

Appendix 3.4 - LVIA ANNEXES

EIA Review - Landscape and Trees

(Rev.5)

EXECUTIVE SUMMARY

This Paper summarizes the findings of a Technical Review of the Landscape Impact Assessment (LIA) contained within Chapter 11 of the Environmental Impact Assessment (EIA) Report prepared under Agreement No. CE 17/2019 (CE) Technical Study on Partial Development of Fanling Golf Course Site.

The Technical Review reveals that the LIA contains numerous significant errors and omissions in the baseline survey; significant errors and omissions in the identification of sources of impact; lack of any evidentiary support for the effectiveness of the proposed mitigation measures; and numerous significant errors, omissions, and deficiencies in the assessment methodology. As a whole, the assessment fails to identify five Adverse Landscape Impacts of Substantial Significance, rendering the conclusions of the LIA invalid and unsustainable. On a correct, objective assessment, performed using proper, scientific methodology in accordance with the five criteria laid down in Annex 10 of the Environmental Impact Assessment Ordinance Technical Memorandum (EIAO TM), the landscape impacts of the proposed development must be graded 'Unacceptable'.

This Review also reveals that the EIA consultant has apparently failed to advise Civil Engineering and Development Department (CEDD) of the procedures laid down in DEVB TC(W) 5/2020 requiring submission of details of potentially registrable Old and Valuable Trees (OVTs) to the Greening, Landscape and Tree Management Section (GLTMS) and furthermore, that if the correct procedure is followed, there is high likelihood that identification of the presence in Sub-Area 1 of 70 potentially registrable OVTs effectively precludes the development of Sub-Area 1 as a public housing development, since removal of living OVTs is prohibited.

This Review also reveals that LIA does not follow correctly, nor satisfy numerous requirements of the Environmental Impact Assessment Study Brief (SB), the EIAO TM, and EIAO Guidance Note 8/2010 (EIAO GN 8/2010). Accordingly, the findings and conclusions of the LIA should be rejected and dismissed for that further and additional reason.

Major errors, omissions and deficiencies include (but are not limited to) the following:

- Failure to consider the Northern Metropolis in the Review of Planning and Development Control Framework (this fails to satisfy the requirements of the SB, EIAO TM and EIAO GN 8/2010).
- Failure to provide sufficient plans, elevations, and section drawings to convey the findings of the Landscape and Visual Impact Assessment (LVIA) to the readers to enable them to understand what is being proposed, interrogate the findings, and provide a meaningful response (this fails to satisfy the requirements of SB, EIAO TM and EIAO GN 8/2010).
- Failure to identify existing topographical features, hydrological features, topsoil, and climate, including micro-climate, as landscape resources (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010). Most critically, there is a failure to identify the important hydrological swampy habitat of the Chinese Swamp Cypress which is listed as Critically Endangered according to the IUCN Red List.
- Failure to correctly identify the sensitivity and national and international importance of LR2 'Grassland' (the oldest 18-hole golf course grassland in China and probably the oldest in Asia).

- Failure to identify the unique and historic landscape character of the 110+ years old Fanling Old Course that is unlike any other landscape in Hong Kong and Asia and which is important in the national and international context.
- Multiple factual errors in the Tree Survey (identified in a 3-day sample audit conducted in late May/early June 2022) including:
 - one very obvious, very large (917mm DBH¹) ‘Heritage Tree’ (specifically referred to in academic literature: see 2020 report by Prof. CY Jim) near the Car Park is missing;
 - 24 other smaller trees (at least) also missing from the survey in the area near the Car Park;
 - failure to identify (at least) four Trees of Particular Interest (TPIs) with DBH >1000mm; and
 - incorrect tree species identification.
- Consistent underestimation of tree quality in the Tree Survey. Of 1255 trees surveyed (including 70 TPIs identified in survey) only one tree is considered of ‘High’ amenity value, which is objectively wrong.
- Failure to follow the correct procedures under DEVB TC(W) 5/2020 ‘Registration and Preservation of Old and Valuable Trees’ for the identification of potentially registrable OVTs and submit details to GLTMS for assessment.
- Failure to identify that the presence in Sub-Area 1 of 70 potentially registrable OVTs would effectively preclude the development of Sub-Area 1 as a public housing development, since removal of living OVTs is prohibited.
- Failure to adequately describe the proposed construction methodology to explain sources and nature of impacts on landscape resources (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010).
- Failure to identify proposed Mitigation Measures OM1² & OM4 in Sub-Areas 2 and 3 as potential sources of adverse landscape impact (and adverse ecological impact) in those Sub-Areas (this fails to satisfy the requirements of the EIAO TM) and subsequent failure to assess those impacts.
- Failure to identify change in landscape management as a source of adverse landscape impact (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010).
- Basic errors in measurement of affected landscape resources (which significantly underestimate affected areas).
- Basic errors in assessments of Sensitivities of Landscape Resources and Landscape Character Areas (which significantly underestimate sensitivities).
- Basic errors in assessments of Magnitude of Change to Landscape Resources and Landscape Character Areas (which significantly underestimate magnitude).
- Failure to identify the correct Management and Maintenance Authorities for Mitigation Measures (MMs) CM1³, OM1 and OM4 which means that the effects of these MMs should be discounted from the LIA, but they are not discounted (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010).

¹ ‘Diameter at Breast Height’ measured at 1.3m above ground level in accordance with Agriculture, Fisheries and Conservation Department, Nature Conservation Practice Note No 2.

² ‘OM1’ is the industry standard acronym adopted in the EIA for ‘Operation Phase Mitigation Measure No. 1’.

³ ‘CM1’ is the industry standard acronym adopted in the EIA for ‘Construction Phase Mitigation Measure No. 1’.

- Failure to provide any evidential support for the feasibility of the tree retention and tree transplanting proposals, which appear not feasible according to industry standards (this fails to satisfy requirements of the EIAO TM and EIAO GN 8/2010).
- Failure to correctly identify Residual Adverse Impacts of Substantial Significance on LR1.2, LR2, LR8.1 and LR8.2 (which together cover ~90% of Sub-Area 1) and LCA1 (which covers 100% of Sub-Area 1).
- Failure to conclude the overall residual landscape impact of the project with reference to the five criteria in Annex 10 of the EIAO TM (this fails to satisfy the requirements of the EIAO GN 8/2010 and EIAO TM).
- Failure to refer to relevant published papers or scientific research previously undertaken at Fanling Golf Course.

In addition to the above list, numerous further errors, omissions, and deficiencies have been identified in the Review and are catalogued in a 'Checklist of Requirements for LVIA' in [Annex C](#).

In short, the LIA is replete with numerous significant errors, omissions, and deficiencies. As a result, the findings and conclusions of the LIA are objectively unsustainable – including its fundamental conclusion as to whether the environmental impact of the proposed project is acceptable. The LIA falls far short of the standards required by the EIAO GN 8/2010, the EIAO TM, and the SB, is not capable of being accepted as a valid EIA Report under the EIAO and does not provide the Advisory Council on the Environment and Director of Environmental Protection with a sound basis for a rational decision.

A. INTRODUCTION

This Paper summarizes the findings of a Technical Review of the Landscape Impact Assessment (LIA) contained within Chapter 11 of the Environmental Impact Assessment (EIA) Report prepared under Agreement No. CE 17/2019 (CE) Technical Study on Partial Development of Fanling Golf Course Site. Reference is also made where appropriate to other Chapters in the EIA which are relevant to the LIA.

EIA Chapter 11 contains the Landscape and Visual Impact Assessment (LVIA). This Paper presents findings related to the LIA only, it does not present any findings related to the Visual Impact Assessment (VIA).

The findings of the Technical Review are catalogued in [Annex C](#) "Checklist of Requirements of LVIA". The findings are summarized below with reference to the relevant section of the EIA in parentheses []. Comments are presented in a systematic manner in accordance with the order and structure of Chapter 11 of the EIA and are not presented in order of degree of significance.

B. SUMMARY OF MAIN FINDINGS

1. Planning and Development Control Framework [EIA Section 11.3]

- a. **Failure to mention Northern Metropolis and describe the implications for the study area:** The SB, EIAO TM Annex 18 and EIAO GN 8/2010 require a review of the planning and development control framework. EIAO GN 8/2010, 3.5 states *"Relevant planning/landscape guidelines as recommended in planning studies, planning briefs or planning documents relevant to the assessment area such as landscape/urban design strategies, frameworks and concepts, building height profiles, special design areas, landmarks, designated view corridors, open space networks, landscape links and landscape character types, etc. should also be studied and*

highlighted.” The Government’s plans for the Northern Metropolis were announced in the Chief Executive’s Policy Address in October 2021 (7 months before publication of the EIA) and have significant implications for the study area including the Fanling Golf Course’s potential place in, and potential contribution to, the plans. EIA Section 11.3 makes no mention of, and undertakes no review of, the Government’s plan for the Northern Metropolis, which is a significant omission with consequential adverse impact on the subsequent assessment. ***This significant failure to review and consider the major Government plan for the study area fails to satisfy the requirements of EIAO GN 8/2010, the EIAO TM and SB.***

2. The Proposed Public Housing Development [EIA Section 11.4]

- a. **Inadequate information on Proposed Public Housing Development (PHD):** EIAO TM Annex 18, 9.1 states that *“To illustrate the landscape and visual impacts of the project, as well as the effects of the mitigation measures, choice of appropriate presentation methods is important. These methods include perspective drawings, plans and section/elevation diagrams, photographs on scaled physical models, photo-retouching and photomontage. These methods shall be used extensively to facilitate communication among the concerned parties.”* Furthermore, EIAO GN 8/2010, cl.2.7 states that *“... plans, elevations and section drawings should be extensively used to convey the findings of LVIA to the readers...”*. In the present case, the only layout plans provided in the LVIA are Figure 11.11 “Conceptual Landscape and Mitigation Plan (Sub-Area 1)” and Figure 11.12 “Notional Layout Plan of Proposed Housing Development”, both at 1:2000 scale. The only section drawing is Figure 11.14.1 “Proposed Housing Development – Section Plan”. No elevations are provided. The information portrayed in these three figures is very rudimentary and wholly insufficient for concerned parties to be able to analyse and interrogate the findings of the LVIA, including the practicality of proposed retention of trees within Sub-Area 1, and to provide a meaningful response. ***In this respect the LVIA fails to satisfy the requirements of the EIAO GN 8/2010 and EIAO TM.***
- b. **EIA Consultant has had adequate time to prepare and present information and evidence to support their proposals, yet such evidence is consistently lacking from the LIA:** The EIA commenced in September 2019 and the Final EIA report was issued in May 2022. The EIA consultant has thus had 2.5 years to prepare the LIA which is ample time to undertake accurate detailed site surveys, identify development options, identify the potential sources of impacts, predict the adverse impacts and prepare and present detailed proposals to mitigate those impacts. Yet, as identified several times throughout this Review, there is inadequate information on the proposed housing development, significant errors and omissions in the baseline survey information, no detailed critical analysis of potential impacts of alternative construction options, and no evidentiary support for the practicality of the proposed landscape mitigation measures.

