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REDEVELOPMENT OF ABANDONED HIGHLAND TOWERS AS MEMORIAL LANDSCAPE

Anis Hazirah Zubaidi, Zainul Mukrim Baharuddin* and Mazlina Mansor
Department of Landscape Architecture, KAED, IIUM

ABSTRACT

The aim of this project is to reclaim the abandoned area of Highland Towers and redevelop the area into a memorial park. The objectives of the project are to rejuvenate the historical value of the place, to revitalize the abandoned area, and to propose green spaces. The process included identifying issues and the solutions for the proposed design of the project. Data collection method consisted of primary and secondary data of the subject. The proposed design considers the slope condition and the historic value of the site. Any proposed development must take considerations the stability of the slope condition.

Keywords: *Memorial Landscape, Limestone Hill, Eco-Tourism Park*.
*Corresponding author: zainulm@iium.edu.my

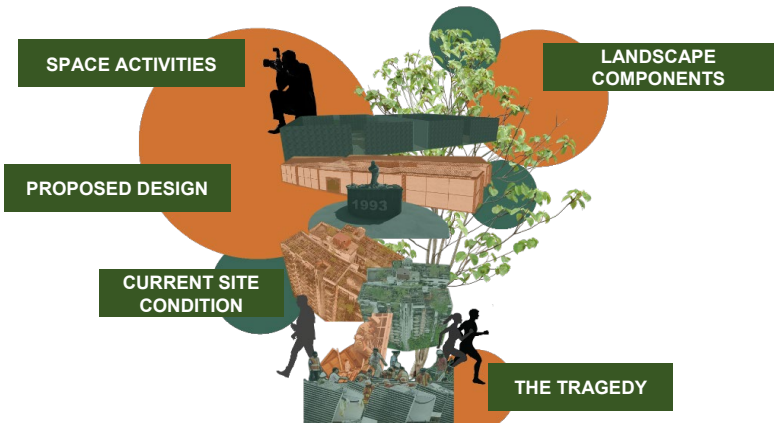

Figure 1: Summary of the project

INTRODUCTION

A major landslide that happened on 11th December 1993 in Taman Hillview, Ulu Kelang, Selangor, Malaysia had caused an apartment building, Highland Towers, at Ulu Kelang to collapse. The collapse structure involved Block 1 of the Highland Towers, resulting in the death of 48 people. The event led to the complete evacuation of the remaining two blocks due to safety issues. The collapse was due to burst pipes, which had allowed the barren ground near the site to wash away (Nalley, 1993)

This project aims to redevelop the abandoned area of Highland Towers through a 'memorial landscape' design concept aimed for low impact tourism and recreational developments. Three main objectives outlined for the project are:

1. To rejuvenate the historical values of the area as to highlight its identity,
2. To revitalize the abandoned area by transforming it into parks and green spaces for the benefit of users and the environment,
3. To provide green infrastructure in creating a conducive space for visitors' attractions.

The three issues with the project are seen from these aspects - economy, environment and social. The question on the economy is concerning how currently the site is seen as having a negative image for the city. It decreases the property's value and investment within the area and consequently burdens the municipal in terms of legal aspects. The issues from the environmental aspects such as the disruption or alteration to wildlife habitats is a potential danger in the form of accessibility to people and depress the amenity values of the area. In addition, the issues concerning social aspects include the site has become a magnet for crimes, contributing to urban horror fiction and induced a depressed community within site and its contextual areas..

LITERATURE REVIEW

LIMESTONE HILL

Limestone hill is landscape underlain by limestone which has been eroded by dissolution, producing ridges, towers, fissures, sinkholes and other characteristic landforms. Limestone sedimentary rock is formed from the precipitation of the whitish crystalline mineral, calcium carbonate, from warm seawater. These limestone masses have undergone extensive weathering and erosion to create a typically rugged topography known as tower karsts. (Price, 2018)

