



SPECIALIST CONSULTANCY SERVICES FOR ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AT BUKIT BATOK

Executive Summary

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EXECUTIVE SUMMARY

Introduction

TEMBUSU Asia Consulting Pte Ltd ('TAC') has been commissioned by the National Parks Board (NParks) on behalf of the Housing & Development Board (HDB) to provide Specialist Consultancy Services for Environmental Impact Assessment (EIA) at Bukit Batok Neighbourhood 3 (hereafter referred to as the 'Project Area') (NParks/F/6/2023) (Figure 1). The EIA aims to understand the baseline environmental conditions and ecological connectivity of the approximately 5.5ha Study Area (dotted in yellow), in order to inform the ecological value of the site, which in turn will serve to guide detailed planning for the area. The Study Area is located on land zoned 'Residential' in URA's Master Plan since 2014. The rest of the Project Area of approximately 9ha (in red) is currently occupied by various interim uses, such as Bukit Batok Driving Centre, HomeTeamNS (HTNS) Golf Driving Range, HTNS Bukit Batok Clubhouse and a former Heavy Vehicle Park.



Figure 1. Study Area and Proposed Land Use of Project Area as shown on URA's gazetted Master Plan 2019

Objectives of Environmental Impact Assessment

An Environmental Impact Assessment (EIA) was undertaken to assess the environmental impacts of the proposed development and building works, with the goal of providing clear and concise technical information of potential environmental impacts associated with the proposed work activities to facilitate management and decision-making processes.

The key objectives of this EIA are to:

- Understand and update the environmental baseline through the collection of primary and secondary data.
- Assess the impacts of the building works for the proposed development at Bukit Batok during the construction and operation phases of the project on the environment.
- Present appropriate mitigation measures to reduce the level of impact for each activity assessed that has a moderate to major impact.
- Recommend an environmental management framework to monitor the mitigation measures implementation.

It is understood that the information presented in the EIA report will contribute to decisions on:

- The overall acceptability of any environmental impacts that are likely to arise due to the construction of the proposed development at Bukit Batok.
- The conditions and requirements for the construction of the proposed development at Bukit Batok to mitigate any environmental impacts whenever practicable; and
- The acceptability of residual impacts after the proposed mitigation measures are implemented.

The undertaking of the EIA will therefore promote environmentally sound and sustainable development. The following environmental aspects are considered in this EIA study:

- Terrestrial Biodiversity
- Surface Water Quality

A summary of the main findings on the environmental aspects is provided below.

Environmental Baseline Findings

Desktop Study

A study was carried out for a site appreciation of the study area which focused on the historical land use of the study area, biodiversity and ecological connectivity. The site appreciation highlighted the ecological connectivity of the study area, which is located along the Bukit Batok Nature Corridor (BBNC), which aims to support the wider ecological connectivity between Tengah, Bukit Timah Nature Reserve (BTNR) and Central Catchment Nature Reserve (CCNR) (NParks, 2024). Due to the study area's location between Tengah Forest corridor and Bukit Gombak Park, it plays a role in supporting ecological connectivity of the area.

Terrestrial Biodiversity

The terrestrial flora baseline survey recorded a total of 111 flora species – of which 82 were native, 27 were non-native, and two (2) species were uncertain in origin. 18 of the 20 total species of conservation significance were assessed to be at least partially of native regeneration. One (1) mature *Ficus glandulifera* tree was recommended to be retained within the Study Area.

The current study recorded a total of 117 terrestrial fauna species, mainly comprising of bird and butterfly species. Other mammal, reptile, amphibian and odonate species were found in smaller numbers (< 15 species). Three (3) species of local conservation significance were recorded – the straw-headed bulbul (*Pycnonotus zeylanicus*), Swinhoe's white-eye (*Zosterops simplex*) and the Harlequin (*Taxila haquinus haquinus*) (Figure 2).

