

REPORT ON THE DESIGN PROJECT OF THE SOCIALY INCLUSIVE WASTE MANAGEMENT HUB 社區共融廢物處理中心設計項目報告



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A. Foreword

前言

'PolyU Jockey Club "Operation Solnno"' puts its strategic focus on "double ageing" – ageing of people and building stock – the combined impact of which would create huge social problem in Hong Kong if not being addressed timely and properly.

In Season 2 of the "One from Hundred Thousand" Symposium held in January 2019, we adopted the theme "Empathising with Elderly in Workplace" to foster a discussion on pushing forward age-friendly employment environment and supporting re-employment of elderly. Grass root elderly workers were involved in the co-creation workshops and participated in the sharing at the symposium together with academia, designers and concerned members of the public from all walks of life.

We believe that for social innovation to bring evolution and improvement for the future, it should be forward-thinking and implementable. We thus started this Season with the hope to launch social innovation action projects which can truly respond to actual social situation and the concerns of the elder workers. Such action projects should not only remain as a theoretical study by an academic institution but should be able to come up with a prototype that can enable practical and feasible actions be taken forward. While we are striking a balance between innovation and being practical, we are endeavoring to develop a reference model of implementing university-led social innovation action project.

In our city, frontline cleaners are always perceived working in an occupation with low social status. Usually grass-root elderly people who are unable to find other jobs would work as cleaners to secure their living. Collecting and handling enormous amount of garbage every day is extremely essential in maintaining hygiene and public health in our high-density city. Nevertheless, frontline cleaners have rarely offered with hygienic and humanistic working environment that they deserve. Stemmed from Season 2's theme of "Empathising with Elderly in Workplace", we started the "Improvement in working environment of cleaners" as one of our action projects which aims to make suggestion on improving working conditions of frontline street cleaners.

Taking the opportunity that the Food and Environmental Hygiene Department (FEHD) is planning to build a new multipurpose waste management building in Hung Shui Kiu, we work out a design proposal of a community waste management centre for garbage collection, waste recycling, and more pioneering with provision of decent space and facilities to serve our cleaning workers. After almost a year of hard work by various groups, we have completed this substantial, well-organised proposal which could further facilitate the discussion between concern groups and government department and help the concern groups to strike for their needs.

香港理工大學賽馬會社創「騷·In·廬」計劃以「雙老化」為策略重點議題，警示人口與建築老化，若未能及時解決，兩者的雙重效應將對香港構成嚴重的社會問題。

2019年1月舉行的第二季「十萬分一」社創研討會，以「長者友善就業」為主題，就長者友善就業環境及支援長者就業展開討論。基層的年長工友參加了共創工作坊和研討會等活動，與學術界、設計師和社會各界關心此題目的有心人一起分享和發表意見。

我們認為，社會創新要為未來帶來發展和進步，就應該是具前瞻性而又可實行的。此季度的主題，源起於我們期望開展能夠真正回應社會狀況、關注長者就業問題的社會創新行動項目。這些項目不應只是學術機構的理論研究，更應是切實可行的具體行動。我們追求創新與務實兩者之間的平衡，同時致力探索由大學主導的社會創新行動項目的參考模型。

在香港，前線清潔工經常被認為是地位低下的職業，通常由無法找到其他工作的基層長者，承擔清潔工辛勞的工作，以維持生活。他們每天收集和處理大量垃圾，維持我們高密度城市的環境衛生和公共健康，其工作至關重要。然而，他們卻很少得到應有的人性化待遇，例如衛生的工作環境。我們從第二季度「長者友善就業」的主題出發，開展了是次「改善清潔工人的工作環境」行動項目，旨在為改善前線街道清潔工的工作條件，作出建議。

食物環境衛生署（食環署）正計劃在洪水橋興建新的多用途廢物管理大樓，藉此機會，我們擬定了一份社區廢物處理中心的設計方案，以進行廢物收集、回收再造，及建議更多具開創性的空間和設施，期望使清潔工友重拾工作的尊嚴。透過與各合作團體近一年的努力，我們完成了這項實質及組織合理的設計方案，可以進一步促進關注團體向政府部門倡議。

Since the beginning of this Action Project, we have upheld the design principles of “user-centred” and “humanistic-oriented”. We collaborated with NGOs who concerned about the right of cleaners and community waste re-cycling. We engaged professional architect to work out the spatial design scheme. We interviewed cleaners and observed their works and visited different refuse collection points. We conducted public engagement workshops to explore possible models of our future waste management facilities and gathered views on the design of the waste management building. We attended meetings with community groups and government departments and made presentation at District Council meeting. With the support from the community groups, we arranged public consultation sessions to collect opinions from the community for fine-tuning of the proposal.

The design scheme is a feasible prototype for a new generation of government refuse collection point which should not be an unwanted facility within community but can stand as an icon of functionality and community pride showing that we have been treating our cleaning workers nicely commensurate to their indispensable service to our city.

I would like to express my heartfelt thanks for everyone who has participated in this project. The valuable experience gained at different stages of this project could truly facilitate our development of many more social innovation projects in the future.

When we are finalising this Design Proposal, the whole world is mobilised in fighting the deadly pandemic caused by the COVID-19. Under such a global public health crisis, we witness how the cleaners working diligently in the streets are making the essential contribution every day to protect people's health and life. Starting from now, let us provide our frontline cleaners with the respect, the compensation, the hygienic and humanistic working environment that they fully deserve.

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我們在開展行動項目之始，即秉持「以用家為本」及「人性化」的設計原則。我們與關注清潔工權益和社區廢物回收與再利用的非政府組織合作，聘請專業建築師來制定空間設計方案。我們訪問了清潔工友、觀察他們的工作，並考察大大小小的垃圾站。我們舉辦了公眾參與研討會，探索未來垃圾站可能的模式，並收集了有關廢物處理中心的設計觀點。我們參加了與社區團體和政府部門的會議，並在區議會會議上介紹了設計方案。在社區團體的支持下，我們安排了公眾諮詢活動，以徵詢社區意見，對方案進行微調。

我們認為這個綜合廢物處理中心的設計方案是新一代政府垃圾站的可行原型，使它們不再是社區內不受歡迎的設施，而是可作為兼具功能性和社區自豪感的標誌，更顯示出我們對為這城市進行不可或缺的清潔服務的工友，予以相應的尊重。

我衷心感謝這行動項目中各個參與的單位，過程中一連串的行動，讓我們獲得寶貴的經驗，有助我們將來可以更完善開展其他社會創新項目。

當我們為這份設計建議書定稿之際，全世界正緊張地動員各方力量對抗由COVID-19造成的新冠肺炎疫情。在這樣的全球公共衛生危機下，我們見到每天在街頭勤奮工作的清潔工人為保護人們的健康和生命做出重要貢獻。從現在開始，讓我們確保前線清潔工友也得到他們應有的尊重、酬勞，以及衛生和人性化的工作環境。

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Executive Summary

摘要

1. Project Objectives

Many of the frontline cleaners in Hong Kong are grass-root elderly people. They are paid at low hourly wage and are given low quality working equipment. Even though their job is physically demanding with long working hours, and they are required to handle stinky garbage, they rarely get reasonable and sufficient support at work. From time to time you may find news articles about exploitation of cleansing workers. All these have made cleaners an occupation with low social status and being regarded as dishonourable. We believe a vision of freshening up cleaning industry and the existing system can effectively enhance cleaners' value and offer them estimable and professional public image.

In light of this, we put forward a project of designing a socially inclusive waste management centre with recycling service provided. In this centre, not only a cleaner-friendly working environment is created, we also hope the neighbourhood community could make use of this place more than often and the centre could cultivate their habits of handling domestic waste on their own. Eventually, this new hub is expected to demolish the negative stereotype of waste handling industry, to push forward an eco-conscious society, and to trigger re-imagination on the future of waste handling industry.

2. Emerged Opportunity – Pairing government-initiated project with the needs of concern groups

To serve the additional population and to meeting the growing demand of waste management facilities in Hung Shui Kiu New Development Area, the Food and Environmental Hygiene Department (FEHD) plans to construct a multi-purpose waste management building at the junction of Hung Yuen Road and Hung Ping Road that integrates both refuse-collection and recycling facilities. This building will be the first of its kind in Hong Kong and it is anticipated that such arrangement will be a trend of handling waste in a community. In view of this, we hope to bring up a proper and thoughtful design proposal for this multi-purpose waste management building. This proposal is not just for enriching the university's portfolio but can also bring practical impact to community groups including Hong Kong Women Worker's Association and Waste-No-Mall. The committee members of these two organisations have stressed that, a well-thought-out proposal with descriptive and pictorial illustrations could definitely facilitate their negotiation with government officials. We also hope that the design contents and the practical approaches suggested in this proposal could become a referable model for construction of similar facilities in the future.

