towards the proposed Flushing Water Service Reservoir (DP7) and its associated infrastructure.	
PVSR 10A Planned Visitors to the Eco-lodge	The bungalows on the north western edge of the proposed development will have main views which are elevated, open and panoramic extending north west over the fishponds and the abandoned meander to the LMC Loop with the high-rise urban development of Shenzhen in the background.	Fair	Yes and Medium Owing to the orientation and disposition of the proposed bungalows some of these VSRs have alternative views north to the fishponds of Hoo Hok Wai, and south and west to the wooded hill slopes of the lower hills of the LMC ridgeline.	Permanent / Few	Long Very Frequent	Full and open panoramic views north west of the proposed development within the LMC Loop; along the alignment of the WCR (DP2) and partial views (depending on the location of the bungalows) west towards the proposed Flushing Water Service Reservoir (DP7) and its associated	High

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
						infrastructure.	
VSR11 Travellers and Staffsat LMC Cross-boundary Infrastructure Facilities	Owing to the design of the facilities views for these VSRs are largely confined inside the custom areas. Occasionally they have glimpsed or interrupted views north west of the areas alongside of Shenzhen River through the windows at the footbridge crossing the River (open seaward views).	Fair	Yes and Low Alternative views for these VSRs extend north west towards Shenzhen and south west along the course of the Shenzhen River.	Transient / Large	Short Frequent	Partial views east towards the proposed development at the western end of the LMC Loop and full open views of the viaduct structure associated with the Direct Link to MTR LMC Station (DP3).	Low
VSR12 Train Travellers on LMC Spur Line	These VSRs enjoy elevated views of the landscape lining the viaduct which include views over the semi-rural landscape of the NWNT disturbed to an extent by the numerous	Fair	Yes and Medium Owing to the transient nature of these VSRs alternative views are available to the north and south	Transient / Large	Short Occasional	Partial views (interrupted by intermediate structures and mature tree planting) of the upper portion of the proposed development within the LMC Loop	Low

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	infrastructural type developments in the immediate area. Longer distance views extend to the mountain uplands which enclose the assessment area to the west and the high-rise development of Shenzhen to the north.		(either side of the viaduct structure where it nears the MTR LMC Station).			particularly the development at the western end of the site. Open views of the structure associated with the Direct Link to MTR LMC Station (DP3).	
VSR13 Residents of Tse Koo Hang Village Settlement	VSRs living in the single storey village houses at Tse Koo Hang adjacent to the Hoo Hok Wai fishpond area and Ma Tso Lung. Views from VSRs at the north of the settlement are contained by adjacent woodland and only have a partial view of Boundary Patrol Road through the vegetation. Views towards	Good	Yes and High Alternative views south and west to the wooded hill slopes of the lower hills of the LMC ridgeline and Tai Shek Mo.	Permanent / Few	Long Very Frequent	Full and Partial Views Closer proximity views of the ECR (DP6) to the north and east of the village.	High

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	the LMC Loop are largely screened by adjacent woodland. Views from VSRs at the southern portion of the village have a open view of grassland and agriculture fields in the foreground and Mao Tso Lung Tsuen and Shun Yee San Tsuen and uphill of Tai Shek Mo in the back ground.						
VSR14 Residents of Liu Pok Village Settlement	The views available to VSRs living in Liu Pok Village located to the east of Tai Shek Mo extend west to the wooded spur of the LMC Ridges with the high-rise skyline of Shenzhen forming the	Fair	Yes and High . Alternative views extend south and south east along the valley floor over a landscape of agricultural fields	Permanent / Small	Long Rare	Obscured Views Owing to the relatively low height of the proposed development within the LMC Loop and the height of the intervening	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	background to views. Owing to the low level of the VSRs views north towards the Hoo Hok Wai fishpond areas are screened by uphill topography and intervening vegetation.		and woodland lined village settlements.			topography views towards the proposed works in the LMC Loop and Ma Tso Lung will be largely obscured.	
VSR15 Travellers on Planned Boundary Patrol Road to the East of LMC Loop	These VSRs enjoy open views of the Shenzhen River corridor and its riverside areas through the boundary fence alongside of the road. Views also extend south and south west to the landscape of the LMC Loop and to the rural landscape beyond including the hill slopes of the LMC ridgeline to the	Fair	Yes and Medium to High Alternative views extend south and west along the course of the abandoned meander and towards the fishponds of the Hoo Hok Wai area.	Transient / Small	Short Occasional	Obscured and partial views southwest towards the proposed development within the LMC Loop.	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	south.						
VSR16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop	These VSRs enjoy partially obstructed views to the river side area extending south and west over the LMC Loop towards the hill slopes of the LMC ridgeline. Views of the infrastructural development to the west of the LMC Loop partially screened by the existing mature vegetation.	Fair	Yes and Medium Alternative views for these VSRs extend north west towards Shenzhen and south west along the course of the Shenzhen River.	Transient / Large	Short Occasional	Obscured and partial views south and southeast towards the proposed development within the LMC Loop screening views of the existing Lok Ma Chau Cross-boundary facilities and the Spur Line. Obstructed views towards the WCR and Direct Link to LMC MTR Station (DP3) through the newly constructed secondary boundary fence and the space between dense tree planting along Planned Boundary Patrol	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
						Road.	
VSR17 Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities	The views available to VSRs at the crossing located to the north east of Tai Shek Mo are largely confined inside the custom area. There are occasional or glimpsed views of the Shenzhen River corridor through the windows of the footbridge crossing the River. Views of the LMC Loop are largely screened by the intervening landform of spurs emanating from the LMC ridgeline.	Fair	Yes and Medium Alternative views extend east along the Shenzhen River corridor and south towards the hinterland. Views to the south west over the agricultural fields of the valley floor to the upland landscape of Ma Tso Lung.	Transient / Large	Short Occasional	Obscured Views towards the LMC Loop and the ECR (DP6) due to intervening landform.	Low
VSR18 Residents of Shun Yee San Tsuen	These VSRs have a relatively long distance view looking towards the	Fair	Yes and Medium Alternative views extend north and	Permanent / Few	Long Very Frequent	Full and partial views These VSRs have disrupted visibility	High

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	northwest to the LMC Loop. Views partially interrupted by the existing intervening landform of Ma Tso Lung and LMC ridges. Open views of the valley floor to the south and west over the grassland and agricultural valley floor to the uplands.		south east along the valley floor to the landscape beyond.			with partial views at a relatively long distance view towards the LMC Loop. Only the higher level of the proposed buildings on the LMC Loop will be visible. Full views of the ECR (DP6) to the southwest.	
VSR19 Resident of Ha Wan Fishermen Village Settlement	The main views for these VSRs are confined within the village surrounding by dense woodland, with glimpsed (partially screened by intervening vegetation) views of the LMC Road in the middle ground. Partial views north towards the LMC Loop largely obstructed by existing landform and	Fair	Yes and Medium Alternative views extend north and east towards the lower slopes of the LMC ridges.	Permanent / Small	Long Rare	Glimpsed views towards the improvements to the LMC Road for the WCR (DP2).	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	adjacent development / vegetation.						
VSR20 Public Users of LMC Lookout	The viewing location for this VSR is taken as the area adjacent to the Lok Ma Chau Police Station which is publicly accessible and has open views north towards the LMC Loop. From this location VSRs will have views of the construction works and completed development at the LMC Loop, road works at Ha Wan Tsuen Road and Direct Link to MTR LMC Station (viaduct).	Fair	Yes and Medium Alternative views extend north east and east along the corridor of fishponds to the south of the Loop and towards the natural uplands of the LMC ridgeline.	Transient / Few	Medium . Very Frequent	These VSRs will have a full and direct view to the proposed development in the LMC Loop from higher elevation and partial views of the WCR and the viaduct of Direct Link to MTR LMC Station (DP3) through the mature vegetation along Ha Wan Tsuen Road and the Spur Line.	Medium
VSR21 Residents of Ma Tso Lung Village Settlement	The main views of these VSRs are confined within the valley surrounding by LMC ridge and Tai Shek	Fair	Yes and Medium Alternative views extend east towards the upland	Transient / Few	Long Very Frequent	No view of proposed development within the LMC Loop owing to the screening effect	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	Mo. Majority views towards the grassland and agriculture fields from the village are obstructed by intervening village houses and planting in the fields, only the VSRs located at the western periphery will have an open view of the grassland and fields. Relatively long distance views for these VSRs looking northwest towards the LMC Loop whilst proposed ECR is located on the grassland to the northwest of the village		landscape of Tai Shek Mo and southwest towards the valley landscape to the north of Fung Kong Shan.			of the intervening landform and vegetation. Full/Partial views to the proposed ECR (DP6) in the grassland to the west of these VSRs.	
VSR 22 Travellers on the Existing Boundary Patrol Road at Ma Tso Lung	Travellers on the existing Boundary Patrol Road currently enjoy views to the south west towards the agricultural land around	Fair	Yes and Medium Views to the south extend towards the upland landscape and scattered	Transient / Few	Short Very Frequent	Glimpsed views of the upper portion of the proposed development within the LMC Loop. Full views of the ECR	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	the settlement of Ping Hang and its setting of wooded hill slopes leading to the LMC ridge line; and an open view of Hoo Hok Wai. The existing border fence in the foreground degrades the quality of the existing view. Longer distance views extend to the LMC Loop and the high-rise development of Shenzhen in the background.		villages along the road some of which are partially blocked by the existing closed area boundary fence. Open panoramic views to Hoo Hok Wai. Occasionally views along the road are confined by clusters of tall vegetation or trees at Tse Koo Hang, Ping Hang, and Tai Law.			(DP6).	
VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road	The view north for these VSRs extends along Ha Wan Tsuen Road towards the LMC Loop is characterised by a	Poor	Yes and Medium Views to the east extend over the agricultural landscape to the	Transient / Few	Short Very Frequent	Glimpsed and partially interrupted views north east will be restricted to the upper portions of the	Low

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	combination of the existing, remnant fishponds and to the west the infrastructural development associated with the LMC Spur Line		existing village development and their upland landscape beyond.			proposed developments within the Loop with the lower elevations being screened by the intervening vegetation. There will also be immediate views of the proposed road widening works along Ha Wan Tsuen Road for the WCR (DP2).	
VSR 24 Residents along Lok Ma Chau Road	Views available to residents in the properties lining Lok Ma Chau Road are largely contained within the road corridor although there are partially interrupted views east towards the uplands of the LMC ridge line Owing to	Fair	Yes and Medium Views of these VSRs are focused away from LMC Road, their east and west views are dominated by busy traffic and the viaduct of Spur	Permanent / Few	Long Very Frequent	Full and partial views of the WCR (DP2). With the development of the proposals views will be immediate extending to the road widening works for Lok Ma Chau Road for the WCR and in a	Low

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
	the orientation of the village houses the views for many of the residents extend away from the proposed development.		Line.			number of locations will be partially blocked by the construction of the non-continuous noise barrier ranging in height from 0.8 to 5m.	
VSR 25 Workers of Workshops and Container Storage along Kwu Tung Road West	The views available to workers within this location are largely screened by the existing container storage and workshop structures within the area and the intervening structures associated with the San Tin Interchange	Poor	Yes and Low Views of these VSRs are confined within the industrial uses with glimpsed views of tree tops along Kwu Ting Road and alternative views south and east into the container storage areas.	Occasional / Few	Medium Ocassional Views of proposed alteration of existing road surface for Connection from LMC Road to San Tin and Fanling Highways may be perceived by these VSRs.	Obscured views of the proposed development within the LMC Loop due to the screening effect of the intervening landform and development. Partial and immediate views towards the proposed road connection from LMC Road to San Tin / Fanling Highways (DP2).	Low
VSR 26	These VSRs enjoy views	Fair	Yes and Medium	Occasional / Few	Medium	Partial and glimpsed	Medium

Visually Sensitive Receivers (VSR)	Description of Main Views	Criteria					Sensitivity / Quality of VSR
		Quality of Main View (Good / Fair / Poor)	Availability and Amenity of Alternative Views (High / Medium / Low / N/A)	Type (Permanent or Transient) / No. of VSRs (Few / Small / Intermediate / Large)	Duration (Long/ Medium/ Short) and Frequency of Views to proposed Works (Very Frequent/ Frequent/ Occasional/ Rare)	Degree of Visibility (Full / Partial / Glimpsed / Obscured)	
Staffs of HKPF Lok Ma Chau Operation Base	across the abandoned meander and fishpond areas along the existing Border Road. Views from within the helicopter base facility are restricted to the upper levels of development at LMC Loop. Views from the entrance to the facility are panoramic extending to the LMC Loop with the high-rise urban setting of Shenzhen in the background.		Views of these VSRs are confined within the operation base. Views looking to surroundings are screened by tall vegetation surrounding the operation base although there are partial views south and east towards the upland landscape.		Very Frequent	views of the upper portion of the development within the LMC Loop. There will also be open and immediate views from this location towards the ECR(DP6) and partial views towards the flushing water service reservoir (DP7) on the knoll located to the south	

11.6.2 Visual Impact Assessment

The LMC Loop Development project is a designated project (DP) under Environmental Impact Assessment Ordinance (EIAO) with Schedule 3 Item 1 - Engineering feasibility study of urban development projects.

With reference to Section 2.3.4.1 and **Figure 2.1a** of the EIA Report the LMC Loop Development is composed of proposed uses of higher education, high-tech R&D and C&C industries. This LVIA is based on the proposed development parameters and project components listed the Chapter 2 Project Description and Section 11.5.2 of this LVIA. Key project components related to visual impact assessment are summarized in the following sub sections:

- The RODP shown on Figure 2.1b has incorporated a more dynamic height profile with gradation in building heights for the LMC Loop in response to the general environment of the area. Existing level of the LMC Loop is currently relatively flat at a level of +4.5 to +6.0mPD and the proposed site formation levels at about +5.90mPD.
- Creation of 12.8 ha Ecological Area (EA) to south of LMC Loop to enhance both ecological and landscape context as well as maintain visual amenity of the riverside landscape.
- Creation of 50m wide landscape buffer zones between the Shenzhen River in the north and the Ecological Area in the south to the proposed development. Besides, other 20 to 30m wide landscape areas are reserved along the eastern and western periphery of the LMC Loop. These landscape buffers will soften the low level views of proposed development on the LMC Loop.
- Responsive plot ratio and building height profiles with regards to the adjacent infrastructure and rural landscape characters. Within the framework of 1.2Mm^2 GFA, the overall plot ratio will be 1.37. The building height profile was formulated with regard to the public comments and amenity/activity corridor. The low-rise building will be placed at the south and east of LMC Loop to minimize the impact to flight lines and EA. Tallest buildings will be located at the western and central part of LMC Loop, where ecological sensitivity is relatively less. The tallest buildings will be approximately 12 storeys from ground level (about 54mPD). It serves as a primary gateway for the site. Building heights along the Shenzhen River would be of lower rise and gradually rise towards the centre of the site and again gradually decrease towards the southern boundary of the site. Furthermore, the building height of the commercial sites near Hoo Hok Wai has been reduced to minimize the impacts of the proposed buildings on the birds' flight paths. These stepped building height profiles will create a better integration with the rural landscape setting within HKSAR boundary and high-rise urbanized setting in Shenzhen in the north across the river.
- Flushing Water Service Reservoir at Horn Hill: There is a need to maintain adequate head for flushing water supply. In order to save pumping energy for individual buildings, the flushing water service reservoir would be located at Horn Hill, which is the highest hill near LMC Loop. The selected location is selected and exposed to less VSRs identified.
- Sewage Treatment Works (STW) for treatment of sewage arising from the development of LMC Loop is sited at southeast corner of LMC Loop where is

the optimum location on site to handle sewage. The buildings of sewage treatment works will be low rise and there will be minor human activities. Thus it has benefits on minimizing the visual impact.

- Creation of ecological Area and landscaped open space and amenity areas, greening provision on podium, building façade and roof would make the development on the LMC Loop a better integration with surrounding rural context. It should be noted the urbanised and high-rise context at Shenzhen to the north of LMC Loop have been formed the background of the proposed development. The impact on the landscape character of the LMC Loop has been hence largely reduced against this urbanised background.
- There are some associated infrastructure and utilities works proposed outside the LMC Loop. Given to the scale of these works, impacts on the rural and hillside landscape characters to the south of the LMC Loop is not significant.. The responsive selection of road alignment and location of reservoir follows largely existing Boundary Patrol Road and on grassed Horn Hill that would significantly reduce the impacts on landscape resources and hence the visual context Hoo Hok Wai and LMC hillside landscape. The use of depressed and underpass road connection from Hoo Hok Wai to the LMC Loop will further reduce the visual intrusion of engineering structures in lowland fishpond areas. The Direct Link To the MTR LMC Station is designed in form of viaduct aligned with existing Spur Line that would have a better integration with existing character of the cross-boundary facilities at LMC.

In addition to the key visual issues as a result of the LMC Loop Development under Schedule 3 mentioned above, refer to Section 2.4 and **Figure 2.1a to 2.26c** of the EIA Report, Section 11.5.2 of this LVIA, the following key visual issues associated infrastructures proposed within or outside the LMC Loop of individual Designated Projects (DPs) under Environmental Impact Assessment Ordinance (EIAO) Schedule 2, are summarized.