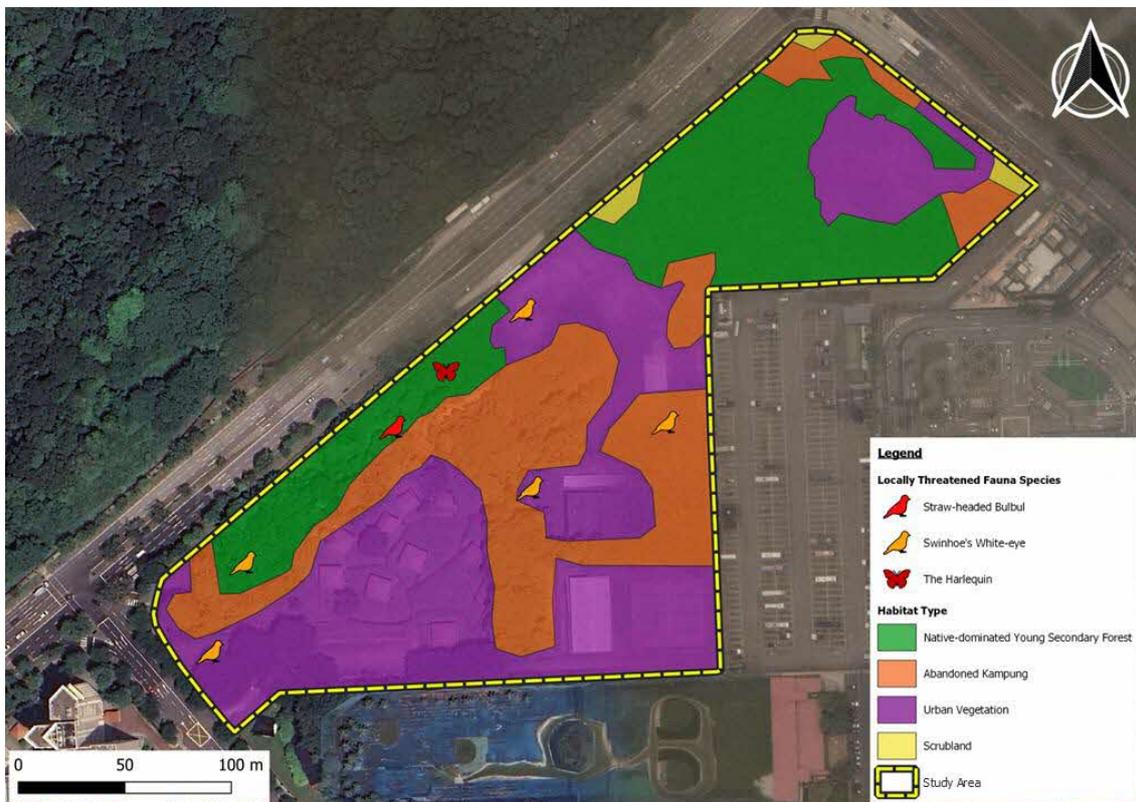


Figure 2. Locally threatened fauna species found in the study area

Integrating habitat mapping, flora and fauna survey findings, an Area of High Ecological Value (AHEV) within the Study Area consisting of native dominated secondary forests is identified.



Figure 3. AHEV in the Study Area

Surface Water Quality

Three (3) surface water quality stations all stormwater drains, were identified and surveyed for the collection of baseline water quality within the Study Area. Overall, the findings of the current study are within the maximum permissible limits under the NEA *Allowable Limits for Trade Effluent Discharge to Watercourse or Controlled Watercourse*.

Recommended Key Mitigation Measures

To reduce the environmental impact of the development, key mitigation measures on site include the establishment of proposed retained area (PRA) (Figure 4), compensatory planting along green buffer and streetscape areas incorporating fauna-attracting landscape planting palette with native flora species whenever possible. To reduce disturbance to biodiversity within the PRA from noise and light, measures such as installing noise barrier around the PRA, developing a Light Management Plan (LMP) and scheduling of heavy construction works. The full list of the recommended key mitigation measures is summarised in Table 1.