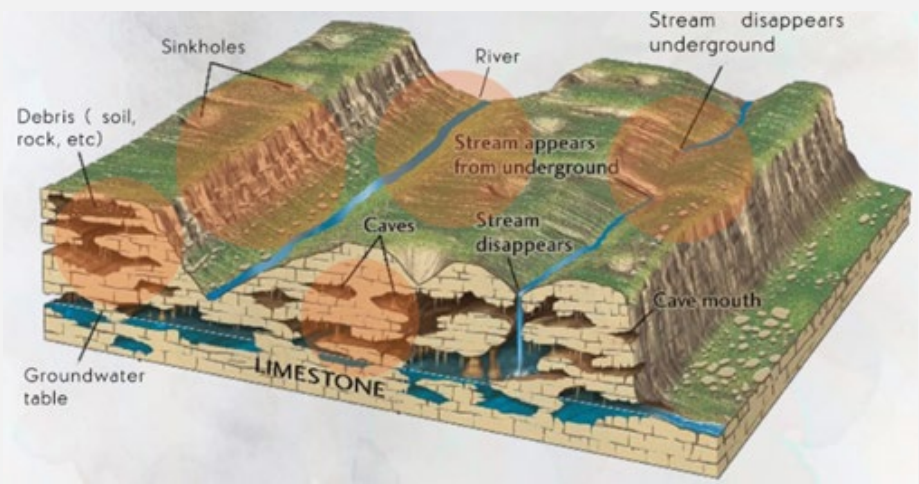

Figure 2: Underground structure of limestone hill

LIMESTONE HILL GEOMORPHOLOGY

Tower karst landscape is identified as isolated clusters of linked, strikingly dramatic hills with rugged characteristics of formidably steep to almost vertical facades; barren and jagged cliffs; rocky overhang; plunging sinkholes and sparsely vegetated valleys. Existence of several small streams, which flow through the connected limestone formations forms a flow pattern of several large branches that empties into the main river. Acidic rain and groundwater penetrate through fissures in the fractured surface of limestone sedimentary rock deposits, it dissolves and erodes the limestone's calcium carbonate content producing tower karst topography (Refer Figure 2) (Goldscheneir et al., 2007).

THREAT TOWARDS LIMESTONE HIIL

Limestone hill is exposed to the threats of quarrying, unsustainable agriculture practices, mining for gold and antimony, building of temples, tourism development, and flooding related to hydroelectric dam construction. Granting these limestone hills as state park status would be ideal as most of them are on state land. Unless limestone hill is located in inaccessible and remote areas or lies within protected national parks, there are few laws to protect them (Jaafar, 2003).

ECO-TOURISM POTENTIALS OF LIMESTONE HILL

Minimal development and construction must be carried out when planning an ecotourism place on a limestone hill, due to the sensitive condition of the underground structure. Examples of ecotourism activities that can be carried out at limestone hills are such as limestone hill hiking, sightseeing in the forest reserve and cave exploring. Eco- friendly tourism management is important to preserve the biodiversity of the limestone hill. Implementing tourism carrying capacity is one of the solutions in protecting the environment of limestone hill (Jaafar, 2003).

ABANDONED SPACE LANDSCAPE

Abandoned land is defined as land which was once used but has now been abandoned. (stats. oecd.org, 2001). Types of abandoned land are - a) Land that is derelict due to natural causes, e.g. neglected woodland, farmland, marshes, mudflats, etc., b) Land damaged by development that is subject to enforceable planning conditions, c)Land still in industrial or other recognized use, d) Land damaged by development that has blended into the landscape or put to some form of acceptable use and no longer constitutes a problem, e) Vacant sites awaiting development, and f) Small areas of neglected or unsightly land were less than 0.02ha.
In the case of the project, the land can be in the category (d) that is converted into a designed landscape under the theme memorial park for people and nature (Corbelle-Rico et al., 2008).

MEMORIAL LANDSCAPE

Memorial landscapes consist of places or objects which speak of the memory of an event or person. Such landscapes can be designed, vernacular, ethnographic, or historic, and range in form and scale from a single object to a panoramic viewshed. The most common form is to use a statue or plaque placed at a strategic location. Types of memorial landscape are war memorial, natural disaster memorial or prominent individual memorial. Elements commonly found within memorial landscape are flat flush plaques or markers, central water features, statuary, and gathering spots (tclf.org).

REFERENCE STUDIES

1. DUISBURG NORD PARK, GERMANY

Figure 3: Landscape design of the park in the in the reclamation of derelict industrial sites in urban areas. (Source: Latz, 2016)

Created to reuse old industrial areas in the Ruhr river basin, the design signifies the reclamation projects based on the Heritage Character. The blasting hall has been converted into a theatre and used as the venue for the Ruhr-Triennale festival. Public funds have been used to transform an important monument of industrial heritage into a 24-hour multifunction park for all ages. The landscape was designed by Latz & Partner's involving an important legacy (Latz, 2016)

2. 9/11 MEMORIAL & MUSEUM, NEW YORK

Figure 4: Landscape design of the plaza (Source: 911memorial.org, 2020)

The memorial plaza is designed to be a mediating space. It belongs both to the city and to the memorial. It is located at street level to allow for its integration into the fabric of the city. The plaza encourages the use of this space by New Yorkers on daily basis. The memorial ground is not isolated from the rest of the city, but it is a living part of it. It was designed by Michael Arad and Peter Walker. The names of the 2,983 people who were killed in the 2001 and 1993 terrorist attacks are inscribed on bronze parapets edging the memorial pools.

The names are grouped by the locations and circumstances in which victims found themselves during the attacks. The twin reflecting pools are situated within the footprints of the tower (Frearson, 2011).

METHODOLOGY

Primary and secondary data is used in the data collection for this project under mix-mode. The primary data collection is site inventory and analysis obtained from field study of the proposed site. An online survey is also conducted to obtain the perception and preferences of the public towards Highland Towers redevelopment. Documents and records from Ampang Municipal Council, literature from websites were reviewed as the secondary data for the project.

INVENTORY & ANALYSIS

The site inventory consisted of information regarding the land-use, physical, biological and social attributes of the site. The physical attributes were the topographical features, hydrology and soil information. The biological attributes consisted of natural vegetation, designed landscape and wildlife habitats. The social-cultural attributes included the legal aspect, boundary, people living in and around the project site, infrastructure facilities, landscape features, views and sensory and a few others. Overall, the residential area within the project's site consists of a strong neighbourhood concept with a close-community ambiance and a gated residential for the safety of the residence. The commercial area contributes to 25% work sector, which encourages economic growth of the district and contributes to local's household income. The industrial area is a part of export industry trading and contributes to 75% work sector. The open spaces encourage active lifestyle, provide conducive living environment and create opportunity for recreational activity for all ages.