1.計劃目標

香港很多前線清潔工都是基層長者，他們時薪低、工作裝備簡陋。雖然他們每天要長時間從事體力勞動工作，又要處理骯髒難聞的垃圾，但在工作上卻往往未能獲得合理及足夠的支援，加上不時出現一些清潔工被剝削的報導，種種原因日積月累，清潔工被看為社會地位低下、不體面及不被尊重的工種。我們相信要有一套嶄新的視野和願景，長遠地從改變清潔行業及現有系統著手，才可以真正有效地提升清潔工的價值、自信和專業的公眾形象。

為此，我們希望設計一個社區共融、包含廢物回收服務的廢物處理中心，除了為清潔工建設一個對他們友善的工作環境，也鼓勵社區的居民多使用此中心，從而培養自行處理家居垃圾的習慣。長遠來說，我們希望這嶄新的大樓有助改變垃圾處理行業負面的既定想像，同時幫助推動一個文明社會的環保發展及重新建構對廢物處理行業的想像。

2.抓緊機遇：政府發展計劃配合相關地區組織的需求

適逢食物及環境衛生署(食環署)為應付洪水橋新發展區未來人口增長而衍生的廢物處理問題，計劃在洪水橋洪元路及洪平路交界興建本港首個同時集垃圾收集及回收設施於一身的綜合大樓。把垃圾收集與社區回收中心置於同一屋簷下，相信是日後處理社區廢物的一個新趨勢。有見及此，我們期望以洪水橋廢物處理綜合大樓為研究案例，提出一個完善的設計方案，而這份設計方案不只是一份收藏在大學的項目記錄，它將對社區組織「香港婦女勞工協會」及「不是垃圾站」有實際用途。兩個組織的幹事都曾經提及，一份完整、完善、切實可行及圖文並茂的計劃書，有助他們與政府部門協商，讓他們能更清楚地表達建議。此外，我們也希望設計方案的設計內容及實踐方式這兩方面都能為日後同類計劃立下楷模。

3. Design Principle & Approach

In terms of design contents, we uphold the design principles of “user-centred” and humanistic-oriented”. The design proposal is found on three objectives. Firstly, a humanistic and cleaner-friendly working environment is created in order to show our respect and care to cleaners, as well as to elevate their self-assurance. Secondly, the design and operations of the community recycling centre and its auxiliary services help enhance the eco-consciousness in the community and advocate the value and practice waste reduction at source. Last but not the least, to encourage the neighbourhood residents using the new facilities and to enhance the image of waste management industry, we work out a design in line with green living concept and via aesthetical architectural and spatial design.

4. Public Engagement Process

In terms of practical approaches, we believe that various stakeholders in the society should be involved to explore together for better execution of some forward-looking social innovation projects. In this project, we have consulted some concern groups of cleaners' right and community green groups. We interviewed cleaners and thoroughly observed their works. We visited different refuse collection points. During the process of developing the design of the waste management building, we joined the meetings between community groups and government officials. Then we work with a team of architects and community groups to formulate contents of the design proposal. With the support from the community groups, we arranged public consultation sessions to collect opinions from the neighbourhood community for fine-tuning of the proposal.

5. Spatial Arrangements, Management and Operations

Based on the limited information provided by the FEHD (including location plan, site area and designated purposes of some floors), we conducted architectural and spatial design for the multi-purpose waste management building in Hung Shui Kiu. Scope of design includes the façade of the building, spatial arrangement of G/F to 2/F, and the use of rooftop. In response to cleaners' needs in their working environment and the design requirements of recycling centre and its auxiliary facilities, we created six zones with different functions. These zones spread over from G/F to 2/F and are interconnected into an integrated system – Worker Bay and Staff Social Zone were designed for cleaners' exclusive use. The Lobby and Multi-purpose Communal Space are the zones for neighbourhood residents' activities. Recycling procedures take place in Recycling Factory. Waste disposal Area is where the public wastes are collected every day. Areas with different functions are thoughtfully connected in order to create synergy, resulting higher efficiency of the whole system. According to government's plan, the recycling facilities

3.設計原則及方向

在設計內容方面，我們秉持「以用家為本」及「人性化」兩個原則，設計意念主要以三個目標為基礎：第一，我們希望透過人性化及對清潔工友善的空間設計，彰顯對清潔工的尊重及關懷，並藉此提升清潔工對自我價值的肯定。第二，通過建議社區回收中心及其附帶服務的設計運作，提高社區環保意識，提倡及幫助實踐源頭減廢的生活習慣。第三，以符合環保生活的概念設計這綜合大樓，透過建築外型的美學及其他空間規劃，讓附近居民樂於並慣於使用綜合大樓的設施，從而改變社會大眾對廢物處理行業的負面印象。

4.公眾參與

在實踐方式方面，我們相信社會上不同的持份者應該一起探索最有效的合作模式，才可以完善地實踐具前瞻性的社會創新項目。在項目進行過程中，我們諮詢了數個關顧清潔工及關注環保議題的組織、與清潔工訪談及觀察他們的工作、考察大大小小的垃圾站。經過這次設計綜合廢物處理中心的實驗過程，我們亦參與了地區組織與政府部門的會議，然後與建築師團隊及地區組織合作落實設計書內容，並與地區組織協辦公眾諮詢，就著在社區收集的意見再調整設計。

5.空間規劃、管理及營運

我們以食環署提供有限的資料(包括項目平面圖、面積及部分樓層管理安排)為基礎，為洪水橋廢物處理綜合大樓的項目進行建築及空間設計，內容包括建築物外觀設計、地面至二樓的空間規劃，以及天台用途的建議。回應清潔工作上的需求和回收中心及相關設施設計上的需求，我們將六個不同功能的空間組合，連結成一個互通的系統並重新分佈到大樓的地面至二樓。這六個空間包括為清潔工而設的工友專用區、員工休息室；讓社區居民使用的社區大堂、多用途空間；進行回收工序的回收工場；

will be managed by the Environmental Protection Department (EPD). We expect EPD will follow FEHD's usual practice to outsource the operation of community recycling centre to contractor. Under the supervision of the two government departments, the building will be run by cleaning workers, recycling workers and management personnel who administers daily operation. Expected users of this building include self-employed waste collectors, scavengers, neighbourhood residents and small business operators in the neighbourhood.

6. Way Forward

It is a new attempt for the government to integrate refuse collection facility and community recycling centre. We believe such a multipurpose waste management system would be a trend in the future development. Even if the design proposal could not be fully implemented in Hung Shui Kiu, it is still a good reference for the future development projects of similar multipurpose municipal buildings. Furthermore, in working out construction projects in the community, we believe trust and balanced division of works among different parties, including the university department which is in charge of social innovation, related government departments, community groups, professionals (architects and designers), and the local community, are crucial. Our design proposal of the waste management building in Hung Shui Kiu presents a working model of social innovative project led by academic institution. It would be a good reference for future exploration on the role of university in social innovative projects, and to further develop a comprehensive model of other specific social innovative projects.

以及日常收集社區垃圾的廢物處理區。我們期望透過妥善地把不同功能的區域相互連接，能產生協同效應，讓整個系統有更好的發揮。根據政府的計劃，綜合大樓的社區回收中心部份將會交由環保署管理，我們估計環保署亦會仿效食環署，以招標形式聘請外判承辦商負責協助處理社區回收中心的日常運作，而在兩個政府部門以下分別會清潔工、回收工人及管理大樓運作的人員。而預計公眾用家則包括附近居民、私人垃圾收集商(俗稱「街佬」)、拾荒者，以及附近的小商戶。

6. 展望

興建一幢結合公共垃圾站及社區回收中心的綜合大樓是政府的新嘗試，我們相信這類綜合性的社區廢物處理系統，將會是未來的發展趨勢。即使最終計劃書的建議未必能完全應用於洪水橋廢物處理綜合大樓項目，其內容對於日後其他多功能公共建築的規劃項目，仍然是一個有用的參考。此外，我們認為在實踐一些社區建設項目時，相關單位——包括大學的社創部門、相關政府部門、地區組織、專業人員(建築師及設計師)，以及地區群眾之間的互信和分工合作上的平衡是十分重要。此計劃書正正體現了一個由學術機構牽頭的社會創新項目的工作模式，這對於今後大學在社會創新項目中的角色定位，以及發展其他社會創新項目的運作模式，將甚具參考價值。

B Background

背景

Current working conditions of outsourced cleaners 外判清潔工現時的工作處境

In Hong Kong, cleaners are stigmatised as an occupation with low social status and dishonourable. Even though many people understand the hardship of a cleaner and their hard work every day in different corners of a city, we still cannot get rid of the fact that cleaners often undergo unreasonable employment conditions – staying with stinky and dirty garbage, adverse working conditions, physically demanding duties and exploitation of workers in terms of wages and benefits.