Ecological Area (DP1)

- Ecological Area (EA) located at the southern portion of the LMC Loop for the creation of reed bed along the meander and the replacement of wetlands within the LMC Loop to enhance the visual quality and character of LMC riverside landscape.

Western Connection Road (DP2)

- The works area of road widening/improvement works has been fine tuned to maximise the preservation of mature trees along Lok Ma Chau Road and Ha Wan Tsuen Road to maintain visual quality of rural areas.

Direct Link to MTR LMC Station (DP3)

- The alignment of this railway connection largely follows the alignment of existing Spur Line when approaching MTR LMC Station to create a better visual integration with existing infrastructure landscape and less intrusive to existing rural landscape. An elevated PTI will be built on top of existing PTI at ground floor of LMC Station extending from existing LMC Station. The introduction of viaduct and elevated PTI will be visually integrated with the existing Spur Line, LMC Station and surrounding cross-boundary facilities.

Drainage System under Internal Transport Networks (DP4)

- Integrated utilities and proposed road networks approach to minimise the visual intrusion of above ground built structures.

Sewage Treatment Works (DP5)

- The on-site STW is designed with low-rise buildings and structures, and within utilization of screw pumps hence to minimize visual impact.

Eastern Connection Road (DP6)

- The proposed road largely utilises the existing Boundary Patrol Road with road widening/improvement works that will minmise the extent of works and change of existing visual context. Besides, depressed and underpass roads are designed for the section at Hoo Hok Wai and LMC fishpond to minimize the impact on landscape resources, existing riverside and lowland landscape characters and visual context instead of using at-grade road.

Flushing Water Service Reservoir (DP7)

- The proposed location of this reservoir on Horn Hill which is a grassed knoll and less sensitive to development than woodland. The proposed half-sunken reservoir structures responds to the topography of the hill and to sited away from VSRs thus minimize the visual intrusion of engineering structures in the hillside landscape.

The assessment findings will inform the future detailed development proposals within the LMC Loop and the design of its associated infrastructure and utility development options. The conceptual development proposals will be formulated through an iterative design process, further refined and developed to accommodate the future institutional design requirements, and to minimise the predicted residual landscape impacts. As the development proposals may be further refined the assessment assumes the worst case scenario in terms of the impacts.

The DPs are described in Chapter 1 and 2 of the EIA Report. Other non-DP components were also assessed. The level of details of the DPs is subject to further refinement at detailed design stage and is provided to the best knowledge available for the purpose of the assessment

A Visual Impact Assessment has been undertaken to define the visual impacts associated with as a whole the proposed development within the LMC Loop, and the associated infrastructure and utilities facilitating the development including the proposed ECR, WCR, Direct Link to MTR LMC Station and the Flushing Water Service Reservoir. The impacts are discussed specifically in terms of the visual impacts on the existing VSRs within HKSAR boundary. Mitigation measures have been identified for all proposals and their effectiveness explored. The acceptability of the development options will derive from the scale of residual impacts and the ability of the proposals to mitigate them to acceptable levels.

The assessment findings will provide information on the future development proposals within the LMC Loop subject to detailed design of its associated infrastructure and utilities facilities at the next stage. The conceptual development proposals shown in this EIA is indicative and will be formulated through an iterative design process, further refined and developed to accommodate the future institutional design requirements, and to minimise the predicted residual visual impacts. The assessment assumes the worst case scenario in terms of the predicted impacts.

11.6.3 Construction Phase and Operational Phase

In addition to the landscape resources and character, the visual amenity of the LMC Loop will be significantly changed due to the implementation of the proposed developments and the road connection networks. The visual context and amenity available to the residents of Ha Wan Tsuen and LMC Tsuen and travellers and staffs, users of MTR LMC Station and its adjacent Boundary Patrol Road, Ha Wan Tsuen Road and visitors to LMC Lookout, located in close proximity to the LMC Loop Development (including DP1, DP4 and DP5), the WCR (DP2) and Direct Link to MTR LMC Station (viaduct) (DP3), will be subject to a moderate to significant adverse impact.

Other villagers living in Ha Wan Fishermen Village, Chau Tau, Pun Uk Tsuen and houses along LMC Road, travellers and pedestrians of LMC Road, Fanling and San Tin Highways, and LMC cross-boundary bus terminus, and workers of workshops and container storage along Kwu Tung Road West, who are located close proximity to LMC Road and the proposed WCR (including road works with noise barrier and LMC Road/San Tin Connection) (DP2) but located at a greater distance from the proposed development on the LMC Loop, will experience a slight to moderate adverse impact.

The visual context and amenity available to villagers of Ma Tso Lung (Tse Koo Hang and Shun Yee Sun Tsuen), Tai Law Hau and Ping Hang, staffs of HKPF Operation Base and planned visitors to the Eco-lodge who are located along existing Boundary Patrol Road and Ma Tso Lung Road, located to the southeast of the Loop and in close proximity to the ECR (at-grade/depressed/underpass road) (DP6) and/or proposed Flushing Water Service Reservoir (DP7) at Horn Hill, will experience a moderate adverse impact.

Given the long distance from the proposed works, villagers in San Tin who located over 1000m from the proposed works and travellers on the Spur Line, transient in nature, will experience a slight adverse impact. These impacts are also mitigated to an extent due to the screening provided by the intervening topography and the vegetation at the edge of the settlement.

The visual impacts on identified VSRs resulting from the LMC Loop Development under EIAO Schedule 3 during the construction and operational phases are summarised in the following sections and described in **Table 11.6.2** and mapped on **Figures 11.7a** to **11.7g.** The mitigated (residual) impacts are assessed during the design year which for the purpose of this study is taken as being between 10 and 15 years after the schemes opening when the proposed mitigation planting is deemed to have reached a level of maturity, which is sufficient for it to perform the design objectives. Significance thresholds for the unmitigated impacts are summarised as follows:

Significant Adverse Impact

Due to the scale of the proposed scheme there are some significant adverse impacts on the visual amenity of some VSRs due to the introduction of the proposed developments on the LMC Loop (including DP1, DP4 and DP5),

Flushing Water Service Reservoir (DP7), viaduct of Direct Link to LMC Station (DP3) and at-grade sections of the proposed ECR (DP6) and WCR (DP2), the 800mm to 5000mm high noise barriers along the proposed Western Connection Road and the other associated infrastructures. These VSRs will be subject to a large change of visual context and amenity which include the Residents of Ha Wan Tsuen Village Settlement (VSR 6); Residents of LMC Village Settlement (VSR 7); Residents of Tai Law Hau Village Settlement (VSR 9); Residents of Ping Hang Village Settlement (VSR 10); Planned Visitors to the Eco-lodge (PVSR 10A); Travellers on Planned Boundary Patrol Road to the East of LMC Loop (VSR 15); and Public Users of LMC Lookout (VSR 20).

Moderate Adverse Impact

Travellers and Staffs at Lo Ma Chau Cross-boundary Bus Terminal (VSR 3); Vehicle Travellers along Fanling and San Tin Highways (VSR 4); Vehicle Travellers and Pedestrians along LMC Road (VSR 5); Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities (VSR 11); Residents of Tse Hoo Hang Settlement (VSR 13); Travellers on Planned Boundary Patrol Road to the West of LMC Loop (VSR 16); Residents of Shun Yee San Tsuen (VSR 18); Residents of Ma Tso Lung Village Settlement (VSR 21); Travellers on Existing Boundary Patrol Road at Ma Tso Lung (VSR 22); Vehicle Travellers and Pedestrian along Ha Wan Tsuen Road (VSR 23); Resident along Lok Ma Chau Road (VSR 24); and Staffs of HKPF Lok Ma Chau Operation Base (VSR 26) will be subject to moderate adverse impacts on their available visual amenity. Therefore the permanent / transient VSRs listed above will experience a moderate adverse impact in the absence of mitigation measures during construction and operation phase. However, much of the predicted impacts will be mitigated through the implementation of the proposed landscape and visual mitigation measures.

Slight Adverse Impact

VSRs such as the Residents of Lin Barn Tsuen Village Settlement (VSR 1); Residents of Tung Chan Wai Village Settlement (VSR 2); Train Travellers on LMC Spur Line (VSR 12); Residents of Ha Wan Fishermen Village Settlement (VSR 19); and Workers of Workshops and Container Storage along Kwu Tung Road West (VSR 25) will be subject to a slight adverse impact. This is due to factors such as the viewing distance or the partially obstructed / oblique nature of views to the proposed development or road connection networks. Given the character of the views and viewing distance involved, the proposed developments and infrastructures will not form a major component in the wider context of the views available to these VSRs. The magnitude of change for their visual amenity is small. These permanent VSRs will experience a slight impact in the absence of mitigation measures during construction and operation phase.

Negligible Impact

The following VSRs would be subject to a negligible level of impact during the construction and operational phases of the project due to the screening effect of the intervening landform and vegetation in relation to the height profile of the development proposals. These include the Residents of Pun Uk TsuenVillage

Settlement (VSR 8A); Residents of Chau Tau Village Settlement (VSR 8B); Residents of Liu Pok Village Settlement (VSR 14) and Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities (VSR 17).

The following section summaries the significance thresholds for the unmitigated impacts on VSRs as a result of individual DPs under Schedule 2.

Development on the Loop (including DP1, DP4, DP5)

The significance thresholds for the unmitigated impacts due to site formation works for infrastructure and utilities works, creation of Ecological Area, and construction of above ground sewage treatment works for the implementation of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop include the followings:

- Significant adverse impact on VSR 6 Residents of Ha Wan Tsuen Village Settlement due to their proximity to the proposed works as a result of the implementation of individual DP1 and DP4 respectively ;
- Significant adverse impact on VSR 15 Travellers on Planned Boundary Patrol Road to the East of LMC Loop due to their proximity to the proposed works as a result of the implementation of individual DP1, DP4 and DP5 respectively ;
- Significant adverse impact on VSR 20 Public Users of LMC Lookout due to its overview of the creation of EA (DP1);
- Moderate adverse impact on VSR 7 Residents of LMC Village Settlement; VSR 9 Residents of Tai Law Hau Village Settlement; VSR 10 Residents of Ping Hang Village Settlement and PVSR 10A Planned Visitors to the Eco-lodge; VSR 22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung ; VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; and VSR 26 Staffs of HKPF Lok Ma Chau Operation Base due to their viewing distance and intervening landform screening views looking toward DP1and DP5;
- Slight adverse impact on VSR 20 Public Users of LMC Lookout due to its viewing distance and intervening landform screening views looking towards DP4 and DP5.

Eastern Connection Road (DP6)

- Moderate adverse impact on VSR 13 Residents of Tse Koo Hang Village Settlement; VSR 18 Residents of Shun Yee San Tsuen; VSR 21 Residents of Ma Tso Lung Village Settlement; VSR 22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung ; VSR 9 Residents of Tai Law Hau Village Settlement; VSR 10 Residents of Ping Hang Village Settlement; PVSR 10A Planned Visitors to the Eco-lodge; and VSR 20 Public Users of LMC Lookout and VSR 26 Staffs of HKPF Lok Ma Chau Operation Base due to their proximity to proposed DP6 road widening/improvement works along existing Boundary Patrol Road, at fishpond lowland areas of LMC and Hoo Hok Wai.

Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Significant adverse impact on VSR 6 Residents of Ha Wan Tsuen Village Settlement; and VSR 5 Vehicle Travellers and Pedestrians along LMC Road due to their proximity to proposed DP2 road widening/improvement works along existing LMC Road, San Tin and Fanling Highway, and the loss of fishpond and woodland areas and roadside planting in the visual context.
- Moderate adverse impact on VSR 20 Public Users of LMC Lookout and VSR 7 Residents of LMC Village Settlement due to their long viewing distance to proposed DP2 road widening/improvement works along existing Ha Wan Tsuen Road, loss of woodland and fishpond areas, and intervening land form and mature trees screening majority of proposed road works in their low level distance views.
- Moderate adverse impact on VSR 4 Vehicle Travellers along Fanling and San Tin Highways; VSR 24 Residents along Lok Ma Chau Road; VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop; and VSR 3 Travellers and Staffs at Lok Ma Chau Cross-boundary Bus Terminal due to their proximity to proposed DP2 road widening/improvement works and construction of a slip road in their visual context.
- Slight adverse impact on VSR 25 Workers of Workshops and Container Storage along Kwu Tung Road West; VSR 19 Residents of Ha Wan Fishermen Village Settlement; due to views looking towards WCR largely screened by intervening land form, existing temporary structures and vegetation.

Flushing Water Service Reservoir (DP7)

- Moderate adverse impact on VSR 10 Residents of Ping Hang Village Settlement and PVSR 10A Planned Visitors to the Eco-lodge due to their oblique viewing angle to the proposed reservoir and intervening landform.
- Moderate adverse impact on VSR 26 Staffs of HKPF Lok Ma Chau Operation Base and VSR22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung due to their transient low level viewing nature.

Direct Link To MTR LMC Station (DP3)

- Significant adverse impact on VSR 6 Residents of Ha Wan Tsuen Village Settlement due to their proximity to the proposed viaduct;
- Moderate adverse impact on VSR 7 Residents of LMC Village Settlement and VSR 20 Public Users of LMC Lookout for implementation of DP3 due to intervening landform and mature vegetation screening part of the proposed viaduct and PTI in their low level views.
- Moderate adverse impact on VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; VSR 16 Travellers on Planned Boundary Patrol

Road to the West of LMC Loop; and VSR 11 Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities for implementation of DP3 due to intervening landform and mature vegetation screening part of the proposed viaduct and PTI in their low level views and transient viewing nature; and

- Slight adverse impact on VSR 12 Train Travellers on LMC Spur Line due to their elevated and transient viewing nature.

Table 11.6.2 Visually sensitive receivers and proposed predicted impacts

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 1 Residents of Lin Barn Tsuen Village Settlement	Medium	LMC Loop Development	2,250m These VSRs enjoy low level panoramic views across Sam Po Shue fishpond areas and high-rise to the north of Shenzhen River. Only VSRs living at the eastern periphery of the village will have view of the elevated floor of proposed development on the LMC Loop. Low level views are largely screened by	Fair Existing view of high-rise in Shenzhen will be partially replaced by institutional development on the LMC Loop Small in the visual context of these VSRs.	5yrs / permanent / Irreversible	Small / Small Given the viewing distance to the LMC Loop and screening by existing vegetation in the foreground, the works will be a minor component in the lowland context.	Slight Adverse	Slight Adverse	CP1, CP2, OP3 and OP5	Negligible	Negligible On addition to screening effects by existing vegetation in the village, responsive design and building height profile of proposed development on the LMC Loop	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			vegetation on the fish pond bund. Views are interrupted by the existing LMC Cross-boundary infrastructural facilities and the Spur Line in middle ground and occasionally by adjacent vegetation in the foreground. No blockage of views.								will create a better integration of existing rural landscape.	
VSR 2 Residents of Tung Chan Wai Village Settlement	Medium	LMC Loop Development	1,400m to the LMC Loop The visual context of these VSRs is largely contained by other villages at San Tin to the south, open	Fair Small In the visual context of these VSRs.	5yrs / permanent / Irreversible	Small/ Small Given their nature and visual quality, the disrupted visibility and	Slight Adverse	Slight Adverse	CP1, CP2, OP3, OP5	Negligible	Negligible On addition to screening effects by existing vegetation	Negligible.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			storage areas immediately adjacent to the east. Only the villagers living at the northeast periphery of Tung Chan Wai will have partial views to the developments at the northern portion of the LMC Loop. No blockage of views.			the relatively long distance view of these VSRs, that only the upper portion of the proposed buildings on the LMC Loop may be viewed by these VSRs.					an buildings in the village, responsive design and building height profile of proposed developmen t on the LMC Loop will create a better integration with existing rural landscape.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 3 Travellers and Staffs at Lok Ma Chau Cross-boundary Bus Terminal	Low	DP2	1,600m to the LMC Loop Immediate to road works and slip road for LMC Road/San Tin Highway Connection of the WCR Views of these VSRs are largely confined by the surrounding road and highway structures and open container storage. Visual intrusion of road works and slip	Fair Intermediate In the visual context of these VSRs.	5yrs / permanent / Irreversible	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	CP1, CP2, CP4 OP1, OP2, and OP5	Slight Adverse	Slight Adverse Preservation of roadside trees to create an instant screening effect to proposed road works, Responsive design of road alignment along existing	Negligible Upon full establishment of the above mitigation measures and planting proposal, visual impacts on these VSRs will be effectively alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			road along existing road corridor. No blockage of views.								road will create a better integration of proposed works to infrastructure landscape.	
VSR 4 Vehicle Travellers along Fanling and San Tin Highways	Low	DP2	1,700m to the LMC Loop 700m to the proposed WCR works at the northern section of LMC Road. Immediately to the slip road LMC	Fair Intermediate In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	CP1, CP2, CP4 and CP5 OP1, OP2, and OP5	Slight Adverse	Slight Adverse Preservation of trees creates instant screening effect for proposed	Negligible Upon full establishment of the above mitigation measures and