ONLINE SURVEY

An online survey was also conducted to obtain the views of the public towards Highland Towers redevelopment. 279 respondents answered a simple survey that was blasted through emails and WhatsApp using Google form. The questions enquire whether the public would like the existing tower to be demolished or to remain. 64 respondents wished that the tower should not be demolished due to its historical significance and environmental effects of demolition such as noise. 215 respondents agree to the demolition, stating that it can restore the forest environment and prevent drug addicts using the ruined towers. The public also suggested the place to be rebuilt with some new development that is accessible to the public (63 respondents). It means that there is a possibility of a Memorial Landscape to be proposed on the site based on this survey.

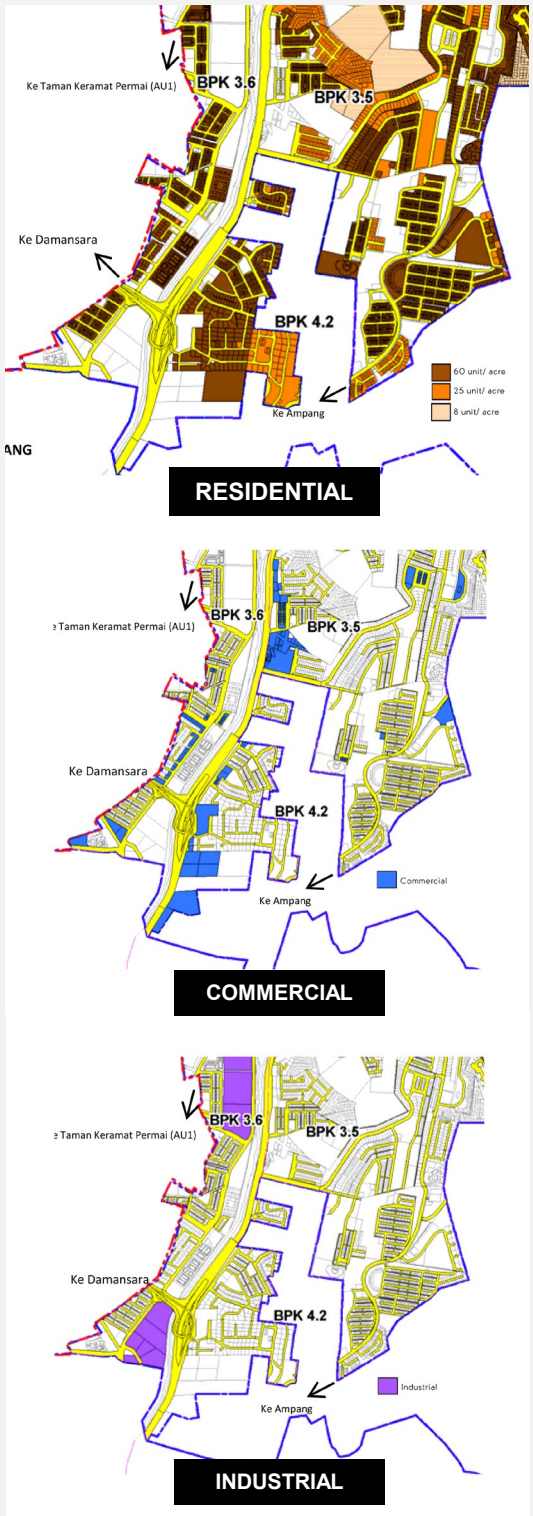

Figure 5: Inventory & analysis of project's site consisting of land uses and infrastructures' information

SITE SYNTHESIS

Based on the data collected, the aim to create a memorial landscape design at an abandoned space need to consider the nature of the site. Seven (7) design considerations are established (Figure 6): (1) Imprinting the collapsed building with structure or marking as a memorial. The structure can serve as a landmark or nodes for the area and induce the sense of remembrance towards the tragedy, (2) Reclaiming the derelict remaining building as a nodes for the area. The focal of the development should be transforming the derelict building into a usable space with consideration of a proper guidelines to maintain the mystical ambiance of the space, (3) Providing a forest trail at the slope area to make use of the scenic vista of the high land, (4) Incorporate a proper stormwater management in consideration to the sensitive slope condition of the site and to avoid further landslide during heavy rain, (5) Designing a memorial park with recreational facilities. Providing facilities that can form different activities that can enliven the area, (6) Creating alternative access to the site. The importance of a different access is to segregate the outsider visitors from the private residential community, and (7) Retention and conservation of environmentally sensitive area. Only minimal development should be carried out at the slope area due to the unstable underground structure of the hill.

