

MTR Corporation Limited

Sheung Shui to Lok Ma Chau Spur Line

Landscape and Visual Plan

September 2023

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Date: 14 September 2023

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Date: 14 September 2023

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Spur Line**
Landscape Plan

281521-REP-021-01

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 281521

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1 Introduction

1.1 Background

- 1.1.1** The Environmental Impact Assessment (EIA) report for “Sheung Shui to Lok Ma Chau Spur Line” (Register No.: AEIAR-052/2002) (i.e. hereafter called the approved EIA for LMC Spur Line) conducted by Kowloon-Canton Railway Corporation (KCRC) was approved in 2002, and addressed the environmental impacts caused by the LMC Spur Line. As far as the railway station at Kwu Tung is concerned, the approved EIA for LMC Spur Line had considered the potential construction and operational impacts for the railway station at Kwu Tung enabling works including the station box structure.
- 1.1.2** In December 2020, the MTR Corporation Limited (MTR) was invited by the Government to commence the detail planning and design of the Kwu Tung Station on East Rail Line (KTU(EAL)) (i.e. hereafter called the Project).
- 1.1.3** The construction and operation of the LMC Spur Line constitutes to Item A.2 Designated Project (DP) “A railway and its associated stations”, under Part I Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). KCRC had applied for and had been granted numbers of Environmental Permits (EPs) and Further Environmental Permits (FEP) for its construction and operation of LMC Spur Line, including the existing tunnel box and enabling works.
- 1.1.4** In order to expand the scope of the FEP (No. FEP-06/129/2002/H) held by MTRC to cover the construction and operation of the proposed railway station at Kwu Tung, variation of this FEP would be required.
- 1.1.5** The Environmental Review Report (ERR) had been prepared and submitted under the VEP application to demonstrate no unacceptable impacts will be resulted from the Project, and no exceedance or violation of environmental performance requirement as set out in the approved EIA for LMC Spur Line. The VEP application had been approved and a new Environmental Permit (No. FEP-06/129/2002/I) was granted by Environmental Protection Department (EPD) on 24 December 2021.
- 1.1.6** According to the new EP (No. FEP-06/129/2002/I) Condition 2.11, no later than 1 month before the commencement of corresponding parts of landscape works of the Project, the Permit Holder shall submit a Landscape Plan (i.e. hereafter called the LVP) to the Director. The LVP shall include the details, implementation programme, maintenance and management schedules, and drawings of the landscape features.

1.2 Purpose of the Plan

1.2.1 The LVP is prepared based on the best available information at the time of submission and will set out the conceptual framework which will guide the landscape design feature of the proposed railway station in Kwu Tung, including the ancillary buildings and facilities. The LVP will not cover the landscape design of the future Central Civic Plaza under Kwu Tung North (KTN) new development area (NDA).

1.2.1.1 As stipulated in Clause 2.11 of the EP condition, this LVP shall include details, implementation programme, maintenance and management schedules and drawings in an appropriate scale of the landscape features of the Project. The implementation schedule will be in table form to clearly list out the mitigation measures to be implemented, and the implementation party, location, timing, and environmental performance required for implementation of the mitigation measures.

1.2.1.2 This LVP shall show the landscape and visual mitigation measures of the Project and include at least the following information:

- Tree compensation proposal showing approximate quantity, location(s) of trees to be retained/ transplanted/ felled, and location(s) of transplanted trees; and
- Landscape feature showing location(s) of greening works including green roofs, screen planting and any other landscape enhancement to mitigate landscape impact of the Project; and
- Architectural aesthetic design for built structures.

1.3 Structure of the Plan

1.3.1 This Plan comprises the following sections:

Section 1	Introduces the background of the Project and purpose of this Plan;
Section 2	Presents the landscape and visual mitigation measures and required actions;
Section 3	Presents the details of landscape features; and
Section 4	Presents the implementation programme, maintenance and management schedules.