3. Landscape Baseline Conditions [EIA Section 11.6]

a. Landscape Resources [11.6.1]

- i. **Topography not identified as a resource:** EIAO TM Annex 18, 4.1(1) requires that the baseline study shall at least cover *“physical aspects such as geology, landform, drainage, soil, climate, including micro-climate;”*. Furthermore, EIAO GN 8/2010, 3.4(e) requires that *“Besides vegetation, other landscape resources such as topographical or geological features, reservoirs, streams and other water bodies, etc.*

should be investigated as part of the baseline study.” The Potential Development Area (PDA) (including Sub-Area 1) is not flat but contains significant topographical undulations and elevation changes that are a fundamental and critical component of the landscape character and which contribute to its beauty. Yet the LIA fails to identify any topographical features as landscape resources and consequently fails to address any potential adverse impacts upon them and, if these are capable of mitigation (which is not considered), what mitigation measures would be necessary. ***This fails to satisfy the requirements of EIAO GN 8/2010 and the EIAO TM.***

- ii. **Hydrology features not identified as a resource:** The PDA (including Sub-Area 1) contains significant water features including streams, ponds, and an area of low-lying swampy ground in Sub-Area 4 that is critical to the survival of the community of Chinese Swamp Cypress (*Glyptostrobus pensilis*) (listed as Critically Endangered on the IUCN Red List) located there. As identified in *item 3a(i)* above, EIAO TM Annex 18, 4.1(1) and EIAO GN 8/2010, 3.4(e) require that drainage and hydrology features shall be investigated in the baseline study, yet the LIA fails to identify the existing hydrology features as landscape resources and consequently fails to address any potential adverse impacts upon them and, if these are capable of mitigation (which is not considered), what mitigation measures would be necessary, with consequential failure to identify and address the potential risk to the critically endangered Chinese Swamp Cypress. ***This fails to satisfy the requirements of EIAO GN 8/2010 and the EIAO TM. Given the global importance of the community of Chinese Swamp Cypress trees, this is a very significant omission with serious consequential implications due to lack of any consideration of the risk to these critically endangered species.***
- iii. **Topsoil not identified as a resource:** As identified in *item 3a(i)* above, EIAO TM Annex 18, 4.1(1) requires that soil is covered in the baseline study. EIAO TM Annex 3 also identifies that negative effects on the quality and quantity of soil shall be considered. Furthermore, EIAO GN 8/2010, 2.6, requires the LVIA to be consistent with other impact assessments covered by the same EIA report “... e.g. in respect of potential loss of topsoil, ...”. The PDA contains a large volume of topsoil which exists in varying depths according to location. Although no study has been undertaken to ascertain soil depths, it is reasonable to expect that the valley areas in the golf course will contain relatively deeper topsoil when compared with average soil depths found elsewhere in Hong Kong. Topsoil is a vital landscape resource that has been identified in numerous studies⁴ as an important carbon sink that sequesters as much, if not more, carbon than the vegetation which it sustains. This is an important consideration in light of Government’s pledge to attain carbon neutrality by 2050 in the Climate Action Plan 2050. Yet the LIA fails to identify the existing topsoil as a landscape resource and consequently fails to address any potential adverse impacts upon it, whether mitigation is feasible and if so, what the necessary mitigation measures would be to protect and preserve it. ***This fails to satisfy the requirements of EIAO GN 8/2010 and the EIAO TM.***

⁴ For example, see numerous studies referenced in Ohlson K. ‘The Soil Will Save Us.’ *Rodale*. 2014. ISBN: 978-1-60961-554-3.

- iv. **Climate / Micro-climate not identified as a resource:** As identified in *item 3a(i)* above, EIAO TM Annex 18, 4.1(1) requires that climate, including microclimate, is covered in the baseline study. The PDA is large enough to influence the regional micro-climate within the North District and the Northern Metropolis (the EIA also fails to mention the Northern Metropolis, as mentioned in *item 2a*). A 2017 scientific study by Charmaine K F Fung and Prof. C Y Jim⁵ recorded that the Fanling Golf Course has the effect of lowering the local ambient temperature by up to 2.97°C. The same study undertook a Physiological Equivalent Temperature (PET) analysis and identified that the heat stress of a walking person is lowered from 'extreme' to 'moderate' because of the cooling effect of the vegetation. Yet the LIA fails to identify the PDA's effect on micro-climate (within either North District or Northern Metropolis) as a landscape resource and consequently fails to address any potential adverse impacts on climate caused by changes to the landscape within the PDA, and any potential mitigation measures. *This fails to satisfy the requirements of the EIAO TM and the LIA also fails to reference this important relevant scientific research undertaken at Fanling Golf Course.*
- v. **LR2 "Grassland":** There are three fundamental errors and one critical omission in the description and assessment of LR2, namely:
- It should be more accurately described as "Golf Course Recreational Grassland". As such it is very rare in Hong Kong and its ability to accommodate change is 'Low' (not 'High' as stated table 11.4) since any change (other than golf-related change) would render it useless for its purpose as a recreational golf course grassland.
 - Its maturity is not "Young". This is wrong. The grassland has been tended as a golf course and used for golf for over 110 years. It is "Mature" recreational grassland. The integrated relationship with the adjacent secondary woodland is also very important as the roots of the woodland trees have been able to extend uninhibited out into the soil under the grassland for the last century to enhance the health of the woodland, which is unique in the context of Hong Kong lowland woodlands. Furthermore, due to the 110+ years existence of the grassland it is expected that the mycorrhizal community in the soil under the grassland is very mature and complex.
 - Regional Importance is described as 'Medium'. This is wrong and it should instead be described as 'High' since this is the oldest continuously maintained 18-hole golf course grassland in China and probably the oldest in Asia and it thus may be considered not only to have 'High' local and regional importance but also to have **'High' national and international importance**.
 - An important property of the grassland which is omitted entirely from the description is recognition that it is not 'standalone' grassland, but rather a significant component part of a larger whole – namely the first 8 holes of the 18-hole 'Old Course'. These 8 holes of grassland cannot be considered in

⁵ Jim CY and Fung KW. 'Assessing the cooling effects of different vegetation settings in a Hong Kong golf course.' *Elsevier Procedia Environmental Sciences*. 2017.

isolation from the other 10 holes of the golf course, in the same way that one half of a grass football pitch cannot be considered in isolation from the other half. This property of the recreational grassland has critical implications for the impact assessment, yet it is omitted entirely from the resource description and from the subsequent impact assessment in the remainder of Chapter 11.

These errors and omission lead to consequential failure to properly address the true significance of the impacts upon LR2 in the later sections of the LIA.

vi. **LR8.2 “Car Park in Golf Course”:** There are three fundamental errors in the description and assessment of LR8.2, namely:

- It is described as having ‘Medium Importance’. This is wrong. According to the tree survey plans, it contains 7 ‘Trees of Particular Importance’ (TPIs) which (as explained in *item 3c(vi)* below) are potentially registrable as Old and Valuable Trees (OVTs). 5 of these 7 trees are TPIs due to their very large size. In DEVB TC(W) 5/2020 ‘Registration and Preservation of Old and Valuable Trees’, paragraph 21 states that removal of living OVTs is prohibited (see *item 3c(vi)* below). The presence of these 7 TPIs means that LR8.2 should be described as having ‘High Importance’.
- The ‘Local and Regional Significance’ are both described as ‘Medium’. This is wrong. Since LR8.2 contains 7 potentially registrable OVTs, 5 of which are due to their size, and since the whole North District contains only 53 OVTs, the correct ‘Local and Regional Significance’ must objectively both be considered ‘High’
- The Sensitivity is described as ‘Medium’. This is wrong. Since there are 7 potentially registrable OVTs and since removal of living OVTs is prohibited, the ‘Sensitivity’ must objectively be considered ‘High’.

b. Landscape Character Areas (LCAs) [11.6.2]

i. **Inaccurate description of Landscape Character Area LCA-1:** In Table 11.4, ‘LCA1 Golf Course Landscape’ is classified as ‘High’ sensitivity, which is appropriate and correct, however the following inaccuracies exist in the description:

- Maturity is described as ‘Semi-mature - Mature’. This is wrong and it should be described as ‘Mature’ since the landscape of the Old Course has been managed consistently as a golf course for over 110 years and contains a disproportionately (in the Hong Kong context) large number of TPIs - 449 according to the LIA, although this is an underestimate as explained later. It is not ‘Semi-mature’.
- Regional Importance is described as ‘Medium’. This is wrong and it should instead be described as ‘High’ since this is the oldest continuously maintained golf course landscape in China and probably the oldest in Asia and it thus may be considered not only to have ‘High’ local and regional importance but also to have ‘High’ national and international importance.

ii. **Incomplete description of Landscape Character Area LCA-1:** There are three critical omissions in the description of LCA1 as follows:

- **Fanling Golf Course landscape character is unique in Hong Kong.** The description in Table 11.4 mentions it is 'Rare' which implies that there are other examples of this landscape character in Hong Kong, but this is wrong. Other golf courses in Hong Kong (Shek O, Discovery Bay, Clearwater Bay, Kau Sai Chau) are carved out of coastal, mountainous terrain and possess a totally different landscape character to Fanling Golf Course which is an inland golf course winding through undulating terrain in mature lowland secondary woodland. Fanling is not 'Rare', it is '**Unique**' – one of a kind and irreplaceable. *This very important fact has been omitted and not considered in the EIA. The protection and preservation of unique environmental resources is one of the prime purposes of the EIAO and the EIA fails to address this.*
- **Fanling Golf Course is an important cultural and historic landscape in the national context.** EIAO TM, Annex 18, 4.1(2) states that the baseline study shall at least cover the following aspects: "(2) human aspects such as cultural features, landscape history, buildings and settlements, people affected and their perception of the landscape character;". Fanling Golf Course is the oldest golf course in China (by a long way) and probably the oldest in Asia and has played an important role in the cultural history of Hong Kong and in international sporting competitions held in Hong Kong including the Hong Kong Open and the Olympics. The Hong Kong Open is an annual international golf tournament co-sanctioned by the European Tour and the Asian Tour that has been held at Fanling since 1959, making the Hong Kong Golf Club one of only three golf clubs worldwide which have hosted a championship event at the same venue for more than 50 years. Only 'The Masters' held annually at Augusta National in Georgia, U.S.A. has been held at the same venue for a longer period. Fanling Old Course has been managed and maintained continuously for over 110 years and may reasonably and objectively be considered the oldest and most beautiful large-scale man-made landscape in all Hong Kong. **Fanling Golf Course is indisputably an important cultural and historic landscape.** *This very important fact has been omitted and not considered in the EIA. The protection and preservation of important cultural and historic landscapes should be properly considered under the EIAO and in failing to do so the LIA is in breach of the requirements of the EIAO TM.*
- **Unique Legacy Effect of the combined Human and Physical Geography of Fanling Golf Course:** The combination of the unique physical landscape character and human cultural history of the Fanling Golf course creates an important legacy effect that is unique in Hong Kong, and which can inform the industry in the national context. This legacy effect has been addressed in a 2016 scientific paper by Prof. CY Jim⁶. It is worth quoting an extract from the conclusion of the paper: *"This study attempts to unravel the composition and diversity of mature tree communities in the old Hong Kong Golf Club and*