(Source: 911memorial.org, 2020)

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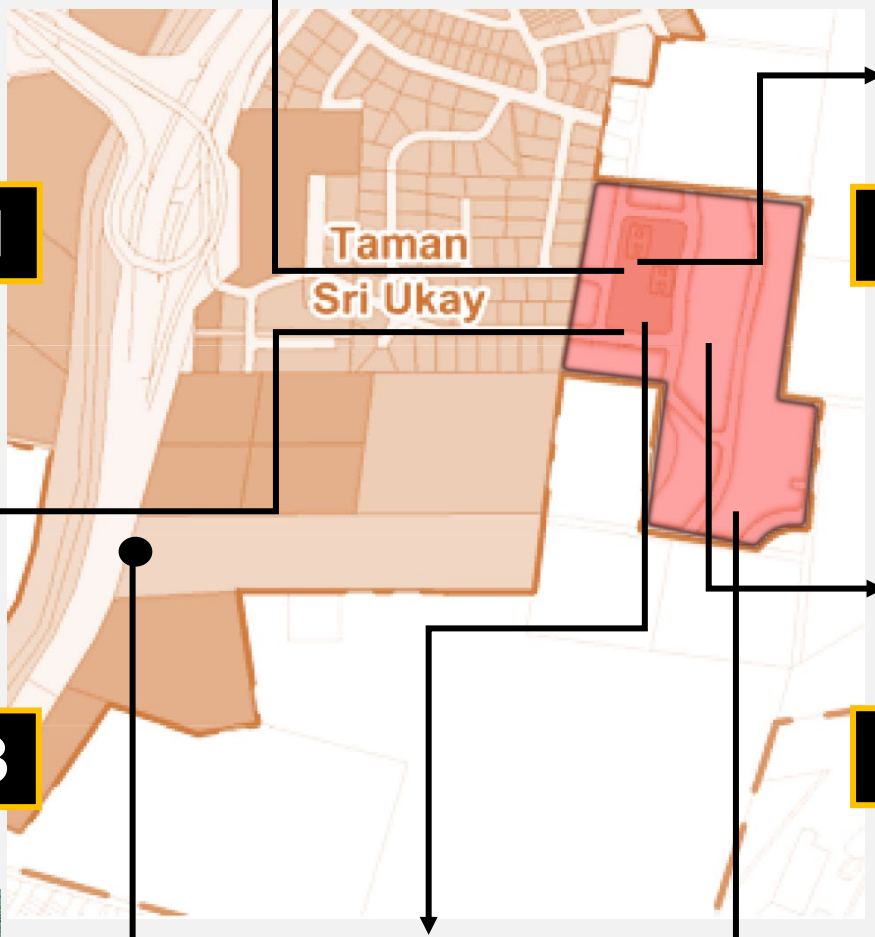

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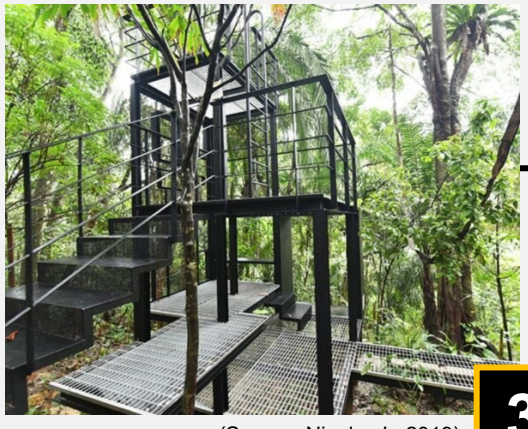
(Source: 1millionwomen.com.au/, 2015)



(Source: Nicole, J., 2019)

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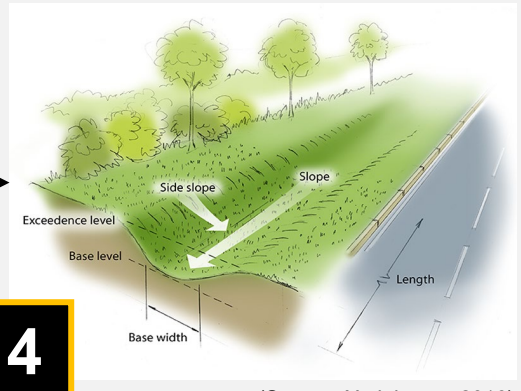

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(Source: Xpdainage, 2016)

(Source: klia2info, 2020)

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Source: Amar Shah & Ashwin, 2019)

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(Source: PlannersWeb, 2013)

Figure 6: Site synthesis and design considerations

DESIGN DEVELOPMENT

DESIGN STRATEGIES

The design strategies imposed on this project are: **1) Memorial Landscape, 2) Reclaimed Landscape, 3) Low Impact Development and 4) Sustainable Development consisting of economy, environment and social aspects.**

The first strategy -Memorial Landscape is imposed through the hardscape and structures. Examples of hardscapes commonly used at memorial landscape are flat plaque or marker, or a feature wall with names of the victims. Memorial space is mainly used as a gathering space for visitors and families of the victims to commemorate the victims. Hence the landscape designed needs to be a space with calm ambiance, that can be achieved with simple planting.

The second strategy is Reclaimed Landscape which is applied in the softscapes and planting schemes. The purpose of this strategy is to recreate and preserve the original landscape of the site which is located at limestone hill forest. The sensitive steep slope condition is also one of the reasons for the need to impose a reclaimed landscape. Native tree species are proposed such as *Gelam, Gaharu* and *Jelutong* for the site. Passive activities such as sight-seeing, walking, trekking, jogging and photography are deemed most suitable to comply with the strategy of a reclaimed landscape.