2 Landscape and Visual Mitigation Measures and Required Actions

2.1.1 The construction and operational phase mitigation measures as recommended in the approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual and the corresponding proposed actions are presented in **Table 2.1** below.

Table 2.1 Mitigation measures for construction and operational phases

Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual	Description of the Landscape and Visual Mitigation Measures	Proposed Landscape and Visual Mitigation Measures in this Landscape and Visual Plan (LVP) Submission
Construction Phase		
Decorative Site Hoarding	Decorative site hoardings with aesthetic designs and potted plants could be provided around the construction sites as far as practicable such that the construction site could be compatible with the surroundings.	Decorative hoarding will be provided for the KTU (EAL Works Site). Complied with Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual.
Operational Phase		
Tree Compensation	Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Preservation and Removal Proposals process under LAO PN 2/2020 & 2/2020A. Compensatory planting is proposed at the potential open areas within the KCRC Vested Land and/ or off-site.	Compensatory tree planting will be implemented around the railway station at Kwu Tung, and tree transplantation and compensation will also be implemented outside of the KCRC Vested Land as per the approved TPRP. Complied with Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual. Implementation details refer to Table 4.1 .
Screen Planting / Vertical Greening	The provision of screen planting / vertical greening will screen and soften the hard edges of building structures. The proposed	The soft landscape design for the KTU at-grade structures (i.e., the station entrances A and B, as well as Fire Rescue Staircases (FRS) building) will feature sufficient

Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual	Description of the Landscape and Visual Mitigation Measures	Proposed Landscape and Visual Mitigation Measures in this Landscape and Visual Plan (LVP) Submission
	planting plans maximise greening within the Project Site.	<p>at-grade plantings and roof greening instead of vertical greening. This will provide ample greenery to contribute to the screening objective.</p> <p>Complied with Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual. Implementation details refer to Table 4.1.</p>
Architectural Aesthetic Design of Built Structure	The design of building forms and the use of materials in colour tones, and natural materials, as well as the softworks design are coherent with the subdued tones and will also reduce potential visual impacts to the surroundings.	<p>The building mass and form are carefully designed to minimize building footprint and blend in with the surrounding context to reduce visual impact.</p> <p>Complied with Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual. Implementation details refer to Table 4.1.</p>

3 Details of Landscape Features

3.1 Introduction

3.1.1 The construction of the Kwu Tung Station has to match the new ground profile of the adjacent developments in accordance with KTN Outline Development Plan. Site formation works including cut and fill have to be carried out. Therefore, existing trees will be affected and the landscape features at the Kwu Tung Station will be updated with taking KTN NDA Development into consideration.

3.1.2 The Tree Preservation and Removal Proposals (TPRP) of the Project were prepared and submitted in accordance with Lands Department (LandsD) Lands Administrative Office (LAO) Practice Notes 2/2020 & 2/2020A – Tree Preservation and Removal Proposal for Building Development in Private Projects Compliance of Tree Preservation Clause under Lease for relevant government departments’ comment and approval. TPRP comprised a tree survey plan identifying all existing tree(s) within the development site, a tree assessment schedule with justifications for tree felling, pruning, transplanting, tree preservation/protection measures and a compensatory planting proposal.

3.1.3 The layout of the proposed works sites (i.e., WS01 – WS.04) is optimised to minimize the impact on existing trees. However, the trees would still be inevitably affected during construction phrases within the works sites. The proposed works site boundary (blue dotted line) is presented in the **Figure 3.1** below. The coverage of the TPRPs have already included these four works sites.