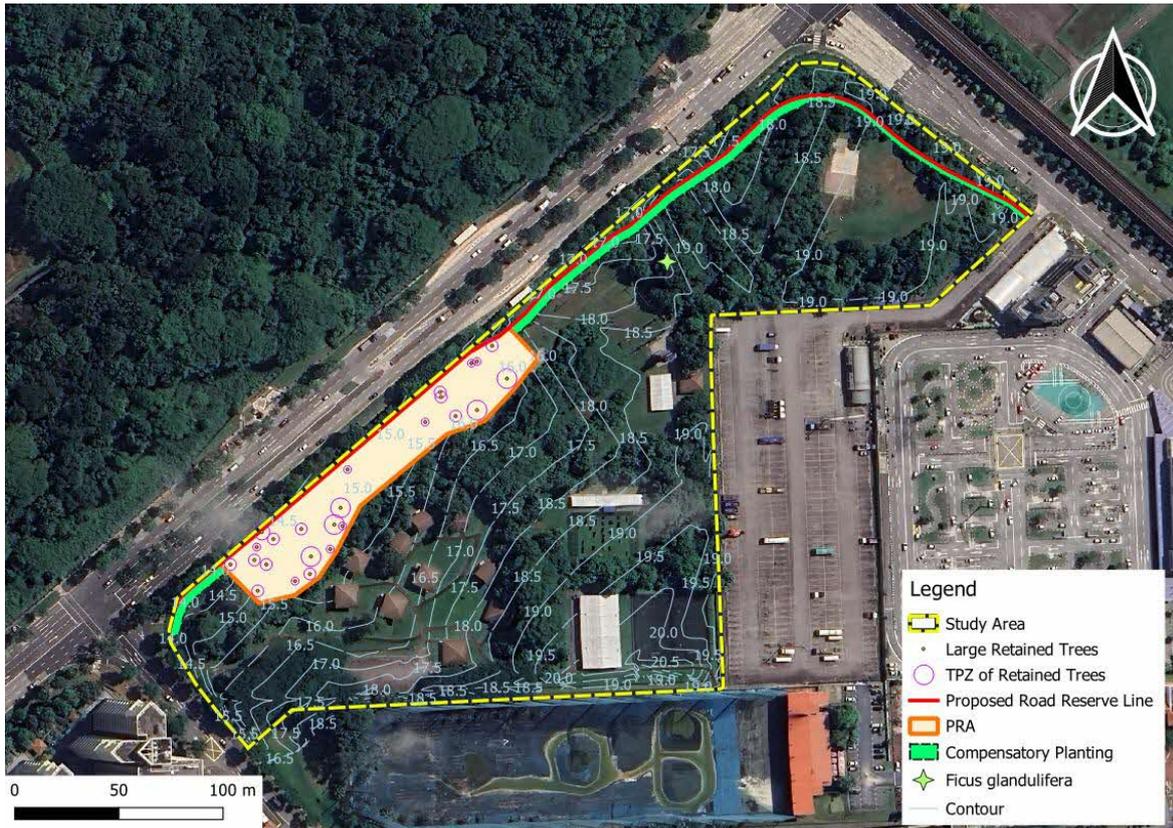


Figure 4. Proposed Retained Area (PRA)

Table 1. Summary of key mitigation measures to be implemented

Environmental aspect	Key mitigation measures
Pre-Construction/ Construction Phase	
Biodiversity	<ul style="list-style-type: none"> Proposed retained area (PRA) Incorporate native plant species such as those recommended in Table 5-18 into planned landscape planting palette Phased/directional clearance of vegetation Implement Light Management Plan (LMP) if night works are necessary Install hoarding and noise barriers around the work site Physically tag trees to be retained and transplanted on site Establish Tree Protection Zones (TPZ) for trees to be retained Identify plants to be transplanted Ensure Pre-felling fauna inspection of trees and burrows As far as practicable, avoid the commencement of tree felling during the peak bird nesting period (February to July) Monitor tree and vegetation health regularly Conduct daily checks of ECM blankets and pits Ensure ECM blankets are made of biodegradable material with no plastic mesh netting Conduct biodiversity awareness trainings for workers Install 6m noise barrier along boundary of the PRA during all construction stages
Surface Water Quality	<ul style="list-style-type: none"> Implement PUB-approved ECM Plan Emergency spill kits to be present to handle any chemical spillages
Operation Phase	
Biodiversity	<ul style="list-style-type: none"> Establish green link through future development to facilitate volant fauna movement Proposed wildlife bridge and animal culvert

Summary of Impact Assessment

An overview of impact assessment for both construction and operational phases are summarised in Table 2.

Table 2. Summary of impact assessment

Environmental aspect	Impacts before mitigation	ES	Residual Impacts after mitigation	ES
Pre-construction/Construction Phase				
Biodiversity	Moderate Negative to Slight Negative	-108 to -14	Moderate Negative to Slight Positive	-81 to 9
Surface Water Quality	Slight Negative	-21 to -12	Slight Negative	-7
Operation Phase				
Biodiversity	Moderate Negative to Slight Positive	-81 to 27	Slight Negative to Slight Positive	-32 to 27

A Nature Group Engagement session was conducted on 20th November 2024 where the EIA findings were shared, and mitigation strategies were discussed.