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			Road/San Tin Highway Connection of the WCR Views for these transient VSRs are confined by adjacent highway structures. Views extending towards the village settlements in the hinterland are largely screened by mature roadside vegetation. Views of these VSRs to the east are largely interrupted by LMC Cross-boundary								slip road, reinstate roadside planting and responsive design of slip road along existing highway structures creates a better integration with existing infrastructure	planting proposal, visual impact on these VSRs will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			facilities and the Spur Line. Visual intrusion of slip road of the WCR across Fanling Highway. No blockage of views.								landscape.	
VSR 5 Vehicle Travellers and Pedestrians along LMC Road Refer to photomontages **Figures 11.10a and b**	Low	The LMC Loop Development , DP2	300m to the LMC Loop Immediate to the proposed WCR. Views for these transient VSRs are largely confined along the road corridor by the open storage yards, village houses	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large / Large (The LMC Loop Development - Large/Large , DP2 – Large/Large)	Moderate Adverse (The LMC Loop Development - Moderate Adverse DP2 – Moderate Adverse)	Moderate Adverse (The LMC Loop Development - Moderate Adverse DP2 – Moderate Adverse)	CP1, CP2, CP4, CP7 OP1, OP2, OP3, OP4 OP5 and OP7	Slight Adverse (The LMC Loop Development – Slight Adverse DP2 – Slight Adverse)	Slight Adverse (Same significant for individual related DPs) Preservation of trees,	Negligible (Same significant for individual related DPs) Upon full establishme

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			and mature roadside tree planting along LMC Road and Ha Wan Tsuen Road. Proposed noise barrier along the WCR will partially block views from the road to adjacent village settlement.								reinstate roadside planting and fishponds alongside of Ha Wan Tsuen Road and responsive design of noise barrier and retaining wall structures will recreate a green	nt of the above mitigation measures and planting proposal, visual impact on these VSRs will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											corridor along LMC Road and Ha Wan Tsuen Road .	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 6 Residents of Ha Wan Tsuen Village Settlement Refer to photomontages **Figures 11.10i and j.**	High	LMC Loop Development, DP1, DP4, DP2,DP3	200m to the LMC Loop Immediate to the WCR and Direct Link to MTR LMC Station Views are dominated by mature trees and vegetation at the periphery of the village. Only VSRs at the eastern periphery will have views towards the elevated floors of proposed institutional developments on the LMC Loop and views	Fair Large In the visual context of these VSRs.	5yrs ./ Permanent / Irreversible	Large / Large (LMC Loop Development- Large / Large DP1- Intermediate/ intermediate DP2- Large / Large DP3 & DP4, - Large / Large)	Significant Adverse (LMC Loop Development, DP1, DP2,DP3, DP4 - Significant Adverse respectively due to their proximity to the proposed works)	Significant Adverse (LMC Loop Development, DP1, DP2,DP3, DP4- Significant Adverse respectively due to their proximity to the proposed works)	CP1, CP2, OP1, OP2, OP3, OP5 and OP7		Moderate Adverse (Same significant for individual related DPs) Preservation of riverside vegetation and Provision of riverside landscape	Slight Adverse (Same significant for individual related DPs) Upon full establishment of the above mitigation measures and planting

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			to proposed road works at Ha Wan Tsuen Road and LMC Road and Direct Link to MTR LMC Station. No blockage of views. Visual intrusion of proposed development on the LMC Loop and viaduct of Direct Link in the background screened by existing vegetation. Elevated PTI of proposed Direct Link is largely screened by								buffer. Responsive design of the building height profile and massing on the LMC Loop responding to the lowland context. Integration of the viaduct and PTI with existing	proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			existing vegetation. No blockage of local views.								Spur Line and the Station Greening measures to soften the built and engineering structures. Reinstate of affected fishponds.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 7 Residents of LMC Village Settlement Refer to photomontages **Figures 11.10m and n**	High	LMC Loop, DP1, DP5, DP2,DP3	400m to the LMC Loop 600m to works of the WCR along Ha Wan Tsuen Road. 800m to the Direct Link to the MTR LMC Station These VSRs have panoramic views across fishpond areas to the north and the LMC Loop in the middle ground. Views of high-rise skyline at Shenzhen will be	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large / Large (LMC Loop- Large / Large DP1- Small / Small DP5- Small/Small, DP2- intermediate/ intermediate DP3- intermediate/ Intermediate)	Significant Adverse (LMC Loop- Significant Adverse DP1- Moderate Adverse DP5- Moderate Adverse DP2 & DP3- Moderate Adverse)	Significant Adverse (LMC Loop- Significant Adverse DP1- Moderate Adverse DP5- Moderate Adverse DP2 & DP3- Moderate Adverse)	CP6 OP2, OP3 and OP5	Moderate Adverse (LMC Loop- Moderate Adverse DP1- Slight Adverse DP5- Slight Adverse DP2 & DP3- Slight Adverse)	Moderate Adverse (LMC Loop- Moderate Adverse DP1- Slight Adverse DP5- Slight Adverse DP2 & DP3- Slight Adverse) Responsive design of the building	Slight Adverse (LMC Loop- Slight Adverse DP1- Negligible DP5- Negligible DP2 & DP3- Negligible) Upon full establishme

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			partially replaced by institution landscape on the LMC Loop. No blockage of local views.								height profile and massing on the LMC Loop responding to the lowland context. Greening measures to soften the built and engineering structures. Creation of reed bed at the southern	nt of the above mitigation measures and planting proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											edge of the Loop creates screening for low level views of proposed development, Responsive design of road and viaduct alignment and PTI integrated with existing rural and	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											Spur Line and Station context. New tree planting along the WCR at Ha Wan Tsuen Road.	
VSR 8A Residents of Pun Uk Tsuen Village Settlement	Medium	N/A	1,400m to the LMC Loop 250m to the proposed WCR along the northern portion of LMC Road 400m to the proposed	Fair Works not perceivable In the visual context of these VSRs.	5yrs / permanent / Irreversible	Nil / Nil	Negligible	Negligible	N/A	Negligible	Negligible Responsive design of development height profile on the Loop lower than	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			slip road of LMC Road/ San Tin Highway Connection the WCR. The majority views looking towards the LMC Loop will be screened by the intervening landform. Views looking towards the WCR are screened by woodland at the lower slopes of the ridges and mature roadside tree planting along LMC Road, Chau Tau West Road								LMC ridge in the views of VSR. Works along LMC Road and Fanling Highway are screened by roadside tree planting.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			and Fanling Highway.									

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 8B Residents of Chau Tau Village Settlement	Medium	N/A	1,500m to the LMC Loop 250m to the proposed WCR along the northern portion of LM C Road 400m to the proposed slip road of LMC Road/ San Tin Highway Connection the WCR. The majority views looking towards the LMC Loop will be screened by the intervening landform.	Fair Works not perceivable In the visual context of these VSRs.	5yrs / permanent / Irreversible	Nil / Nil	Negligible	Negligible	N/A	Negligible	Negligible Responsive design of development height profile on the Loop lower than LMC ridge in the views of VSR. Works along LMC Road and Fanling Highway are screened by	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			Views looking towards the WCR are screened by woodland at the lower slopes of the ridges and mature roadside tree planting along LMC Road, Chau Tau West Road, and pumping stations along Chau Tau South Road and Fanling Highway.								roadside tree planting.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 9 Residents of Tai Law Hau Village Settlement	High	LMC Loop Development, DP1, DP5, DP6	150m to the LMC Loop 500m to the ECR at-grade and depressed road section. These VSRs have panoramic views of the LMC Loop with the Shenzhen high-rise urban setting in the background. Part Shenzhen high-rise skyline will be replaced by institutional landscape.	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large / Large (LMC Loop Development-Large/Large DP1-Small/Small DP5-intermediate/ intermediate DP6-intermediate/ Intermediate)	Significant Adverse (LMC Loop Development-Significant Adverse DP1-Moderate Adverse DP5-Moderate Adverse DP6-Moderate Adverse)	Significant Adverse (LMC Loop Development-Significant Adverse DP1-Moderate Adverse DP5-Moderate Adverse DP6-Moderate Adverse)	CP1, CP2, CP6 OP1, OP2, OP3 OP6 and OP5	Moderate Adverse (LMC Loop Development-Moderate Adverse DP1-Slight Adverse DP5- Slight Adverse DP6- Slight Adverse)	Moderate Adverse (LMC Loop Development-Moderate Adverse DP1-Slight Adverse DP5- Slight Adverse DP6- Slight Adverse) Tree Preservatio	Slight Adverse (LMC Loop Development-Slight Adverse DP1-Negligible DP5-Negligible DP6-Negligible) Upon full

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			No blockage of views.								n. Responsive design of the building height profile and massing on the LMC Loop responding to the lowland context. Creation of reed bed at the southern edge of the Loop	establishment of the above mitigation measures and planting proposal on the Loop and along ECR, the visual impacts will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											creates screening for low level views towards proposed developmen t. Greening measures to soften the built and engineering structures. Responsive design of ECR through the use of	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											depressed road and underpass to minimise the visual intrusion at LMC and Hoo Hok Wai fishpond areas.	
VSR 10 Residents of Ping Hang Village Settlement Refer to photomontage	High	LMC Loop Development, DP1, DP5, DP6, DP7	150m to the LMC Loop Immediate to the at-grade ECR and depressed road and the Flushing Water Service Reservoir.	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large / Large (LMC Loop Development-Large/Large DP1-Small/Small DP5-	Significant Adverse (LMC Loop Development-Significant Adverse	Significant Adverse (LMC Loop Development-Significant Adverse	CP1, CP2,CP3,CP6, CP7 OP1, OP2, OP3 OP5, OP6 and OP7	Moderate Adverse (LMC Loop Development-Moderate Adverse	Moderate Adverse (LMC Loop Development-Moderate Adverse	Slight Adverse (LMC Loop Development-Slight

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
Figures 11.10c and d			These VSRs have panoramic views of the LMC Loop with the Shenzhen high-rise urban setting in the background. Existing views to Shenzhen will replace by institutional landscape. No blockage of local views.			intermediate/ intermediate DP6- intermediate/ Intermediate DP7- intermediate/ Intermediate)	DP1- Moderate Adverse DP5- Moderate Adverse DP6- Moderate Adverse DP7- Moderate Adverse)	DP1- Moderate Adverse DP5- Moderate Adverse DP6- Moderate Adverse DP7- Moderate Adverse)		DP1- Slight Adverse DP5- Slight Adverse DP6- Slight Adverse DP7- Slight Adverse)	DP1- Slight Adverse DP5- Slight Adverse DP6- Slight Adverse DP7- Slight Adverse)) Responsive design of the building height profile and massing on the LMC Loop	Adverse DP1- Negligible DP5- Negligible DP6- Negligible DP7- Negligible) Upon full establishment of the above mitigation measures and planting proposal,

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											responding to the lowland context. Creation of reed bed along the southern edge of the Loop will screen the low level views towards proposed development on the Loop. Greening	the visual impacts will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											measures to soften the built and engineering structures. Responsive design of ECR through the use of depressed road and underpass to minimise the visual intrusion at LMC and Hoo Hok Wai	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											fishpond areas. Reinstatement of affected fishponds. Responsive building mass design of the service reservoir integrated with the knoll and rural landscape. Tree	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											preservation and new tree planting along ECR and in the service reservoir.	
PVSR 10A Planned Visitors to the Eco-lodge	High	LMC Loop, DP1, DP5, DP6, DP7	400m to the LMC Loop Immediate to the at-grade ECR and the Flushing Water Service Reservoir These VSRs have elevated, panoramic views of the LMC	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible (Assuming the Eco-lodge is constructed before the LMC Loop proposal	Large / Large (LMC Loop Development-Large/Large DP1-Small/Small DP5-intermediate/ intermediate	Significant Adverse (Assuming the Eco-lodge is constructed before the LMC Loop proposals)	Significant Adverse (LMC Loop Development-Significant Adverse DP1-Moderate	CP1, CP2,CP3, CP6, CP7 OP1, OP2, OP3 OP5, OP6 and OP7	Moderate Adverse (Assuming the Eco-lodge is constructed before the LMC Loop proposals)	Moderate Adverse (LMC Loop Development-Moderate Adverse DP1-Slight	Slight Adverse (LMC Loop Development-Slight Adverse DP1-

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			Loop and Shenzhen high-rise urban setting in the background. Existing views to Shenzhen will replace by institutional landscape. No blockage of local views.			DP6- intermediate/ Intermediate DP7- intermediate/ Intermediate)	(LMC Loop Development- Significant Adverse DP1- Moderate Adverse DP5- Moderate Adverse DP6- Moderate Adverse DP7- Moderate Adverse)	Adverse DP5- Moderate Adverse DP6- Moderate Adverse DP7- Moderate Adverse)		(LMC Loop Development- Moderate Adverse DP1- Slight Adverse DP5- Slight Adverse DP6- Slight Adverse DP7- Slight Adverse)	Adverse DP5- Slight Adverse DP6- Slight Adverse DP7- Slight Adverse) Responsive design of the building height profile and massing on the LMC Loop responding to the lowland	Negligible DP5- Negligible DP6- Negligible DP7- Negligible) Upon full establishment of the above mitigation measures and planting proposal, the visual

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											context. Creation of reed bed at the southern periphery of the Loop creates screening of low level views towards proposed development on the Loop. Greening measures to soften the	impacts will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											built and engineering structures. Responsive design of ECR through the use of depressed road and underpass to minimise the visual intrusion at LMC and Hoo Hok Wai fishpond areas.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											Reinstatement of affected fishponds. Responsive building mass design of the service reservoir integrated with the knoll and rural landscape. Tree	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											preservation and new tree planting along ECR and in the service reservoir.	
VSR 11 Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities Refer to photomontage **Figures**	Low	LMC Loop Development, DP3	1,100m to the LMC Loop Immediate to Direct Link to MTR LMC Station (viaduct) Views of these VSRs are largely confined inside the customs area; with occasional	Poor Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large/ Large (LMC Loop Development- Intermediate/ Intermediate DP3- Large/ Large)	Moderate Adverse (Same significance for individual LMC Loop Development & DP3)	Moderate Adverse (Same significance for individual LMC Loop Development & DP3)	CP2, CP6 OP2, OP3 and OP5.	Slight Adverse (Same significance for individual LMC Loop Development & DP3)	Slight Adverse (Same significance for individual LMC Loop Development & DP3)	Negligible (Same significance for individual LMC Loop Development & DP3)

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
11.10g and h			glimpsed views of the areas alongside the Shenzhen River through the windows at the footbridge crossing the River. These VSRs have elevated views of proposed development on the LMC Loop. Intrusion of viaduct and elevated PTI in parallel with existing Spur Line approaching to the Station.								Responsive design of the building height profile and massing on the LMC Loop responding to the lowland context. Responsive viaduct alignment and PTI integrated	Upon full establishment of the above mitigation measures the visual impacts will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											with existing Spur Line and the Station to create a better integration with existing infrastructure landscape.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 12 Train Travellers on LMC Spur Line	Low	LMC Loop Development, DP3	300m to 1000m to the LMC Loop Immediate to the Direct Link (PTI and viaduct) when approaching the MTR LMC Station. These VSRs have both panoramic views of the lowland areas at the NWNT and the high-rise urban setting on the other side of Shenzhen River. No blockage of views.	Fair Small In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Small / Small (Same magnitude of change for individual LMC Loop Development & DP3)	Slight Adverse (Same significance for individual LMC Loop Development & DP3)	Slight Adverse (Same significance for individual LMC Loop Development & DP3)	CP2, CP6 OP2, OP3 and OP5.	Negligible (Same significance for individual LMC Loop Development & DP3)	Negligible (Same significance for individual LMC Loop Development & DP3) Responsive viaduct design and alignment to existing infrastructure. Responsive	Negligible (Same significance for individual LMC Loop Development & DP3)

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											design of the building height profile and massing on the LMC Loop responding to the lowland context. Integration of the viaduct and PTI with existing Spur Line and the	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											Station	
VSR 13 Residents of Tse Koo Hang Village Settlement	High	DP6	1,800m to the LMC Loop Immediate to the at-grade ECR. These VSRs have views of the open view to Ma Tso Lung lowland rural landscape to the south and east, partially obstructed views through existing boundary fence to Boundary Patrol Road, Hoo Hok Wai	Fair Intermediate In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Intermediate/ Intermediate	Moderate Adverse	Moderate Adverse	CP1, CP2, CP5, CP7 OP1, OP2 OP4, OP5 and OP6	Slight Adverse	Slight Adverse Responsive at-grade road works and engineering structures integrated with existing rural context. Roadside planting	Negligible Upon full establishment of the above mitigation measures the visual impacts will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			and Shenzhen high-rise urban setting across the River to the north. Views to the LMC Loop are obstructed by adjacent woodland and intervening landform of lower slope of LMC ridges. No blockage of existing views.								and preservation of woodland trees to create new green corridor and integrate with rural landscape. Greening measures to soften the built and engineering structures.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 14 Residents of Liu Pok Village Settlement	Medium	N/A	2000m to the LMC Loop Over 1,000m away from ECR. These VSRs have views of Ng Tung River and Lo Wu Cross-boundary Facilities in the middle ground and Shenzhen high-rise urban setting in the distance. Low level views are largely screened by the vegetation at the lower slopes of Tai Shek	Fair Works not perceivable In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Nil / Nil	Negligible	Negligible	N/A	Negligible	Negligible Responsive design of development height profile on the Loop not higher than Tai Shek Mo in distance.	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			Mo. Only residents of the western periphery of the village will have partially obstructed views looking towards the Hoo Hok Wai lowland areas. Views towards the Loop and ECR are screened by intervening landform of Tai Shek Mo. No blockage of views.									
VSR 15 Travellers on Planned	Medium	LMC Loop Development, DP4,	800m to the LMC Loop	Fair Large	5yrs / Permanent / Irreversible	Large/ Large	Significant Adverse	Significant Adverse	CP1, CP2, CP5, CP6 OP1, OP2,	Moderate Adverse	Moderate Adverse	Slight Adverse