⁶ Jim CY, Chen WY. 'Legacy effect of trees in the heritage landscape of a peri-urban golf course.' *Urban Ecosystems*. 2016:1-18

explore the anthropogenic and natural legacy effects in response to preserving existing trees in conjunction with initial mass-planting. Over a century of continual conservation and greening efforts have bequeathed an appreciable mature tree legacy. A significant record of 94 tree species from 35 families has been inherited or planted, bringing tree-species richness that exceeds local secondary and climax fengshui woodlands. Comparing with Hong Kong's mainly relatively young vegetation with low biomass and diversity due to massive destruction during the Second World War (Jim 1986; Corlett 2011), the abundance of large mature trees in the golf courses denotes an unusual and fortuitous legacy. It presents a valuable inherited landscape and ecological asset which accommodates a precious repository of rare and protected species with notable ecological value. The arboreal endowment contrasts with the conventional perception that golf-course biodiversity tends to be simple and impoverished (Johnson and Collins 2001; Soini and Aakkula 2007; Briassoulis 2010)." and *"The exemplary case of the historical golf course in Hong Kong could inform naturalistic-ecological management in China where the relatively young golf industry is booming at an unprecedented pace (Ling and Shu 2009; Zuo et al. 2009), earnestly calling for timely containment of environmental impacts and enhancement of ecological contributions (Baris et al. 2010)."* *The LIA fails to reference this important relevant scientific research undertaken on the environmental, ecological, and cultural importance of the Fanling Golf Course and fails to take account of the findings of the paper in the assessment.*

- iii. **Inconsistent Internal Data Cross-Reference:** Although the sensitivity for LCA1 is classified as 'High' in Table 11.4, the sensitivity of LCA1 carried forward to Table 11.11 "Significance Threshold for LR & LCA" is 'Medium' not 'High'. This careless mistake renders the subsequent assessment in Table 11.11 to be erroneous and contributes to the residual impact ("Moderate") being understated.

c. Tree Survey

- i. **"FGC" not invited to Comment on Tree Report:** The Tree Schedule has two columns identifying the "Maintenance Department to provide comments to this Tree Survey Report" – "Before" and "After". "FGC" (it should correctly be "Hong Kong Golf Club") is identified as the Maintenance Department to give comment "Before" however *Hong Kong Golf Club has not been consulted on the Tree Survey Report nor invited to comment on it.*
- ii. **Factual Errors in Tree Survey:** In the limited period available for public comment, we are unable to undertake a full cross-check of the entire tree survey of 1255 trees in Sub-Area 1, however a sample / audit-based check undertaken over 3 days in late May / early June 2022 has revealed numerous serious errors, which cast serious doubt over the accuracy and robustness of the Tree Survey as a whole:
- One very obvious and very large existing tree (*Delonix regia* – girth 917mm) located near trees T36 and T37 is totally missing from the survey plans⁷. This

⁷ See Annex A - Errors in Tree Survey identified during sample audit in Late May and Early June 2022

tree was identified as a **Heritage Tree** in the 2020 study⁸ undertaken by Prof. C Y Jim *et al.* It is very surprising that such a huge and important tree should be entirely missing from a thorough and competently performed Tree Survey.

- Furthermore, 24 other smaller trees in the general vicinity of the Heritage Tree are also entirely missing from the Tree Survey⁹.
- There is inconsistency in the LIA in the reporting of the number of Trees of Particular Interest (TPIs) found in the PDA:
 - There are **449** TPIs reported within LCA1 in Table 11.5 under Section 11.6.2.
 - There are **459** TPIs tabulated in the TPIs Tree Schedule in Appendix 11.2.
 - There are **70** TPIs reported within Sub-Area 1 in Section 11.6.3.3 and **395** TPIs reported in Section 11.6.3.7 within Sub-Area 2-4 – added together that is **465** TPIs.
 - There are **465** TPIs when added together in Table 11.10 under Section 11.10 of the LVIA.
 - In the remainder of this Review, we proceed on the basis of the **459 TPIs** tabulated in the TPI Tree Schedule in Appendix 11.2 (although this may not be a correct number given the errors and inconsistencies identified).
- Four trees (T1712, T1718, T1730 and T1952) in the Tree Survey identified as having DBH¹⁰ less than 1000mm have been found in the sample audit to possess DBH equal to or greater than 1000mm meaning that they should be classed as TPIs.¹¹ Three of these trees are in Sub-Area 1 and the fourth is in the 'Adjacent Area to PDA'.
- It is probable that there are many more missing trees and more inaccuracies in tree measurements that we have unable to identify/check in the short period of time available.
- The errors described in the above bullet points increase the number of TPIs in Sub-Area 1 and adjacent area from 70 to 74, and the large size TPIs from 24 to 28 (17% increase). It also increases the number of TPIs proposed to be felled from 11 to 15 (36% increase).
- We note in general that all recorded DBH measurements are round numbers (e.g., 900mm, 920mm, 950mm etc.). This fact, together with the aforementioned factual errors in tree DBH measurement (with differences of between 160mm to 265mm from the values recorded in the Tree Survey), suggests that the DBH dimensions may have been 'eyeballed' by the surveyor, and that they have probably not been properly measured with callipers or tape in accordance with the guidelines in the Agriculture, Fisheries and Conservation

⁸ Jim CY, Cheung PK, Leung YY. 'Evaluation and Valuation of Heritage Trees in the HKGC Fanling Site; Old Course' 2020.

⁹ See Annex A - Errors in Tree Survey identified during sample audit in Late May and Early June 2022

¹⁰ 'Diameter at Breast Height' measured at 1.3m above ground level in accordance with Agriculture, Fisheries and Conservation Department, Nature Conservation Practice Note No 2.

¹¹ See Annex A - Errors in Tree Survey identified during sample audit in Late May and Early June 2022

Department Nature Conservation Practice Note No 2, as is required under DEVB TC(W) 4/2020.

- The species of T1351 (a very large tree with diameter 900mm in the Tree Survey) is wrongly identified as *Acacia confusa* when it is actually *Acacia auriculaeformis*.

While a full testing of the Tree Survey has not been possible within the limited time available for comment, a sample / audit-based check of the Tree Survey, conducted over 3 days in late May / early June 2022, revealed numerous errors as to the number, size, age, species, and importance of the trees surveyed. The number, importance, and statistical significance of the errors identified in the sample audit are of such a scale that we consider it is not reasonably possible to place any confident reliance on the Tree Survey as a whole, nor on the conclusions in the EIA Report that rest on the Tree Survey.

- iii. **Consistent underestimation of ‘Amenity Value’ of Trees:** In accordance with DEVB TC(W) 4/2020, Appendix C(i) *“The ‘Amenity Value’ of a tree should be assessed by its functional values for shade, seasonal interest, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories – High, Medium and Low”*. Of the 1,255 trees, including 70 TPIs, in the Tree Survey for Sub-Area 1, only one tree is identified as having ‘High’ Amenity Value. As a matter of methodology, there is a degree or margin of subjectivity in the assessment of ‘Amenity Value’ and accordingly in borderline cases different tree surveyors may assess trees slightly differently. In this case, however, having performed a sample audit of some of the large TPIs in the survey, URBIS Limited Certified Arborists do not agree with many of the assessments in the Tree Survey and consider them to be incapable of professional justification. On an objective assessment, many more trees (not only TPIs) should properly be recorded as possessing a ‘High’ amenity value in accordance with DEVB TC(W) 4/2020, Appendix C(i). Aside from the professional assessments of the URBIS Limited Certified Arborists, and purely on the basis that the criteria for determining TPIs are specific, objective, promulgated by Government, and widely accepted and adopted, the fact that only one of the 70 TPIs (now at least 74 TPIs after known errors are corrected) is considered to possess ‘High’ amenity value strongly suggests that there is consistent underestimation of “Amenity Value” in the Tree Survey. Also, we can find no statement to confirm that the Tree Survey was undertaken by a Certified Arborist. *These findings further lower confidence in the objectivity and competence of the Tree Survey.*
- iv. **Statement on ‘No OVTs...’ is incorrect:** The statement in paragraph 11.6.3.11 of the EIA Report that *“No registered ‘Old and Valuable Trees’ (OVT) were recorded during the Tree Survey”* is incorrect, since examination of the Register of OVTs reveals that OVT number LCSD N/40 is located on Fan Kam Road, almost dead centre in the 500m Landscape Assessment Study Area. Irrespective of whether OVT no. LCSD N/40 falls within the precise boundary of the “Tree Survey”, its presence should be recorded in the Baseline Survey, but it is not.
- v. **Statement on ‘No OVTs...’ is misleading:** The statement in paragraph 11.6.3.11 that *“No registered ‘Old and Valuable Trees’ (OVT) were recorded during the Tree Survey”*

is also misleading because it implies to a lay reader unfamiliar with the OVT registration process that there are no trees in the PDA worthy of registration as OVTs, the presence of which would be considered adverse to the development of a housing project. In fact, the reason why there are no registered OVTs in Fanling Golf Course is simply because, in accordance with DEVB TC(W) 5/2020 'Registration and Preservation of Old and Valuable Trees', only trees located on unleased Government land can be registered as OVTs and thus no trees within Hong Kong Golf Club are currently eligible for registration for that reason alone. (OVT LCSD N/40 on Fan Kam Road is slightly outside the FGC boundary.) However, if the Government does not renew HKGC's lease for the PDA and resumes the PDA then all 459 TPIs identified in the Tree Survey (plus the four additional TPIs identified in *item 3c(ii)* above which raises the total to at least 463 TPIs) immediately become eligible for potential registration as OVTs under DEVB TC(W) 5/2020, since the criteria for TPIs and OVTs is essentially identical¹². The LIA fails to mention this fact. *These 463 TPIs, if registered as OVTs, would more than double the total number of OVTs in Hong Kong (the current total in all Hong Kong is 459 OVTs). This serves to further emphasize the very valuable assets represented by the unique and historic landscape resources and landscape character of the PDA, which are consistently undervalued in the LIA.*

