

18. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

18.1 Introduction

The study area for the consideration of the landscape and visual impacts arising from the new Eastern Access Road is defined by a distance of 500 metres from the roadworks, expanded, where appropriate, to include either key sensitive receiver groups that are located beyond this.

The project will have two distinct phases - construction and operation. Both stages are addressed by the Landscape and Visual Impact Assessment.

The assessment of the landscape and visual impacts of the proposed development has been carried out in accordance with the Technical Memorandum of the Environmental Impact Assessment (EIA) issued under the EIA Ordinance. Particularly, reference has been made to Annexes 1, 2, 3, 10, 11 and 18 of the Technical Memorandum.

Government restrictions on the preservation and felling of trees in Hong Kong are detailed in "*Government General Regulation 740*", *WBTC 24/94* and *PELB 3/94 Tree Preservation*.

18.2 Prediction and Assessment Methodology

The assessment and prediction of the degree of sensitivity of landscape and visual impacts is based on reasoned professional judgement and not on scoring or weighting of impacts.

The degree of significance of an impact depends on the nature and sensitivity of the receptor (whether this is a landscape element or a visual receptor) and the nature and magnitude of the impact itself.

18.2.1.1 Sensitivity

The potential sensitivity of a landscape resource depends on a number of factors which will include:

- whether the element is commonplace or rare (e.g. a common tree species, or a rare, protected tree species);
- whether the element constitutes an area of particular landscape interest (e.g. a prominent ridgeline, an old native woodland);
- whether the element is of statutory importance (e.g. Nature Reserves, SSSI's, landscape buffer zones etc.); and
- whether the element is of particular cultural interest (e.g. a Fung Shui Woodland).

The potential sensitivity of a visual receptor is primarily related to whether the person is at work, at play or at rest. Visual receptors may be broadly categorised into four groups as follows.

- Those who view the impact from their homes are considered to be highly sensitive as the attractiveness or otherwise of the outlook from their home will have a substantial effect on their perception of the quality and acceptability of their home environment and their general quality of life.
- Those who view the impact from their workplace are considered to be moderately sensitive, because the attractiveness or otherwise of the outlook will have a less important, although still material, effect on their perception of their quality of life. The degree to which this applies depends on whether the workplace is industrial, retail or commercial.
- Those who view the impact whilst taking part in an outdoor leisure activity may display varying sensitivity depending on the type of leisure activity. Football players, for example, would be less concerned with the quality of their surroundings than hill walkers.
- Those who view the impact whilst travelling on a public thoroughfare will also display varying sensitivity depending on the speed of travel and whether the view is continuous or occasionally glimpsed.

18.2.1.2 Magnitude

The magnitude of a landscape or a visual impact will depend on a number of factors and will include:

- the nature of the development;
- the physical area of the impact, both in absolute terms and relative to it's landscape and visual context;
- the duration of the impact;
- the distance of the impact from the viewer;
- the number of viewers;
- the landscape context of the impact; and
- the visual context of the impact.

By synthesising the magnitude of the various impacts and the sensitivity of the various receptors it is possible to identify a series of thresholds to be used as a basis for the categorisation of the degree of significance of the impacts in a logical, well reasoned and consistent fashion.

Table 18.2a indicates a rationale for dividing the degree of significance into five thresholds, namely Very substantial, Substantial, Moderate, Slight and Very Slight depending on the combination of low-medium-high magnitude of impacts (these may be positive or negative impacts) and a low-medium-high degree of sensitivity of receptors.

For example, a negative impact of high magnitude which affects receptors of high sensitivity may be assessed as being a very substantial negative impact. A moderate positive impact could

result from a positive impact of low magnitude on receptors of high sensitivity as well as from a positive impact of high magnitude on receptors of low sensitivity. This is not a rigid matrix but serves as a basis for rational categorisation of impacts. (This matrix was used in the West Rail EIA.)

Table 18.2a The relationship between sensitivity and magnitude in defining significance thresholds.

Magnitude of Impact (+ve or -ve)	High	Moderate (+ve or -ve)	Substantial (+ve or -ve)	
	Medium	Slight	Moderate (+ve or -ve)	Substantial (+ve or -ve)
	Low	Very Slight (+ve or -ve)	Slight (+ve or -ve)	Moderate (+ve or -ve)
		Low	Medium	High
		Receptor Sensitivity		

18.3 Construction and Operational Phase Impacts

18.3.1 Sources of Impact

18.3.1.1 Construction Stage

Potential sources of landscape and visual impacts in the construction phase are indicated at *Figure 18.3a* and will include:

- Site equipment including cranes, heavy machinery and temporary structures ;
- Tree felling and site clearance;
- Signage and hoarding;
- Potential off-site vehicular disruption and temporary roadworks (including site accesses, contractors working areas and temporary works); and
- Night time illumination.

18.3.1.2 Operational Stage

Potential sources of landscape and visual impacts during the operation phase are indicated at *Figure 18.3a* and will include:

- road area at grade and on embankment;

- road traffic;
- noise barriers;
- highways structures (including noise barriers, safety barriers, signage, gantries and bus shelters); and
- vehicular and street lighting.

The noise barriers in particular will be a significant source of impact on the landscape and visual quality of the area. The barriers are extensive and range in height from 2.5 to 5.5 m. The proposed locations and heights of the noise barriers are indicated at *Figure 18.3a*. The inclusion of so many noise barriers conflicts visually with the existing open landscape and the noise barriers will cause substantial visual impacts.