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
Boundary Patrol Road to the East of LMC Loop Refer to photomontage **Figures 11.10e and f**		DP5	These VSRs enjoy open views of Shenzhen River corridor through the boundary fence alongside the road. The visual context extends to the lowland rural landscape within HKSAR to the south with the upland areas beyond forming its setting; and views north towards the Shenzhen high-rise urban setting. No blockage of views.	In the visual context of these VSRs.		(Same magnitude of change for individual LMC Loop Development, DP4, DP5)	(Same significance for individual LMC Loop Development, DP4, DP5)	(Same significance for individual LMC Loop Development, DP4, DP5)	OP3 and OP5	(Same significance for individual LMC Loop Development, DP4, DP5)	(Same significance for individual LMC Loop Development, DP4, DP5) Responsive design of the building height profile and massing on the LMC Loop	(Same significance for individual LMC Loop Development, DP4, DP5) Upon full establishment of the above mitigation measures and planting

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											responding to the lowland context. Tree preservation and planting along the northern edge of the Loop. Greening measures to soften the built and engineering	proposal on the Loop, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											structures.	
VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop	Medium	LMC Loop Development, DP3, DP2	1,200m to the LMC Loop Immediate to WCR and Direct Link to the MTR LMC Station when approaching to the Station and the Loop. VSRs enjoy partially obstructed views to the riverside areas. Views from the west looking towards the LMC Loop are currently dominated by Lo Ma Chau	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large/ Large (Same magnitude of change for individual LMC Loop Development, DP3, DP2)	Moderate Adverse (Same significance for individual LMC Loop Development, DP3, DP2)	Moderate Adverse (Same significance for individual LMC Loop Development, DP3, DP2)	CP1, CP2, CP5, CP6 OP1, OP2, OP3 and OP5	Slight Adverse (Same significance for individual LMC Loop Development, DP3, DP2)	Slight Adverse (Same significance for individual LMC Loop Development, DP3, DP2) Responsive design of the building height	Negligible (Same significance for individual LMC Loop Development, DP3, DP2) Upon full establishment of the above

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			Cross-boundary facilities and the Spur Line. Visual intrusion of viaduct and at-grade road works. No blockage of low level views.								profile and massing on the LMC Loop responding to the lowland context. Integration of the viaduct and PTI with existing Spur Line and the Station Tree	mitigation measures and planting proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											preservation and roadside planting along the WCR. Greening measures to soften the built and engineering structures.	
VSR 17 Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities	Low	N/A	2500m to the LMC Loop Views for these transient VSRs are largely confined inside the customs area; with occasional glimpsed	Good Works not perceivable In the visual context of these	5yrs / Permanent / Irreversible	Nil / Nil	Negligible	Negligible	N/A	Negligible	Negligible Responsive design of development height profile on	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			views of the areas alongside the Shenzhen River through the windows of the footbridge crossing the River. No blockage of views.	VSRs.							the Loop not higher than Tai Shek Mo in distance.	
VSR 18 Residents of Shun Yee San Tsuen Refer to photomontage **Figures 11.10q and r**	High	DP6	1,200m to the LMC Loop. 150m to the proposed ECR. These VSRs have a relatively long distance view northwest towards the LMC Loop. No blockage of existing views.	Fair Intermediate In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Intermediate / Intermediate	Moderate Adverse	Moderate Adverse	CP1, CP2, and CP7 OP1, OP2 and OP5	Slight Adverse	Slight Adverse Greening measures to soften the built and engineering structures. Tree planting	Negligible Upon full establishment of the above mitigation measures and planting proposal, visual

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											and preservation proposal.	impact will be alleviated.
VSR 19 Residents of Ha Wan Fishermen Village Settlement	Medium	DP2	700m to the LMC Loop 200m to the WCR at the northern section of LMC Road Major views are contained within the village and surrounding woodland. Views towards the LMC Loop are obstructed by the	Fair Small In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Small/ Small	Slight Adverse	Slight Adverse	CP1, CP2, CP7, OP1,OP2, OP4 and OP5	Negligible	Negligible Tree preservation and new roadside tree planting will screen the works of the WCR. Greening measures to soften the	Negligible Upon full establishment of the above mitigation measures and planting proposal along LMC Road, visual impact will be

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			intervening landform and woodland. Views towards the WCR are screened by existing trees at the periphery of the village and along LMC Road. No blockage of local views.								built and engineering structures.	alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
VSR 20 Public Users of LMC Lookout Refer to photomontage **Figures 11.10s and t**	Medium	LMC Loop Development, DP1, DP6,DP4 DP5, DP2, DP3	900m to the LMC Loop Over 1,000m to ECR, WCR along Ha Wan Tsuen Road and Direct Link to MTR LMC Station These VSRs are located at elevated level on slope adjacent to the Lok Ma Chau Police Station to the south of LMC Tsuen. VSRs enjoy panoramic views north across the fishpond areas, shrubland and	Fair Large In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Large/ Large (LMC Loop Development- Large/ Large DP1- Large/ Large DP2, DP3, DP4, DP5, DP6- Small/Small)	Significant Adverse (LMC Loop Development- Significant Adverse DP1- Significant Adverse DP2, DP3, DP4,DP5, DP6- Moderate Adverse)	Significant Adverse (LMC Loop Development- Significant Adverse DP1- Significant Adverse DP2, DP3, DP4, DP5, DP6- Moderate Adverse)	CP1, CP2, CP6 OP1, OP2, OP3, OP5 and OP7	Moderate Adverse (LMC Loop Development- Moderate Adverse DP1- Moderate Adverse DP2, DP3, DP4, DP5, DP6- Slight Adverse)	Moderate Adverse (LMC Loop Development- Moderate Adverse DP1- Moderate Adverse DP2, DP3, DP4, DP5, DP6- Slight Adverse) Responsive design of	Slight Adverse (LMC Loop Development- Slight Adverse DP1- Slight Adverse DP2, DP3, DP4, DP5, DP6- Negligible) Upon full

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			the LMC Loop with woodland of the lower slope of LMC ridges in the foreground. Views towards the ECR, WCR and Direct Link (viaduct) are largely screened existing mature vegetation along Ha Wan Tsuen Road and inside Ha Wan Tsuen and LMC Ridge. No blockage of views.								the building height profile and massing on the LMC Loop responding to the lowland context. Greening measures to soften the built and engineering structures. Responsive	establishment of the above mitigation measures and planting proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											road works and viaduct alignment. Integration of the viaduct and PTI with existing Spur Line and the Station Tree preservation and tree planting along Ha	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											Wan Tsuen Road and on the Loop.	
VSR 21 Residents of Ma Tso Lung Village Settlement	Medium	DP6	400m from the proposed ECR. Views are confined by adjacent vegetation. No blockage of existing views.	Fair Intermediate In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Intermediate/ intermediate	Moderate Adverse	Moderate Adverse	CP1, CP2, and CP7 OP1, OP2 and OP5	Slight Adverse	Slight Adverse Responsive design of road alignment responding to the lowland context. Greening measures to soften the built and	Negligible Upon full establishment of the above mitigation measures and planting proposal, visual impact will be

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											engineering structures. Tree preservation and new tree planting along the ECR.	alleviated.
VSR 22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung	Medium	LMC Loop Development, DP1, DP5, DP6, DP7	Over 1,000m to LMC Loop. Immediate views of the ECR and Flushing Water Service Reservoir. These VSRs enjoy an open view to Hoo Hok	Poor Intermediate In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Intermediate/ Intermediate /Intermediate (Same magnitude of change for individual For LMC Loop Development,	Moderate Adverse (Same significance for individual For LMC Loop Developme	Moderate Adverse (Same significance for individual For LMC Loop Developme	CP1, CP2,CP3,CP6, CP7 OP1, OP2, OP3 OP5, OP6 and OP7	Slight Adverse (Same significance for individual For LMC Loop Developme	Slight Adverse (Same significance for individual For LMC Loop Developme	Negligible (Same significance for individual For LMC Loop Developme

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			Wai and confined by existing boundary fence to the south blocking views towards village and green backdrop. No blockage of view.			DP1, DP5, DP6, DP7)	nt, DP1, DP5, DP6, DP7**)**	nt, DP1, DP5, DP6, DP7**)**		nt, DP1, DP5, DP6, DP7)	nt, DP1, DP5, DP6, DP7) Responsive design of the building height profile and massing on the LMC Loop responding to the lowland context. Greening measures to	nt, DP1, DP5, DP6, DP7**)** Upon full establishment of the above mitigation measures and planting proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											soften the built and engineering structures. Responsive underpass, depressed road and at-grade design for the ECR will create a better integration with rural and fishpond context.	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											Responsive building mass design of service reservoir. Tree preservation and new tree planting along the ECR and the service reservoir.	
VSR 23 Vehicle Travellers and	Low	The LMC Loop Developme	Immediate to 600m to the WCR and the Loop and Direct Link	Fair Intermediate	5yrs / Permanent / Irreversible	Intermediate / intermediate	Moderate Adverse	Moderate Adverse	CP1, CP2, OP1, OP2, OP3 OP5	Slight Adverse	Slight Adverse	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
Pedestrians along Ha Wan Tsuen Road Refer to photomontage **Figures 11.10a and b and Figures 11.10i and j**		nt , DP1, DP2, DP3	to LMC Station. These VSRs have a relatively long distance view looking towards the west to the LMC Loop. Only the upper portion of the proposed buildings on the LMC Loop will be visible to these VSRs. Immediate views to the road widening works along Ha Wan Tsuen Road. No blockage of existing views.	In the visual context of these VSRs.		(Same magnitude of change for individual LMC Loop Development, DP1, DP2 &DP3) ,DP3	(Same significance for individual LMC Loop Developme nt, DP1, DP2 &DP3)	(Same significance for individual LMC Loop Developme nt, DP1, DP2 &DP3)	and OP7	(Same significance for individual LMC Loop Developme nt, DP1, DP2 &DP3)	(Same significance for individual LMC Loop Developme nt, DP1, DP2 &DP3) Responsive design of the building height profile and massing on the LMC	(Same significanc e for individual LMC Loop Developme nt, DP1, DP2 &DP3) Upon full establishme nt of the above mitigation measures and planting

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											Loop responding to the lowland context. Greening measures to soften the built and engineering structures. Tree preservation and new tree planting along the WCR.	proposal, visual impact will be alleviated.
VSR 24	Low	DP2	Immediate to WCR.	Fair	5yrs /	Large/Large	Moderate	Moderate	CP1, CP2,	Slight	Slight	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
Residents along Lok Ma Chau Road Refer to photomontage **Figures 11.10k and l**	Small in number and main views from these VSRs are not facing the LMC Road.		These VSRs have an immediate view of road widening works along existing Lok Ma Chau Road. Views will be partially blocked by non-continuous noise barrier from 0.8 to 5m high.	Large In the visual context of these VSRs.	Permanent / Irreversible		Adverse	Adverse	CP4 and CP7 OP1,OP2, OP4, OP6 and OP5	Adverse	Adverse Responsive design of noise mitigation. Greening measures to soften the built and engineering structures. Tree preservation and tree planting along the WCR.	Upon full establishment of the above mitigation measures and planting proposal, visual impact will be alleviated.
VSR 25	Low	DP2 (WCR	Immediate to WCR	Fair	5yrs /	Small/ Small	Slight	Slight	CP1, CP2,	Negligible	Negligible	Negligible

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
Workers of Workshops and Container Storage along Kwu Tung Road West		- Road connection from LMC Road to San Tin / Fanling Highways)	LMC Road/ San Tin Highway Connection. These VSRs have restricted views within the industrial areas. No blockage of existing views.	Small In the visual context of these VSRs.	Permanent / Irreversible		Adverse	Adverse	OP1, OP2 and OP5		Tree Preservation. Responsive design of road works utilised of existing road and highway structures. Largely compatible with existing infrastructure context. Reinstate of	Upon full establishment of the above mitigation measures and planting proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											roadside planting area.	
VSR 26 Staffs of HKPF Lok Ma Chau Operation Base Refer to photomontage **Figures 11.10o and p**	Medium	LMC Loop Development, DP1, DP5, DP6, DP7	700m from the Loop Immediate to the ECR and Flushing Water Service Reservoir. These VSRs have a restricted view within the Operation Base. Views from helicopter base in the north will have views of upper portion of the development at LMC Loop. Views at its entrance will be direct	Fair Intermediate In the visual context of these VSRs.	5yrs / Permanent / Irreversible	Intermediate/ intermediate (Same magnitude of change for individual LMC Loop Development, DP1, DP5, DP6, DP7)	Moderate Adverse (Same significance for individual LMC Loop Development, DP1, DP5, DP6, DP7)	Moderate Adverse (Same significance for individual LMC Loop Development, DP1, DP5, DP6, DP7)	CP2,CP3, CP1, CP2,CP3,CP6, CP7 OP1, OP2, OP3 OP5, OP6 and OP7	Slight Adverse (Same significance for individual LMC Loop Development, DP1, DP5, DP6, DP7)	Slight Adverse (Same significance for individual LMC Loop Development, DP1, DP5, DP6, DP7) Responsive design of	Negligible (Same significance for individual LMC Loop Development, DP1, DP5, DP6, DP7) Upon full

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
			towards the ECR. No blockage of existing views.								the building height profile and massing on the LMC Loop responding to the lowland context. Greening measures to soften the built and engineering structures. Responsive design of	establishment of the above mitigation measures and planting proposal, visual impact will be alleviated.

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											road alignment, tunnel and depressed road and at-grade section along ECR. Responsive design building mass of the service reservoir. Tree preservation and new	

Visually Sensitive Receivers (VSR)	Sensitivity	Source of Impact	Determinants for Magnitude of Change			Magnitude of Change (Construction /Operation Phase) (Large/ Intermediate / Small)	Impact Significance Threshold (Unmitigated)		Mitigation Measures	Impact Significance Threshold (Mitigated)		
			Viewing Distance (m) / Blockage of View	Compatibility (Good/ Fair/ Poor) with Surrounding Landscape / Scale (Large/ Intermediate / Small)	Duration Construction / Operation / Reversibility		Construction	Operation		Construction	Operation	
											Day 1	Year 10
											tree planting along the ECR and Service Reservoir.	

11.6.4 Visual Mitigation Measures

The visual mitigation measures described in this report are at a level which both demonstrates their ability to alleviate the visual impacts identified in the assessment and also to allow the proposals to be carried forward during the detailed design stage. The measures are designed to address both the construction and operational phases of the project. Similar to the principle behind the design of the landscape visual mitigation measures mentioned in **Section 11.5**, the hierarchy for visual impact mitigation is classified as the primary and secondary mitigation measures.

The Preliminary Landscape Master Plan and Landscape Design Concept Drawings for the proposed developments within the LMC Loop, the associated road connection networks, the WCR and ECR are presented as **Figures 11.8, 11.9a** to **11.9zi**. These drawings demonstrate the main landscape and visual mitigation strategies and the application of design mitigation measures including the integrated design approach, new roadside planting proposals and recreation of marsh. The application of the recommended mitigation measures is mapped on the plans. Description of Overall Landscape Concept for the RODP of the LMC Loop Development is under section 11.5.3 Landscape Mitigation Measures of this LVIA

These measures soften the architectural form of the proposed buildings, enhance the landscape integration of the proposed structures particularly in elevated views and enhance the integration of the proposed built environment within its rural context. They will also realize significant environmental benefits both in terms of reducing the heat loading of each building and addressing the potential heat island effect of the hard architectural and landscape surfaces.

11.6.5 Construction Phase

The proposed visual impact mitigation measures in the construction phase are summarised in **Table 11.6.3**.

Table 11.6.3 Proposed construction phase mitigation measures

Mitigation Code	Mitigation Measure
CP1	*Preservation and Protection of Existing Trees (Good Site Practice)* • The proposed works should avoid disturbance to the existing trees within and close to the works areas. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design stage for further retention of individual trees. • The preservation of existing tree shall provide instant greening and screening effect for proposed works.
CP2	*Works Area and Temporary Works Areas (Good Site Practice)* • The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. • Construction site controls shall be enforced including the storage of materials, the location and appearance of site accommodation and site storage; and the careful design of site lighting to prevent light spillage.