- vi. **Failure to follow requirements of DEVB TC(W) 5/2020 and consequent failure to identify that the presence of 70 potentially registrable OVTs in Sub-Area 1 may preclude the development of Sub-Area 1 as a Public Housing Development:** DEVB TC(W) 5/2020 'Registration and Preservation of Old and Valuable Trees' paragraph 2 states "OVTs should be given priority protection. Requirements are also stipulated in the Circular for preservation and maintenance of OVTs at different stages of government projects...". Furthermore, paragraph 6 states "It is Government policy to provide priority protection to the OVTs in the Register." Furthermore, paragraph 11 states that "For public works projects requiring tree surveys to be carried out, the responsible project departments should assist to identify potentially registrable trees in the surveys and submit relevant details to the GLTMS for assessment using the nomination form at Appendix C.". Furthermore, paragraph 20 describes what shall be done in the event of the death of an OVT and paragraph 21 states: "Except under the situation as stated in paragraph 20 above, removal of OVTs is prohibited." **Thus, removal of living OVTs is prohibited.** Based on the above it appears that *the EIA Consultant has apparently failed to advise Civil Engineering and Development Department (CEDD) of the procedures laid down in DEVB TC(W) 5/2020 requiring identification of potentially registrable OVTs and submission of details to GLTMS for assessment. Furthermore, it appears that if the procedure is followed correctly, there is a high likelihood that the presence in Sub-Area 1 of 70 potentially registrable OVTs effectively precludes the development of Sub-Area 1 as a public housing development, since removal of living OVTs is prohibited.*

¹² There are some very minor semantic differences that would have no substantive effect on the number of trees identified in the PDA as TPIs or as potentially registrable OVTs.

4. Potential Sources of Impacts [EIA Section 11.8]

a. Construction Phase

- i. **Absence of presentation of construction methodology to explain sources of impacts.**

Table 11.7 lists “C2 – Site Formation Works and Excavation Works” as a potential source of impact, however there is no elaboration of the construction methodologies to be adopted, rendering it impossible to carry out any reasonable or proper assessment of the potential impacts on the existing landscape resources in Sub-Area 1, especially upon the trees. No evidence is presented to explain how it is possible to retain so many trees as proposed in the EIA. The assumptions about tree retention cannot be considered credible based on the information presented. In Section 2 of the EIA, Table 2.4 presents a “Comparison of Benefits and Disbenefits between different Construction Methods for Construction Methods in the Housing Site”. Three methods are compared, namely “L-Shaped retaining wall”, “Piled Retaining Wall” and “Cut Slope”. The first row in the table supposedly compares the ‘Landscape Impact’ of each method, however the assessments under each method are both inadequate and incorrect. The assessments are inadequate because the descriptions under each method fail to describe or analyse potential impacts on existing landscape, especially topography and trees, due to impacts on landform, tree roots and canopies associated with the three different construction methods. Instead, the comments refer only to ‘temporary works’ (without any explanation of what these are), and landscape finishes such as ‘vertical greening’ (presumably of walls) and ‘hydroseeding’ (presumably of cut slopes). This supposed assessment of ‘Landscape Impact’ in this table thus presents no actual assessment of landscape impact on existing resources, which is the prime purpose of the exercise. The table is also incorrect (and therefore misleading for consequent project design) because “Cut Slopes” and “Piled Retaining Wall” are given equal rating as “Less”, however the impact of a cut slope on a topographic landform or group of existing trees (e.g. located on higher ground than the proposed formation levels as is the case in Sub-Area 1) is potentially far greater than the impact of a piled retaining wall which is far more likely to enable greater retention of natural topography and trees. Finally, despite the different impacts of the different methods in this table, there is no elaboration anywhere in the LIA on which of these three method(s) will be adopted in the proposed development and thus no substantive evidence is presented to support the proposed tree retention. *In the absence of any substantive analysis and evidential support, the tree retention proposals are defective, not capable of rational acceptance, and fail to satisfy the requirements of the EIAO TM or the SB.*

b. Operation Phase

- i. **Failure to identify some proposed mitigation measures as potential sources of adverse impact:** EIA Table 11.7 fails to identify that some proposed landscape mitigation measures will also be sources of substantial adverse landscape impact. (They will also cause significant adverse ecological impact, as described in the separate “EIA Review – Ecology”.) The proposed landscape treatment in Sub-Area 2,

Sub-Area 3 and Sub-Area 4 [Table 11.10, OM1¹³] and proposed compensatory tree planting in Sub-Area 2 and Sub-Area 3 [Table 11.10, OM4] will have substantial adverse impacts on the unique and historic golf course grassland (Landscape Resource LR2) and unique and historic Landscape Character (Landscape Character Area LCA1) that are described above in *items 3a(ii) and 3b(ii)*. This is further elaborated and explained in *item 6i* below. Failure to identify and assess adverse impacts of proposed mitigation measures is in breach of the EIAO TM, Annex 20, 6.8 & 6.9 which state: “6.8. Have any adverse environmental effects of mitigation measures been investigated and described? 6.9. Has the potential for conflict between the benefits of mitigating measures and their adverse impacts been considered?” **The failure to identify MMs OM1 and OM4 as potential sources of impact means that associated substantial adverse landscape impacts are not addressed in the LIA. This fails to satisfy the requirements of the EIAO TM.**

- ii. **Failure to identify Change in Landscape Management as a source of impact:** Table 11.7 fails to list the change in landscape management as a source of landscape impact during the Operation Phase. In fact, the change in landscape management from golf course management to some other kind of management which is not defined in the LIA (see comments on Mitigation Measures in item 5 below) will have a huge impact on the landscape resources (golf course recreational grassland) and landscape character in Sub-Areas 2, 3 and 4 (i.e., the areas incorrectly identified in the PDA as being supposedly unaffected by the proposed development). **The landscape character of all Sub-Areas in the PDA is inextricably linked to the continuous management and stewardship of the PDA as a golf course for the last 110 years.** Removing that management and stewardship of the land will inevitably change and remove the existing unique quality (as described above in *item 3b(ii)*) of the historic golf course landscape character. **The LIA notably fails to identify and assess this significant impact. Note also that this impact is independent of, and in addition to, the impacts associated with the compensatory planting identified in *item 4b(i)* above.**
- iii. **Operation of the Proposed Housing Development, PTI, car park & associated facilities:** Table 11.7 correctly lists the Operation of the Proposed Housing Development etc. as a source of impact but notably fails to discuss or present any analysis of those impacts. In fact, even if the 11 TPis proposed to be retained in Sub-Area 1 can survive the shock of the cutting back of their root zone (which is not discussed or proven in the EIA, and which is highly doubtful for the reasons explained in *items 6e and 6f*), the drastic change in the environmental conditions surrounding the trees will have a continuous ongoing substantial adverse impact on their health, significantly increasing the chance of rapid demise. These drastic changes include the severe shading caused by 37-storey and 48-storey tower blocks, the increase in temperature due to urban heat island effect caused by the extremely dense development, the dramatic change in air flow caused by the tall buildings, the removal of shelter/protection that was previously afforded by adjacent trees that have been

¹³ ‘OM1’ is the industry standard acronym adopted in the EIA for ‘Operation Phase Mitigation Measure No. 1’

felled, and the lowered water table due to the site formation and very deep building foundations. *This omission further undermines the practicality of the proposed retention of the 11 TPIs, for which no evidentiary support is provided, and the success of which is highly doubtful based on arboriculture knowledge and current industry standards, and which accordingly should be discounted in the LIA.*

5. Landscape & Visual Impact before Mitigation [EIA Section 11.9]

- a. **Incorrect measurement of areas of affected landscape resources (LR1.2 and LR1.2):** A cross-check of the text and figures enclosed within the LIA reveals two basic errors in the measurement of the affected areas of Landscape Resources LR1.1 and LR1.2 mapped on Figure 11.2. Firstly, para. 11.9.1.2 states, for LR1.1, ‘Total area affected is approximately 0.13ha’ whereas 0.15ha is measured from EIA Figure 11.2. Secondly, para 11.9.1.3 states, for LR1.2, ‘Approximately 8% (2.82ha) will be lost due to site formation and construction of the proposed public housing development and infrastructure works’ whereas 3.09ha is measured from EIA Figure 11.2.
- b. **Failure to measure grassland (LR2) affected by proposed mitigation measures:** The measurement of the area of grassland affected by the development fails to take into consideration the fact that 996 compensatory trees would be planted in the grassland of Sub-Area 3, effectively removing most of that grassland. This is a very significant error. Furthermore, in EIA Section 9 - Ecological Impact Assessment, 5.1 hectares of woodland compensation is proposed in Sub-Area 2 and Sub-Area 3. The actual area of grassland lost would thus be 9.1 ha, not 4.1 ha – i.e., more than double the impact recognised and accounted for in the EIA.
- c. **Incorrect Assessment of Magnitude of Change:** Table 11.8 “Magnitude of Change for Landscape Resources and Landscape Character Area” presents the assessment of the magnitude of change to the LRs and LCAs and there are several incorrect assessments as follows:
 - i. **LR1.2 “Secondary Woodland in Golf Course”.** In Table 11.8, the ‘Scale of LR/LCA Affected’ of LR1.2 is described as “Small”. This is wrong. The LIA identifies that 2.82ha of LR1.2 will be lost due to the development (this should be 3.09ha as described above in *item 5a*). Furthermore, the tree survey identifies 996 trees that will be removed, most of which are from LR1.2. (The number will be greater than this as the Tree Survey has omitted numerous trees as identified above in *item 3c(ii)*). Furthermore, Table 11.4 identifies that 18 TPIs and 9 plants with conservation importance in LR1.2 will be affected. The combined loss of this area of lowland secondary woodland and these numbers of TPIs and plants of conservation interest clearly does not represent a small scale of impact. The scale of impact should be considered ‘Large’.
 - ii. **LR2 “Grassland”.** In table 11.8, the ‘Scale of LR/LCA Affected’ of LR2 is described as “Small” and the ‘Magnitude of Change’ is described as ‘Intermediate’. This is wrong. The LIA identifies that approximately 4ha of LR2 will be lost due to the development. As described in *item 5b* above, the correct grassland area affected should be approximately 9.1ha. This is not average grassland, but as previously described (*item 3a(ii)*) high quality carefully maintained grassland for recreational use as a golf course which is rare in Hong Kong. Loss of approximately 9.1ha of such grassland clearly does not represent a small scale of impact, nor an intermediate magnitude of change. Furthermore, the assessment fails to consider that the loss of the grassland in Sub-

Area 1 alone equates to 3 holes of the 18-hole Old Course which is the oldest golf course in China and probably oldest in Asia, and that losing these 3 holes impacts the whole historic 18-hole Old Course which can no longer function properly. (To use the football analogy again, removing only one section of a grass football field, say the penalty box, does not mean that the rest of the football field is unaffected and can remain functional.) The scale of impact and magnitude of change on LR2 Grassland thus needs to reflect the wider impact on the historic 18-hole Old Course that can no longer function as an 18-hole course after the removal of LR2, and which is in effect gutted and stripped of its total value and amenity. For this reason alone (and even if there is no compensatory tree planting or compensatory woodland planting in Sub-Area 2 and Sub-Area 3) the scale of impact and the overall 'Magnitude of Change' must logically and objectively both be considered 'Large'.