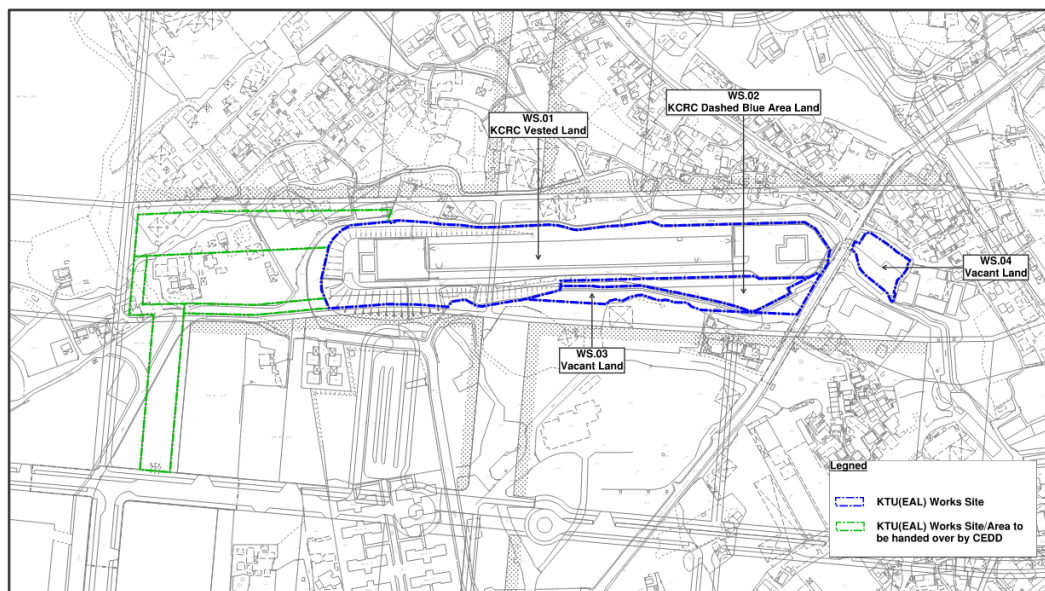


Figure 3.1 KTU(EAL) Works Sites/ Area Demarcation

3.1.4 For other works site/ area (green dotted line presented in Figure 3.1) which falls within the land resumption plan under KTN NDA Project by CEDD, the site

clearance/ preparation works will be done by CEDD before handover to MTR. No tree transplanting or compensation will be required under MTR.

3.2 Compensatory and Transplant Trees

3.2.1 Compensatory planting should be realistic, practical, and sustainable. The principle of “right tree for the right place” should be adhered to so that trees are selected to match the site, environmental condition, and design intent.

3.2.2 For the proposed works sites within KCRC Vested Land and Dashed Blue Area (i.e. WS.01 and WS.02), different at-grade structures will be constructed atop the proposed Kwu Tung Station (i.e. the station entrances A and B, as well as Fire Rescue Staircases (FRS) building), and underground utilities connection will also be constructed outside the at-grade structures. After the completion of the Project, the land atop the station will be handed over to the future developer of Central Civic Plaza under the KTN NDA Development while two proposed works sites outside KCRC Vested Land (i.e., WS.03 & WS.04) will also be handed over to the Government after completion of the Project for future development by private or public sectors. As such, opportunity for on-site compensatory tree planting would be very limited and further exploration of tree planting area and possible planting locations in the vicinity need to be considered.

3.2.3 In addition, the preliminary design of the future Central Civic Plaza is not available at this juncture. MTR had sought Planning Department (PlanD)’s initial view via Highway Department (HyD) and Lands Department (LandsD) on compensatory planting opportunity within the future Central Civic Plaza from planning perspective. By referencing to the “*Urban Design Study for the Kwu Tung North Town Plaza and Fanling North Town Plaza*” conducted by CEDD under Agreement No. CE 13/2014 – “Development of Kwu Tung North and Fanling North New Development Areas, Phase 1 – Design and Construction”, the Central Civic Plaza shall provide a major gathering space that host various civic activities and allow for visitors to congregate. PlanD was of the view that planting compensatory trees in the Central Civic Plaza would pose serious constraints on future design and use of the area for implementation and development of the plaza.