Mitigation Code	Mitigation Measure
	• Hoarding designed with recessive colour shall be set up around the construction site providing screening effect for the construction works. • The site office or temporary above-ground structures shall be sited at less visual prominent locations.
CP3	*Advance Implementation of Mitigation Planting* • *Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas.*
CP5	*Coordination with Concurrent Projects* • *Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance.*
CP6	*Creation of Wetland and Landscape Buffer* • *The creation of EA and landscape buffer on the Loop shall provide screening effect for low level views towards the LMC Loop Development from the lowland plain surrounding the lMC Loop and soften the building mass and create a better visual integration with existing landscape context.*
CP7	*Design of Retaining Wall and Slopes* • *The proposed treatment of Retaining Wall and Slopes will be undertaken in accordance with GEO Publication No. 1/2000 "Technical Guidelines on Landscape Treatment and Bio-engineering for Man-made Slopes and Retaining Walls". 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 more natural appearance blending into the local rural landscape. Whip sized tree planting is preferred on the face of soil cut slopes and at the crest and toe of the slope, and within berm planters. The smaller, younger plant stock will adapt to their new growing conditions more quickly than larger sized stock and establish a naturalistic effect more rapidly. Hydroseeding will be applied on slope has a gradient more than 30 degree.*

11.6.6 Operational Phase

The proposed visual impact mitigation measures in the operational phase are summarised in **Table 11.6.4**.

Table 11.6.4 Proposed operational phase mitigation measures

Mitigation Code	Mitigation Measure
OP1	*Roadside and Amenity Planting* • The planting proposals will utilise native species to soften the proposed structures. The implementation of new planting shall be undertaken as soon as technically feasible using a sectional completion approach during construction stage to ensure the effectiveness of this mitigation during

Mitigation Code	Mitigation Measure
	operational stage and as early as possible during the operational phase. This measure will enhance the visual amenity along existing and proposed road corridor.
OP2	*Compensatory Planting Proposals* • As the works are largely located within rural areas and alongside existing roads the planting proposals have sought to utilise all of the available space for new tree and shrub planting to create comprehensive landscape framework which is connected to areas of retained and preserved vegetation and designed to integrate the proposals within their future landscape setting. • Both on-site and off-site opportunities for compensatory planting shall be considered for enchantment of landscape and visual context. • Design of road layout and built environment shall accommodate enough planting areas for compensatory planting to restore the quality of these greenback drop in rural area.
OP3	*Responsive Design of Buildings and Structure* • The design of the proposed building structures and road connections networks will incorporate design features as part of visual mitigation measures including: *Integrated Design Approach* • Building massing - the proposed use of a responsive design for the disposition of the main elements of the proposed scheme including the locations of buildings and utility structures. Grouping of utilities and infrastructure components into proposed buildings as far as technically feasible to reduce the mass of development. The disposition and height profile of the developments and above ground utilities structures responds to the existing context, is designed to minimise the wall effects and create a subtle transition at the edges of the site where it meets the rural landscape. Measures may include the creation of setbacks, articulating the development frontage, maintenance of view corridors and the utilisation of gradation or articulated height profile to enhance the sense of visual integration with the existing context, avoid abrupt transitions between the existing and proposed built environment and reduce the apparent visual mass of the proposed developments. *Treatment of Built Structures* • The architectural design should seek to reduce the apparent visual mass of the structures further through the use of materials and finishes such as colour blocking, innovative surface treatments and vertical greening. *Responsive finishes for the Proposed Structures* • In terms of the building finishes natural tones should be considered for the colour palette and non-reflective finishes recommended for the outward facing building facades to reduce the glare effect. *Innovative Architectural Design* • Adoption of recessive colours for the buildings and engineered structures including the proposed viaducts and noise barrier finishes and colour blocking to reduce the collective visual mass of the development.

Mitigation Code	Mitigation Measure
OP4	*Design of Noise Mitigation Structures* • The design for the proposed noise barriers along the at-grade section of proposed ECR section for Planned Eco-lodge at Ma Tso Lung and along the section of road widening works for the WCR shall aim to reduce the visual prominence of the structure through the use of form, materials, texture and colour. Design of penals shall be opaque and with chromatic colours to break-up the visual mass and horizontal emphasis of the barriers. Where space allows barrier design shall incorporate planting such as trees or hedge planting.
OP5	*Design of Engineering Structures* The design of the proposed Engineering Structures such as the proposed viaducts elevated PTI, slip road and service reservoir should pay particular attention to the appearance and construction methods of the structures, these would include the following: • The detailed design landscape consultants shall work in unison with the engineers on the aesthetic aspects of the structures and their relationship with the landscape. • Wherever light levels, the water regime and the requirements of the environmental mitigation measures permit, trees and vegetation would be reinstated below or adjacent to the structures. Irrigation may be required in some locations and hard landscape solutions considered where the clearance is low. Planting would be used wherever possible to minimise the apparent height of structures and to soften their appearance in medium and long distance views. • The design of the viaduct should avoid unnecessary visual clutter; this would be achieved through the co-ordination of the various engineering disciplines involved to arrive at integrated design solutions. Such as the location of columns of viaduct should not block any views from VSRs in the proximity and the shape of column should be slim down as far as technically feasible to reduce the structural mass at street level, at where space is allowed planting area for shade tolerant tree, shrub and climber species would be provide at the base of the column to soften the vertical emphasis at street level. • Fair faced concrete would not be used for viaduct parapets to minimise glare from the structure and to avoid the visually detracting effect of staining. • Drainage and utilities to be concealed within the structures.
OP6	*Creation of Woodland* • Creation of woodland along the existing Boundary Patrol Road near Horn Hill at Ping Hang will enhance the local landscape and visual context. Off-site woodland compensation refers to **Figure 11.9zi**, Chapters 2 project description and 12 ecology impact assessment of this EIA. • In addition to the above, disturbed wooded slopes along WCR (DP2) and ECR (DP6) by the road widening and improvement works will be infilled with woodland planting of light standard size trees or whips where space allows to restore and enhance the landscape and visual context along LMC Road.

Mitigation Code	Mitigation Measure
OP7	*Reinstatement of Affected Fishponds* • Temporary loss of fishponds along WCR (DP2), Direct Link to LMC Station (DP4) and ECR (DP6) by the road widening and improvement works will be largely reinstated to fishponds with tree planting at selected locations. Reinstatement of affected fishponds refer to **Figure 11.9j,k,l,m,r, t and u**. These ponds will be used for both functional or amenity purposes to enhance the existing landscape and visual context.
OP8	*Application of Terraced Podium Landscape, Vertical Greening and Green Roof* • Terraced podium design shall be incorporated into the building design of the LMC Loop Development to maximise the greening opportunities on upper level of the development, reduce the apparent visual mass of the structure and provide visual amenity for views looking from street level as well as in distance at elevated levels as to create better integration with existing landscape and visual context. • Incorporation of alternative greening measures including vertical and roof greening on building or built structures where condition allow particularly those fronting the public realm to reduce the apparent visual mass of the structure.

11.7 Cumulative Impacts

This section reviews the projects currently in progress or planned within the assessment area, such as the proposed cycle tracks in the North West New Territories and North East New Territories, new development areas in the North East New Territories and the construction of the secondary boundary fence and new sections of primary boundary fence and Boundary Patrol Road. Construction of these projects will result in cumulative landscape and visual impacts including the degradation of landscape character and visual amenity and the loss of landscape resources.

The construction works for the Secondary Boundary Fence and new sections of Primary Boundary Fence and Boundary Patrol Road under the project entitled 'Construction of a Secondary Boundary Fence and new sections of Primary Boundary Fence and Boundary Patrol Road' are taking place concurrently and the works sites involved are in the vicinity of the proposed developments of LMC Loop. In addition, the proposed cycle tracks connecting the North West New Territories with North East New Territories (Lok Ma Chau section) under the project entitled 'Cycle Tracks connecting North West New Territories with North East New Territories' will be take place adjacent to the proposed WCR. There is as yet no firm programme for the completion of these projects.

Mitigation measures to address the cumulative impacts would be incorporated into the design of each of the approved projects. The resulting changes to the existing landscape character, landscape resources and visual amenity have been taken into account in the baseline assessment. Cumulative impacts from these projects are therefore taken into account through their inclusion in the baseline conditions for this report although as mentioned above at the time of writing there is uncertainty in terms of the programme for these projects.

11.8 Residual Landscape Impacts

11.8.1 Evaluation of Residual Impact - General

Overall, in terms of residual landscape impacts the main effects will primarily result from the disturbance to the existing rural landscape context in LMC Loop, some woodland areas, existing roadside trees etc. For the most part, the landscape resources will be largely reinstated. The riverside landscape area of the LMC Loop will be changed significantly as a result of proposed development. Whilst the current unmanaged piece of land and rural landscape character on the LMC Loop will be replaced by the implementation of institutional development and the creation of high quality landscaped open spaces associated with the development, it will be integrated with the existing rural and riverside landscape characters along Shenzhen River after the full establishment of the recommended mitigation measures:

- Adoption of a responsive scale and building height profile integrated with local rural context;
- Integration as far as technically feasible new built structures with existing rural landscape;
- Provision of planting areas within the LMC Loop;
- Reinstatement of temporary works areas and recreation of marsh/ wetland and;
- Incorporation of terraced landscape podium design, vertical greening and green roof on built structures where technically feasible; and
- New tree planting proposals combined with the preserved trees alongside the proposed ECR , WCR, within the site for Direct Link to MTR LMC Station and Flushing Water Service Reservoir;
- Utilised depressed road and underpass, viaduct and slip road to minimise the impact on landscape resources;
- Deck over the road section when approaching to natural stream;
- Minimise the extent of slope cutting and retaining wall to minimise the impact on woodland areas and reinstate the disturded areas with new woodland planting;
- Reintate fishponds as early as possible; and
- Creation of woodland;

The planting proposals also form part of compensatory planting proposals for the loss of landscape resources, such as existing trees; and benefiting the future landscape and ecological context of the assessment area.

11.8.2 Residual Impact on Landscape Resources (Day 1/Year 10)

With the adoption and full establishment of the recommended landscape mitigation measures the mitigated (residual Day 1 / Year 10) impact for the

individual LRs as a result of the LMC Loop Development under EIAO Schedule 3 assessed in **Table 11.5.6** are summarised as follows.

Negligible Impacts

The moderate adverse impact predicted during the operational phase (Day 1) would be alleviated, through the growth to maturity of the proposed compensation wetlands on-site in EA of the LMC Loop and in off-site locations, to negligible (Year 10) on Marsh on the Loop (LR11.1).

The slight adverse impacts predicted during the operational phase (Day 1) would be alleviated through the growth to maturity of the proposed landscape mitigation measures, including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, and reinstatement of fishponds to negligible during the operational phase (Year 10) for Ha Wan Tsuen Road Mixed Woodland (LR3.1); Lok Ma Chau Road Mixed Woodland (LR3.2); Ma Tso Lung Mixed Woodland (LR3.4); Roadside Planting along Lung Hau Road (LR4.1); Roadside Planting along Fanling and San Tin Highways (LR4.2); Roadside Planting along Lok Ma Chau Road (LR4.3); Roadside Planting along Ha Wan Tsuen Road (LR4.4); Lok Ma Chau Agricultural Fields (LR7.3); Ha Wan Tsuen Fishponds (LR8.2); Lok Ma Chau Fishponds (LR8.4); Hoo Hok Wai Fishponds (LR8.5); Natural River (to the South of the Loop) (LR9.1); Natural Stream at Ha Wan Tsuen (LR9.2); Natural Stream at Lok Ma Chau Tsuen and Ping Hang (LR9.3); Natural Stream at Ma Tso Lung (LR9.4); Engineered Water Channel (Lok Ma Chau Road) (LR10.3); Marsh at Hoo Hok Wai (LR11.2); and Mitigation Wetland and Reedbed at MTR LMC Station (LR11.5)

Landscape impact on the following LRs would be not affected by the works or being mitigated to a negligible level through the growth to maturity of the proposed landscape mitigation measures including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, The negligible impacts predicted during the operational phase (Day 1) would be maintained during the operational phase (Year 10) for Cross-boundary Infrastructure and Facilities (MTR LMC Station) (LR1.1); Cross-boundary Infrastructure and Facilities (Lok Ma Chau vehicular) (LR1.2); Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal) (LR1.3); Ha Wan Tsuen Village Settlement (LR2.1); Lok Ma Chau Road Village Settlement (LR2.2); Lok Ma Chau Tsuen Village Settlement (LR2.3); Ha Wan Fishermen Village Settlement (LR2.4); Chau Tau and Pun Uk Tsuen Village Settlement (LR2.5); San Tin Village Settlement (LR2.6); Tai Law Hau Village Settlement (LR2.7); Ping Hang Village Settlement (LR2.8); Tse Koo Hang Village Settlement (LR2.9); Ma Tso Lung Village Settlement (LR2.10); San Tin Road Mixed Woodland (LR3.3); Roadside Planting along Ma Tso Lung Road (LR4.5); Lok Ma Chau Shrubland (LR5.1); Ma Tso Lung Shrubland (LR5.2); Grassland on the Loop Shrubland (LR6.1); Grassland at San Tin (LR6.2); Grassland at Lok Ma Chau (LR6.3); Grassland at Ma Tso Lung (LR6.4); Pun Uk Tsuen Agricultural Fields (LR7.1); Lok Ma Chau Tsuen Agricultural Fields (LR7.2); Ma Tso Lung Agricultural Fields (LR7.4); Sam Po Shue Fishponds (LR8.1); Lok Ma Chau Road Fishponds (LR8.3); Engineered Water Channel (Shenzhen River) (LR10.1); Engineered Water Channel (along Cross-boundary Facilities) (LR10.2); Engineered Water Channel (Newly constructed water channel at Ma Tso Lung) (LR10 .4); Marsh at Lok Ma Chau (LR11.3); Marsh at Chau Tau (LR11.4); San

Tin Developed Area (LR12.1); Lok Ma Chau Developed Area (LR12.2); Ma Tso Lung Developed Area (LR12.3); San Tin Open Yard (LR13.1); Lok Ma Chau Open Yard (LR13.2); and Ma Tso Lung Open Yard (LR13.3).

Slight Beneficial Impact

Despite a large amount of self-seeded weedy trees being lost with the development of the LMC Loop proposals this will be mitigated through the planting of new woodland and ornamental tree planting throughout the development area, particular in the proposed woodland buffer area along the northern edge of the LMC Loop. Therefore LR's such as the Trees on the Loop (LR4A) would be subject to a slight beneficial impact as the trees mature.

The following section summaries the residual impacts with the adoption and full establishment of the recommended landscape mitigation measures (residual Day 1 / Year 10) on LRs as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The residual impact during operation phase (Year 10) as a result of the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- The moderate adverse impact predicted during the operational phase (Day 1) on Marsh on the Loop (LR11.1) would be alleviated to negligible (Year 10) through the growth to maturity of the proposed compensation wetlands on-site in EA of the LMC Loop and in off-site locations.
- The slight adverse impact predicted during the operational phase (Day 1) Trees on the Loop (LR4A) would be subject to a slight beneficial impact (Year 10) as the trees mature.
- Negligible residual impact on Grassland on the Loop (LR6.1) predicted during the operational phase (Day 1 and 10) as the grassland will be replaced by quality planting on the LMC Loop.

SO2 - Eastern Connection Road (DP6)

- The slight adverse impacts predicted during the operational phase (Day 1) would be alleviated to negligible (Year 10), through the growth to maturity of the proposed landscape mitigation measures, including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, and reinstatement of fishponds for LR3.4 Ma Tso Lung Mixed Woodland, LR7.3 Lok Ma Chau Agricultural Fields, LR8.4 Lok Ma Chau Fishponds, LR8.5 Hoo Hok Wai Fishponds, LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang, LR11.2 Marsh at Hoo Hok Wai and LR9.4 Natural Stream at Ma Tso Lung.
- Negligible residual impact on LR5.2 Ma Tso Lung Shrubland, LR6.4 Grassland at Ma Tso Lung and LR12.3 Ma Tso Lung Developed Area and Roads predicted during the operational phase (Day 1 and 10) as roadside tree planting established.

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- The slight adverse impacts predicted during the operational phase (Day 1) would be alleviated to negligible (Year 10), through the growth to maturity of the proposed landscape mitigation measures, including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, and reinstatement of fishponds for LR2.1 Ha Wan Tsuen Village Settlement, LR2.2 Lok Ma Chau Road Village Settlement, LR3.1 Ha Wan Tsuen Road Mixed Woodland, LR3.2 Lok Ma Chau Road Mixed Woodland, LR4.1 Roadside Planting along Lung Hau Road, LR4.2 Roadside Planting along Fanling and San Tin Highways , LR4.3 Roadside Planting along Lok Ma Chau Road, LR4.4 Roadside Planting along Ha Wan Tsuen Road, , LR8.2 Ha Wan Tsuen Fishponds, , LR8.4 Lok Ma Chau Fishponds, LR9.1 Natural River (to the South of the Loop) , LR9.2 Natural Stream at Ha Wan Tsuen and LR10.3 Engineered Water Channel (Lok Ma Chau Road).
- Negligible residual impact on LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal), LR12.1 San Tin Developed Area and Roads, LR12.2 Lok Ma Chau Developed Area and Roads, LR13.2 Lok Ma Chau Open Yard and LR13.3 Ma Tso Lung Open Yard predicted during the operational phase (Day 1 and 10) as roadside tree planting established.