In some instances noise barriers are placed in locations to screen future residential development. An example of this barrier NB11 which, at 5.5 m high and 150 m in length, would currently screen only industrial buildings. Photomontages in *Figures 18.3c* and *d* indicate the road at its most visually sensitive location, adjacent to the village of Ng Ka Tsuen. Additional photomontages were not considered necessary as there are very few VSRs elsewhere along the alignment and there are no structures associated with the development, additional to those indicated in *Figures 18.3c* and *d*. (Reference should be made to *Figure 14.5d* for the location of the surrounding visually sensitive receivers).

18.3.2 Prediction and Evaluation of Impacts

18.3.2.1 Landscape Impacts

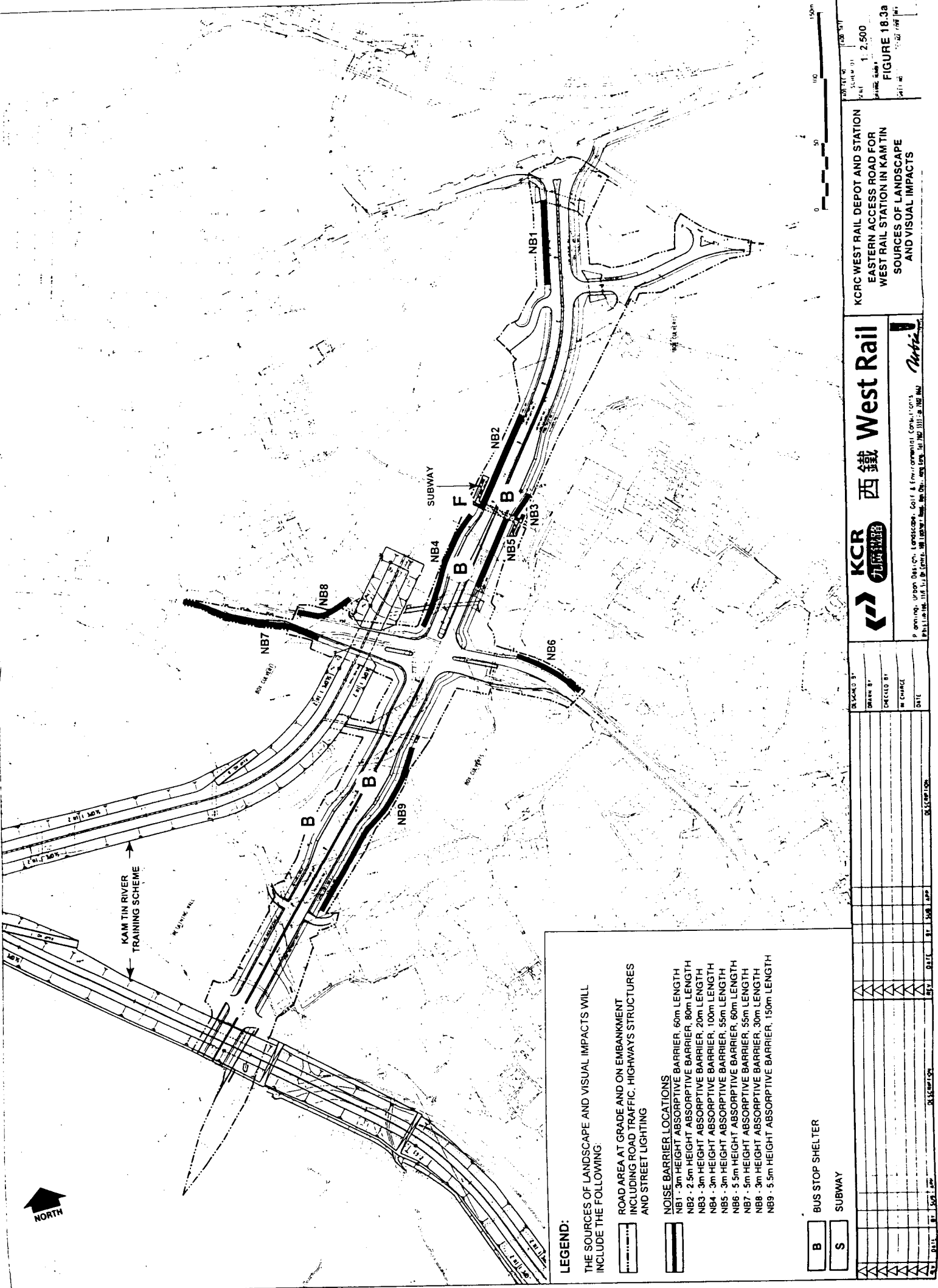
The proposed Kam Tin River training scheme is indicated at *Figure 18.3a*. The scheme will substantially degrade the landscape and visual character of existing agricultural land to the immediate south and west of the proposed development. It is considered that the landscape sensitivity of these areas will therefore be reduced. The landscape impacts of the Eastern Access Road are considered within this context. This study does not address the impacts of the river training scheme.

Impacts on landscape resources caused by the Eastern Access Road will include:

- loss of 15000 sq. metres of actively maintained agricultural land;
- loss of 7500 sq. metres of agricultural land no longer in active use;
- loss of 170 linear metres of natural stream course of Kam Tin River through culverting; and
- loss of 170 linear metres of mature trees adjacent to Kam Tin River and tributary.