3.2.4 Having consultation with PlanD and striking a balance between allowance of design flexibility of the future Central Civic Plaza and tree compensation, on-site tree compensation was proposed in the TPRP within KCRC Vested Land and Dashed Blue Area (i.e. WS.01 & WS.02) as shown in **Appendix A**. The proposed trees were strategically located to avoid conflicting with the proposed underground utilities or obstructing the station entrances and EVA when the station is in operation. The design also made effort to optimize the spacing of compensatory planting (i.e., at a spacing of 3.0m) to maximize the numbers of compensatory trees, and minimize potential future tree removal arising from the Central Civic Plaza design with taking into account the framework/concept of “passive open space”

and “secondary walkway” in the “*Urban Design Study for the Kwu Tung North Town Plaza and Fanling North Town Plaza*”.

3.2.5 On a big picture, and as a matter of fact, tree loss due to the construction of KTU(EAL) when viewed as a whole (i.e., KTU(EAL) and development of Central Civic Plaza by others) will be mitigated by a holistic tree plantings and greening provisions of all the developments together as far as practicable. In all, the land available within KCRC Vested Land and Blue Dashed Area had been thoroughly explored and utilized for on-site compensatory trees to the fullest extent, given that site constraints due to KTU(EAL) at-grade structures and underground utilities connection as well as the consideration to future development and usage of the Central Civic Plaza. Furthermore, the proposed embankments at KTU (EAL) as mentioned in the VEP Report (No. VEP-461/2014) no longer exist and planting design shall not be proposed at area where there will be foreseeable conflict of works and future development and usage. Therefore, there is a reduction of compensatory tree planting compared to the VEP due to the justification provided. The principle of “Right Tree Right Place” is considered for tree planting in order to ensure healthy and sustainable tree growth and minimising tree risk in the future.

3.2.6 Due to the difficulties in identifying planting space on site, off-site compensation and tree transplantation were also proposed in the TPRP. Transplant trees were proposed to be planted off-site to the Emergency Access Points (EAP) along Lok Ma Chau Spur Line which is currently maintained by MTR. Off-site compensatory trees were proposed at various parks and garden under LCSD’s maintenance and management.

3.2.6.1 In accordance with the approved ERR of the VEP application, three potential sites for compensatory trees were identified. In the latest arrangement under the approved TPRP, whip tree planting at hillside in the North District will not be available, while planting elements at the other potential sites are tabulated in below **Table 3.1**.

Table 3.1 Latest Status of tree compensation at identified potential sites

Potential Sites identified in the approved ERR for the VEP application	Latest status of the Potential Sites	Approximate number of Compensatory Trees to be implemented *
Central Civic Plaza (Formerly named as Town Plaza) in KTN NDA	PlanD’s view was sought to optimize the no. of compensatory trees as well as provision of design flexibility of the future Central Civic Plaza.	50 nos.
LCSD sitting-out areas, parks, roadside tree pits and landscape areas in North District	Liaison with LCSD was undertaken to explore planting areas in parks and garden for compensatory trees.	29 nos.

Potential Sites identified in the approved ERR for the VEP application	Latest status of the Potential Sites	Approximate number of Compensatory Trees to be implemented *
Hillside in the North District for whip tree planting	Hillside whip tree planting opportunities were explored under the application of TPRP, but no potential sites were available or agreed with the Government departments.	-

Note:

[*] The number of the compensatory tree shown reflect the latest arrangement under the approved TPRP. The actual numbers, locations and management/ maintenance parties shall be subject to the further liaisons with the relevant parties and the subsequent revisions of the approved TPRP if necessary.

3.2.7 Actual numbers and locations of compensatory and transplant trees shall be determined and agreed separately with the Government in the TPRP. The compensatory and transplant trees shall also be considered as one of the recommended landscape and visual mitigation measures in the Updated EM&A Manual as details in Section 2 in this Plan.