The demand for cleaners in this city is huge but the working condition of cleaners has little improvement. Since the government has outsourced cleansing services, and followed the practice of awarding contracts according to the “lowest bid wins” principle, many cleansing companies lower their bids and reduce cost by exploiting the cleaners – paying cleaners with the statutory minimum wage with least employees’ rights and benefits, and providing minimum equipment, such as no extra set of uniforms (only two sets per year), poor quality brooms and insufficient facial masks and towels. Apart from that, many of the cleaners have experienced snobbish and disrespectful behaviours, like being avoid, or passer-by covering their noses when walking pass a cleaner at work. Because of adverse working conditions and environment, people who are physically more capable or with more advanced education background would hardly work as cleaner. Grass-root elderly people who do not have many skills need to work as cleaners to secure their living. You can often find in this city that old people work hard on the street or in public lavatories as cleaners. A survey by the Hong Kong Catholic Commission

在香港，清潔工往往被認為是社會地位低、不體面的工作。雖然很多人都明白清潔工每一天在城市不同角落辛勤地工作是值得尊重的，但一提起清潔工，大家首先想到的，卻多是有關清潔工要承受不合理的工作待遇——身處骯髒的垃圾和惡臭之中、惡劣的工作環境、長時間體力勞動、被剝削的薪酬和福利等。

雖然清潔服務的需求量大，但清潔工的待遇卻少見提升。自從政府開始外判清潔服務，並以「價低者得」方式評標後，不少承辦商為降低成本，會壓榨清潔工的薪酬待遇，或往往只給予清潔工法定最低工資及最簡陋的工作配備，例如沒有額外的制服（一年只提供兩套工衣）、質量差的掃帚、或不充足的口罩及毛巾等。此外，許多清潔工工作時都有被歧視或被不禮貌對待的經歷，例如在街上被路人投以厭惡目光、路人途經時會掩鼻而過。在各種差劣的工作條件及工作環境下，有能力選擇的人多不願意從事清潔服務行業。相反，不少基層長者因為缺乏專業工作技能及年紀老邁而未能找到其他工作，為保生計，他們只能從事清潔工作。於是，年邁的清潔工在街道上或



for Labour Affairs in 2015, found that most of the street cleaners were over 60 years old. More than half of those surveyed were between 65 and 75 years old. According the figures from the Census and Statistics Department in March 2018, general cleaners earned an average monthly salary of HK\$9,179, while cleaners for public lavatories get a bit more at HK\$9,949 per month.

To keep our city functioning, cleaners have to work in an adverse working environment and handle enormous amount of garbage for the city every day. They play an important role in our lives. They should be given more respect and appreciation they deserve, in terms of tangible benefit and intangible recognition. While some labour organisations constantly fight for the rights and benefits for cleaners, it is also important to step up the work to improve the cleaners' working environment in a humanistic approach, and create a more cleaner-friendly workspace for the cleaners. We need a vision of freshening up the cleaning industry and the existing system, so as to give cleaners a more vital, estimable and professional public image.

公共廁所裡辛勞地工作的畫面，經常會在我們的城市出現。根據香港天主教勞工事務委員會在2015年進行的一項調查發現，大多數街道清潔工都已經超過60歲，而當中超過一半的受訪者年齡更在65至75歲之間。根據政府統計處2018年3月發表的統計數據，一般清潔工的平均月薪只有9,179港元，而公共廁所的清潔工的月薪則為9,949港元。

使我們的城市能保持運作，清潔工是其中重要的一員。他們每日置身於惡劣的工作環境，為我們處理大量垃圾，我們應該給他們更多的尊重，而他們也應該得到更多物質上的回報。社會上有不少團體和勞工組織一直為清潔工爭取提高薪酬及福利等的勞工權益，但以「人性化」為原則去改善清潔工的工作環境，以及為他們積極創造一個對清潔工友善的工作空間，亦同樣重要。我們需要有一套嶄新的視野和願景，長遠地從改變清潔行業及現有系統著手，才可以真正有效地提升清潔工的價值、自信和專業的公眾形象。



A place initiating change in cleaners' working conditions and waste management industry 一個促使改變清潔工工作狀況及廢物處理行業的地方

Many of the public refuse collection facilities in Hong Kong always leave an impression of bad odour and dampness. Working conditions for cleaners in these facilities are undesirable. From time to time, some ideas of improving the refuse collection facilities may come up. Yet, it is difficult to modify the existing structures and arrangements, and bring change to the poor conditions. Recently, the government proposes to construct a multi-purpose building that comprises both refuse-collection and recycling facilities in Hung Shui Kiu. This initiative comes at a right time to put the change and reform in action.

To serve the additional population and to meet the growing demand of waste management facilities in Hung Shui Kiu New Development Area, the Food and Environmental Hygiene Department (FEHD) plans to construct a six-storey multi-purpose building at the junction of Hung Yuen Road and Hung Ping Road. Integrating both refuse-collection and recycling facilities, the proposed six-storey waste collection building will be the first of its kind in Hong Kong. In government's preliminary plan, refuse collection facilities managed by FEHD will be located on the ground floor and the first floor of this building, while a community recycling centre managed by the Environmental Protection Department (EPD) will be situated on the second floor. We understood from FEHD that the purpose of the remaining floors is still under FEHD's consideration. The detailed arrangement of G/F, 1/F and 2/F is under planning and has yet been revealed. This new refuse collection point is going to serve around 218,000* people of the new town, including an additional population of around 176,000*. The preliminary design of this multi-purpose building was endorsed by Yuen Long District Council on 11 March 2019. A detailed project design is now in progress. It is expected to seek funding approval from the Legislative Council in 2020.

We believe a proper and thoughtful planning of this new multi-purpose building could initiate change in cleaners' working conditions and waste management industry.

香港很多公共垃圾站都讓人覺得又濕又臭，骯髒不堪，清潔工的工作環境十分惡劣。坊間不時會有人提出一些改善垃圾收集設施的想法和提議，但在固有建築物上進行大規模的改善工程或更改工作安排卻非易事，很多提議根本難以在現有的垃圾站中實踐。最近，政府計劃在洪水橋興建包含公共垃圾收集站和社區回收中心的綜合大樓，正是把改革提案付諸實行的好時機

為應付未來人口增長而衍生的廢物處理問題，食物及環境衛生署(食環署)計劃在洪水橋洪元路及洪平路交界興建一幢六層高的綜合大樓，大樓設有公共垃圾收集站及社區回收中心，這是本港首個同時集垃圾收集及回收設施於一身的綜合大樓。初步計劃中，由食環署管理的垃圾收集設施，將設於地下及一樓，而二樓則設有由環境保護署(環保署)管理的社區回收中心。現時食環署仍未決定其他樓層的用途，而地下、一樓及二樓的實際安排仍在規劃階段，亦未向外界透露細節及任何規劃方向。政府預計這幢廢物處理綜合大樓將會服務洪水橋新發展區內約218,000*人，當中包括新增人口約176,000*人。綜合大樓的初步設計已於2019年3月11日獲元朗區議會通過，有關項目現正進行詳細規劃及工程設計，預計於2020年向立法會提交撥款申請。

我們認為，為廢物處理綜合大樓提出一個完善及經深思熟慮的規劃，將有助改善清潔工工作環境及改變廢物處理行業的生態。

*Source: Government Press Release on "Hung Shui Kiu New Development Area Revised Recommended Outline Development Plan announced" on 5 Sept 2016

* 資料來源：資料來源：2016年9月5日政府新聞公報「洪水橋新發展區經修訂的建議發展大綱圖公布」

Our vision and target 我們的願景及目標

We believe we should uphold the principle of “community user-oriented” when we plan and design the spatial arrangement and façade of this new multi-purpose building. This is not only for establishing a new image for cleansing service and waste handling industry, but also for enhancing the eco-consciousness and encourage the practice of waste reduction at source. The new design can give impetus to march on a foresighted imagination of the future development of waste management at community level.

We expect the façade and the content of this new building will make it a landmark in the community and will raise public concerns on eco-friendly ways of living and proper waste handling. Integrating waste collection and recycling to the same roof is believed to be a trend to handle waste at community level. Therefore, a well-thought-out design proposal for the multi-purpose waste management building in Hung Shui Kiu could be a referable model for construction of similar facilities in the future.

In view of this, the Jockey Club Design Institute for Social Innovation (JCDISI), in collaboration with a team of professional architects from “Occurrence Design & Research”, community green group “Waste-No-Mall” and concern group for cleaners’ right and women employment “Hong Kong Women Worker’s Association”, work out a proposal of the spatial design and operational procedures of the multi-purpose waste management building in Hung Shui Kiu. The design proposal is expected to be user-oriented. Thus, engagement with various stakeholders is considered to be essential in preparation of this proposal.

The design proposal is founded on three objectives. Firstly, it shows respect and care to cleaners by creating humanistic and cleaner-friendly working environment. The improved environment can also elevate the self-assurance of cleaners. Secondly, the design and operations of the community recycling centre and its auxiliary services will enhance the eco-consciousness in the community and advocate the value and practice waste reduction at source. Last but not the least, to encourage the neighbourhood residents to be keen with using the new facilities and to enhance the image of waste management industry by working out a design in compliance with green living concepts and via aesthetical architectural and spatial design.