Impacts on landscape character caused by the Eastern Access Road, and particularly by the noise barriers, will include:

- substantial negative impacts upon the open agricultural landscape;



0 50 100 150m

LEGEND:
THE SOURCES OF LANDSCAPE AND VISUAL IMPACTS WILL INCLUDE THE FOLLOWING

	ROAD AREA AT GRADE AND ON EMBANKMENT INCLUDING ROAD TRAFFIC, HIGHWAYS STRUCTURES AND STREET LIGHTING
	NOISE BARRIER LOCATIONS NB1 - 3m HEIGHT ABSORPTIVE BARRIER, 60m LENGTH NB2 - 2.5m HEIGHT ABSORPTIVE BARRIER, 80m LENGTH NB3 - 3m HEIGHT ABSORPTIVE BARRIER, 20m LENGTH NB4 - 3m HEIGHT ABSORPTIVE BARRIER, 100m LENGTH NB5 - 3m HEIGHT ABSORPTIVE BARRIER, 55m LENGTH NB6 - 5.5m HEIGHT ABSORPTIVE BARRIER, 60m LENGTH NB7 - 5m HEIGHT ABSORPTIVE BARRIER, 55m LENGTH NB8 - 3m HEIGHT ABSORPTIVE BARRIER, 30m LENGTH NB9 - 5.5m HEIGHT ABSORPTIVE BARRIER, 150m LENGTH
	B BUS STOP SHELTER
	S SUBWAY

KCR 西鐵 West Rail

KCRC WEST RAIL DEPOT AND STATION
 EASTERN ACCESS ROAD FOR
 WEST RAIL STATION IN KAM TIN
 SOURCES OF LANDSCAPE
 AND VISUAL IMPACTS

SCALE 1:2,500

FIGURE 18.3a

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
IN CHARGE:	
DATE:	

PROJECT MANAGER
 PROJECT ENGINEER
 PROJECT ARCHITECT
 PROJECT SURVEYOR
 PROJECT INSPECTOR
 PROJECT COORDINATOR
 PROJECT COMMUNICATIONS OFFICER
 PROJECT SUPPORT OFFICER
 PROJECT ADMINISTRATION OFFICER
 PROJECT SECURITY OFFICER

9, Central, Urban Outlets, Landscape, Civil & Environmental Corporation
 P.O. Box 118, The 118 Building, 118 Jaffe Road, Hong Kong, Tel: 3591 1111, Fax: 3591 1862

- substantial negative impacts upon the rural setting of Ng Ka Tsuen; and
- moderate negative impacts upon the natural setting of the Kam Tin River.

18.3.2.2 Impacts on Landscape Character

The roadworks between Kam Tin Road and the proposed West Rail Station will cause significant negative residual impacts upon the existing agricultural rural environment. Due to the low lying nature of the Kam Tin River basin, the road will be located upon embankment, which will further increase its impact upon the character of the flat surrounding plains.

The proposed Eastern Access Road will interface at 2 no. locations with the Kam Tin Road and the Kam Sheung Road to the north and south respectively. The junction layouts will further impact upon the rural nature of the surrounding site.

It is considered that overall impacts upon landscape character will be reduced by the implementation of 2 no. major drainage reserves to the north and south of Kam Sheung Road. The reserves, which the road will interface with at 2 no. locations, will have significant negative residual impacts upon the character of the surrounding area and will thereby reduce the perceived stand-alone impacts caused by the road.

An additional factor which may reduce the overall negative rating of landscape character impacts, to the west, will be the resumption of existing factory buildings. These structures are indicated in *Figure 14.5c "View C - North to East"*, and are currently providing negative impacts upon the existing landscape character of the surrounding area. The landscape characteristics of the road are indicated in photomontages in *Figures 18.3c and d* and will be generally similar along the entire Eastern Access Road alignment.

18.3.2.3 Visual Impacts

Table 18.3a lists the sources of the visual impacts as described in *18.3.1* above; the approximate distance between the VSRs and the sources of impact; the magnitude of the impact; the key VSRs as described in *Section 14.2*; the degree of sensitivity of the VSRs; and the predicted degree of visual impact on each of the VSR's before and after mitigation;. The baseline Zone of Visual Influence (ZVI) and location of VSRs are indicated at *Figure 14.5d*.

It is considered that visual impacts will be primarily attributable to noise barriers and that residents located at Ng Ka Tsuen and at a church adjacent to Kam Sheung Road will receive substantial to very substantial negative impacts prior to mitigation measures being undertaken.

18.3.3 Mitigation Measures

18.3.3.1 Landscape Mitigation Measures

Landscape mitigation measures are indicated at *Figure 18.3b*. Generally, the landscape mitigation measures proposed below seek to minimise potential impacts of development,

reinstate vegetation that would be lost and to blend the new development into the landscape pattern of the surrounding area, and to provide compensation in the form of environmental improvements such as road side planting to off-set the adverse effects of the scheme. Landscape mitigation measures should include:

Construction phase:

- storage and re-use of topsoil in areas impacted by the road works;
- transplantation of existing trees impacted by the road works to compensatory planting sites or off site to amenity areas identified by Government Departments; and
- all disturbed areas, including temporary works areas, site accesses and site cabins, to be made good to the satisfaction of the relevant Government Departments.

Operational Phase:

- dense tree and shrub planting on embankments to screen the route alignment and the noise barriers (note: disturbed areas and embankments should be designed to be stable and capable of supporting soft landscape works);
- roadside avenue tree and shrub planting;
- amenity tree and shrub planting to road junctions and roundabouts; and
- compensatory woodland planting to adjacent land.