- iii. **LR8.1 "Golf Club Building":** In Table 11.8, the 'Magnitude of Change' of LR8.1 is described as 'Intermediate'. This is wrong. LR8.1 contains approximately 120 trees, including 5 TPIS (not 4 TPIS, as stated in Table 11.4, because Tree Survey Plan CE17/R09/2.7.6 shows 5 TPIS within the area covered by LR8.1). All these trees except 3 TPIS are proposed to be removed and the practicality of retaining those 3 TPIS is highly doubtful for the reasons explained in *item 6e* below. Furthermore, the Grade 2 heritage building is demolished. Clearly the 'Magnitude of Change must objectively be 'Large'.

6. Mitigation Measures [EIA Section 11.10]

- a. **Written Commitment from the Housing Department (and other relevant Government departments) to commit to implement Mitigation Measures:** Recent (2017-2021) experience on a Feasibility Study undertaken for proposed Public Housing Development in a Green Belt Area is that the Housing Department (HD) refused to commit to fund, implement, manage, and maintain landscape mitigation measures identified in the Preliminary LVIA undertaken in the Feasibility Study. As HD is identified in the LIA, Table 11.10 - Recommended Mitigation Measures, as the Funding, Implementation, Management and Maintenance Agency for Mitigation Measures OM2 and OM3 (and should also be included as Funding and Implementation Agent for CM1¹⁴ as explained in *item 6b* below), it is recommended that HD should be required to make a written commitment to implement the mitigation measures. *As there will be no Environmental Permit issued for this Schedule 3 EIA, and so no legal recourse for the public if the mitigation measures are not fully implemented, the written commitment of the relevant Government departments to uphold the recommendations in EIA is critical to public confidence in the EIA and proposals contained therein.*
- b. **Housing Department and Housing Authority omitted as Funding, Implementation, Management and Maintenance Agents for Mitigation Measure CM1:** EIA, Table 11.10 – 'Recommended Mitigation Measures', identifies CEDD and CEDD's Contractor as the Funding, Implementation, Management and Maintenance Agents for CM1 - Preservation of Existing Vegetation, however this is only correct insofar as the site formation contract is concerned. Following completion of the site formation contract, the subsequent PHD building construction

¹⁴ 'CM1' is the industry standard acronym adopted in the EIA for 'Construction Phase Mitigation Measure No. 1'

contract(s) funded by HD and built by HD's contractor(s) will also need to preserve, protect, and work around the many trees proposed to be retained within the PHD. This need for tree preservation and protection will incur considerable costs, construction programme implications and administrative burden for the PHD building contracts. Furthermore, it is HD, not CEDD which designs the PHD, and which therefore will have the dominant role in determining which trees will be preserved from the outset, including during the site formation works. Similarly, the Housing Authority (HA) (not CEDD's contractor as wrongly asserted in Table 11.10) will be the Agent responsible for the management and maintenance of the retained trees in perpetuity. EIAO Guidance Note 8/2010 clause 3.8(c) states "*The agreement from relevant parties should be sought in respect of funding, implementation, management, and maintenance prior to their inclusion in the LVIA.*" And further "*Unless these issues have been resolved, the effects of these mitigation measures should be discounted in the LVIA.*" It is therefore necessary under the requirements of the EIAO TM and EIOA GN 8/2010 that HD and HA are identified, and agree to be, the Funding, Implementation, Management and Maintenance Agents of CM1. The LIA fails to do this yet includes the effects of the measure CM1 in the assessment, which is in direct contradiction to the stated requirements of GN 8/2010 and the EIAO TM. ***The LIA therefore fails to satisfy the requirements of the EIAO GN 8/2010 and EIAO TM and the effects of the Mitigation Measure CM1 should be discounted.***

- c. **Failure to identify Management and Maintenance Agencies for Mitigation Measures OM1 & OM4:** The LIA Table 11.10 - Recommended Mitigation Measures, fails to identify Management and Maintenance Agencies for mitigation measures OM1 "Landscape Treatment in Sub-Areas 2-4" and OM4 "Compensatory Tree Planting". The LIA fails to identify the management and maintenance agencies yet includes the effects of the measures in the assessment, which is in direct contradiction to the stated requirements of GN 8/2010 and the EIAO TM, as explained in ***item 6b*** above. ***The LIA therefore fails to satisfy the requirements of the EIAO GN 8/2010 and EIAO TM and the effects of these Mitigation Measures OM1 and OM4 should be discounted.***
- d. **Incorrect Grouping Together of Tree Retention and Tree Transplanting:** Mitigation Measure CM1 "Preservation of Existing Vegetation" incorrectly groups together tree retention and tree transplanting. These should be separated as two independent Mitigation Measures as they have completely different impacts and environmental outcomes on landscape resources and landscape character and involve different Funding, Implementation, Management and Maintenance Agents. Tree retention, properly undertaken, avoids tree impacts and preserves trees in their current condition and their current location. Tree transplanting on the other hand has potentially significant adverse impacts on the tree as it must have its rootball and canopy cut back significantly prior to transplanting and, depending on species, age, size and condition, it may never fully recover from the shock of the transplanting process. Retention and transplanting also have radically different impact on landscape character as tree retention can help to preserve landscape character, whereas transplanting moves the trees to an entirely new location, inevitably changing the landscape character of the source location. Retaining an entire group of trees thus has a totally different environmental outcome from transplanting that same group of trees. Yet according to this LIA, the project proponent may implement 100% transplanting instead of 100% tree retention and still claim to have fully implemented the CM1 mitigation measure with no difference to the environmental outcome. This is clearly wrong. Furthermore, tree transplanting would be completed under the site formation contract

whereas, as explained in *item 6b* above, tree retention is a long-term responsibility that continues long after the site formation contract is completed and therefore the Funding, Implementation, Management and Maintenance Agents for tree retention and tree transplanting are not the same. This is another reason why tree retention and tree transplanting should be separate mitigation measures. *The combination of tree retention and tree transplanting under one mitigation measure and one set of Funding, Implementation, Management and Maintenance Agents is wrong, with consequential significant adverse implications for the impact assessment.*

- e. **No evidence presented to support Retention of 11 TPIs in Sub-Area 1:** A total of 11 TPIs are proposed to be retained within the Public Housing Development (PHD) and adjacent Special School (SS), however no evidence is presented to support the practicality of this proposal. The following serious inadequacies undercut this assessment:
- i. The Tree Survey contains no spot levels to indicate ground levels at or around any surveyed trees.
 - ii. There is no consideration or evidence presented regarding the relationship between the proposed formation levels of the PHD (+14mPD and +16mPD according to Figures 11.12 and 11.14.1) and the existing ground levels of the proposed retained trees, which are generally located at elevations considerably higher than the proposed site formation levels (up to **11m higher** in some locations).
 - iii. There are no cross sections presented to show the relationship between existing ground levels at trees and the proposed formation levels.
 - iv. There is no discussion on how any level differences will be resolved with L-shaped retaining walls or piled retaining walls or cut slopes, each of which would have dramatically different impacts on existing topography and trees.
 - v. Whether or not a tree is affected by the works appears to have been determined in the LIA simply by overlaying the building blocks and Emergency Vehicle Access (EVAs) on the tree locations – if there is an overlap the tree is scheduled for to be removed (i.e., felled) or transplanted. If there is no overlap, the tree is scheduled to be retained. The PHD is very dense with very little space between tower blocks for construction of EVAs, construction of utilities and contractors works areas etc. The two-dimensional analysis, that takes no account of the three-dimensional relationship between the existing undulating topography and proposed flat platform levels, is far too simplistic and appears to be, in the absence of any proper consideration or evidentiary support, far too optimistic in the assessment of tree retention.
 - vi. There is no identification of any Tree Protection Areas on any plan in the LVIA to protect the trees during the site formation contract(s) and building construction contract(s). Such Tree Protection Areas are essential for any proposed tree preservation.
 - vii. *In summary, the notable lack of any explanation or demonstration of how these 11 TPIs can be physically retained means that the effectiveness of the mitigation is not demonstrated to be practical and achievable, which requires the mitigation to be discounted in the EIA.*
- f. **No evidence presented to support proposed retention of hillock containing ~100 trees in the centre of Sub-Area 1:** The LVIA proposes that approximately 100 trees can be retained on a

hillock in the centre of the Sub-Area 1 between blocks 6 and 12. This hillock rises to 27.6mPD which is at least 11m above the site formation level of 16mPD. The criticisms described in *items 6e(i) to (vi)* apply with equal force to the claim that these 100 trees could realistically be retained. *Once again, like item 6e, the complete lack of any explanation or demonstration of how these 100 trees can be physically retained means that the effectiveness of the mitigation is not demonstrated to be practical or achievable, which requires the mitigation to be discounted in the EIA.*