The third strategy is Sustainable Development, which is applied to fulfil the social, environment and economy needs of the site. From the social aspect, the spaces need to be designed for people to interact and socialize, not only with other people but also with the elements of the space. Environmental aspect is fulfilled with the conservation of the natural state of the site as much as possible-i.e. with minimal alteration of the site topography. Hence, the proposed circulation is following the original contour of the site. The economy aspect of Sustainable Development is fulfilled through creating an exclusive space with payment imposed. This will aid in obtaining revenue for the maintenance of the overall site.

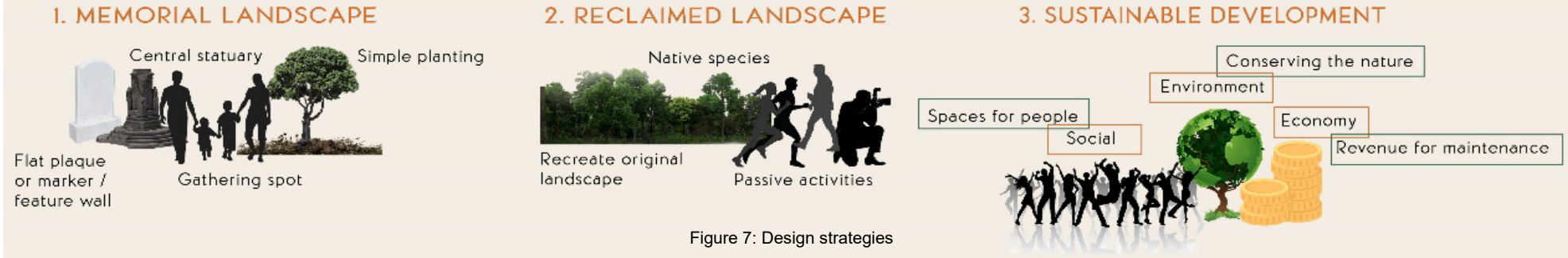


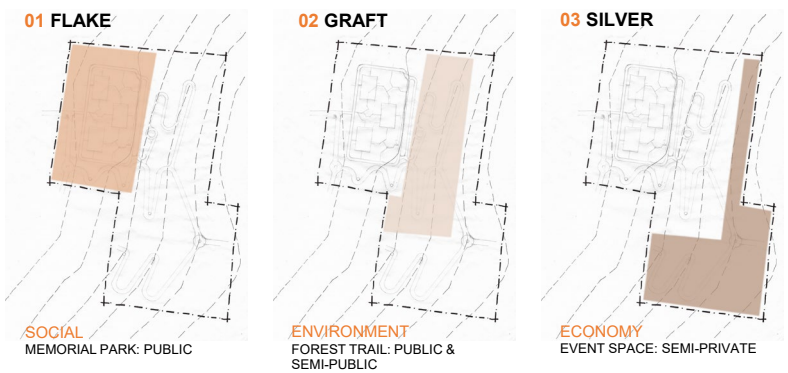
Figure 7: Design strategies

DESIGN CONCEPT

The design concept implemented symbolises a reflection on the past, as lessons for the future to preserve the imageability and character of the space (Figure 8). The elements of the memorial landscape are portrayed with flake pattern to re-imagine the collapse of Block 1. The spaces of the site are arranged in graft arrangement to create the sense of exploration to the visitors. The circulation are designed in continuous style based on Islamic value of accessibility or universal design for all through seamless spaces without obstruction.

Figure 8 : Design concept Implemented

Linkages are planned according to the slope condition, followed by space division according to function and connectivity between each spaces are determined.



Planting schemes are determined according to the space function

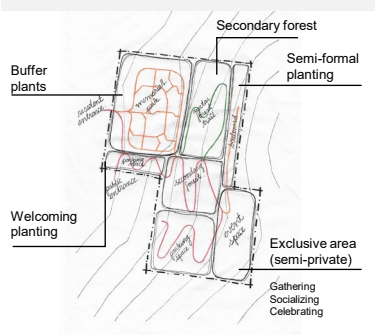


Figure 9: Space Development Diagrams (left) Space Zoning (middle) Conceptual Plan (right)

SCHEMATIC

The spaces are divided according to the strategy of sustainable development that incorporates the three aspects; economy, environment and social. The economy space is proposed to gain revenue for the proposed development, while the environment and social spaces are proposed as nodes and landmarks for the area.

At the first space, which is located at the lowest level of the site, the memorial structure and other spaces are constructed on the imprint of the previous apartment blocks. At the second space, which is located at the middle level of the site, the nocturnal forest is proposed to create a unique attraction to the site and to transform the hostile image of the site into an inviting area. The third level of the site is where an event space is proposed. This third space is a semi-private area where it can only be accessed by the people who paid for the space, hence contributing to the revenue of the site.