SO4 - Flushing Water Service Reservoir (DP7)

- Negligible residual impact on LR6.4 Grassland at Ma Tso Lung predicted during the operational phase (Day 1 and 10) as roadside tree planting along the access road and shrub and grass on the sloping areas and on the roof of reservoir established on Day 1 during operation stage.

SO5 - Direct Link To MTR LMC Station (DP3)

- The slight adverse impacts predicted during the operational phase (Day 1) would be alleviated to negligible (Year 10), through the growth to maturity of the proposed landscape mitigation measures, including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, and reinstatement of fishponds for LR4.1 Roadside Planting along Lung Hau Road , LR8.2 Ha Wan Tsuen Fishponds, LR8.4 Lok Ma Chau Fishponds, LR9.2 Natural Stream at Ha Wan Tsuen and LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station.
- Negligible residual impact on LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station) , LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau), LR10.2 Engineered Water Channel (along Cross-boundary Facilities), LR12.2 Lok Ma Chau Developed Area and Roads and LR13.2 Lok Ma Chau Open Yard predicted during the operational phase

(Day 1 and 10) as roadside tree planting along the access road and shrub and grass on the sloping areas established. New tree planting within the cross-boundary facilities is not preferred due to operation and security reason.

11.8.3 Residual Impact on Landscape Character Areas

With the implementation of the recommended landscape mitigation measures the mitigated (residual) impact for the individual LCAs as a result of the implementation of the LMC Loop Development under EIAO Schedule 3 assessed in **Table 11.5.8** can be summarised as follows.

Slight Adverse Impacts

The significant unmitigated impact on the character of LMC Loop Riverside Landscape (LCA 8) will be alleviated to moderate (Day 1 construction and operation) to slight adverse impact (Year 10). This will be evident through the growth to maturity of the proposed landscape mitigation measures, including the establishment of planting proposals and creation of wetland area (EA) on the LMC Loop.

Negligible Impacts

The moderate impact on the character of LMC Cross-boundary Infrastructure and Facilities Landscape (LCA 2), Ki Lun Shan Lowland Rural Landscape (LCA 4), LMC Lowland Rural Landscape (LCA5), LMC Hillside Landscape (LCA 6), Ma Tso Lung Lowland Rural Landscape (LCA7) and Hoo Hok Wai Lowland Rural Landscape (LCA 9) will be alleviated to slight adverse during the construction and operation phases (Day 1) of the project whilst the residual impact during operation phase (Year 10) of the project will be further reduced to a negligible level through the growth to maturity of the proposed landscape mitigation measures, including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, and reinstatement of fishponds. The negligible impact of Sam Po Shue Lowland Rural Landscape (LCA 1), San Tin Lowland Rural Landscape (LCA 3) and would remain unchanged during operation phase (Year 10) of the Project.

The following section summarizes the residual impacts on landscape character areas as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The residual impacts for the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- The moderate residual impact (Day 1 construction and operation) on the character of LMC Loop Riverside Landscape (LCA 8) would be alleviated to slight adverse impact (Year 10) through the growth to maturity of the

proposed landscape mitigation measures, including the establishment of planting proposals and creation of wetland area (EA) on the LMC Loop.

SO2 - Eastern Connection Road (DP6)

- The slight residual impact (Day 1 construction and operation) on the character of LMC Lowland Rural Landscape (LCA5) and LMC Hillside Landscape (LCA 6), Ma Tso Lung Lowland Rural Landscape (LCA 7) and Hoo Hok Wai Lowland Rural Landscape (LCA 9) would be alleviated to negligible (Year 10) through the growth to maturity of planting proposals.

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- The slight residual impact (Day 1 construction and operation) on the character of LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2), Ki Lun Shan Lowland Rural Landscape (LCA 4) and LMC Lowland Rural Landscape (LCA5) would be alleviated to negligible (Year 10) through the growth to maturity of planting proposals.

SO4 - Flushing Water Service Reservoir (DP7)

- The slight residual impact (Day 1 construction and operation) on the character of LMC Hillside Landscape (LCA 6) would be alleviated to negligible (Year 10) through the growth to maturity of planting proposals.

SO5 - Direct Link To MTR LMC Station (DP3)

- The slight residual impact (Day 1 construction and operation) on the character of LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2) would be alleviated to negligible (Year 10) through the growth to maturity of planting proposals and design of the built structures responded and integrated with existing infrastructure landscape.

11.9 Residual Visual Impacts

With the adoption of the recommended visual mitigation measures the mitigated (residual) impact as a result of the implementation of LMC Loop Development under Schedule 3 for individual VSRs **assessed in Table 11.6.2 can be summarised as follows.**

Slight Adverse

The visual amenity of Residents of Ha Wan Tsuen Village Settlement (VSR 6) and Residents of LMC Village Settlement (VSR 7), Residents of Tai Law Hau Village Settlement (VSR 9), Residents of Ping Hang Village Settlement (VSR 10), and Planned Visitors to the Eco-lodge (PVSR 10A), Travellers on Planned Boundary Patrol Road to the East of LMC Loop (VSR 15) and Public Users of LMC Lookout (VSR 20) will be changed significantly through the implementation of proposed institutional developments associated with infrastructure and utilities facilities on the LMC Loop, WCR road works and noise barriers along Ha Wan Tsuen Road and LMC Road, the Direct Link to MTR LMC Station (viaduct) and ECR. The impact of these visual intrusions will be alleviated to an extent through the limited works areas, responsive design of institutional development, road alignment and viaduct, noise barrier structures, the use of vertical greening measures where possible on built structures and the restoration of the disturbed areas with roadside planting. Although these measures will not screen views of the proposed development and viaduct structures, these mitigation measures will soften the form of the buildings and structures, create a greater sense of visual integration and enhance the overall landscape of the LMC Loop area, LMC Road, Ha Wan Tsuen Road and existing Boundary Patrol Road at Ma Tso Lung. With the adoption of these measures, the significant impact to the visual amenity of these VSRs will be mitigated to moderate during operation phase (Day 1) and slight adverse during operation phase (Year 10).

Negligible

The majority of the works areas will be restored following the completion of the construction works and these proposals will be combined with greening measures including the planting of trees and shrubs to soften the built and engineering structures, responsive design of the building height profile and massing on the LMC Loop responding to the lowland context will serve to alleviate the visual impacts for some of the identified VSRs from slight adverse without mitigation measures (Day 1 of operation phase) to negligible with mitigation measures fully established (Day 1 and Year 10 of operation phase) . This includes VSRs with views of the LMC Loop and/or Direct Link to the MTR LMC Station including Residents of Lin Barn Tsuen Village Settlement (VSR 1); Residents of Tung Chan Wai Village Settlement (VSR2) and transient VSRs Train Travellers on LMC Spur Line (VSR 12). This is also due to factors such as the viewing distance the

viewing angle and the presence of intervening structures and vegetation and nature of VSR.

Visual impacts on VSRs with views of the WCR (including LMC Road/San Tin Highway) but in distance to the LMC Loop, including Residents of Pun Uk Tsuen Village Settlement (VSR 8A); Residents of Chau Tau Village Settlement (VSR 8B); Residents of Ha Wan Fishermen Village Settlement (VSR 19) and Workers of Workshops and Container Storage along Kwu Tung Road West (VSR 25), will also alleviate from slight adverse without mitigation measures (Day 1 of operation phase) to negligible upon full establishment of planting along the WCR (Year 10 of operation phase). This is also due to the presence of intervening structures and vegetation screening views to the works from the above VSRs.

The visual amenity for a number of VSRs with direct views of the LMC Loop, WCR and Direct Link to MTR LMC Station (viaduct) will be significantly changed as result of the proposed development. This includes views of Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities (VSR 11); Travellers on Planned Boundary Patrol Road to the West of LMC Loop (VSR 16) and Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road (VSR 23). For these VSRs the implementation of the proposed landscape and visual mitigation measures such the creation of landscape buffer and ecological areas and the responsive urban design for proposed institutional development on the LMC Loop, responsive design of viaduct structures integrated with existing Spur Line and MTR LMC Station, woodland and roadside planting along Ha Wan Tsuen Road, and restatement of affected fishponds will mitigate the predicted impacts from moderate adverse Day 1 during operation phase without mitigation measures, to slight adverse during operation phase (Day 1) and negligible during operation phase (Year 10) upon full establishment of the above mitigation measures.

Travellers on Existing Boundary Patrol Road at Ma Tso Lung (VSR 22) and Staffs of HKPF Lok Ma Chau Operation Base (VSR 26) have views of the LMC Loop, the ECR (at-grade/depressed road/underpass) and the Flushing Water Service Reservoir at Horn Hill. The implementation of the proposed landscape and visual mitigation measures such the creation of landscape buffer and ecological areas and the responsive urban design for proposed institutional development on the LMC Loop, responsive design of the ECR integrated with the rural lowland and fishpond context, woodland and roadside planting along ECR and reinstatement of affected fish ponds will mitigate the predicted impacts from moderate adverse Day 1 during operation phase without mitigation measures, to slight adverse during operation phase (Day 1) and negligible during operation phase (Year 10) upon full establishment of the above mitigation measures.

The visual amenity of a number of VSRs, located in distance to the LMC Loop, with views towards the WCR (including road works along Hai Wan Tsuen and LMC Roads, and slip road connecting to San Tin Highway), including Travellers and Staffs at Lo Ma Chau Cross-boundary Bus Terminal (VSR 3), Vehicle Travellers along Fanling and San Tin Highways (VSR 4), Vehicle Travellers and Pedestrians along LMC Road (VSR 5), Residents along Lok Ma Chau Road (VSR 24), will also alleviate from moderate adverse Day 1 during operation phase without mitigation measures, to slight adverse during operation phase (Day 1) and negligible during operation phase (Year 10). This is evident through the implementation of mitigation measures including limited works area, tree preservation, responsive design of road alignment and structures and replanting of roadside areas. This is also due to the integration of proposed road works along

existing infrastructure corridor that would minimise the visual intrusion to adjacent rural landscape.

Other residents of Shun Yee San Tsuen (VSR 18), Tse Hoo Hang Settlement (VSR 13) and Ma Tso Lung Village Settlement (VSR 21) have views of the at-grade road section the ECR at Ma Tso Lung. The implementation of the proposed landscape and visual mitigation measures such as limited works area, tree preservation, responsive design of road alignment and structures and replanting of woodland and roadside area will alleviate the predicted impacts from moderate adverse Day 1 during operation phase without mitigation measures, to slight adverse during operation phase (Day 1) and negligible during operation phase (Year 10) upon full establishment of the above mitigation measures.

For VSRs located further afield including the Residents of Liu Pok Village Settlement (VSR 14) and Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities (VSR 17) the predicted negligible level of impact will continue through to the operation phase (Year 10). This is largely due a combination of the viewing distance and the screening effect of the intervening landform.

The residual impacts (Day 1/ Year 10) on VSRs as a result of individual DPs under Schedule 2.

Development on the Loop (including DP1, DP4, DP5)

The residual impacts (Day 1/Year 10) for the implementation of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop include the followings:

- Impacts on VSR 6 Residents of Ha Wan Tsuen Village Settlement as a result of the implementation of individual DP1 and DP4, would be mitigated to moderate adverse (Day 1) and to slight adverse (Year 10) through the full establishment of planting on the Loop, in particular at the periphery of the Loop and within the EA and integrated design approach of road and drainage works etc.
- Impacts on VSR 15 Travellers on Planned Boundary Patrol Road to the East of LMC Loop works as a result of the implementation of individual DP1, DP4 and DP5, would be mitigated to moderate adverse (Day 1) and to slight adverse (Year 10) through the full establishment of planting on the Loop, in particular at the periphery of the Loop and within the EA, accommodation of responsive STW design, integrated design approach of road and drainage works etc.
- Impact on VSR 20 Public Users of LMC Lookout as a result of the creation of EA (DP1) would be mitigated to moderate adverse (Day 1) and to slight adverse (Year 10) through the full establishment of planting on the Loop, and the establishment of EA, that would enhance the visual amenity of the Loop as well as the riverside landscape in the view of this elevated VSR;
- Impacts on VSR 7 Residents of LMC Village Settlement; VSR 9 Residents of Tai Law Hau Village Settlement; VSR 10 Residents of Ping Hang Village Settlement; PVSR 10A Planned Visitors to the Eco-lodge; VSR 22 Travellers

the on Existing Boundary Patrol Road at Ma Tso Lung ; VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; and VSR 26 Staffs of HKPF Lok Ma Chau Operation Base as a result of DP1 and DP5 would be mitigated to slight adverse (Day 1) and to negligible (Year 10) through the full establishment of planting on the Loop that would screen the low level views to proposed development; and

- Impact on VSR 20 Public Users of LMC Lookout as a result of the implementation of DP4 and DP5 would be mitigated to negligible (Day 1/Year 10) through the full establishment of planting on the Loop, and the establishment of EA, responsive STW design that would enhance the visual amenity of the Loop as well as the riverside landscape in the view of this elevated VSR.

Eastern Connection Road (DP6)

- Impacts on VSR 13 Residents of Tse Koo Hang Village Settlement; VSR 18 Residents of Shun Yee San Tsuen; VSR 21 Residents of Ma Tso Lung Village Settlement; VSR 22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung ; VSR 9 Residents of Tai Law Hau Village Settlement; VSR 10 Residents of Ping Hang Village Settlement; PVSR 10A Planned Visitors to the Eco-lodge; and VSR 20 Public Users of LMC Lookout and VSR 26 Staffs of HKPF Lok Ma Chau Operation Base would be mitigated to slight adverse (Day 1) to negligible and to negligible (Year 10) through the full establishment of planting along ECR, reinstatement of fishponds and woodland areas .

Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Impacts on VSR 6 Residents of Ha Wan Tsuen Village Settlement; and VSR 5 Vehicle Travellers and Pedestrians along LMC Road would be mitigated to moderate adverse (Day 1) and to slight adverse (Year 10) through the full establishment of planting along WCR, reinstatement of fishponds and woodland areas.

- Impacts on VSR 20 Public Users of LMC Lookout and VSR 7 Residents of LMC Village Settlement would be mitigated to moderate adverse (Day 1) and to slight adverse (Year 10) through the full establishment of planting along WCR, reinstatement of fishponds and woodland areas.

- Impacts on VSR 4 Vehicle Travellers along Fanling and San Tin Highways; VSR 24 Residents along Lok Ma Chau Road; VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop; and VSR 3 Travellers and Staffs at Lok Ma Chau Cross-boundary Bus Terminal would be mitigated to slight adverse (Day 1) and to negligible (Year 10) through the full establishment of planting along WCR, reinstatement of fishponds.

- Impacts on VSR 25 Workers of Workshops and Container Storage along Kwu Tung Road West; VSR 19 Residents of Ha Wan Fishermen Village Settlement would be mitigated to negligible (Day 1/Year 10) through the full establishment of planting along WCR, reinstatement of fishponds.

Flushing Water Service Reservoir (DP7)

- Impacts on VSR 10 Residents of Ping Hang Village Settlement and PVSR 10A Planned Visitors to the Eco-lodge; VSR 26 Staffs of HKPF Lok Ma Chau Operation Base and VSR22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung would be mitigated to slight adverse (Day 1) and to negligible (Year 10) through the full establishment of planting along access road to the reservoir , greening on the roof of proposed reservoir and on sloping areas and responsive design of proposed reservoir.

Direct Link To MTR LMC Station (DP3)

- Impacts on VSR 6 Residents of Ha Wan Tsuen Village Settlement would be mitigated to moderate adverse (Day 1) and to slight adverse (Year 10) through the full establishment of planting along the viaduct section adjacent to Ha Wan Tsuen, responsive design of viaduct and PTI integrated with Spur Line and LMC Station and reinstatement of fishponds;
- Impacts on VSR 7 Residents of LMC Village Settlement and VSR 20 Public Users of LMC Lookout VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop; and VSR 11 Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities would be mitigated to slight adverse (Day 1) and to negligible (Year 10) through the full establishment of planting along the viaduct section adjacent to Ha Wan Tsuen, responsive design of viaduct and PTI integrated with Spur Line and LMC Station and reinstatement of fishponds; and
- Impacts on VSR 12 Train Travellers on LMC Spur Line would be mitigated to negligible (Day 1 and Year 10) through the full establishment of planting along the viaduct section adjacent to Ha Wan Tsuen, responsive design of viaduct and PTI integrated with Spur Line and LMC Station and reinstatement of fishponds.

11.9.1 Photomontages

A series of computer generated images or photomontages have been prepared for the proposed works demonstrating the worst-case scenario for the identified VSRs and these are presented as **Figures 11.10a** to **t**. The photomontages of the proposed works show the existing conditions, Day 1 of Operational Phase after the completion of the construction phase in the absence of mitigation measures and Day 1 of the Operational phase with mitigation measures. The images for Year 10 of the Operational Phase with mitigation measures are used to demonstrate the predicted residual impacts, which would exist in the design year during the operational phase taken as between 10 and 15 years after the completion of the construction phase. The following text provides a description of each of the vantage points which form the basis of the photomontages and the predicted impact of the proposed scheme. The building design within the LMC Loop is indicative and subject to change upon detailed design in respect of future development.