- g. No evidence presented to support the felling of trees at north end of site near T786:** Tree T786 is one of the 11 TPIs proposed to be retained (although without any explanation how this is to be achieved, as described above in *item 6e*). Yet 18 other trees located to the immediate north-west, north and north-east of T786 are all proposed to be removed. If T786 can be retained there appears to be no logical practical reason to remove these 18 trees. This is another example of an apparent lack of rigorous professional assessment of tree retention versus tree removal in the LIA.
- h. Proposed Transplanting of two large TPIs is not feasible:** In EIA Table 11.10, Mitigation Measure CM1 proposes transplanting a total of 43 TPIs of which two are TPIs with DBH 1000mm, namely T60 *Adenantha microsperma* (DBH 1000mm) and T71 *Ficus macrocarpa* (DBH 1000mm). All transplant trees, including the two TPIs, are proposed to be relocated to a position near the tee box of Old Course Hole 6 in Sub-Area 3 which is 600-700m distant from the existing tree locations. Transplanting large mature trees is a major engineering feat and there is no explanation or demonstration on how this will be achieved. There are five main concerns that raise serious doubts on the practicality of the proposal:
- i. Tree Rootball Preparation & Extraction:** Transplanting mature trees requires creation of rootball in a ratio of 12 times DBH - i.e., **12m diameter** each for T60 and T71 - with a depth of approximately 2000mm.
 - ii. Routing distance and elevation changes:** *Annex B* presents a Review of the Tree Transplanting Route for the two TPIs proposed for transplanting in the LIA. The 600-700m routing distance is a very long distance to transplant such large trees. We know of no precedent in Hong Kong for transplanting mature trees with 12m diameter rootballs, or similar, over such a long distance. Of even greater concern is the elevation change along the route – the rolling terrain goes up and down and up again to the receptor site incurring a total elevation change in excess of 20m. Again, we know of no precedent in Hong Kong (or elsewhere) for doing this with such large mature trees with 12m rootballs.
 - iii. Other trees adversely impacted by transplanting process:** There are several pinch points along the route from existing site to receptor site where existing trees block the transplantation route. It would be necessary to bring in and manoeuvre very large machinery for the transplanting operation and we estimate at least 30 trees may need to be felled at different locations in Sub-Area 2 and Sub-Area 3 to create a wide enough transplanting route for the passage of the trees and associated heavy machinery. It is also likely, given the undulating terrain, that earthworks operations would be required in Sub-Area 2 and Sub-Area 3 to allow manoeuvring of the machinery. Such tree felling impacts are not considered or assessed anywhere in the LIA which is in breach of the requirements of the EIAO TM, Annex 20, 6.8 & 6.9 as

follows: “6.8 Have any adverse environmental effects of mitigation measures been investigated and described? 6.9 Has the potential for conflict between the benefits of mitigating measures and their adverse impacts been considered?”

- iv. **Receptor Site:** The proposed location of the receptor site is on or immediately adjacent to an existing large grave site. Presuming the trees can be offset from the grave site, the trees would then be elevated and exposed on a tee box area which is generally undesirable for large, transplanted trees given the greater exposure to desiccating winds, greater wind-loading on the trees to which they are not adapted (increasing the likelihood of structural failures) and a greater increase in the soil hydrology change.
- v. *None of the above issues is addressed in the LIA which fails to provide any detail at all on the tree transplanting. It is doubted that the proposals are prepared by a Certified Arborist with experience of transplanting such large trees. Based on accepted industry standards, the transplanting proposal is impractical and highly unlikely to succeed and therefore this mitigation measure should be discounted from the assessment. Furthermore, the potential adverse impacts of the tree transplanting on other trees and topography in Sub-Area 2 and Sub-Area 3 are not assessed which is not in accordance with the requirements of the EIAO TM.*
- i. **Proposed Compensatory Tree Planting and Compensatory Woodland Planting causes large adverse impacts not addressed:** As mentioned above in *items 4b(i) and 5b* above, EIA Table 11.7 fails to identify that some proposed mitigation measures are sources of major landscape impact. The proposed landscape treatment in Sub-Area 2, Sub-Area 3 and Sub-Area 4 [Table 11.10, OM1] and proposed compensatory tree planting in Sub-Area 3 [Table 11.10, OM4] will have substantial adverse impact on the unique and historic Landscape Resources and Landscape Character of Sub-Area 2, Sub-Area 3 and Sub-Area 4. Furthermore, in EIA Section 9 Ecology Impact Assessment, 5.1 hectares of woodland compensation is proposed in Sub-Area 2 and Sub-Area 3. Destroying the existing tended golf course grasslands by mass compensatory tree planting over more than 5ha is on any objective view a major environmental impact. The proposed dense tree/woodland planting will destroy large areas of recreational grassland (LR2) (even larger than the areas destroyed in Sub-Area 1) and totally change the overall landscape character (LCA1), removing the graceful sweeping juxtaposition of grass fairways and woodland that currently affords long views within the golf course and to the hillsides of Tai Mo Shan, and replacing it with a blanket of dense forest with no views at all. *This would constitute a very large magnitude of change to the unique and historic landscape resources (LR2) and landscape character (LCA1) of Sub-Area 2, Sub-Area 3 and Sub-Area 4 resulting in substantial adverse impacts on landscape resources and landscape character. These impacts are notably omitted and ignored in the LIA, which is in breach of EIAO TM, 6.8 and 6.9.*
- j. **Proposed Compensatory Tree Planting Proposal does not follow DEVB TC(W) 4/2020 guidelines in full:** DEVB TC(W) 4/2020, Appendix C, 1(v) b states “1. As far as practicable, implementation of compensatory tree planting should be of a ratio not less than 1:1 in terms of number, i.e., the number of compensatory trees onsite and offsite not be lower than that of the number of trees removed including dead trees...” and “2. In case the requirement in the above paragraph can be met, and sufficient growing space for tree planting can be identified, further planning and design consideration with an objective to achieve the compensatory planting ratio

of 1:1 in terms of aggregated DBH, i.e., the total DBH of planted trees to have the same total DBH of removed trees should be undertaken as far as practicable. In situations where this compensatory planting criterion cannot be achieved, the difficulties should be demonstrated.”

The LIA Compensatory Tree Proposal satisfies the requirements of step 1 (proposed compensatory planting of 996 trees to compensate for 996 trees felled) but does not satisfy the requirements of step 2, nor explain why, as required by DEVB TC(W) 4/2020. The total DBH of the felled trees is 300,986mm. Assuming the compensatory trees are heavy standard trees with DBH 70mm, then step 2 would require planting of 4,300 trees, which when planted at 4m centres in accordance with standard Government practice to ensure adequate spacing for long term health of tree, would occupy 68,800sqm (**6.88ha**). This is more than three times the area identified in the LVIA for compensatory tree planting and even more than the 5.1ha of woodland compensation proposed in Section 9 – Ecological Impact Assessment. However, planting such a huge area would further exacerbate the adverse landscape (and ecological) impacts in Sub-Area 3 and extend these impacts into Sub-Area 2 and Sub-Area 4. ***It is thus impossible to adequately compensate for the felled trees in Sub-Area 1 without causing further substantial adverse impacts on the landscape character (and ecology) of Sub-Area 2, Sub-Area 3 and Sub-Area 4 as described in item 6i above.***

- k. **No commitment to definite quantity of Compensatory Tree Planting:** EIA Table 11.10 includes footnotes to OM1 and OM4 that state *“The exact numbers and locations of compensatory tree planting shall be subjected to further review and the Implementation programme.”* This qualification gives the Project Proponent a ‘get out clause’ enabling them to undertake even less Compensatory Tree Planting than is described in the LIA, which would lead to even greater residual impact. ***This qualification should be rejected. As it stands the qualification is another reason why the mitigation measures OM1 and OM4 should be discounted from the assessment. As there will be no Environmental Permit issued for this Schedule 3 EIA, and so no legal recourse for the public if the mitigation measures are not fully implemented, the written commitment of the relevant Government departments to uphold the recommendations in EIA is critical to public confidence in the EIA and proposals contained therein.***

7. Residual Impact [EIA Section 11.11]

- a. EIA Table 11.11 “Significance Threshold for LR & LCA” shows the derivation of the Significance Thresholds for Potential Landscape Impacts Before and After Mitigation in the Construction and Operation Phases and text section 11.11.1 ‘Residual Landscape Impact’ gives brief cursory descriptions of the residual landscape impacts. However, there is no substantive explanation of the derivation of residual impacts ‘after mitigation’ which are much reduced when compared to impacts ‘before mitigation’. In fact, there are a number of significant errors, omissions, and deficiencies in the assessment table and text as described below for individual landscape resources and landscape character areas.
- b. **Assessment of Impacts on Topography, Hydrology, Soils, and Climate, including Microclimate are missing:** As explained in items 3a(i) to (iv), the LIA contains no assessment of the impacts on topography, hydrology, soils, and climate, including microclimate. ***This is in breach of the requirements of the EIAO TM and EIAO GN 8/2010.***
- c. **LR1.2 - Secondary Woodland in Golf Course:** With reference to the entries in Table 11.11:
- It is correct that the Sensitivity of LR/LCA is ‘Large’.

- ii. It is correct that the Magnitude of Change is 'Large' in both Construction and Operation Phases.
- iii. It is correct that the Significance Threshold of Potential Landscape Impact (before mitigation) is "Substantial" in both Construction and Operation Phases.
- iv. The proposed Mitigation Measures that are listed in Table 11.11 as mitigation for the impacts are CM1-CM4 and OM1-OM5. This is wrong. Only CM1, OM1 and OM4 contribute any mitigation of impacts on LR1.2.
- v. Consequently, the assessment that the Significance Threshold of Potential Landscape Impact (after mitigation) is reduced to 'Moderate' in the Construction Phase is unsupported. The only effective mitigation measure in the Construction Phase is CM1. However, as explained in *items 6e-g*, there is no evidentiary support for the improbable and infeasible tree retention and transplanting proposals in CM1. They should be discounted. Even if the tree retention and transplanting proposals envisaged in the LIA can be realized, the quantum of lost vegetation is still so large (approximately one thousand trees plus all the other understorey vegetation in the secondary woodland) that the impacts must, according to the required methodology, be considered as a 'Large' magnitude of change, which means that according to the methodology, the significance threshold must remain as 'Substantial'.
- vi. It is also not correct that Significance Threshold of Potential Landscape Impact (after mitigation) is reduced to 'Slight' in the Operation Phase (both Day 1 and Year 10) and it should instead remain 'Substantial'. This is for several reasons including:
 - The residual Significance Threshold in the Construction Phase after Mitigation Measures (i.e., the starting point for the Operation Phase) is 'Substantial' (not 'Moderate') as explained above.
 - As explained in *item 6b*, EIA Table 11.10 fails to identify HD as a Funding and Implementation Agent and HA as Management and Maintenance Agent responsible for MM CM1 'Tree Preservation of Existing Vegetation' during the PHD Building contract(s) and thereafter in perpetuity, and therefore, in accordance with the EIAO GN 8/2010 and EIAO TM, the mitigation effects of the CM1 must be discounted.
 - As explained in *item 6c*, Management and Maintenance Agencies have not been identified for OM1 and OM4 and therefore, in accordance with the EIAO GN 8/2010 and EIAO TM, the effects of the OM1 and OM4 must be discounted.
 - As explained in *item 6j*, OM4 does not follow DEVB TC(W) 4/2020 guidelines for compensatory tree planting in full, which would require about 6.88ha of compensatory planting, more than 3 times what is proposed the LIA. However, as explained above, the larger the area of compensatory tree planting, the greater the adverse impact on the landscape character of Sub-Area 2, Sub-Area 3 and Sub-Area 4.
 - As explained in *item 6k*, the LIA gives no commitment on the minimum quantum of compensatory tree planting that will be undertaken.
 - Even if all the previous four bullet points could be resolved (i.e., Maintenance Agencies correctly identified and a firm commitment given on minimum

quantum of Compensatory Planting developed fully in accordance with DEVB TC(W) 4/2020), it still leaves the fact that, as explained in *item 6i*, the Compensatory Tree Planting in OM4, instead of ‘mitigating’ the impacts on the landscape will actually exacerbate them and destroy the existing unique and historic grassland (LR2) and landscape character (LCA1) in Sub-Area 2 and Sub-Area 3.