3.3 Screen Planting

3.3.1 The soft landscape design for the KTU at-grade structures will feature sufficient at-grade plantings and roof greening instead of vertical greening. This will provide ample greenery to contribute to the screening objective, reducing the visual impact to the north and south residential towers and holistic design of the future Central Civic Plaza. Given that site constraints due to KTU at-grade structures and underground utilities connection as well as the consideration to future development and usage of the Central Civic Plaza as discussed in Section 3.2.2 to 3.2.5, screen planting will be provided to the fullest extent around KTU is shown in **Appendix A**.

3.3.2 In addition, the soft landscape shall ensure that the architecture is visually blend in with an appealing visual effect is created. The planting design will contribute to the overall character of the proposed development providing some color throughout the year with seasonal variations. This will be achieved through the selection of species with an interesting form, color, texture of their foliage. This also create a visually pleasing roof plane for residential areas surrounding KTU(EAL).

3.3.3 Along the southeast perimeter of the vested land, interplanting of shrubs with periphery trees planting forms a living wall, providing a sense of enclosure internally and visually buffering the developments. Specific placement of greening takes into consideration the underground utilities below grade and shall not obstruct the operation of EVA as well as the consideration to future development and usage of the Central Civic Plaza.

3.4 Architectural Aesthetic Design of Built Structure

- 3.4.1** The objective for the at-grade built structure is to maintain minimal building footprints and maximise the pedestrianised landscape area for the future Central Civic Plaza, which extends from east to west across the centre of KTN NDA as the ‘bookends’ to the centralised landscape area. The placement of the entrances is also strategically located to minimize visual impact. Both entrance A (east) and B (west) design are identical to offer a consistency identity to the NDA.
- 3.4.2** The massing of the entrances is further digested by the clean and simple design with the use of neutral colour palettes and cladding design, which reduce the overall visual impact and to embrace with future urban design proposal. The introduction of green roof on entrances roof will also mitigate the visual impact from atop to the future surrounding residential areas.
- 3.4.3** The centralised ancillary building consists of the Fire Rescue Staircases and related supporting plantrooms. The overall design approach echoes the entrance buildings by employing the similar materials and forms with minimal footprint to reduce the visual impact.

4 Implementation Programme, and Maintenance and Management Matrix

4.1.1 The compensatory and transplant trees planting, and the provision of soft landscape as screen planting will be implemented to mitigate the impacts on landscape resources within the project site and the neighbourhood. **Table 4.1** summaries the tentative implementation programme and the management and maintenance matrix. The implementation programme is subject to the actual construction programme, availability of planting locations and coordination with the future management/maintenance party.

Table 4.1 Tentative Implementation Programme and Management / Maintenance Matrix

Implementation Details	Location	Tentative Implementation Completion Programme	Works Agent	Management / Maintenance Party	
				During Establishment Period ^[2] / Defect Correction Period	Post-Establishment Period / Post- Defect Correction Period
On-site compensatory tree planting	Kwu Tung Station	2027	MTR	MTR	Future Central Civic Plaza's maintenance/ operation agents/ Departments under the KTN NDA Development after handover of land by MTR ^[1]
Off-site transplant tree planting	Along EAPs under Lok Ma Chau Spur Line	2023	MTR	MTR	MTR
Off-site compensatory tree planting	Various parks and garden	2027	MTR	MTR	LCSD ^[1]
Screen planting	Kwu Tung Station	2027	MTR	MTR	Future Central Civic Plaza's maintenance/ operation agents/ Departments under the KTN NDA Development after handover of land by MTR ^[1]
Architectural Aesthetic Design of Built Structure	Kwu Tung Station	2027	MTR	MTR	MTR

Note:

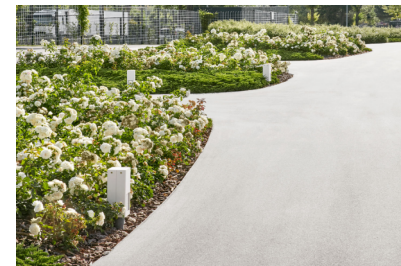
- [1] The management and maintenance agencies of mitigation measures shall be identified in accordance with DEVB TCW No. 6/2015. The agreement and approval of the management and maintenance agencies of the Project are being sought from relevant parties during the preparation of this Plan. MTR Corporation would be responsible for maintenance and management of tree and landscape within the permanent site boundary.
- [2] Typical establishment period lasts for 12 months in general. Establishment period subject to change for the completion of works, from the date of transplanted trees to final receptor locations or from the date of tree and soft landscape handover to the MTR Corporation or the relevant Government departments/relevant authorities.