A major constraint of the proposed works alignment boundary is a lack of space for landscape mitigation planting. *Figure 18.3b* indicates landscape mitigation measures within the works boundary and highlights locations where insufficient space may exist to screen barriers. To increase space in strategic locations for landscape mitigation would necessitate the gazetting of additional land, an issue which should be considered in the context of severance.

18.3.3.2 Visual Mitigation Measures

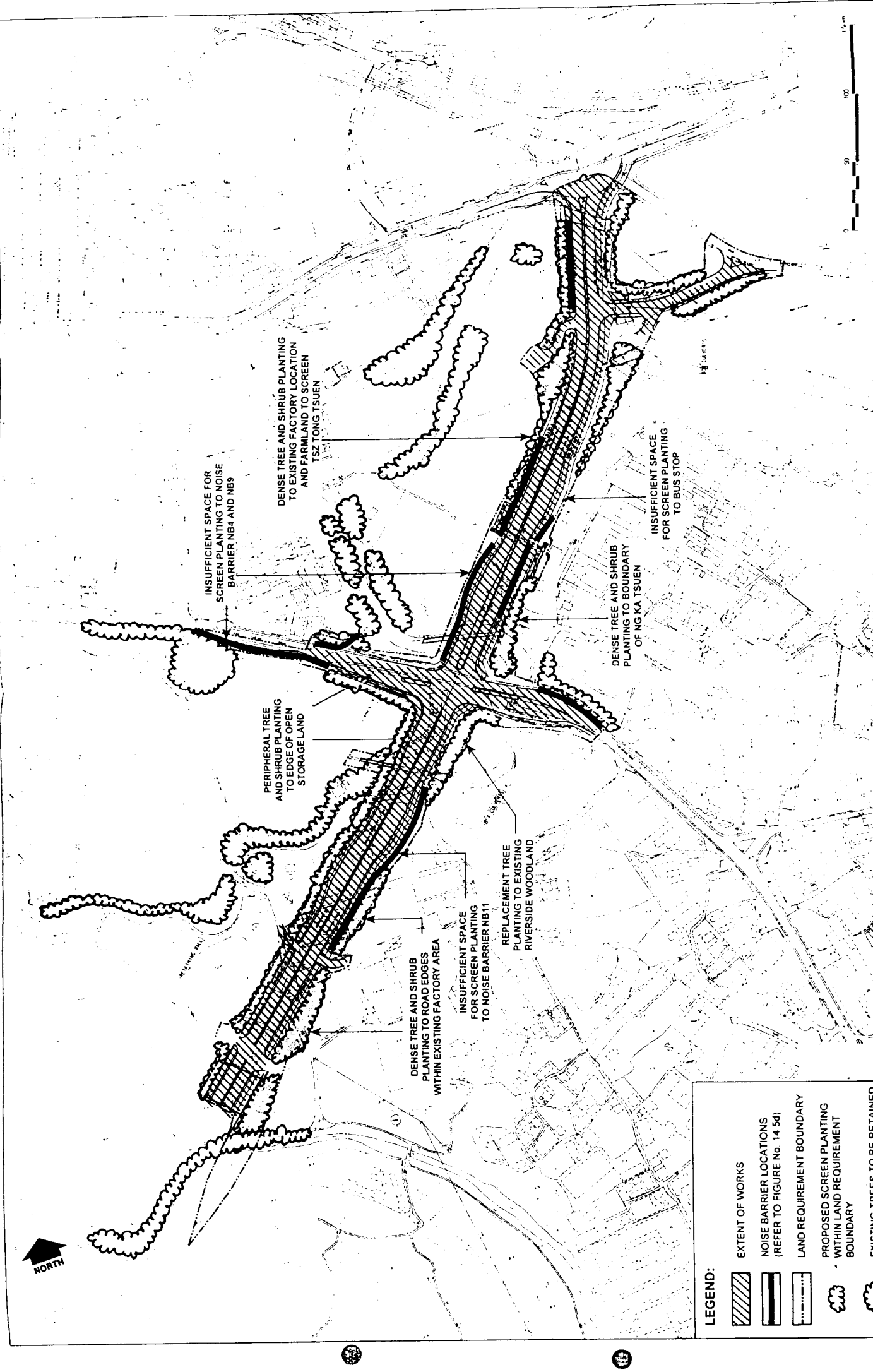
Generally, the visual mitigation measures proposed below seek to minimise potential impacts of development and to blend the new development into the landscape pattern of the surrounding area. Visual mitigation measures should include:

Construction phase:

- site hoardings to screen works areas during the construction period; consideration should be given to the design and surface treatment, particularly adjacent to pedestrian environments;
- control of lighting during night construction activity;

Operational Phase:

- dense tree and shrub planting to roadside areas



SCALE: 1:2,500
 FIGURE 18.3b
 DATE: 10/08/2011

KCRC WEST RAIL DEPOT AND STATION
 EASTERN ACCESS ROAD FOR
 WEST RAIL STATION IN KAM TIN
 LANDSCAPE MITIGATION MEASURES



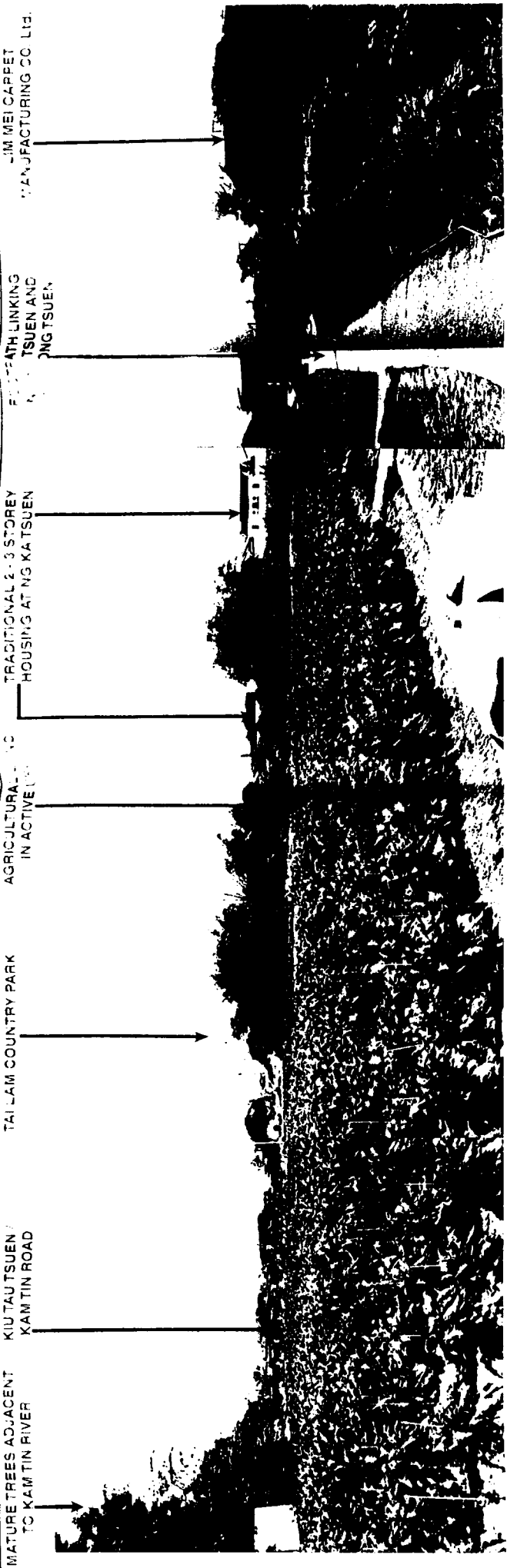
Planning, Urban Design, Landscape, Civil & Environmental Consultants
 P.O. Box 110, 11/F, 1/F, 2/F, 3/F, 4/F, 5/F, 6/F, 7/F, 8/F, 9/F, 10/F, 11/F, 12/F, 13/F, 14/F, 15/F, 16/F, 17/F, 18/F, 19/F, 20/F, 21/F, 22/F, 23/F, 24/F, 25/F, 26/F, 27/F, 28/F, 29/F, 30/F, 31/F, 32/F, 33/F, 34/F, 35/F, 36/F, 37/F, 38/F, 39/F, 40/F, 41/F, 42/F, 43/F, 44/F, 45/F, 46/F, 47/F, 48/F, 49/F, 50/F

DESIGNED BY:
 DRAWN BY:
 CHECKED BY:
 IN CHARGE:
 DATE:

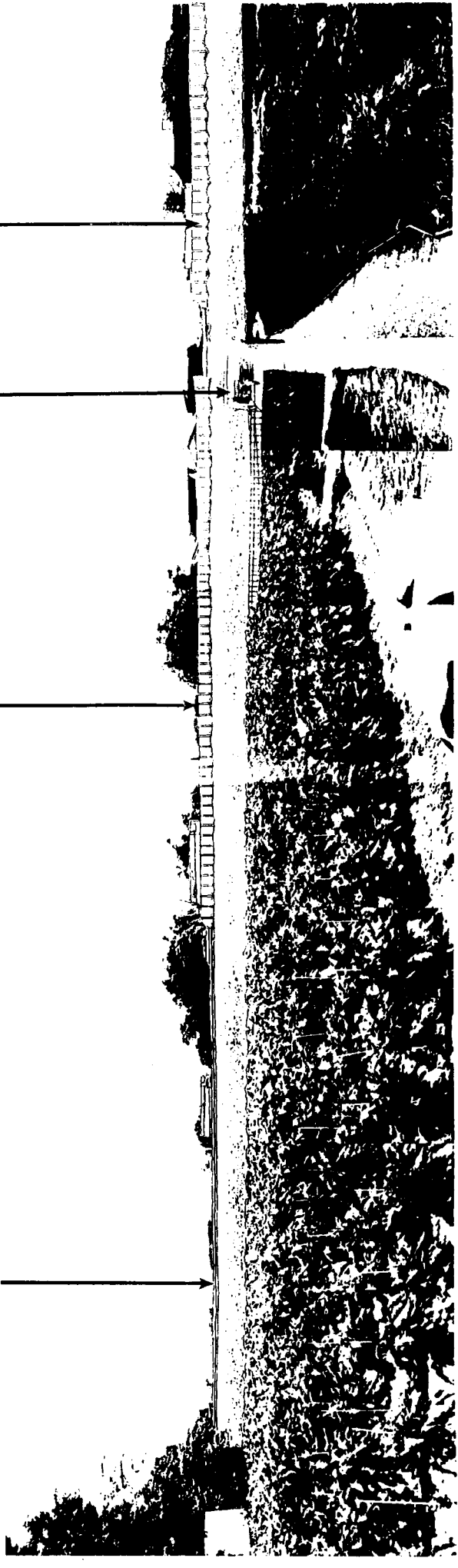
NO.	REV.	DATE	BY	CHKD	DISCIPLINE

LEGEND:

- EXTENT OF WORKS
- NOISE BARRIER LOCATIONS (REFER TO FIGURE No. 14.5d)
- LAND REQUIREMENT BOUNDARY
- PROPOSED SCREEN PLANTING WITHIN LAND REQUIREMENT BOUNDARY
- EXISTING TREES TO BE RETAINED



VIEW A - NG KA TSUEN - EXISTING BASELINE CONDITION
 EASTERN ACCESS ROAD ON EMBANKMENT
 (NOTE: THIS ARRANGEMENT IS
 GENERIC ALONG ENTIRE ALIGNMENT)



VIEW A - NG KA TSUEN - UNMITIGATED IMPACTS (DAY ONE)

NOTE: REFER TO FIGURE 18.36 FOR LANDSCAPE MITIGATION MEASURES

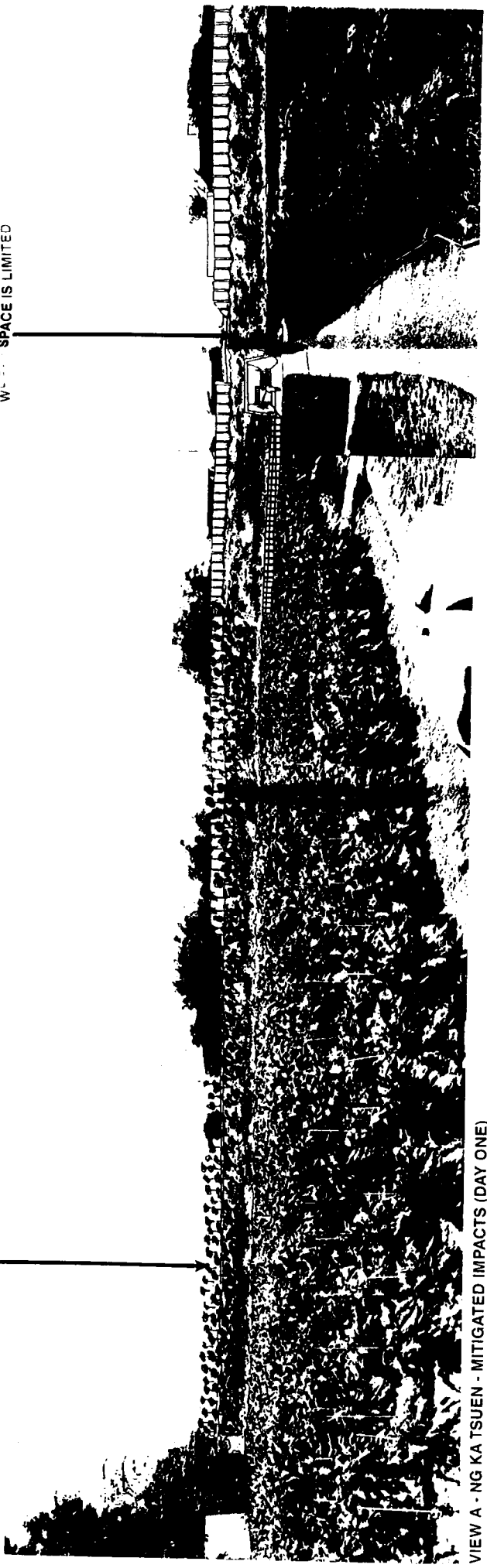
KCRC WEST RAIL DEPOT AND STATION
 EASTERN ACCESS ROAD FOR
 WEST RAIL STATION IN KAM TIN
 PHOTOMONTAGE TO INDICATE
 LANDSCAPE AND VISUAL MITIGATION
 MEASURES FOR PROPOSED ROAD

KCR 九廣鐵路 **西鐵 West Rail**

REVISION	DATE	BY	CHK	APP
1	7.9.97			

TREE PLANTING UPON EMBANKMENTS
(SIZES VARY FROM WHIPS TO STANDARDS)

SHRUB PLANTING TO EMBANKMENTS
WHERE AVAILABLE SPACE IS LIMITED



VIEW A - NG KA TSUEN - MITIGATED IMPACTS (DAY ONE)

DENSE WOODLAND SCREENING
TO VEHICULAR CARRIAGEWAYS



VIEW A - NG KA TSUEN - MITIGATED IMPACTS (YEAR TEN)

NOTE: REFER TO FIGURE 18.3b FOR LANDSCAPE MITIGATION MEASURES

KCRC WEST RAIL DEPOT AND STATION
EASTERN ACCESS ROAD FOR
WEST RAIL STATION IN KAM TIN
PHOTOMONTAGE TO INDICATE
LANDSCAPE AND VISUAL MITIGATION
MEASURES FOR PROPOSED ROAD

DATE: 29.07.2011

FIGURE 18.3d

KCR 西鐵 West Rail

29.07

- amenity roadside tree and shrub planting to screen the road alignment and associated structures (consideration should be given to planting in advance of completion of the works where possible to maximise visual mitigation on day one; other planting works should be carried out as soon as practicable after the road works are completed). *Figures 18.3c and 18.3d* show, respectively, the proposed landscape and visual mitigation measures at Ng Ka Tsuen both immediately and 10 years after their implementation;
- sensitive treatment of noise barriers to include chromatic treatment of absorptive barriers and use of clear polycarbonate panels (non-absorptive) wherever possible;
- architectural and chromatic treatment to engineered structures;
- sensitively designed noise barriers and bus shelters;
- stone cladding to retaining walls and river culverts.