11.9.1.1 Vantage Point A (VSR 5 Vehicle Travellers and Pedestrians along Lok Ma Chau Road)

This vantage point (**Figures 11.10a** and **11.10b** refer) shows the proposed WCR (DP2), Direct Link to MTR LMC Station (DP3) and the developments within LMC Loop at a distance of 620m. The image shows the scale of the proposed road widening works for the existing Ha Wan Tsuen Road in the middle ground and the form of the built development for the LMC Loop in the background. It shows the proposed mitigation measures for the built form of the R&D / C&C buildings and the Education Zone which includes the scale, orientation and massing of the buildings responding to the rural setting. The image with mitigation measures demonstrates the effectiveness of the tree planting lining the WCR in screening views of both the infrastructure and the built form of the development. Greening measures on buildings on the LMC Loop soften the built form and improves the visual amenity. It also shows how a sense of visual integration can be achieved with the landscape mitigation measures in combination with the preserved landscape resources including woodland areas.

11.9.1.2 Vantage Point B (VSR 10 Residents of Ping Hang Village Settlement)

The view from this location (**Figures 11.10c** and **11.10d** refer) shows the proposed buildings and developments at a close proximity from ground level at a distance of approximately 170m. The image shows the scale of the proposed buildings and structures of the LMC Loop and the ECR (DP6). The main features of the LMC Loop development include the DP1 Ecological Area to the southwest, the Education and R&D / C&C) development in the central portion and DP5 Sewage Treatment Works to the east. This view clearly demonstrates the responsive design of the architecture to the existing setting with the gradation height profile extending from the southern and eastern peripheries of the site. It also demonstrates the existing visual amenity available to VSRs including the Residents of Ping Hang and Tai Law Hau Village Settlement, Staffs at HKPF Operation Base and Future visitor to Planned Eco-lodge and how this view will change with the introduction of the ECR depressed road and underpass sections. The introduction of the proposed landscape mitigation measures including the buffer tree planting along the eastern periphery of the LMC Loop and the planting associated with the DP1 Ecological Area serves to enhance the sense of visual integration between the development and its setting and soften the architectural form of the main buildings and structures. The tree planting alongside of the depressed road and on landscape deck of the underpass section associated with the ECR is designed to screen it in views from this location. This view demonstrates how through careful and responsive design the impacts can be mitigated to an extent and the scheme better integrated into the future landscape context.

11.9.1.3 Vantage Point C (VSR 15 Travellers on Planned Boundary Patrol Road to the east of the LMC Loop)

This vantage point (**Figures 11.10e** and **11.10f** refer) shows the relatively close proximity, approximately 300m, of the view from the planned Boundary Control Road to the proposed development within the LMC Loop and includes a representation of the Secondary Boundary Fence newly constructed lining the

road. The ground level view extends southwest from the fishponds near Hoo Hok Wai across the abandoned meander to the north-eastern edge of the LMC Loop. The sand coloured area in the middle ground of the Day 1 image without mitigation represents the site formation works extent. This image illustrates the scale of the proposed buildings and structures for the R&D / C&C portion development, a small area of commercial and government developments; and the location of DP5 Sewage Treatment Works. As demonstrated by the image the scale of the proposed scheme is in tune with its landscape context and the effectiveness of the landscape mitigation measures particularly the buffer tree planting in reducing the scale of the development, softening the built form and enhancing the sense of visual integration. It also demonstrates that through the careful design of the landscape mitigation measures the amenity of the river course can be maintained.

11.9.1.4 Vantage Point D (VSR 11 Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities)

The view from the LMC Cross-boundary Infrastructure Works east towards the LMC Loop (**Figures 11.10g** and **11.10h** refer) at a distance of approximately 850m is characterised by existing developments including the viaduct of the LMC Spur Line to the south and the high-rise developments of Shenzhen and the engineered form of the river channelization works to the north. The central portion of the view shows the mitigation wetlands and reed cell for waste water polishing to the east of the PTI of the MTR LMC Station. The introduction of the proposed viaduct and elevated PTI for the DP3 Direct Link to MTR LMC Station will mirror the form of the existing LMC Spur Line structure. The elevated PTI will be built over the existing PTI at ground level. The indicative location of elevated PTI is shown on Figure 11.6l, its form and finishes will be mirror and integrated with the Station building. These structures will dominate future views although there may be glimpsed and partial views of some of the proposed built development in LMC Loop in the background. The main form of mitigation for these structures will be in their design and the alignment of the Direct Link.

11.9.1.5 Vantage Point E (VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road)

The view northeast along Ha Wan Tsuen Road (**Figures 11.10i** and **11.710j** refer) is characterised by the dense tree and shrub planting to the east and west of the road corridor which largely serves to screen views of the landscape beyond. There are glimpsed views of the high-rise development of Shenzhen beyond the tree planting at the entrance square of Ha Wan Tsuen. At a distance of approximately 275m the proposed development including a block associated with the R&D / C&C development to the north and Education Zone to the south will serve to foreshorten the available views of Shenzhen. The foreground of these future views will also feature the road widening works associated with DP2 WCR. Owing to the enclosed nature of the existing views the proposals will not result in a significant change in either the landscape character or the visual amenity of the area. As demonstrated by the image the DP2 proposals have been designed to preserve as much of the existing roadside tree planting and this includes the widening of the central median to accommodate existing trees. The viaduct of Direct Link to LMC Station from the LMC Loop over northern portion of Ha Wan

Tsuen will not be perceived in this viewing location as it is screened by the mature trees in the village.

11.9.1.6 Vantage Point H (VSR 24 Residents along Lok Ma Chau Road)

Views along the Lok Ma Chau road corridor (**Figures 11.10k** and **11.10l** refer) are largely contained by a combination of the existing roadside development and vegetation including mature trees. The views available to many of the residents lining the road are also screened by intervening vegetation and structures and in some cases the orientation of the houses results in views extending away from the road. This view extends south east along the road which will be widened to accommodate cycle track and footpath to the east and new planting area as part of the DP2 WCR proposals. These proposals include the introduction of series of small lengths of noise barrier ranging in height from 0.8m to 5m in height. The noise barriers show on the image is 3m high. Despite this the road widening works will for the most part not have a significant impact on the landscape or the visual amenity of the road corridor. In addition the design of the road scheme has been modified to preserve more mature trees which line the existing carriageway that would significant reduce the visual impact to the road corridor as well as to villagers living alongside of LMC Road.

Given the tallest 5m noise barrier section is occupied only a short section of LMC Road adjacent to existing 2.5m high fence wall of a village house, hence Vantage point H shows a section of WCR has two numbers of 3m high noise barriers that considered as the worst case scenario of visual impact as a result of proposed noise mitigation measures along LMC Road.

11.9.1.7 Vantage Point I (VSR 7 Residents Lok Ma Chau Village Settlement)

View northwest from this location (**Figures 11.10m** and **11.10n** refer) shows the proposed buildings and developments at relatively close proximity (approximately 360m) from a position at ground level. The existing view shows an area of fishponds, grassland and agricultural fields in the foreground with the course of the abandoned meander in the middle ground and to the east with views of the LMC Loop partially screened by intervening tree and shrub growth. The high-rise development of Shenzhen to the north of the LMC Loop is apparent in the background. The image shows the scale of the proposed buildings and structures of the LMC Loop with the R&D / C&C component of the development to the west and the Education Zone to the east. It demonstrates the responsive design of the architecture to the existing setting with the gradation height profile extending from the southern periphery of the site and scale which is in tune with the expanse of the Loop and the high-rise development in the background. The introduction of the proposed landscape mitigation measures including the buffer tree planting along the eastern edge and the planting associated with the DP1 Ecological Area serves to enhance the sense of visual integration between the development and its setting and soften the architectural form of the main buildings and structures. Although views towards WCR along Ha Wan Tsuen Road (DP2) and Direct Link to LMC Station (DP3) from this viewing location is largely screened by intervening vegetation, partial view of these DPs might be seen when moving the viewing location to the west. This view demonstrates how through careful and

responsive design the impacts can be mitigated to an extent and the scheme better integrated into the future landscape context.

11.9.1.8 Vantage Point K (VSR 26 Staffs of HKPF Lok Ma Chau Operation Base)

Although this vantage point is located to the northwest of the Lok Ma Chau Operation Base it represents the view southeast towards DP6 ECR at-grade road section at a distance of 142m and DP7 Flushing Water Service Reservoir beyond (**Figures 11.10o** and **11.10p** refer). The existing view is formed by fishpond in the foreground, shrubland and abandoned agricultural fields in the middle ground, grassed knolls and the undulating form of the LMC ridgeline in the background. The construction of the DP6 ECR and DP7 Flushing Water Service Reservoir will introduce two new structures in the middle ground of the view. The ECR will be at-grade for the section visible from this location along existing Boundary Patrol Road approaching Ma Tso Lung. The proposed introduction of tree planting alongside the ECR will serve to screen views of the carriageway and improve the integration of the scheme within the local landscape context. This sense of integration will improve as the trees mature and visually coalesce with the adjacent tree clusters in the areas.

The proposed location of the Flushing Water Service Reservoir has been designed in semi-sunken form to avoid changing the naturalistic form of the ridgeline however there is still need to place the structure at an elevated location on the hillside (grassed knoll) to provide adequate water pressure. Other mitigation measures for the reservoir include the use of recessive colours for the finishes and the introduction of tree planting in front of the built structures. In addition, tree will be planted along the access from existing Boundary Patrol Road and hydroseeding will be applied on cut slopes which has a gradient more than 30 degree. These measures serve to reduce the visual prominence of the proposed structure, integrated with existing grassed hill landscape and so minimise the landscape and visual impacts arising from the works.

11.9.1.9 Vantage Point L (VSR 18 Residents of Shun Yee San Tsuen)

The main view from Shun Yee San Tsuen looking west to the grassland shows the much closer views (approximately 145m) of the DP6 ECR (**Figures 11.10q** and **11.10r** refer). Views looking towards the LMP Loop located over 1200m away from the village are blocked by the intervening landform and LMC ridge. The existing view extends across the valley floor to the wooded lower slopes of the Lok Ma Chau Ridge surrounding Tse Koo Hang village and views of the summits of the hills beyond. In this area the ECR will be constructed on a low embankment punctuated by animal passages to provide for the movement of animals across the road alignment. The introduction of vegetation for the embankment slopes and roadside tree planting is designed to integrate the engineered for the road embankment into the existing landscape context and screen views of the carriageway. As the trees mature they will visually coalesce with the existing woodland and tree clumps within the vicinity to enhance the visual integration of the proposals within the landscape context.

11.9.1.10 Vantage Point O (VSR 20 Public Users of the LMC Lookout)

This image represents an elevated view (56.8mpD) from the Lok Ma Chau Police Station adjacent to the LMC Lookout looking northeast towards the LMC Loop at a distance of approximately 680m (**Figures 11.10s** and **11.710t** refer). The image shows the scale of the proposed buildings and structures of the LMC Loop with the main features being R&D / C&C portion of the development to the east and west and the Education Zone in the central portion. The DP1 Ecological Area located along the southern periphery of the development is visible in the middle ground and provides a transition between the flat expanse of the fishpond and agricultural plain, the abandoned meander and the built form of the new development. This view clearly demonstrates the responsive design of the architecture to the existing setting with the gradation height profile extending from the southern and eastern peripheries of the site. The introduction of the proposed landscape mitigation measures including the buffer tree planting and the planting associated with the DP1 Ecological Area serves to enhance the sense of visual integration between the development and its setting and soften the architectural form of the main buildings and structures. The image also shows the breezeway/ view corridor designed in the central portion of proposed development. Besides, regarding to the viewing distance and intervening landform and mature trees in Ha Wan Tsuen, views toward proposed WCR (DP2), ECR (DP6) and Direct Link to LMC Station (DP3) have been blocked and forms a very small component in this visual context. This view demonstrates how through careful and responsive design the impacts can be mitigated to an extent and the scheme better integrated into the future landscape context.

11.10 Conclusion

11.10.1 Landscape Impact

With the implementation of a responsive design for the proposed built elements, engineering proposals and DPs; the adoption of greening measures, the combination of new tree planting, preserved trees and restoration of the disturbed areas following the completion of the works, compensation for the loss of existing trees, woodland, fishponds and wetlands the residual impacts on the majority of the identified landscape resources for the LMC Loop Development under EIAO Schedule 3 would be slight to negligible.

Tree Impact

There are approximately 6,660 existing trees on the LMC Loop and within the limit of works areas. No Registered Old and Valuable Trees" and/or "Champion Trees are found. Loss of existing trees will be limited to trees within the Loop and alongside the proposed Direct Link to MTR LMC Station, WCR and ECR; and access road for the Flushing Water Service Reservoir. A large proportion of these trees have naturally colonised the site and their overall amenity value is not considered to be high. Based on the broad brush tree survey contained in Appendix 11-1 and the preliminary engineering layouts of proposed works contained in Chapter 2 of this EIA, approximately 279 trees are proposed to be transplanted to new planting areas proposed on the LMC Loop and alongside of proposed road improvement works, and approximately 4,022 trees are inevitable

to be in conflict with the construction works and recommend for felling. New planting areas within the LMC Loop including tree planting in landscape buffer, open spaces and roadside planting areas will accommodate approximately 5,000 new trees. Planting of more broad-leave tree species will be considered where space allows and location is suitable for tree establishment. This planting concept would create comfortable shaded area for pedestrians and visitors in open spaces.

New planting areas along the road alignment of WCR (DP2), ECR (DP6) and access road to Flushing Water Service Reservoir (DP7) will accommodate approximately 2,600 new trees.

For the affected tree on the sloping areas, due to constrained growth conditions, whip planting will be proposed on slopes which have gentler gradient at a planting distance of about 1500mm. Slopes have a gradient more than 30 degree, hydroseeding will be applied instead. Upon full establishment of whip planting and hydroseeding, greening coverage on affected sloping areas will be reinstated. Following the above planting principles, the newly formed and remnant sloping areas along the road alignment would accommodate approximately 500 whips.

Based on a preliminary estimation, the above planting proposal would achieve a replanting ratio of minimum 1:1 in terms of quantity and quality except for slope works according to ETWB TCW No. 3/2006. This tree replanting ratio would compensate the total girth and number of tree loss as well as the total number of tree loss on sloping area. Given the constraints of growing condition and safety reasons of planting larger size tree stock on sloping areas, greening measures on new formed and remnant slopes, including extensive hydroseeding and whips planting, would restore the quality of these greenback drop in rural area.

The retention of existing trees through their preservation in-situ and transplanting and the successful establishment of the newly planted trees will enhance amenity of the local areas and providing for the thermal comfort of pedestrians, visitors and users of the LMC Loop Development. In the wider landscape context, the green backdrop will be reinstated upon full establishment of replanting proposals within the LMC Loop, along proposed roads and on sloping areas.

The above recommendation on existing trees is preliminary and subject to the detailed tree survey and tree felling application to be submitted for LandsD/Government approval at detailed design stage of the project in accordance with ETWB TWC No. 3/2006 Tree Preservation.

Landscape Resources

The significant impact on LR11.1 Marsh on the Loop will be alleviated to negligible (Year 10) with full establishment of landscape mitigation measures including creation of compensation wetlands on-site in EA of the LMC Loop and in off-site locations,

The slight adverse impacts predicted during the operational phase (Day 1) would be alleviated through the growth to maturity of the proposed landscape mitigation measures, including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, to negligible during the operational phase (Year 10) for Lok Ma Chau Road Village Settlement (LR2.2); Ha Wan Tsuen Road Mixed Woodland (LR3.1); Lok Ma

Chau Road Mixed Woodland (LR3.2); Ma Tso Lung Mixed Woodland (LR3.4); Roadside Planting along Lung Hau Road (LR4.1); Roadside Planting along Fanling and San Tin Highways (LR4.2); Roadside Planting along Lok Ma Chau Road (LR4.3); Roadside Planting along Ha Wan Tsuen Road (LR4.4); Grassland on the Loop Shrubland (LR6.1); Ha Wan Tsuen Fishponds (LR8.2); Lok Ma Chau Fishponds (LR8.4); Hoo Hok Wai Fishponds (LR8.5); Natural River (to the South of the Loop) (LR9.1); Natural Stream at Ha Wan Tsuen (LR9.2); Natural Stream at Lok Ma Chau Tsuen and Ping Hang (LR9.3); Natural Stream at Ma Tso Lung (LR9.4); Engineered Water Channel (Lok Ma Chau Road) (LR10.3); Marsh at Hoo Hok Wai (LR11.2); and Mitigation Wetland and Reedbed at MTR LMC Station (LR11.5).