- In the final analysis, no matter the quantum of compensatory tree or woodland planting, the loss of approximately 100 years old woodland, including approximately 50 potentially registrable OVTs, cannot be adequately compensated by either ‘Day 1’ or ‘Year 10’, and the Significance Threshold must remain as ‘**Substantial**’ at both dates.

d. LR2 – Grassland: With reference to the entries in Table 11.11:

- As explained in *item 3a(v)* the sensitivity of LR2 is not ‘Low’ and should instead be “**High**”.
- As explained in *item 5c(ii)* Magnitude of Change to LR2 is not ‘Intermediate’ and should instead be ‘**Large**’ in both Construction and Operation Phases.
- Therefore, according to the LIA Methodology, the Significance Threshold of Potential Landscape Impact (before mitigation) must be “**Substantial**” in both Construction and Operation Phases.
- The proposed Mitigation Measures that are listed in Table 11.11 as mitigation for the impacts on LR2 are CM1-CM4 and OM1-OM4. This is wrong. None of these mitigation measures addresses or purports to mitigate the loss of LR2 in any manner whatsoever. There is no effective mitigation proposed in the LIA for the loss of the golf course recreational grassland.
- Therefore, according to the LIA Methodology, in the absence of any mitigation whatsoever, the Significance Threshold of Potential Landscape Impact (after mitigation) must remain “**Substantial**” in both the Construction and Operation Phases (both Day 1 and Year 10).
- The permanent and irreversible loss of 3 holes (and potentially 8 holes) of the unique and historic 110-year old recreational grassland of the 18-hole Old Course effectively destroys the functionality of the entire 18-hole Old Course, which on any objective, reasonable view, constitutes a Substantial adverse impact upon a landscape resource of national and international importance.*

e. LR8.1 – Golf Club Building: With reference to the entries in Table 11.11:

- It is correct that the sensitivity of LR8.1 is “**High**”.
- As explained in *item 5c(iii)* Magnitude of Change to LR8.1 is not ‘Intermediate’ and should instead be ‘**Large**’ in both Construction and Operation Phases.
- Therefore, according to the LIA Methodology, the Significance Threshold of Potential Landscape Impact (before mitigation) must be “**Substantial**” in both Construction and Operation Phases.
- The proposed Mitigation Measures that are listed in Table 11.11 as mitigation for the impacts on LR8.1 are CM1-CM4 and OM2, OM3 and OM5. This is wrong. Only CM1, OM1 and OM4 contribute any mitigation of the impacts on trees in LR8.1.

Furthermore, there is no proposed mitigation whatsoever for the demolition of the Grade 2 heritage building.

- v. Therefore, according to the LIA Methodology, in view of the drastic impacts on the 120 trees, including loss of at least 2 TPIs, but more likely loss of all 5 TPIs, each of which is potentially registrable as an OVT which, once registered, would be prohibited from being removed; and considering also the absence of any proposed mitigation whatsoever for the destruction of the Grade 2 building, the Significance Threshold of Potential Landscape Impact (after mitigation) must objectively remain “**Substantial**” in both the Construction and Operation Phases (both Day 1 and Year 10).
- f. **LR8.2 – Carpark in Golf Course:** With reference to the entries in Table 11.11:
- i. As explained in *item 3a(vi)* the sensitivity of LR8.1 is not ‘Medium’ but ‘High’.
 - ii. It is correct that the Magnitude of Change to LR8.1 is ‘Large’ in both Construction and Operation Phases.
 - iii. Therefore, according to the LIA Methodology, the Significance Threshold of Potential Landscape Impact (before mitigation) must be “**Substantial**” in both Construction and Operation Phases.
 - iv. The proposed Mitigation Measures that are listed in Table 11.11 as mitigation for the impacts on LR8.1 are CM1-CM4 and OM2, OM3 and OM5. This is wrong. Only CM1, OM1, OM4 and OM5 contribute any mitigation of the impacts on trees in LR8.2. Even so, there is no adequate mitigation for the loss of at least 3 large potentially registrable OVTs and probably all 5 large potentially registrable OVTs for the reasons explained in *item 6e*.
 - v. Therefore, according to the LIA Methodology, in view of the drastic impacts on the trees, including loss of at least 3 large TPIs, but more likely loss of all 5 large TPIs, each of which is potentially registrable as an OVT which, once registered, would be prohibited from being removed, the Significance Threshold of Potential Landscape Impact (after mitigation) must objectively remain “**Substantial**” in both the Construction and Operation Phases (both Day 1 and Year 10).
- g. **LCA1 – Golf Course:** With reference to the entries in Table 11.11:
- i. As explained in *item 3b(iii)* the sensitivity of LCA1 is not ‘Medium’ (result of a careless error) and should instead be “**High**”.
 - ii. It is agreed that the Magnitude of Change to LCA1 is ‘Large’ in both Construction and Operation Phases.
 - iii. It is agreed that the Significance Threshold of Potential Landscape Impact (before mitigation) is “**Substantial**” in both Construction and Operation Phases.
 - iv. The proposed Mitigation Measures that are listed in Table 11.11 as mitigation for the impacts on LCA1 are CM1-CM4 and OM1-OM4. This is wrong. Only CM1, OM1 and OM4 contribute any mitigation of impacts on LCA1.
 - v. It is agreed that the Significance Threshold of Potential Landscape Impact (after mitigation) must remain “**Substantial**” in the Construction Phase.
 - vi. It is **not** agreed that Significance Threshold of Potential Landscape Impact (after mitigation) is reduced to ‘Moderate’ in the Operation Phase (both Day 1 and Year 10) and it should instead remain ‘**Substantial**’. This is because, as explained in *item 6i*, the Compensatory Tree Planting, instead of ‘mitigating’ the impacts on LCA1 will

exacerbate them and destroy the existing landscape character in Sub-Area 2 and Sub-Area 3.

- vii. *The residual impact must be considered “Substantial” because the permanent and irreversible loss of the unique and historic 110-years old landscape character of 8 holes of the 18-hole Old Course constitute, on any objective, reasonable view, a Substantial adverse impact upon an important unique cultural and historic landscape of national and international importance.*

8. Conclusion [EIA Section 11.14]:

- a. **No Conclusion on Landscape Impacts:** No conclusion is presented in Section 11.14 on the residual landscape impacts with reference to the five criteria specified in Annex 10 of the EIAO TM. *This fails to satisfy the requirements of the EIAO GN 8/2010 and the EIAO TM.*
- b. **Correct objective conclusion is that the landscape impacts are ‘Unacceptable’:** EIA Annex 10 states that “*The evaluation of landscape and visual impact may be classified into five levels of significance based on the type and extent of the effects concluded in the EIA study.*”. Furthermore, Annex 10 paragraph 1.1(d) states that “*The impact is unacceptable if the adverse impacts are considered too excessive and are unable to mitigate practically;*” Given all the errors, omissions and deficiencies identified in *items 1 to 7b* above, given the corrections to the assessment identified in *items 7c-g* above, and given that there are consequential Residual Adverse Impacts of Substantial Significance on LR1.2, LR2, LR8.1 and LR8.2 (which together cover ~90% of Sub-Area 1) and LCA1 (which covers 100% of Sub-Area 1) that cannot be mitigated practically, the correct objective conclusion of the LIA, in accordance with the five criteria in EIAO TM Annex 10, should be that the landscape impacts are ‘Unacceptable’.

C. CONCLUSION

This Paper summarizes the findings of a Technical Review of the Landscape Impact Assessment (LIA) contained within Chapter 11 of the Environmental Impact Assessment (EIA) Report prepared under Agreement No. CE 17/2019 (CE) Technical Study on Partial Development of Fanling Golf Course Site. Reference is also made where appropriate to other chapters in the EIA which are relevant to the LIA. In addition to the major errors, omissions and deficiencies items summarized in section B above, further errors, omissions and deficiencies have been identified in the Review and are catalogued in a ‘Checklist of Requirements of LVIA’ in **Annex C**.

The Technical Review reveals that the LIA contains numerous significant errors and omissions in the baseline survey; significant errors and omissions in the identification of sources of impact; lack of any evidentiary support for the effectiveness of the proposed mitigation measures; and numerous significant errors, omissions and deficiencies in the assessment methodology, which mean that, most critically, the assessment fails to identify five Adverse Landscape Impacts of Substantial Significance and that the correct objective conclusion of the assessment should be that, in accordance with the five criteria in EIAO TM Annex 10, the landscape impacts are ‘Unacceptable’.

This Review also reveals that the EIA consultant has apparently failed to advise CEDD of the procedures laid down in DEVB TC(W) 5/2020 requiring submission of details of potentially registrable Old and Valuable Trees (OVTs) to the GLTMS and furthermore, that if the correct procedure is followed, there is high likelihood that identification of the presence in Sub-Area 1 of 70 potentially registrable OVTs effectively precludes the development of Sub-Area 1 as a public housing development, since removal of living OVTs is prohibited.

This Review also reveals that LIA does not follow correctly, nor satisfy numerous requirements of, the EIAO GN 8/2010, the EIAO TM and the SB and therefore the findings and conclusions of the LIA should be rejected and dismissed for that further and additional reason.

The LIA is replete with numerous significant errors, omissions, and deficiencies. It also fails to refer to relevant published papers on scientific research previously undertaken at Fanling Golf Course. As a result, the findings and conclusions of the LIA are objectively unsustainable – including its fundamental conclusion as to whether the environmental impact of the proposed project is acceptable. The LIA falls far short of the standards required by the EIAO GN 8/2010, the EIAO TM, and the SB, and is not capable of being accepted as a valid EIA Report under the EIAO and does not provide the Advisory Council on the Environment and Director of Environmental Protection with a sound basis for a rational decision.