我們相信，為這幢綜合大樓的空間及外觀作規劃及設計時，秉持「以社區內的用家為本」的原則，不但有助建立清潔服務及垃圾處理行業的新形象，亦可能讓社區的鄰里建立環保意識及培養源頭減廢的環保生活習慣，並為未來社區垃圾處理的發展，開展一個探索性的起步點。

我們希望這幢綜合大樓的外型設計及內容規劃會讓它成為該區的地標，並引起大眾對環保生活及廢物處理的關注。把垃圾收集與社區回收中心放於同一屋簷下，相信會是日後處理社區廢物的一個新趨勢。因此，我們期望為洪水橋廢物處理綜合大樓提出一個完善的設計方案，為日後同類計劃立下楷模。

有見及此，賽馬會社會創新設計院(JCDISI)聯同一群來自「Occurrence Design & Research」的專業建築師、社區環保組織「不是垃圾站」、以及關注清潔工及基層婦女勞工權益的組織「香港婦女勞工協會」，正為洪水橋廢物處理綜合大樓草擬一份空間設計及相應運作模式的計劃書。我們期望計劃書內的方案及建議安排能體現「以用家為本」的原則，因此，不同持份者的參與，在草擬計劃書的過程中是不可或缺的。

我們的設計意念主要以三個目標為基礎：第一，我們希望透過人性化及對清潔工友善的空間設計，彰顯對清潔工的尊重及關懷，並藉此提升清潔工對自我價值的肯定。第二，通過建議社區回收中心及其附帶服務的設計運作，提高社區環保意識，提倡及幫助實踐源頭減廢的生活習慣。第三，以符合環保生活的概念設計這綜合大樓，透過建築外型的美學及其他空間規劃，讓附近居民樂於及習慣地使用綜合大樓的設施，並改變社會大眾對廢物處理行業的負面印象。

Significances of the design proposal 設計計劃書的意義

The design proposal will not only be an example that forms part of the university's portfolio, but can also bring practical impact to community organisations. The committees of Hong Kong Women Worker's Association and Waste-No-Mall believed that the proposal could facilitate their negotiation with government departments more effectively since their ideas could be clearly articulated through this substantial, well-organised and visualised plan.

It is a new attempt for the government to integrate refuse collection facility and community recycling centre. The government has no previous experience in managing such kind of multi-purpose building. Therefore, EPD, which is in charge of managing the recycling centre, needs views from various stakeholders and professionals to formulate a better and well-arranged operational plan of the community recycling centre. Furthermore, even if the design proposal could not be fully implemented in Hung Shui Kiu, it is still a good reference for the future development projects of similar multi-purpose building in the other new development areas. If the design proposal has been taken as reference at the planning stage of construction of similar buildings, it would be more likely for the government to take the ideas from the proposal and further put the ideas into action.

Besides being used by the community organisations and reference for future projects, the design proposal also presents a working model of social innovative project led by academic institution. It would be a good reference for future exploration on the role of university in social innovative project, and to further develop a comprehensive model of other specific social innovative projects.

我們希望這份設計方案不只是一份收藏在大學的項目記錄，更重要的是，計劃書將對社區組織有實際用途。「香港婦女勞工協會」及「不是垃圾站」的幹事都曾經提及，一份完整、完善、切實可行及圖文並茂的計劃書，可以有助他們與政府部門協商，讓他們能更清楚地表達概念及更有力地爭取所求。

興建一幢結合公共垃圾站及社區回收中心的綜合大樓是政府的新嘗試，在未有相關經驗去規劃及管理同類型綜合大樓的情況下，負責管理社區回收中心的環保署更需要各持份者及專業人員的意見，以便作妥善合理的營運安排。此外，即使最終計劃書的建議未必能完全應用於洪水橋廢物處理綜合大樓項目，但其內容對於日後在新發展區興建多功能建築的規劃項目，仍然是一個有用的參考。如果政府日後在研究及規劃類似項目時，已經參考此計劃書的建議，我們相信政府採納並落實建議書設計內容的機會將會大增。

除了社區組織能利用設計方案與政府協商，以及為日後新發展區多功能建築項目提供參考外，此計劃書更體現了一個由學術機構牽頭的社會創新項目的工作模式。對於今後大學在社會創新項目中的角色定位，以及發展其他社會創新項目的運作模式，將甚具參考價值。

C Different Stages of Work

工作階段



First Stage: Preliminary Works (March – July 2019) 第一階段：前期工作 (2019年3月至7月)

During this stage, we tried to understand the working conditions and needs of street cleaners. We also observed the environment, facilities and operation details of refuse collection points in general, as well as the operation of community recycling centres. We targeted to make a checklist of features that require improvement and further review. This checklist will be used for formulating the design proposal in the next stage. At this stage, we also worked with community organisations, and explored opportunities for collaboration between community organisations and government department. The following is the list of works at the first stage (For details, please refer to Appendix I, II and III):

在這個階段，我們主要了解街道清潔工的工作狀況和需要，我們亦觀察了一般垃圾收集站的環境、設施和運作細節，以及社區回收中心的運作情況。我們希望能藉此整合一份需要改善和注意事項的清單，以便在下一階段制定設計方案。同時，我們開始與社區組織合作，尋找社區組織與政府部門合作的機會。下列是第一階段的工作(詳情可參閱附件一、二及三)：

i. Preparation and Research 前期預備及調查

1



Desk research to collect information of current situation of cleaning and waste management industry, and look for related organisations for possible collaboration

搜集清潔和廢物處理行業現況的資料，
以及尋找合適的合作組織

2



Site visit to public refuse collection points in different districts, making observation on the setting and working conditions of clearers

於不同地區的公共垃圾收集站實地考察，
觀察清潔工的工作狀況、環境及設備

3



Interview with cleaners to understand their needs and concerns

與清潔工訪談，了解他們所需及所關心的事

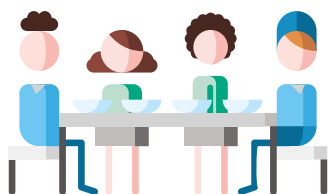
4



Job-shadowing to observe the working procedures and operation details of street cleaners

伴隨街道清潔工工作，觀察他們的工作程序和細節

5



Attending gatherings and activities organised by Waste Picker Platform (cleaners association) in order to understand needs of cleaners through some casual talks

參與「拾平台」(關注清潔工組織)與街道清潔工的聚會
及為清潔工舉辦的活動，從傾談中了解清潔工的需要

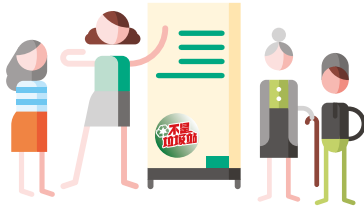
6



Visiting waste processing company using alternative waste handling system, such as Envac's odourless vacuum waste collection system

參觀及了解非傳統的廢物處理系統
(如：Envac的無味真空垃圾處理)

7



Setting up street counters with community green group “Waste-No-Mall” to collect views of neighbourhood community on development of the new refuse collection point in Hung Shui Kiu

聯同地區環保組織「不是垃圾站」設街站，收集洪水橋街坊對規劃新垃圾收集站的意見

8



Attending meetings that involved stakeholders, such as community organisations, government officials, concern group of cleaners' rights, to discuss with them on the issues of improving cleaners' working conditions and expectations on the new refuse collection point

參與涉及各持份者（包括社區組織、政府相關部門的官員、清潔工關注團體等）的會議，與他們討論對新垃圾收集站的期望及改善清潔工工作狀況的議題

9



Site visit to existing community recycling facilities to observe the operations, advantages and disadvantages of each of the facilities.