It is considered that the most effective method of visual mitigation, given the rural nature of the site, would be dense tree and shrub planting to roadside areas. The Eastern Access Road would appear to allocate insufficient space for successful visual mitigation planting, both in terms of screening the development from VSRs and breaking down the linear nature of the alignment. A more irregular land take would be advantageous to allow the implementation of strategic planting that can reflect the existing woodland and field pattern. Opportunities to purchase additional land which, by virtue of its size and location, may be impractical for farming or future development, should be considered.

18.3.4 Residual Landscape and Visual Impacts

18.3.4.1 Residual Landscape Impacts

The residual impacts on landscape resources caused by the Eastern Access Road will include:

- loss of 15000 sq. metres of actively maintained agricultural land;
- loss of 7500 sq. metres of agricultural land no longer in active use;
- loss of 170 linear metres of natural stream course through the culverting of the Kam Tin River; and
- loss of 170 linear metres of mature trees adjacent to Kam Tin River and tributary.

The residual impacts on landscape character caused by the Eastern Access Road, and particularly by the noise barriers, will include:

- substantial negative impacts upon the open agricultural landscape;
- substantial negative impacts upon the rural setting of Ng Ka Tsuen; and
- moderate negative impacts upon the natural setting of the Kam Tin River through loss of natural stream course.

18.3.4.2 Residual Visual Impacts

Table 18.3a illustrates the predicted residual visual impacts on each of the VSR's before and after the mitigation measures have taken effect.

The primary sources of visual impacts are considered to be the noise barriers. Residual visual impacts upon residents located at Ng Ka Tsuen will be substantial and negative.

18.3.4.3 Summary

It is considered that the following VSRs will be most affected by the Eastern Access Road development:

- residents at Ng Ka Tsuen;
- residents at church accommodation adjacent to Kam Sheung Road;
- residents and workers at Tsz Tong Tsuen;
- residents at new estate south of Tsz Tong Tsuen
- students and teachers at St Joseph's Primary School;
- workers at industrial buildings south of Kam Sheung Road;
- motorists and pedestrians on Kam Tin Road; and
- motorists on Route 3.

The primary sources of visual impacts will be the noise barriers. It is considered that the scale and distribution of barriers will cause substantial negative impacts on the key VSRs and will cause a substantial reduction in the landscape quality of the area. Furthermore, there would appear to be an insufficient allocation of land at either side of the proposed Eastern Access Road for implementation of successful mitigation measures (i.e. tree and shrub planting).

The primary landscape impacts will be the loss of farmland located between Route 3 and Kam Tin Road. There will be some loss of mature trees adjacent to the Kam Tin River and its tributary. Whilst there is potential for mitigation measures to be undertaken in these areas there would appear to be insufficient land allocated for tree and shrub planting and there will therefore be a negative residual impact.

The Eastern Access Road and associated noise barriers will be clearly visible from VSRs using Route 3 which is elevated above the Kam Tin River basin. Visual impacts will also be experienced by VSRs using Kam Tin Road which will share a junction with the Eastern Access Road.

Visual impacts will be highest for residential VSRs within the western area of Ng Ka Tsuen, adjacent to which will be located noise barriers, and for residents at a church complex adjacent to Kam Sheung Road. There will be slight negative visual impacts to residential VSRs at Tsz Tong Tsuen and a new estate to the south. Students and teachers at St Joseph's Primary School will receive slight to very slight negative impacts from the development.

The most effective method of landscape and visual mitigation at the Eastern Access Road is considered to be dense roadside tree and shrub planting. Current proposals would seem to allocate insufficient space for effective landscape and visual mitigation which would be more effective if existing vegetation is reconnected by new planting that emulates natural landscape patterns as far as possible. However, to compensate for the limitations on land take a range of other types of landscape mitigation measures are indicated in *Figures 18.3b-d*.

As a result of this study, it is considered that the landscape and visual impacts associated with the Eastern Access Road development will be acceptable with mitigation measures as stated in Annex 10 of the Technical Memorandum on Environmental Impact Assessment Process.

18.4 Maintenance Requirements

In order to ensure that the proposed mitigation measures remain effective in mitigating the predicted landscape and visual impacts, it will be necessary to ensure that appropriate measures are put in place for their maintenance. With regard to the soft landscaping, it is envisaged that after an initial 12 month maintenance period of the planting works by the implementing Contractor, the Highways Department will either assume the long term maintenance responsibility or negotiate an agreement with another department or authority (such as the Regional Services Department). For the hard landscape elements such as planter walls and tree grilles, the Highways Department will assume the long term maintenance responsibility.

18.5 Conclusions

The primary landscape impacts will be the loss of farmland located between Route 3 and Kam Tin Road. There will be some loss of mature trees adjacent to the Kam Tin River and its tributary. Whilst there is potential for mitigation measures to be undertaken in these areas there would appear to be insufficient land allocated for tree and shrub planting and there will therefore be a negative residual impact.

The Eastern Access Road and associated noise barriers will be clearly visible from VSRs using Route 3 which is elevated above the Kam Tin River basin. Visual impacts will also be experienced by VSRs using Kam Tin Road which will share a junction with the Eastern Access Road.

Visual impacts will be highest for residential VSRs within the western area of Ng Ka Tsuen, adjacent to which will be located noise barriers, and for residents at a church complex adjacent to Kam Sheung Road. There will be slight negative visual impacts to residential VSRs at Tsz Tong Tsuen and a new estate to the south. Students and teachers at St Joseph's Primary School will receive slight to very slight negative impacts from the development.