Alexander M Duggie
BSc (Hons), BPhil, FHKILA, RLA, CMLI, MHKIEIA, MHKIUD, MHKIQEP, BEAM Pro (NB, EB, ND)
Managing Director | URBIS Limited
16 June 2022

Attachments:

Annex A – Errors in Tree Survey identified during sample audit in Late May and Early June 2022.

Annex B – Review of Tree Transplanting Route

Annex C – Checklist of Requirements of LVIA

Annex A

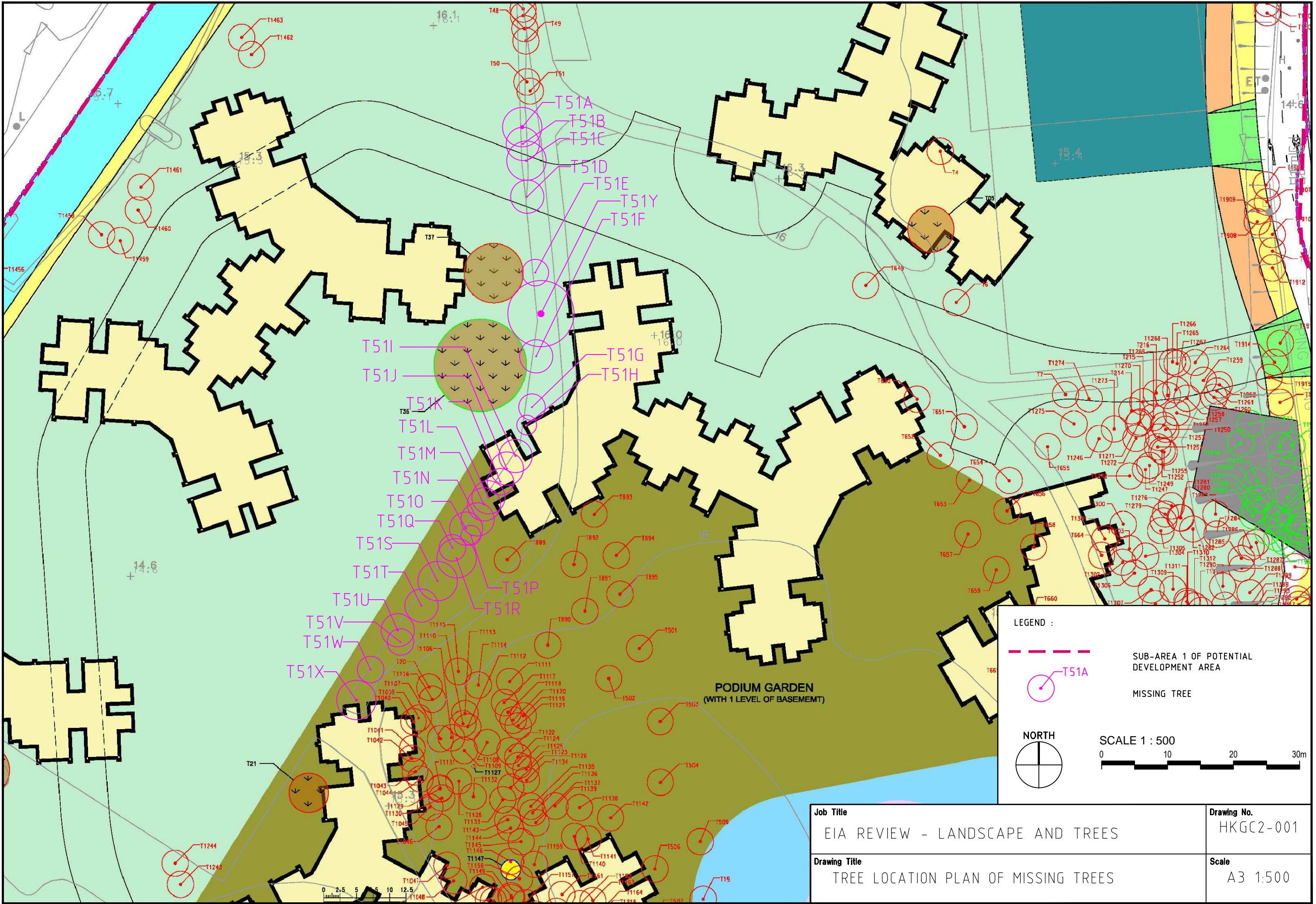
**Errors in Tree Survey identified during sample audit
in Late May and Early June 2022**

Annex A1: Missing Trees

Annex A2: Additional Trees of Particular Interest (TPIs)

Annex A1
Missing Trees

Tree No.	Species		URBIS Sample Audit Measurements			Form	Health condition	Structural condition	Amenity Value	Suitability for transplanting		Conservation Status (Yes/ No)	DBH>=1000m m (Yes/ No)	Maintenance department to provide comments to this Tree Survey Report		Recommendation (Retain/ Transplant/ ReMove)	Sub-area	Remarks
	Scientific name	Chinese Name	Height (m)	DBH (mm)	Crown Spread (m)					(Good/Average/Poor)	(High/ Medium/ Low)			(High/ Medium / Low)	Remarks			
T51A	<i>Melaleuca cajuputi subsp. cumingiana</i>	白千層	10	490	6	A	A	A	M	L	-	No	No					Codominant stems with narrow union.
T51B	<i>Cinnamomum burmannii</i>	陰香	7	150	5	A	A	A	L	L	-	No	No					Pruned branches.
T51C	<i>Cinnamomum burmannii</i>	陰香	8	200	6	A	A	A	L	L	-	No	No					Pruned branches.
T51D	<i>Cinnamomum burmannii</i>	陰香	6	95	5	A	A	A	L	L	-	No	No					-
T51E	<i>Bridelia tomentosa</i>	土蜜樹	6	95	4	A	A	A	L	L	-	No	No					Slightly crooked trunk.
T51F	<i>Ligustrum sinense</i>	山指甲	6	95	5	A	A	A	L	L	-	No	No					Multi-trunk.
T51G	<i>Bridelia tomentosa</i>	土蜜樹	6	95	4	A	A	A	L	L	-	No	No					Multi-trunk, seam observed on trunk of a major trunk.
T51H	<i>Bridelia tomentosa</i>	土蜜樹	6	95	3	A	A	A	L	L	-	No	No					Torned wound on the top of branch, seam observed on a main branch.
T51I	<i>Ligustrum sinense</i>	山指甲	5	95	5	P	A	A	L	L	-	No	No					Multi-trunk, leaning.
T51J	<i>Syzygium hancei</i>	韓氏蒲桃	7	150	5	A	A	A	L	L	-	No	No					-
T51K	<i>Cinnamomum burmannii</i>	陰香	6	100	4	A	A	A	L	L	-	No	No					-
T51L	<i>Cinnamomum burmannii</i>	陰香	7	150	5	P	A	A	L	L	-	No	No					Leaning.
T51M	<i>Cinnamomum burmannii</i>	陰香	8	180	5	A	A	A	L	L	-	No	No					-
T51N	<i>Cinnamomum burmannii</i>	陰香	8	100	5	P	A	A	L	L	-	No	No					Slightly leaning.
T51O	<i>Syzygium hancei</i>	韓氏蒲桃	8	110	5	A	A	A	L	L	-	No	No					-
T51P	<i>Cinnamomum burmannii</i>	陰香	4	100	3	P	A	A	L	L	-	No	No					Poorly executed pruning branch.
T51Q	<i>Syzygium hancei</i>	韓氏蒲桃	6	100	4	A	A	A	L	L	-	No	No					-
T51R	<i>Cinnamomum burmannii</i>	陰香	7	160	6	A	A	A	L	L	-	No	No					Codominant stems.
T51S	<i>Cinnamomum burmannii</i>	陰香	7	160	6	A	A	A	L	L	-	No	No					Slightly leaning.
T51T	<i>Sterculia lanceolata</i>	假蘋婆	6	110	5	P	A	A	L	L	-	No	No					Leaning tree with asymmetrical tree crown.
T51U	<i>Cinnamomum burmannii</i>	陰香	8	170	5	A	A	A	L	L	-	No	No					Branches formed from epicormics.
T51V	<i>Cinnamomum burmannii</i>	陰香	7	95	4	A	A	A	L	L	-	No	No					Branches formed from epicormics.
T51W	<i>Ligustrum sinense</i>	山指甲	4	110	4	P	A	A	L	L	-	No	No					Leaning, epicormics at trunk base, dead stub.
T51X	<i>Celtis sinensis</i>	朴樹	8	290	6	A	A	A	L	L	-	No	No					Slightly leaning.
T51Y	<i>Delonix regia</i>	鳳凰木	12	917	10	A	A	A	M	L	-	No	No					Growing next to u-channel, codominant stems, torn wounds on branches.



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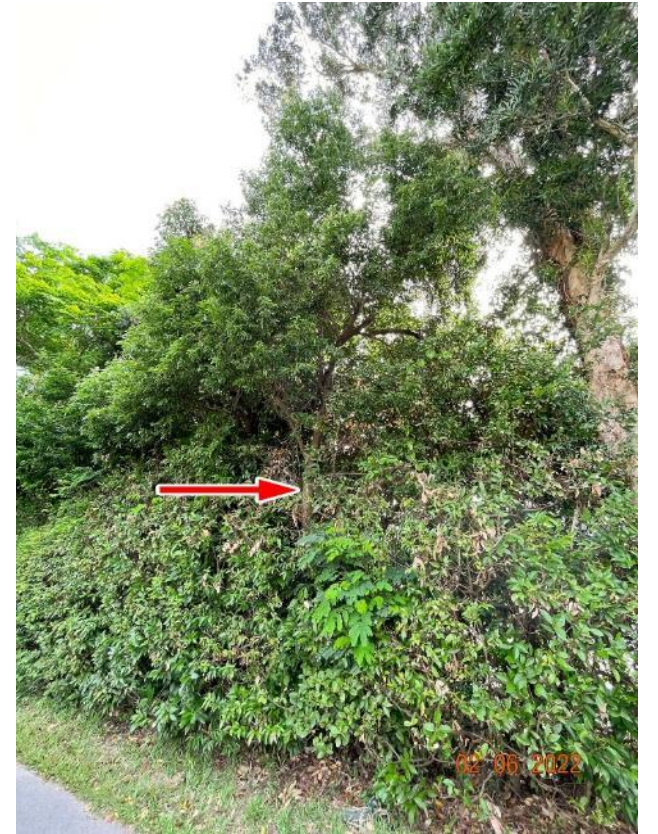
T51A (*Melaleuca cajuputi* subsp. *cumingiana*)



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