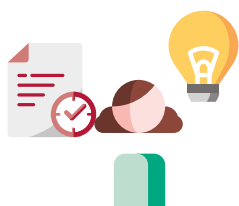
實地考察現有的社區回收中心，了解當中設備的利弊及營運模式

ii. Workshops 工作坊

For workshops, participants were members of the public who are interested in social issues and some are members of the community green group. Through the active participation and idea exchange in the discussions and site-visits in the workshops, we hope the participants could explore more ideas and possible solutions for the design of the new refuse collection point. Here are the contents of the workshops (See Appendix III for more details):

工作坊的參與者都是對社會問題感興趣的公眾人士，當中部份人更是社區綠色團體的成員。通過實地考察、積極就相關議題討論，我們盼望參與者可以探索更多未來垃圾收集設計的可能性，豐富洪水橋垃圾站的設計內容。以下是工作坊的內容（見附件三）：

①



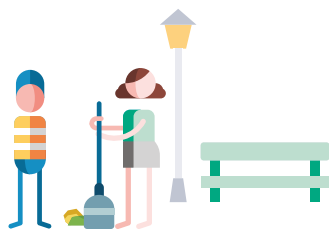
Design thinking as a tool for handling social issues
以設計思維去回應及處理社會問題

②



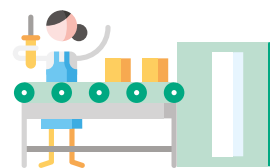
Site visit to public refuse collection points and
talks with cleaners
實地考察公共垃圾收集站及與清潔工訪談

③



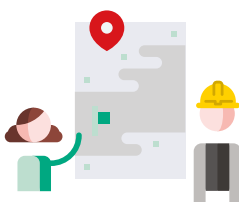
Experiencing the works of cleaners in person
實地親身體驗清潔工的工作

④



Exploring alternative ways of waste
management
探索另類廢物處理的方法

⑤



Taking the new refuse collection point in Hung Shui
Kiu as a real case example to study the possibility of
planning waste handling facilities in the future
以興建洪水橋新垃圾收集站作背景，思考規劃垃圾站的可能性

⑥



Understanding the significance of public
engagement in social innovation projects
了解公眾參與社會創新項目的重要性

iii. Discussions among academics from different disciplines

跨學科討論

The project was introduced to the academic staff from the School of Design and the Department of Applied Social Science, and their professional advices were sought. We also had taken reference from the previous projects carried out by students from the School of Design on the topic of Street Cleaners. Mr Siu King-chung, the Associate Dean of the School of Design, referred us Mei-lin, the representative from Hong Kong Women Worker's Association, for further advice in the field concerned.

向設計學院和應用社會科學系的學術人員介紹此項目，尋求他們的專業意見，並參考設計學院學生之前所做過的有關清潔工項目。設計學院副院長蕭競聰向我們引薦了香港婦女勞工協會代表美蓮，讓我們了解更多有關清潔工行業的狀況。

Second Stage: Developing Design Proposal (June – Nov 2019) 第二階段：制定設計方案 (2019年6月至11月)

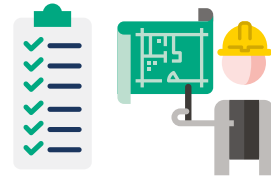
In this stage, we organised the findings gathered in the previous stage. We figured out the scope of design contents and aligned expectations among different stakeholders in a dialectic process. Here is the list of works at the second stage:

在這個階段，我們整合上一階段收集的意見、想法及調查結果，訂立設計內容及設計範圍，並在辯證的過程中，調整了不同利益相關者之間的期望和意見。以下是第二階段的工作內容：

i. Organising findings from the first stage 整理第一階段的調查結果

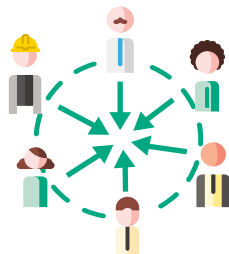


Making a design checklist based on different spatial requirements
就不同空間的需要，整理一份設計需求的清單



Developing design based on the list
根據清單的要求，制定設計

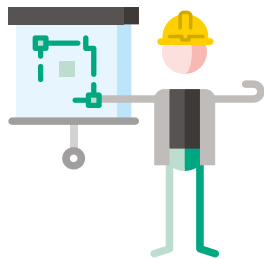
ii. Meeting with stakeholders and architects 與持份者及建築師會面



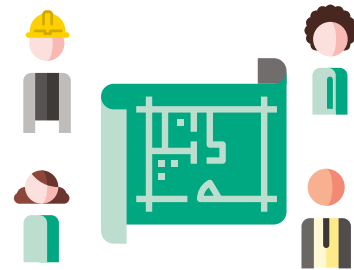
Creating opportunities for various parties, including community organisations, government officials, concern group of cleaners' rights, architects, and design professionals, to understand each other's views and align expectations among different parties.
讓各持份者（包括社區組織、政府官員、關注清潔工人權益的團體、建築師和設計專業人士）互相理解觀點，並嘗試在各方之間達成共識



Sharing views on management and operations of the new waste management building
就管理及營運新興建的綜合廢物處理中心分享意見



Architects are involved to provide professional comments and incorporate wishes of various parties into the design proposal in a pragmatic approach
建築師提供專業意見，並務實地將各方的意願納入設計方案



Preview and discussion on design drafts
預覽和討論設計草案

iii. Consultation for end users 諮詢直接用家

1



To consult and collect views from the neighbourhood community on the new waste management building

諮詢並收集鄰里社區居民對綜合廢物處理中心設計的意見

2



To empower (neighbourhood community) in related topics through the process of understanding the design details

透過了解設計，就相關主題讓社區街坊充權

3



To review the design of recycling centre with the representatives from Waste No Mall

與不是垃圾站的代表檢視回收中心的設計

4



To explain the cleaner-related facilities and spatial design in the final design to Hong Kong Women Worker's Association and seek their comments

向香港婦女勞工協會代表解釋在最終計劃書內與清潔工有關的設施及空間設計，並尋求他們的意見

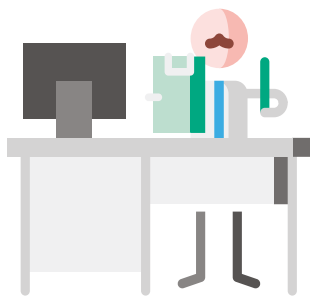
Third Stage: Maintaining the Concern 第三階段：保持社區的關注

While the concerned community organisations are negotiating with government department based on the design proposal, it is important to maintain constant public discussion and attention on the project and to keep the project vital in the community before the proposal is truly being implemented. Here are some actions to be taken at this stage:

相關社區組織固然會根據計劃書的建議與政府部門協商，但與此同時，在正式興建廢物處理綜合大樓之前，我們希望公眾持續關注及討論這份未落實的規劃建議，保持計劃在社區內的熱度。因此，在完成設計方案後，我們會：

-
- i. After the design proposal is finished, we will invite the academics, whom we have previously sought advice from, to write some in-depth articles related to the project

我們將邀請之前為計劃提供建議的其他部門學者，撰寫一些與項目有關的深入文章



-
- ii. Suggest community organisations to work with district councillors to promote the design proposal in the community

提議社區組織與區議員合作，在社區中推廣設計方案



D Outcome: Contents of the Design Proposal

計劃成果：設計方案的內容

While we were preparing the project, we emphasised much on the principle of “user-orientation”. We put much effort to obtain views from different stakeholders and tried to engage stakeholders in the project as far as possible. But in fact, end-users and stakeholders may not be able to clearly express a complete plan. Therefore, it is necessary to thoroughly observe and investigate users' needs and collate a set of stakeholders' views. Professional architects and designers will further work out a user-oriented but insightful design based on users' needs and stakeholders' views. The design outcome might widen end-user's imagination on waste management and cleaning industry, and empower them. Their hands-on views on the draft design proposal can help the architects improve the proposal and make the design even more applicable to their everyday situations.

The contents of this design report can be divided into four parts. Part 1 is a set of design guidelines for establishing a cleaner-friendly working environment. Part 2 is the recommendations for the recycling centre in the new waste management building and its auxiliary services. Part 3 is an integration of first part and second part – an ideal operation model of combining waste disposal and recycling facilities into a hub of waste treatment without prioritising any kind of waste treatment methods, but creating synergetic effect in improving waste management practices. Part 4 is the design proposal of spatial design and design recommendation for the very first multi-purpose waste management building at the junction of Hung Yuen Road and Hung Ping Road in Hung Shui Kiu. The previous discussions and the ideal operation model in Part 3 will be applied to the first three levels of this new building. The proposal will also address the spatial arrangement of the rooftop and the façade design.

在準備項目的過程中，我們堅守「以用家為本」的原則，盡力了解及平衡不同持份者的觀點，讓各持份者可參與其中。但事實上，用家和各持份者未必有能力清楚表達一套完整的方案。因此，我們必須進行觀察及調查，了解用家的需要及整合持份者的意見。建築師和設計師將根據不同的資料及意見，製作一套完整、符合實際需要又有前瞻性的專業設計。用家和持份者透過了解新設計，也可以擴闊對廢物處理及清潔行業的想像，為他們充權。用家在了解新設計的過程中，可以就著新設計補充意見，讓建築師改善方案，做出更符合用家需要的設計。

本設計報告的內容可分為四個部分：第一部分是系列對清潔工友好的工作環境的空間設計準則和建議。第二部分是對回收中心及其輔助服務的規劃建議。第三部分是把第一部分和第二部分的建議結合成一種理想的操作模型——一個集廢物棄置及回收再造兩個功能的廢物處理中心，兩個功能將並駕齊驅，為改善廢物處理方法發揮協同效應。第四部份是為洪水橋洪元路及洪平路交界興建香港首個集垃圾收集站及社區回收中心於一身的綜合大樓，作空間規劃和設計建議。我們會把之前的建議及第三部份的理想藍圖重新分配到新綜合大樓的首三層，把綜合大樓變成集廢物棄置及回收再造的廢物處理中心，另外再附加天台部分的空間安排及建築物外觀設計。

Part 1 第一部分:

Design guidelines concerning cleaners' needs

關注清潔工需求的設計準則

We start with the actual needs of cleaners and propose a series of humanistic and cleaner-friendly elements. Based on these elements, we develop a design with cleaner-friendly spatial arrangement.