Figure 11: Master Plan

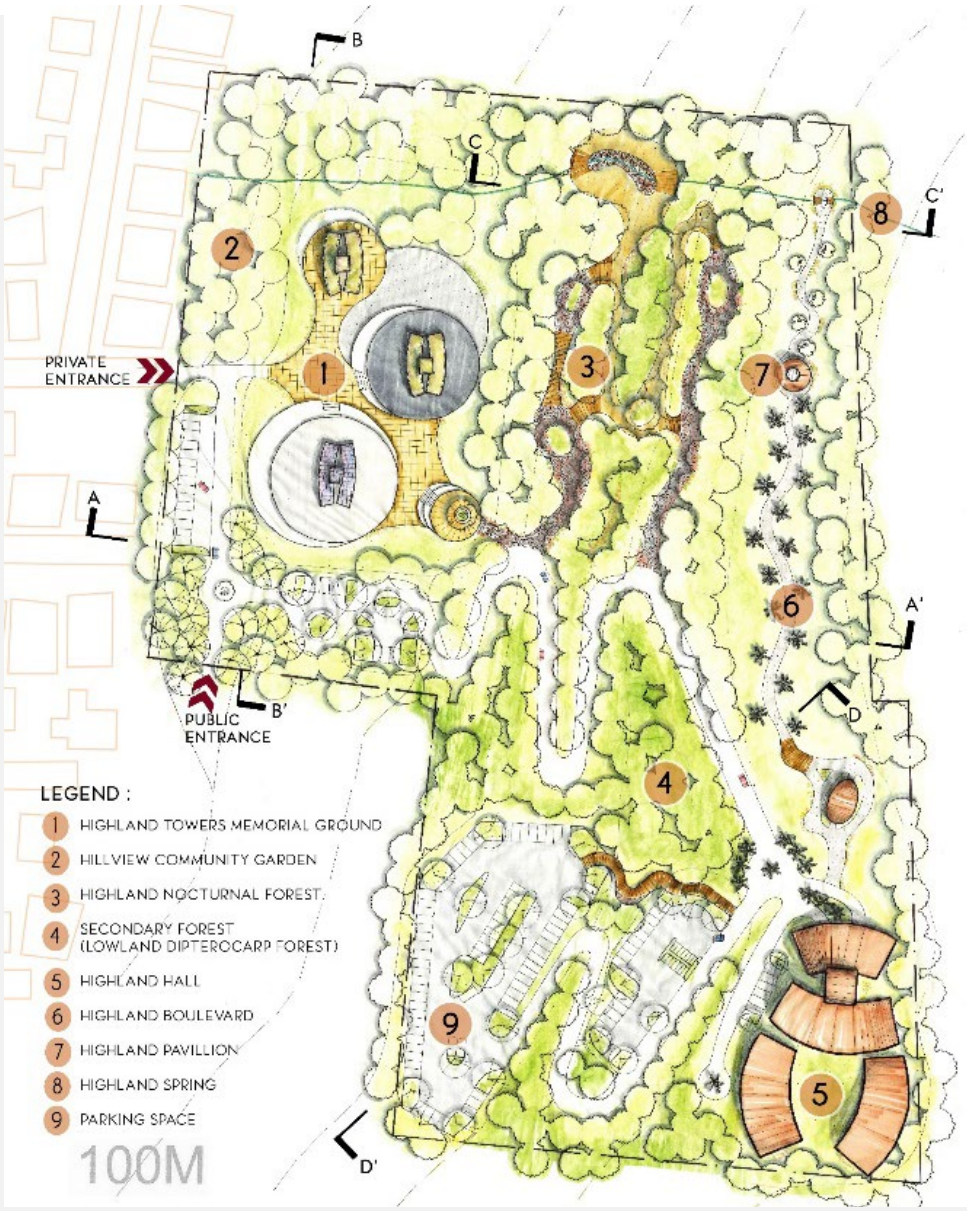


Figure 10: Schematic Plan

PROPOSED MASTER PLAN

Three major spaces at the site are Highland Towers Memorial Ground, Highland Nocturnal Forest and Highland Glass Hall, which is an event space. Parking spaces are provided for the memorial area and the event space. New circulation is proposed for public use to ensure the privacy and safety of the residents of the adjacent area of the site is achieve.

The hardscapes and memorial structures are proposed with consideration to the design strategy of a memorial landscape. The softscapes proposed considers the strategy of a reclaimed landscape. Circulation path following the slope condition is proposed in considering the strategy of reclaimed landscape to ensure the sustainability of the project.

PLANTING CONCEPT

The spaces are also divided according to the strategy of sustainable development that incorporates the three aspects of economy, environment and social i.e. to gain revenue for the proposed development and provide the outdoor environment as well as social spaces as nodes and landmarks of the area for the visitors.