The most effective method of landscape and visual mitigation at the Eastern Access Road is considered to be dense roadside tree and shrub planting. Current proposals would seem to allocate insufficient space for effective landscape and visual mitigation which would be more effective if existing vegetation is reconnected by new planting that emulates natural landscape

patterns as far as possible. However, to compensate for the limitations on landscape a range of other types of landscape mitigation measures are indicated in *Figures 18.3 b-d*.

As a result of this study, it is considered that the landscape and visual impacts associated with the Eastern Access Road development will be acceptable with mitigation measures as stated in Annex 10 of the Technical Memorandum on Environmental Impact Assessment Process.

Key to Table 18.3a:

Magnitude of Impact

Receptor Sensitivity

=Nil, Low, Medium or High (Positive or Negative)

=Low, Medium or High

=Nil, Very Slight, Slight, Moderate, substantial or Very substantial (Positive or Negative)

Impact Significance Thresholds

I = Industrial (including Agricultural), R = Residential, C = Commercial, C/I = Mixed Commercial/Industrial,

RI = Mixed Residential/Industrial, C/R = Mixed Commercial/Residential, OS = Open Space,

Types of Visually Sensitive Receivers (VSR's)

M = Community, T =Transport Related

(*For ease of cross-referencing between Tables and Plans, each key VSR is numbered given an Identity Number according to the foregoing categories - see column 3 of Table.)

Table 18.3a VISUAL IMPACT During OPERATION PHASE at Kam Tin

Sources of Impacts	Key Visually Sensitive Receivers (VSR's)	Type and Identity No. of VSR*	Distance Between VSR and Sources	Magnitude of Impact	Receptor Sensitivity	Impact During Construction Phase before Mitigation Measures take effect	Impact During Construction Phase after Mitigation Measures take effect	Impact During Operation Phase before Mitigation Measures take effect	Residual Impact During Operational Phase after Mitigation Measures take effect
Road area including construction, road traffic and lighting	Residents at Ng Ka Tsuen	R1	40M	High	High	Very substantial negative	Very substantial negative	Very substantial negative	Substantial negative
	Residents and workers at Tsz Tong Tsuen	R2	140M	Medium/ Low	Medium	Moderate negative	Moderate Negative	Moderate negative	Slight negative
	Residents at new estate south of Tsz Tong Tsuen	R3	140M	Medium/ Low	High	Moderate Negative	Moderate Negative	Moderate Negative	Slight Negative
	Residents at church adjacent to Kam Sheung Road	R4	10M	High	High	Substantial negative	Substantial negative	Substantial negative	Moderate negative

Landscape and Visual Impact Assessment

Sources of Impacts	Key Visually Sensitive Receivers (VSR's)	Type and Identity No. of VSR*	Distance Between VSR and Sources	Magnitude of Impact	Receptor Sensitivity	Impact During Construction Phase before Mitigation Measures take effect	Impact During Construction Phase after Mitigation Measures take effect	Impact During Operation Phase before Mitigation Measures take effect	Residual Impact During Operational Phase after Mitigation Measures take effect
	Students and teachers at St Joseph's Primary School	M1	200M	Slight	Medium	Slight negative	Slight negative	Slight negative	Very slight negative
	Motorists and pedestrians at Kam Tin Road	T1	0M	High/ Medium	Medium	Substantial negative	Substantial negative	Substantial negative	Moderate negative
	Motorists at Route 3	T2	0M	High	Medium	Substantial negative	Substantial negative	Substantial negative	Moderate negative
	Workers at industrial buildings south of Kam Sheung Road	I1	25M	Medium/ Low	Low	Moderate negative	Moderate negative	Moderate negative	Slight Negative
Noise Barriers	Residents at Ng Ka Tsuen	R1	40M	High	High	Very substantial negative	Substantial negative	Very substantial negative	Substantial negative
	Residents and workers at Tsz Tong Tsuen	R2	140M	Medium/ Low	Medium	Moderate negative	Slight negative	Moderate negative	Slight negative
	Residents at new estate south of Tsz Tong Tsuen	R3	140M	Medium/ Low	High	Moderate Negative	Slight Negative	Moderate Negative	Slight Negative
	Residents at church adjacent to Kam Sheung Road	R4	10M	High	High	Substantial negative	Moderate negative	Substantial negative	Moderate negative
	Students and teachers at St Joseph's Primary School	M1	200M	Slight	Medium	Slight negative	Very slight negative	Slight negative	Very slight negative

Landscape and Visual Impact Assessment

Sources of Impacts	Key Visually Sensitive Receivers (VSR's)	Type and Identity No. of VSR*	Distance Between VSR and Sources	Magnitude of Impact	Receptor Sensitivity	Impact During Construction Phase before Mitigation Measures take effect	Impact During Construction Phase after Mitigation Measures take effect	Impact During Operation Phase before Mitigation Measures take effect	Residual Impact During Operational Phase after Mitigation Measures take effect
	Motorists and pedestrians at Kam Tin Road	T1	0M	Medium/ Low	Medium	Moderate negative	Slight negative	Moderate negative	Slight negative
	Motorists at Route 3	T2	0M	High/ Medium	Medium	Substantial negative	Moderate negative	Substantial negative	Moderate negative
	Workers at industrial buildings south of Kam Sheung Road	I1	25M	Medium/ Low	Low	Moderate Negative	Slight Negative	Moderate Negative	Slight Negative