我們以清潔工的實際需求為出發點，提出一些人性化及對清潔工友善的元素。我們以這些元素為基礎，作對清潔工有善的空間規劃。



Considering the daily routine of street cleaners, most likely they are in the refuse collection point in the morning before they start their work, during their lunch break, after work in the afternoon and when they are carrying out their waste disposal duties.

以早更街道清潔工為例，從他們的日常工作流程估計，他們可以用到或有機會用到垃圾站的時間分別為：在早上開始工作前、午餐休息時間、下午下班後及把廢物運送到垃圾站時。

In reality, most of the street cleaners may not be asked to station in the refuse collection point. Nevertheless, the refuse collection point is indeed an important base of support for cleaners. Regrettably, many of the refuse collection points do not provide sufficient and appropriate support for the cleaners who have to face lots of difficult and unpleasant situations every day, no matter spatial arrangement or equipment. For example, there is no space for cleaners to have their lunch or to take a rest. There is no shower or changing room for cleaners' use. Cleaners who bring their own lunch have to find a random outdoor location to have meals or take break.

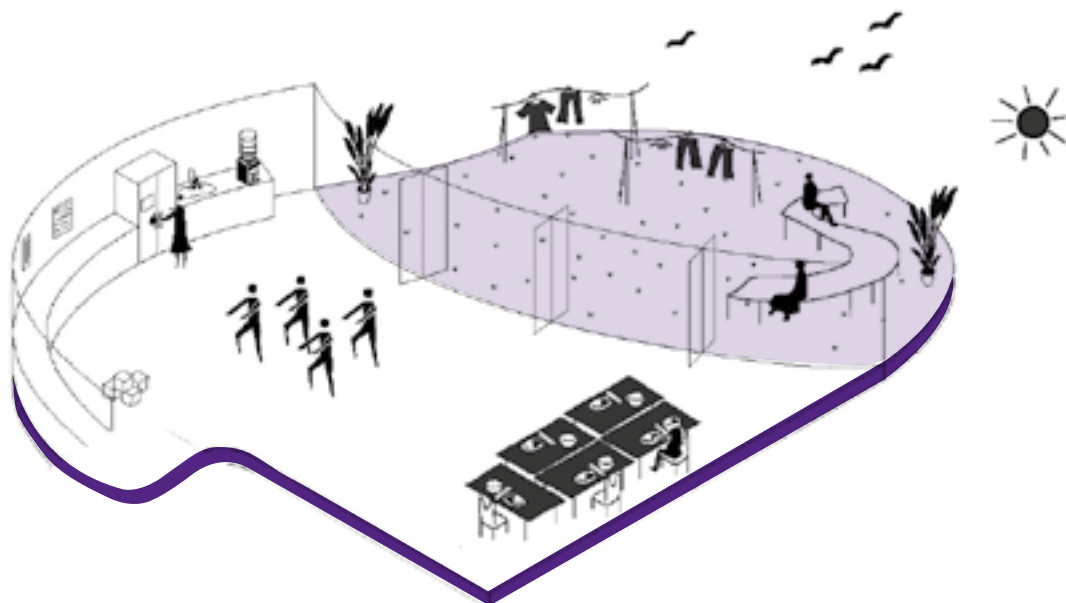
Therefore, in the process of planning the new waste management building, we first propose a resting space for cleaners' use which is separated from waste handling zone. Such space should consist of indoor and outdoor areas. The two areas are divided by a folding, transparent door, so as to maintain natural ventilation and lighting in this Staff Social Zone and to give cleaners a comfy and bright resting space away from their undesirable duties.

事實上，雖然很多街道清潔工都不需要長駐在垃圾站內工作，但垃圾站是他們工作上一個非常重要的支援點。不論在空間或設備上，許多垃圾站都未能為清潔工每天工作面對的困難去作妥善的支援，例如沒有空間供清潔員吃午餐或休息，也沒有淋浴間和更衣室供清潔工使用，而自攜午餐的清潔工只能在隨機的戶外場所用餐和休息。

因此，在設計新式的垃圾收集綜合大樓的過程中，我們首先提議為清潔工提供一個與廢物處理區分開的工友休息空間。我們建議這休息空間應分為室內和室外區域，這兩個區域由一扇透明摺門隔開，以保持休息室的自然通風和採光，為清潔工提供舒適而明亮的休息空間。

Based on the daily routine of street cleaners and our previous findings, here are the proposed activities the cleaners can carry out in the Staff Social Zone:

根據街道清潔工的每天工作流程及我們在前期的搜集的資料，以下是清潔工友在休息室的擬議活動：

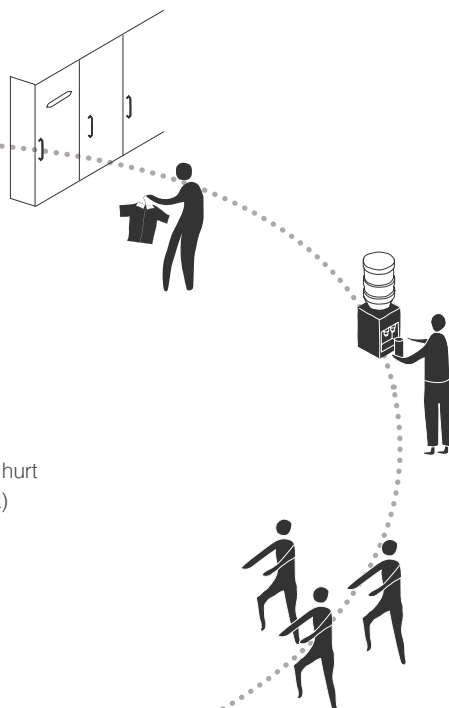


MORNING 早上

(i) In the morning, before cleaners start their work:

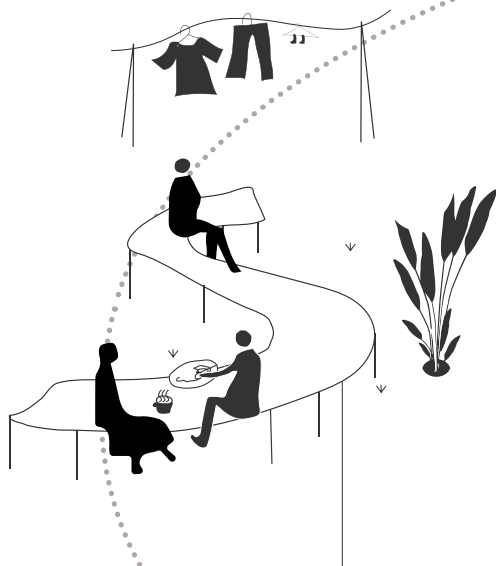
早上，街道清潔工開始工作前：

- Clock in when they report to work
- Change uniforms and store their personal belongings into lockers
- Cleaners who bring their own lunch store their lunchboxes into refrigerator
- Fill up their bottles with water
- Warm-up exercises before work (It could minimise the risk of getting hurt if they have enough warm up before carrying out heavy manual work)
- 上班前打卡登記
- 更換制服並將其個人物品存放在儲物櫃中
- 自帶午餐的工友將便當盒放入冰箱
- 為水壺裝滿水
- 上班前的熱身運動 (在進行繁重的體力勞動前進
行適量的熱身運動，可減低受傷的風險)



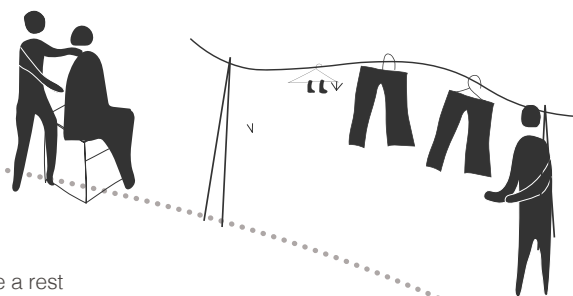
Lunch break 午餐時間

- Take off their outer uniforms and hang the uniforms under the sun
- Heat their meals with microwave oven
- Having lunch and chat with each other
- Get refreshed by having a cup of coffee
- 脫下穿在外層的工作服，並掛在室外晾曬
- 用微波爐加熱飯菜
- 和其他工友同事一同午餐，閒聊一下
- 來杯咖啡提神



After work 放工時段

- Clean up themselves, get changed and have a rest
- Chat with other fellow cleaners and help each other massage sore muscles
- Concern group and volunteers occasionally visit cleaners at this moment
- 清洗乾淨、換好衣服，然後休息一下
- 和其他工友閒聊幾句，互相按摩一下肌肉痠痛的位置
- 義工或地區組織不時會在這段時間探訪工友



Humanistic considerations

人性化的關顧

It is our aim to provide cleaners a pleasant and respectful working environment. Therefore, other than the provision of appropriate equipment and facilities, we should also take care of those intangible needs factors, like cleaners' social life in workplace and their sense of belonging. We hope such needs can be catered for our spatial arrangement and design.