Appendix A

Screen Planting Landscape and Visual Mitigation Measures Plan

Landscape – External Area Design (Ground Level)

Note 1:
After the completion of the Project, the land atop the station will be hand-overed for future development/ future Civic Plaza under the KTN NDA Development. As such, opportunity for on-site compensatory tree planting in the Hatched Green Area would be limited only to the perimeter of the “passive open space” and “secondary walkway” in the “Urban Design Study for the Kwu Tung North Town Plaza and Fanling North Town Plaza”. The compensatory planting will also need to minimize any potential future tree removal arising from the Civic Plaza design



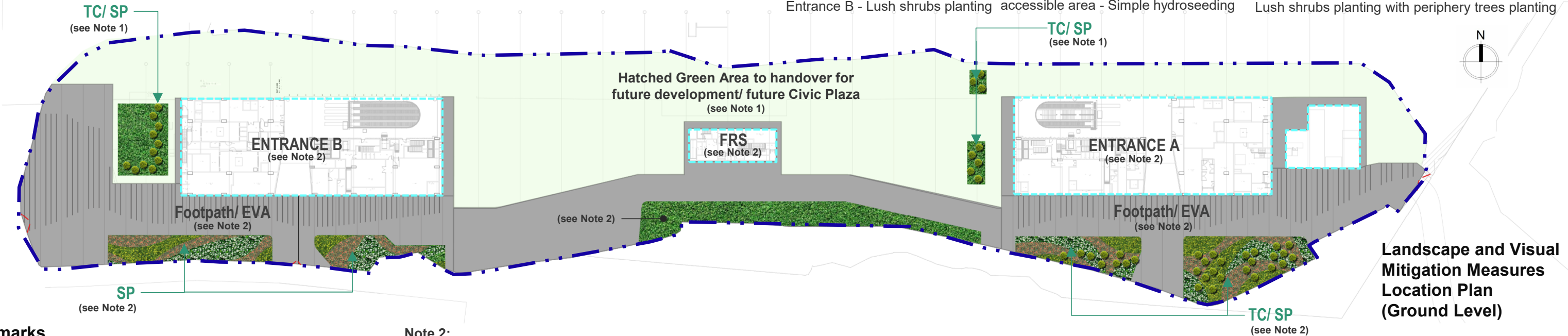
Landscape Reference near Entrance B - Lush shrubs planting



Landscape Reference of non-public accessible area - Simple hydroseeding



Landscape Reference near Entrance A - Lush shrubs planting with periphery trees planting



Remarks

- All location, layout shown in this drawing are indicative only and subject to detailed design. The design drawing provides only aesthetic impression of the indicative form, size and quality of the architectural and landscaping treatment of structures. All the landscape and visual elements in the drawing is for illustration only.

Note 2:

For the proposed works sites within KCRC Vested Land and Dashed Blue Area, different at-grade structures will be constructed atop the proposed Kwu Tung Station (i.e. the station entrances A and B, as well as Fire Rescue Staircases (FRS) building), and underground utilities connection will also be constructed outside the at-grade structures. The proposed trees were strategically located to avoid conflicting with the proposed underground utilities or obstructing the station entrances and EVA when the station is in operation. In all, the land available within KCRC Vested Land and Dashed Blue Area had been thoroughly explored and utilized for on-site compensatory trees.