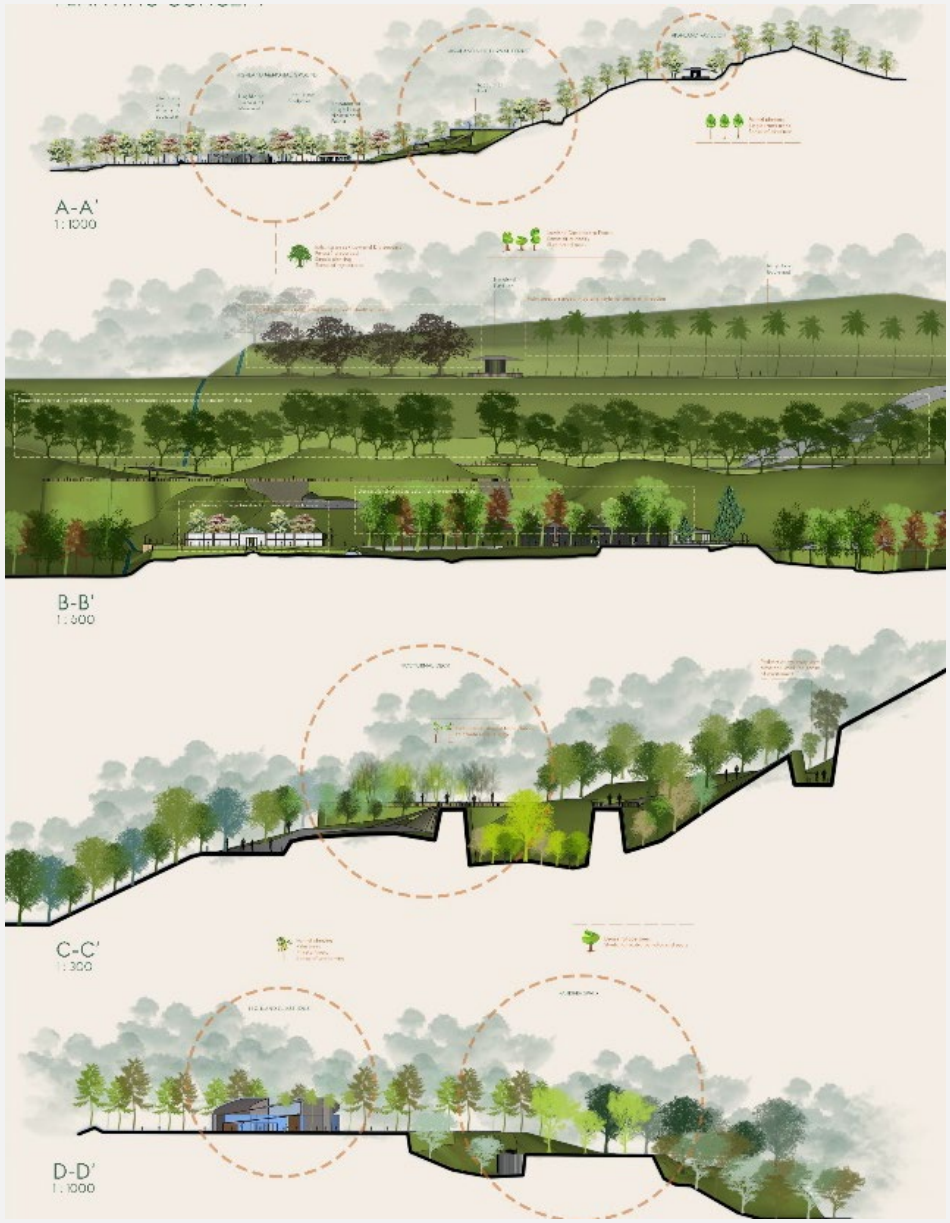


Figure 12: Elevations of the site showing the planting concept

The planting at the Highland Towers Memorial Ground consists of preserving existing trees, which is a Lowland Dipterocarp Forest. Simple planting is incorporated, and the ambience proposed with the planting scheme is the sense of mysteriousness, which can be achieved with the use of *Ficus spp*. At the Highland Nocturnal Forest, the proposed planting is to maintain the site with Lowland Dipterocarp Forest by illuminating the trees to create a sense of curiosity to the site. The Highland Glass Hall area incorporates a formal planting with single trunk trees and palm species proposed to visualize the sense of direction and formality.