From the on-site observation in early stage of this project, we understand more humanistic arrangements should be given to the cleaners at their workplace.

我們的目標是為清潔工友提供一個愉快及讓他們感到被尊重的工作環境。除了直接提供適當、完善的工作設備外，我們更應關顧工友們心理上無形的需要，例如工友們在工作場所中的社交生活、工作歸屬感等。我們希望垃圾站的空間規劃及設計都可以關顧到這些範疇。

從前期階段的實地考察調查，我們認識到工友們在工作上都應該得到更多人性化的安排



Set up laundry corner by themselves
為自己而設的晾衣裝置



Decorate their own workplace
裝飾工作場所



Volunteer instructs cleaners to do some warm-up exercises
義工指導清潔工做熱身運動



Relieving each other's muscle
pain after physical work

工友互相舒緩
勞動後肌肉疲勞



New Year Meal with volunteers
與義工一起吃團年飯



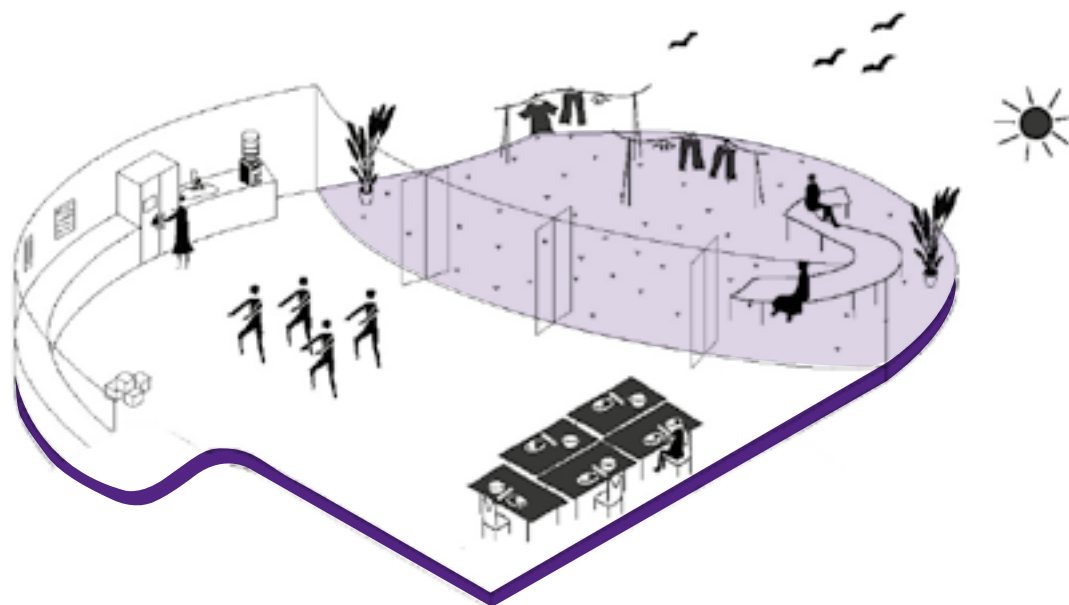
Volunteer visit to show
care and support

義工探訪表達關愛與支持

To put cleaners' daily working routine and humanistic consideration in the spatial arrangement of cleaners' working area, we propose to improve three areas for the favour of the cleaners. The first one is the aforementioned Staff Social Zone. The second one is a Worker Bay including toilet and shower facilities. It is a place where cleaners get themselves prepared for work and it is also administrative area for supervisory staff. The third one is Waste Disposal Area. The following are some issues we should take care of in the three areas:

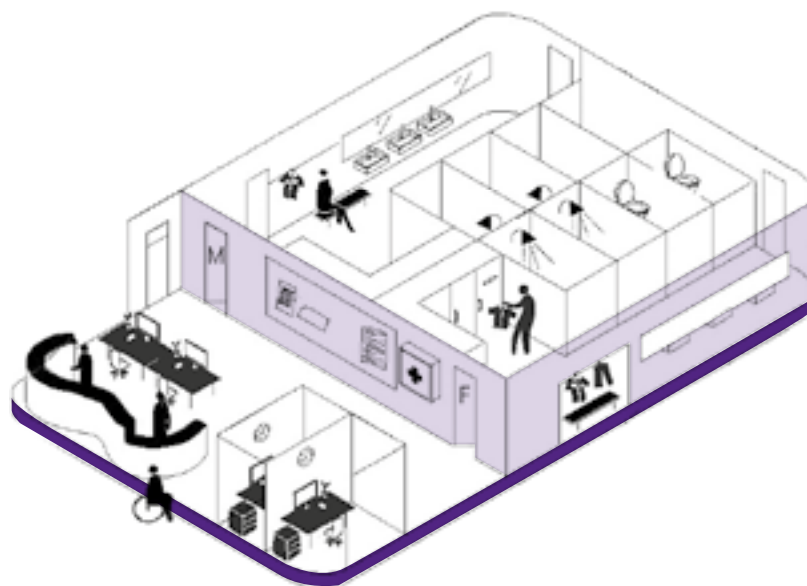
考慮到清潔工友的日常工作流程及對他們作人性化的關顧，我們建議為清潔工改善三個區域：第一個是上文提及的員工休息區；第二個是工友專用區，包括洗手間和淋浴設施，這個區域清潔工為工作做好準備的地方，也是監督人員的行政區域。第三個是垃圾站的廢物處理區。以下是建議改善這三個區域時應注意的一些事項：

(i) Staff Social Zone 員工休息區



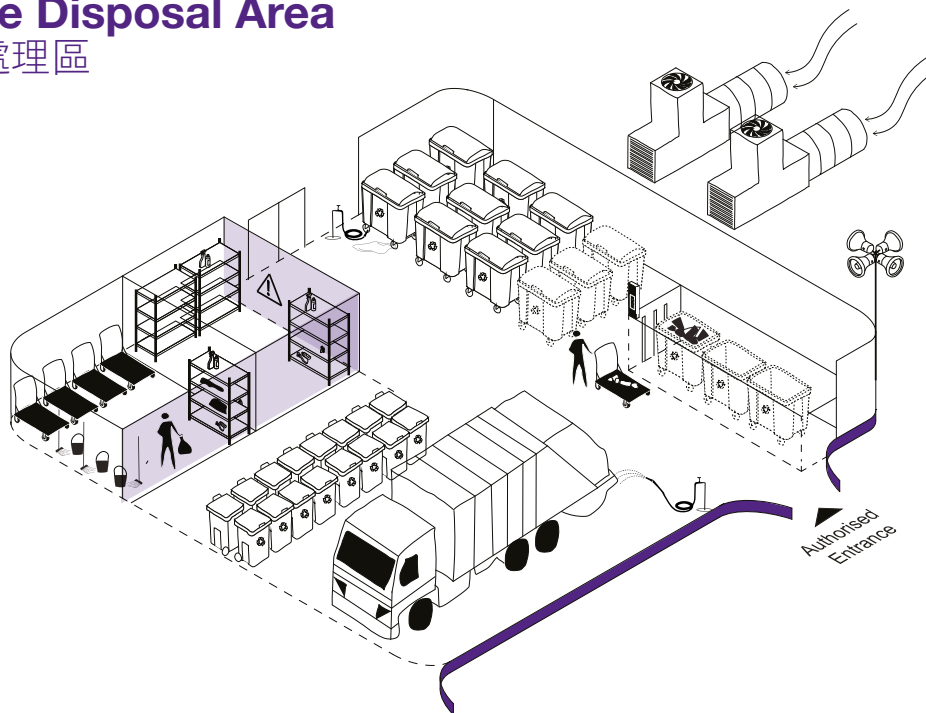
- 1 Indoor and outdoor areas are divided by a folding, transparent door, so as to maintain natural ventilation and lighting in the Staff Social Zone and to give the cleaners a comfy and bright resting space
 - 2 Planting area and seating benches in outdoor area
 - 3 Considering the space is limited, reconfigurable tables, benches and chair sets are used for the cleaners to rest, have meals and carry out social activities. The reconfigurable furniture can also be folded up to spare space for the cleaners' to have their regular warm-up stretching exercise before starting their work
 - 4 Thoughtful arrangement of facilities such as refrigerator, microwave ovens, drinking water dispenser, anti-mosquito devices, shoe cabinets, wall-mounted electric fan and air-conditioner, etc.
 - 5 Cleaners always hang their uniforms and towel. It is good to install movable hanging rails in outdoor area for drying cleaners' towels or uniforms on sunny days
 - 6 Public address system for announcement and music broadcast
- 1 有室內和室外區域，這兩個區域由一扇透明摺門隔開，以保持休息室的自然通風和採光，讓工友有一個舒適而明亮的休息空間
 - 2 室外區域設有種植區和長凳
 - 3 由於空間有限，我們建議使用容易摺疊及容易移動的桌椅，方便工友們因應不同需要自由配置桌椅。例如開工前，可以把桌椅摺疊騰出空間，方便他們在上班前進行肢體伸展的熱身運動
 - 4 妥善地安排設施，包括雪櫃、微波爐、飲水機、防蚊設備、鞋櫃、掛牆式電風扇和冷氣等
 - 5 由於工友們經常掛起他們的工作服或毛巾，因此可在室外區域設置可移動的掛衣架，讓他們在天氣好的日子晾曬工作服
 - 6 公共廣播系統用以播放訊息或音樂