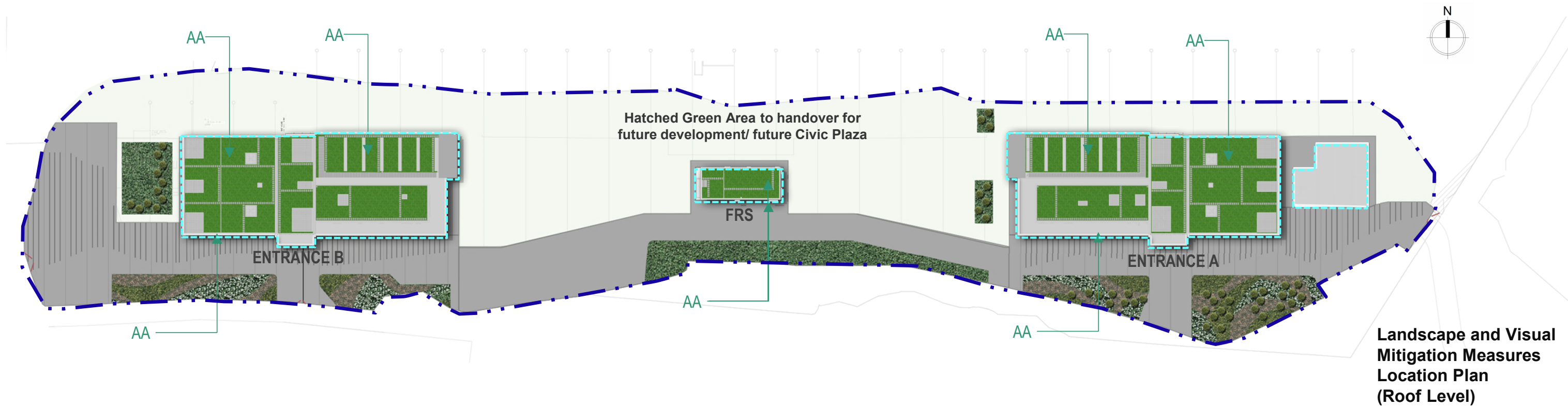
Legends

- KTU Vested Land and Dashed Blue Area Boundary
- MTR At-grade Structure
- Shrubs/ Groundcover Plantings
- Hydroseeding
- Compensatory Tree Planting

Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual	Proposed Landscape and Visual Mitigation Measures in this Landscape and Visual Plan (LVP) Submission
Tree Compensation (TC)	Compensatory tree planting will be implemented around the railway station at Kwu Tung, and tree transplantation and compensation will also be implemented outside of the KCRC Vested Land as per the approved TPRP.
Screen Planting (SP)	The soft landscape design for the KTU at-grade structures (i.e., the station entrances A and B, as well as Fire Rescue Staircases (FRS) building) will feature sufficient at-grade plantings and roof greening instead of vertical greening. This will provide ample greenery to contribute to the screening objective.

Landscape and Visual Mitigation Measures for Operation Phase

Landscape – External Area Design (Roof Level)






Landscape and Visual Mitigation Measures Location Plan (Roof Level)

Remarks

- All location, layout shown in this drawing are indicative only and subject to detailed design. The design drawing provides only aesthetic impression of the indicative form, size and quality of the architectural and landscaping treatment of structures. All the landscape and visual elements in the drawing is for illustration only.

Legends

-  KTU Vested Land and Dashed Blue Area Boundary
-  MTR At-grade Structure
-  Roof Greening

Landscape and Visual Mitigation Measures in approved Environmental Review Report and updated Environmental Monitoring and Audit (EM&A) Manual	Proposed Landscape and Visual Mitigation Measures in this Landscape and Visual Plan (LVP) Submission
Architectural Aesthetic Design of Built Structure (AA)	The building mass and form are carefully designed to minimize building footprint and blend in with the surrounding context to reduce visual impact.

Landscape and Visual Mitigation Measures for Operation Phase