DETAIL DEVELOPMENT AREA PLAN

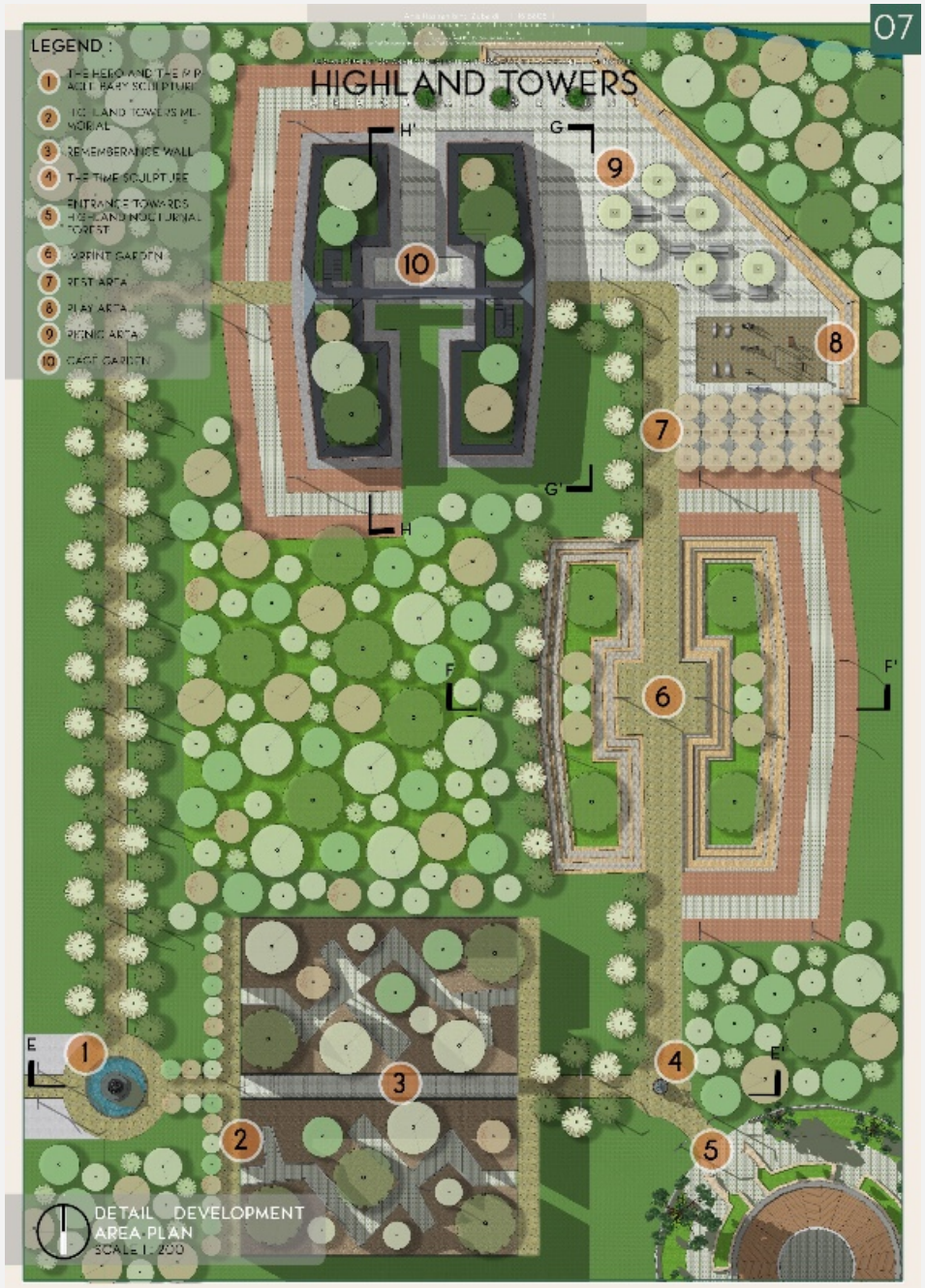


Figure 13: Detail Development Area Plan

SCHEMATIC

The area chosen for detail development is the Highland Towers Memorial Ground. The area consists of three major spaces which are Highland Towers Memorial, Imprint Garden and Cage Garden. These spaces are designed from the imprint of the previous apartment blocks, each with different characteristics. One of the major elements of this area is the Remembrance Wall where the names of the victims are carved to commemorate the tragedy.

Figure 14: Highland Towers Memorial Ground

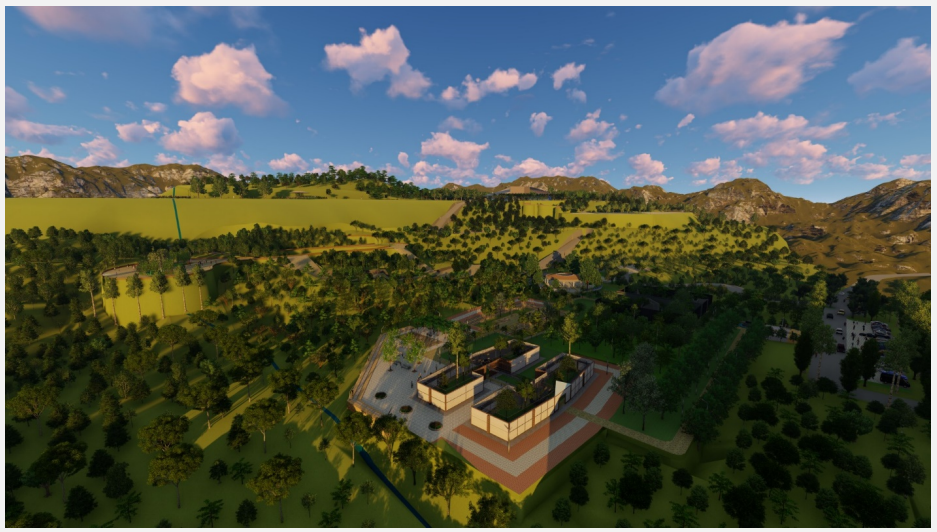


Figure 15: Birds eye view of the overall site

Figure 16: Elevation E-E' shows the Highland Towers Memorial (top), Elevation F-F' shows the Imprint Garden (middle), and Elevations G-G' and H-H' show the Cage Garden (bottom)

CONCLUSION

The hilly area of the site creates opportunity for design, which can influence the highland area. By proposing a semi-private area at the high land level, users will feel the sense of exclusivity, thus increasing the value of the site. The twist and turn circulation patterns of the site are proposed considering the slope condition to prevent steep pathway, overcut and fill of the natural slope. The proposed design takes consideration of the design strategy, which is memorial landscape-hardscapes, reclaimed landscape-softscapes and sustainable development-economy, environment and social. This is to ensure the sustainability of the site, hence fulfilling the aim of the project.

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