Landscape impact on the following LRs would be not affected by the works or being mitigated to a negligible level through the growth to maturity of the proposed landscape mitigation measures including replanting for woodland, stream and channel side and roadside planting areas, off-site compensation of fishponds and marshes, The negligible impacts predicted during the operational phase (Day 1) would be maintained during the operational phase (Year 10) for Cross-boundary Infrastructure and Facilities (MTR LMC Station) (LR1.1); Cross-boundary Infrastructure and Facilities (Lok Ma Chau vehicular) (LR1.2); Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal) (LR1.3); Ha Wan Tsuen Village Settlement (LR2.1); Lok Ma Chau Tsuen Village Settlement (LR2.3); Ha Wan Fishermen Village Settlement (LR2.4); Chau Tau and Pun Uk Tsuen Village Settlement (LR2.5); San Tin Village Settlement (LR2.6); Tai Law Hau Village Settlement (LR2.7); Ping Hang Village Settlement (LR2.8); Tse Koo Hang Village Settlement (LR2.9); Ma Tso Lung Village Settlement (LR2.10); San Tin Road Mixed Woodland (LR3.3); Roadside Planting along Ma Tso Lung Road (LR4.5); Lok Ma Chau Shrubland (LR5.1); Ma Tso Lung Shrubland (LR5.2); Grassland at San Tin (LR6.2); Grassland at Lok Ma Chau (LR6.3); Grassland at Ma Tso Lung (LR6.4); Pun Uk Tsuen Agricultural Fields (LR7.1); Lok Ma Chau Tsuen Agricultural Fields (LR7.2); Lok Ma Chau Agricultural Fields (LR7.3); Ma Tso Lung Agricultural Fields (LR7.4); Sam Po Shue Fishponds (LR8.1); Lok Ma Chau Road Fishponds (LR8.3); Natural Stream at Sam Po Shue (LR9.2); Engineered Water Channel (Shenzhen River) (LR10 .1); Engineered Water Channel (along Cross-boundary Facilities) (LR10.2); Engineered Water Channel (Newly constructed water channel at Ma Tso Lung) (LR10 .4); Marsh at Lok Ma Chau (LR11.3); Marsh at Chau Tau (LR11.4); San Tin Developed Area (LR12.1); Lok Ma Chau Developed Area (LR12.2); Ma Tso Lung Developed Area (LR12.3); San Tin Open Yard (LR13.1); Lok Ma Chau Open Yard (LR13.2); and Ma Tso Lung Open Yard (LR13.3).

Despite a large amount of self-seeded weedy trees being lost with the development of the LMC Loop proposals this will be mitigated through the planting of new woodland and ornamental tree planting throughout the development area, particular in the woodland buffer area along the northern edge of the Loop. Therefore LR's such as the Trees on the Loop (LR4A) would be subject to a slight beneficial impact as the trees mature.

The following are the residual impacts (Year 10) with the adoption and full establishment of the recommended landscape mitigation measures on LRs as a result of individual DPs under Schedule 2.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The residual impact during operation phase (Year 10) as a result of the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop includes the followings:

- Slight beneficial on Trees on the Loop (LR4A)
- Negligible on Grassland on the Loop (LR6.1) and Marsh on the Loop (LR11.1)

SO2 - Eastern Connection Road (DP6)

- Negligible on LR3.4 Ma Tso Lung Mixed Woodland, LR7.3 Lok Ma Chau Agricultural Fields, LR8.4 Lok Ma Chau Fishponds, LR8.5 Hoo Hok Wai Fishponds, LR9.3 Natural Stream at Lok Ma Chau Tsuen and Ping Hang, LR11.2 Marsh at Hoo Hok Wai and LR9.4 Natural Stream at Ma Tso Lung, LR5.2 Ma Tso Lung Shrubland, LR6.4 Grassland at Ma Tso Lung and LR12.3 Ma Tso Lung Developed Area and Roads.

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Negligible on LR2.1 Ha Wan Tsuen Village Settlement, LR2.2 Lok Ma Chau Road Village Settlement, LR3.1 Ha Wan Tsuen Road Mixed Woodland, LR3.2 Lok Ma Chau Road Mixed Woodland, LR4.1 Roadside Planting along Lung Hau Road, LR4.2 Roadside Planting along Fanling and San Tin Highways , LR4.3 Roadside Planting along Lok Ma Chau Road, LR4.4 Roadside Planting along Ha Wan Tsuen Road, , LR8.2 Ha Wan Tsuen Fishponds, , LR8.4 Lok Ma Chau Fishponds, LR9.1 Natural River (to the South of the Loop) , LR9.2 Natural Stream at Ha Wan Tsuen and LR10.3 Engineered Water Channel (Lok Ma Chau Road), LR1.3 Cross boundary Infrastructure and Facilities (Lok Ma Chau Bus Terminal), LR12.1 San Tin Developed Area and Roads, LR12.2 Lok Ma Chau Developed Area and Roads, LR13.2 Lok Ma Chau Open Yard and LR13.3 Ma Tso Lung Open Yard.

SO4 - Flushing Water Service Reservoir (DP7)

- Negligible on LR6.4 Grassland at Ma Tso Lung.

SO5 - Direct Link To MTR LMC Station (DP3)

- Negligible on LR4.1 Roadside Planting along Lung Hau Road , LR8.2 Ha Wan Tsuen Fishponds, LR8.4 Lok Ma Chau Fishponds, LR9.2 Natural Stream at Ha Wan Tsuen and LR11.5 Mitigation Wetland and Reedbed at MTR LMC Station, LR1.1 Cross-boundary Infrastructure and Facilities (MTR LMC Station) , LR1.2 Cross-boundary Infrastructure and Facilities (Lok Ma Chau), LR10.2 Engineered Water Channel (along Cross-boundary Facilities), LR12.2 Lok Ma Chau Developed Area and Roads and LR13.2 Lok Ma Chau Open Yard.

With the implementation of the proposed mitigation measures, the predicted impacts on LRs as a result of the LMC Loop Development and DPs will largely be alleviated to negligible level of impact during the construction and operation

phases (Year 10) of the project. These mitigation measures include preservation of existing vegetation, reinstatement of temporary works areas; implementation of mitigation planting, transplantation of existing trees, the use of greening associated with the built structures, tree planting along planned road corridor and built structures and compensation for the loss of woodland, fishponds and wetlands. With the full establishment of the proposed mitigation measures and the growth to maturity of the proposed tree and shrub planting, woodland and wetland, the LMC Loop Development and DPs will be well integrated within the future landscape context.

Landscape Character Area

The residual impacts on the majority of the identified landscape character areas as a result of the LMC Loop Development under EIAO Schedule 3 would be negligible including Sam Po Shue Lowland Rural Landscape (LCA 1), LMC Cross-boundary Infrastructure and Facilities Landscape (LCA 2), San Tin Lowland Rural Landscape (LCA 3), Ki Lun Shan Lowland Rural Landscape (LCA 4), LMC Lowland Rural Landscape (LCA5), LMC Hillside Landscape (LCA 6), Ma Tso Lung Lowland Rural Landscape (LCA7) and Hoo Hok Wai Lowland Rural Landscape (LCA 9). Although the LMC Loop is subject to a significant change of character as a result of proposed institution development and associated infrastructure and utilities facilities, impact on the LMC Loop Riverside Landscape (LCA 8) will be alleviated to a slight level through full establishment of the mitigation measures.

The following are residual impacts (Year 10) on landscape character areas as a result of individual DPs under Schedule 2 with the adoption and full establishment of the recommended landscape mitigation measures.

SO1 - Development on the Loop (including DP1, DP4, DP5)

The residual impact during operation phase (Year 10) for the construction of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4)

- Slight adverse impact on LMC Loop Riverside Landscape (LCA 8)

SO2 - Eastern Connection Road (DP6)

- Negligible on LMC Lowland Rural Landscape (LCA5) and LMC Hillside Landscape (LCA 6), Ma Tso Lung Lowland Rural Landscape (LCA 7) and Hoo Hok Wai Lowland Rural Landscape (LCA 9).

SO3 - Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Negligible on LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2), Ki Lun Shan Lowland Rural Landscape (LCA 4) and LMC Lowland Rural Landscape (LCA5).

SO4 - Flushing Water Service Reservoir (DP7)

- Negligible on LMC Hillside Landscape (LCA 6) would be alleviated to negligible (Year 10).

SO5 - Direct Link To MTR LMC Station (DP3)

- Negligible on LMC Cross-boundary Infrastructure and Facilities Landscape (LCA2).

As with the predicted impacts on the LRs and LCAs of the Assessment area with the full establishment of the proposed landscape mitigation measures, the growth to maturity of the proposed tree and shrub planting, compensation of woodland, wetlands and fishponds, the LMC Loop Development and DPs will be well integrated with the character of the future landscape context.

11.10.2 Visual Impact

As has been described above the majority of the works areas disturbed by the proposed works will be restored following the completion of the construction phase of the project. These restoration measures in combination with the full implementation of the landscape and visual mitigation measures will do much to mitigate the visual impacts. The residual impacts on the majority of the identified VSRs would be negligible with exception of Ha Wan Tsuen Village Settlement (VSR 6) and Residents of LMC Village Settlement (VSR 7), Residents of Tai Law Hau Village Settlement (VSR 9), Residents of Ping Hang Village Settlement (VSR 10), and Planned Visitors to the Eco-lodge (PVSR 10A), Travellers on Planned Boundary Patrol Road to the East of LMC Loop (VSR 15) and Public Users of LMC Lookout (VSR 20) who will experience a moderate to slight residual impacts due to their proximity to the proposed works or have an overview of the LMC Loop.

The significant impact to the visual amenity of Residents of Ha Wan Tsuen Village Settlement (VSR 6) and Residents of LMC Village Settlement (VSR 7) will be alleviated to a slight level upon the full establishment of mitigation measures including the limited works areas, responsive design of institutional development, road alignment and viaduct, noise barrier structures, the use of vertical greening measures where possible on built structures and the restoration of the disturbed areas with roadside planting. These VSRs have views to the proposed institutional developments associated with infrastructure and utilities facilities on the LMC Loop, WCR road works and noise barriers along Ha Wan Tsuen Road and LMC Road and the Direct Link to MTR LMC Station (viaduct).

Residents of Tai Law Hau Village Settlement (VSR 9), Residents of Ping Hang Village Settlement (VSR 10), and Planned Visitors to the Eco-lodge (PVSR 10A), Travellers on Planned Boundary Patrol Road to the East of LMC Loop (VSR 15) and Public Users of LMC Lookout (VSR 20) have views of the LMC Loop, the ECR (at-grade/depressed road/underpass) and the Flushing Water Service Reservoir at Horn Hill. The predicted significant adverse impact on these VSRs will be mitigated to slight adverse upon full establishment of the mitigation measures such as the creation of landscape buffer and ecological areas and the responsive design for proposed institutional development on the LMC Loop, responsive design of the ECR integrated with the rural lowland and fishpond context, woodland and roadside planting along ECR

VSRs with views of the LMC Loop and/or Direct Link to the MTR LMC Station include Residents of Lin Barn Tsuen Village Settlement (VSR 1); Residents of Tung Chan Wai Village Settlement (VSR2) and transient VSRs Train Travellers on LMC Spur Line (VSR 12). The predicted slight adverse impact on these VSRs will be mitigated to negligible upon full establishment of mitigation measures

including the planting of trees and shrubs to soften the built and engineering structures, responsive design of the building height profile and massing on the LMC Loop responding to the lowland context.

VSRs with views of the WCR (including LMC Road/San Tin Highway) include Residents of Ha Wan Fishermen Village Settlement (VSR 19) and Workers of Workshops and Container Storage along Kwu Tung Road West (VSR 25). The predicted slight adverse impact on these VSRs will be mitigated to negligible upon full establishment of planting along the WCR (Year 10 of operation phase).

VSRs with views of the LMC Loop, WCR and Direct Link to MTR LMC Station (viaduct) include Travellers on Planned Boundary Patrol Road to the West of LMC Loop (VSR 16) and Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road (VSR 23). The predicted moderate adverse impact on these VSRs will be mitigated to negligible upon full establishment of the mitigation measures such as the creation of landscape buffer and ecological areas and the responsive urban design for proposed institutional development on the LMC Loop, responsive design of viaduct structures integrated with existing Spur Line and MTR LMC Station, woodland and roadside planting along Ha Wan Tsuen Road.

Travellers on Existing Boundary Patrol Road at Ma Tso Lung (VSR 22), Travellers on Planned Boundary Patrol Road to the East of LMC Loop (VSR 15) and Staffs of HKPF Lok Ma Chau Operation Base (VSR 26) have views of the LMC Loop, the ECR (at-grade/depressed road/underpass) and the Flushing Water Service Reservoir at Ping Hang. The predicted moderate adverse impact on these VSRs will be mitigated to negligible upon full establishment of the mitigation measures such as the creation of landscape buffer and ecological areas and the responsive design for proposed institutional development on the LMC Loop, responsive design of the ECR integrated with the rural lowland and fishpond context, woodland and roadside planting along ECR

VSRs with views towards the WCR (including road works along Hai Wan Tsuen and LMC Roads, and slip road connecting to San Tin Highway) include Travellers and Staffs at Lo Ma Chau Cross-boundary Bus Terminal (VSR 3); Vehicle Travellers along Fanling and San Tin Highways (VSR 4); Vehicle Travellers and Pedestrians along LMC Road (VSR 5); Residents along Lok Ma Chau Road (VSR 24), and VSRs with views of the at-grade road section the ECR at Ma Tso Lung including Residents of Shun Yee San Tsuen (VSR 18); Tse Hoo Hang Settlement (VSR 13) and Ma Tso Lung Village Settlement (VSR 21). The predicted moderate adverse impact on these VSRs will be mitigated to negligible upon full establishment of the mitigation measures such as limited works area, tree preservation, responsive design of road alignment and structures and replanting of woodland and roadside areas.

For VSRs located further afield including the Residents of Pun Uk Tsuen Village Settlement (VSR 8A); Residents of Chau Tau Village Settlement (VSR 8B); Residents of Liu Pok Village Settlement (VSR 14) and Travellers and Staffs at Lo Wu Cross-boundary Infrastructure Facilities (VSR 17) the predicted negligible level of impact will continue through to the operation phase (Year 10).

The residual impacts (Year 10) on VSRs as a result of individual DPs under Schedule 2.

Development on the Loop (including DP1, DP4, DP5)

The residual impacts (Year 10) for the implementation of Ecological Area (DP1) Drainage System under Internal Transport Networks (DP4) and Sewage Treatment Works (DP5) on the LMC Loop include the followings:

- Slight adverse (Year 10) on VSR 6 Residents of Ha Wan Tsuen Village Settlement as a result of the implementation of individual DP1 and DP4; on VSR 20 Public Users of LMC Lookout as a result of the creation of EA (DP1);and on VSR 15 Travellers on Planned Boundary Patrol Road to the East of LMC Loop as a result of the implementation of individual DP1, DP4 and DP5;
- Negligible (Year 10) on VSR 7 Residents of LMC Village Settlement; VSR 9 Residents of Tai Law Hau Village Settlement; VSR 10 Residents of Ping Hang Village Settlement and PVSR 10A Planned Visitors to the Eco-lodge; VSR 22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung ; VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; and VSR 26 Staffs of HKPF Lok Ma Chau Operation Base as a result of DP1and DP5 and on VSR 20 Public Users of LMC Lookout as a result of the implementation of DP4 and DP5;

Eastern Connection Road (DP6)

- Negligible (Year 10) on VSR 13 Residents of Tse Koo Hang Village Settlement; VSR 18 Residents of Shun Yee San Tsuen; VSR 21 Residents of Ma Tso Lung Village Settlement; VSR 22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung ; VSR 9 Residents of Tai Law Hau Village Settlement; VSR 10 Residents of Ping Hang Village Settlement; PVSR 10A Planned Visitors to the Eco-lodge; and VSR 20 Public Users of LMC Lookout and VSR 26 Staffs of HKPF Lok Ma Chau Operation Base.

Western Connection Road (including LMC Road/San Tin Highway Connection) (DP2)

- Slight adverse impacts (Year 10) on VSR 6 Residents of Ha Wan Tsuen Village Settlement; and VSR 5 Vehicle Travellers and Pedestrians along LMC Road; VSR 20 Public Users of LMC Lookout and VSR 7 Residents of LMC Village Settlement; and
- Negligible (Year 10) on VSR 4 Vehicle Travellers along Fanling and San Tin Highways; VSR 24 Residents along Lok Ma Chau Road; VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop; and VSR 3 Travellers and Staffs at Lok Ma Chau Cross-boundary Bus Terminal; VSR 25 Workers of Workshops and Container Storage along Kwu Tung Road West; VSR 19 Residents of Ha Wan Fishermen Village Settlement.

Flushing Water Service Reservoir (DP7)

- Negligible (Year 10) on VSR 10 Residents of Ping Hang Village Settlement and PVSR 10A Planned Visitors to the Eco-lodge; VSR 26 Staffs of HKPF Lok Ma Chau Operation Base and VSR22 Travellers the on Existing Boundary Patrol Road at Ma Tso Lung.

Direct Link To MTR LMC Station (DP3)

- Slight adverse impacts (Year 10) on VSR 6 Residents of Ha Wan Tsuen Village Settlement ; and
- Negligible (Year 10) on VSR 7 Residents of LMC Village Settlement and VSR 20 Public Users of LMC Lookout VSR 23 Vehicle Travellers and Pedestrians along Ha Wan Tsuen Road; VSR 16 Travellers on Planned Boundary Patrol Road to the West of LMC Loop; and VSR 11 Travellers and Staffs at LMC Cross-boundary Infrastructure Facilities; VSR 12 Train Travellers on LMC Spur Line.

In view of the assessment according to the Annex 10 of the EIAO-TM, the landscape and visual impacts of the proposed works would be 'acceptable with mitigation measures'. In other words, 'there would be some adverse effects, but these can be eliminated, reduced or offset to a large extent by specific measures'.