(ii) Worker Bay 工友專用區



- | | |
|--|--------------------------------------|
| 1 Hygienic facilities such as sink and effective drainage for the cleaners to wash and dry their towels | 1 設有清潔設施讓清潔工友清洗及扭乾他們的毛巾，例如洗手槽及有效的排水口 |
| 2 Arrangement of drying machine for drying the uniform and also the hanging rails | 2 設有乾衣機及掛衣繩讓清潔工友掛晾他們的工衣 |
| 3 Separated, well-lit and well-ventilated male and female changing cubicles, toilets and shower facilities | 3 男女分開、光線充足、通風良好的更衣間、洗手間及淋浴設施 |
| 4 Lockers for keeping cleaners' belongings with size similar to the lockers in gym room | 4 足夠大的儲物櫃（如一般健身房儲物櫃尺寸），讓清潔工人擺放私人物品 |
| 5 Seating bench for shoe-changing and shoe racks | 5 設有鞋架的長凳，以便清潔工友換鞋 |
| 6 Anti-mosquito and descent devices | 6 防蚊及除臭設備 |
| 7 Administrative area with office desk, chair and cabinets for supervisory staff, attendance machine for clock in and out, first-aid kit and notice board etc. | 7 行政區域設有主管人員用的辦公桌、椅子和文件櫃、紀錄員工進出的考勤機 |
| 8 PA system for announcement and music broadcast | 8 公共廣播系統用以播放訊息或音樂 |

(iii) Waste Disposal Area 廢物處理區



- | | |
|--|--|
| <p>1 Ventilation & deodorisation system to remove bad smell</p> | <p>1 良好的通風及除臭系統</p> |
| <p>2 This area should not be close to where the cleaners handling their own food, having meal and taking break</p> | <p>2 這個區域不應太過接近清潔工友處理食物、用膳及休息的地方</p> |
| <p>3 Effective floor drainage system on the ground</p> | <p>3 在地面設有有效的排水系統</p> |
| <p>4 High-pressure water hose and cleaning facilities</p> | <p>4 高水壓的水槍及其他清潔設施</p> |
| <p>5 Slop sinks and cleaning facilities with effective drainage for the cleaners to wash their hands</p> | <p>5 設有有效排水裝置的污水盆及清潔設施，方便清潔工友洗手</p> |
| <p>6 Dry, hygienic and well-organised storage area for waste with sign indicated on the floor for location of storage</p> | <p>6 整潔乾爽的垃圾存放空間，地上有指示標明存放位置</p> |
| <p>7 Clean, tidy and dry storage area with suitable shelves/cabinets for organising different items, such as cleaning detergent, waste bag, cleaning tools and carts</p> | <p>7 整潔乾爽的物資及設備存放區域，設有足夠的貨架及儲物櫃來存放不同的物品，例如清潔劑、垃圾袋、清潔工具及手推車</p> |
| <p>8 Dangerous items storage area for hazardous chemicals/agents (well-separated with clear warning signs)</p> | <p>8 危險化學品存放區（需清楚隔並附有清晰警告標誌）</p> |
| <p>9 PA system for announcement</p> | <p>9 公共廣播系統用以播放訊息</p> |

Part 2 第二部分:

Design guidelines concerning cleaners' needs

有關回收中心及相關設施的設計準則

Operations, services provided and appearance of the community recycling centre should give the local residents a fresh and innovative impression. We hope these new elements can boost the usage of this centre, encourage participation in everyday recycling activities, and promote the idea of waste reduction at source in daily life. We also expect this new recycling centre can improve the unwelcoming, negative image of waste management and cleansing industry.

Other than guaranteeing the amount of recyclables received from the neighbourhood community every month, the following three objectives should be addressed in planning an ideal community recycling centre:

- Advocating eco-friendly, progressive and civilised ways of living, and enhance the community's awareness of living in a way to respect, protect and preserve the natural environment
- Establishing the neighbourhood residents' habit of waste reduction at source via the services provided in the community recycling centre
- Maintaining the centre's organic and sustainable development through civic engagement and the neighbourhood residents' active participation

社區回收中心的運作模式、提供的服務和外觀應給街坊一個新鮮、有活力和創新的印象。我們希望這些新元素能有助提高該中心的使用率,並讓街坊們樂於參與回收活動及在日常生活中實踐源頭減廢。此外,我們還希望新的回收中心能有助改善廢物管理和清潔行業不受社區歡迎的負面形象。

規劃一個理想的社區回收中心應該考慮下列三個目標:

- 提倡環保進步的文明生活方式,從而提高對自然環境的尊重、保護及保育的意識
- 透過使用社區回收中心的服務,建立街坊源頭減廢的生活習慣
- 透過公民積極參與,讓回收中心在社區內有機及可持續地發展

To achieve these targets, we suggest the community recycling centre can be divided into three parts:

為達到上述目標,我們建議社區回收中心應該作以下三方面的規劃:

- a. The Lobby 社區大堂
- b. Multi-Purpose Communal Space 多用途公用空間
- c. Recycling Factory 回收工場

a. The Lobby 社區大堂

This area allows public users to sort their domestic waste by themselves. The helpers and related notices in the area will suggest users some ways of proper waste handling and classification. Here are some of the services to be provided in the Lobby:

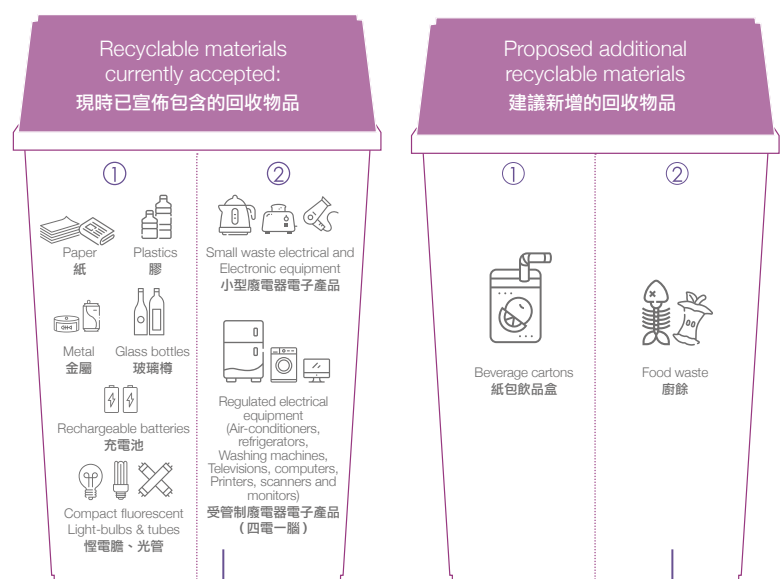
- Membership programme: Upon completion of recyclable classification procedures, participants will be rewarded with credits based on the weight of the recyclable provided. Participants can redeem some household products with a certain amount of credits.
- There are helpers instructing users some proper ways of classifying recyclables and related information, if needed.
- Large scale for weighing recyclables
- 會員計劃：完成家居廢物分類程序後，會員可以根據回收物重量獲得獎勵積分，一定數量的積分可以用來兌換某些家用產品。
- 如有需要，工作人員會指導街坊使用者正確的家居廢物分類程序及相關知識
- 設有大磅量度回收物的重量

Procedures of recyclable classification: 家居廢物分類指引:

1 Getting to the Community Recycling Centre 前往社區回收中心

To avoid contaminating the other recyclable materials, recyclables collected should be cleaned before being delivered to the Community Recycling Centre

將已洗淨的回收物帶到社區回收中心，乾淨回收，避免污染其他回收物



Recommended disposing of these electrical equipment at FEHD Refuse Collection Points
建議直接拿到地下食環垃圾站存放

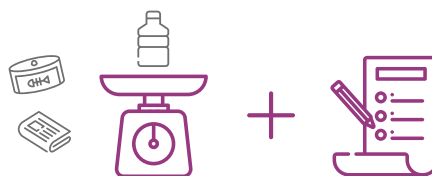
Source: Waste No More 資料來源：不是垃圾站

2 Inspection and Weighing 檢查及磅重



Firstly, the waste collected should be checked to ensure they are clean and recyclable. The inappropriate items should be returned.

先檢查帶來的回收物是否乾淨及可回收的，拿走不適合回收的物品



The accepted items will then be weighed, categorised and recorded.

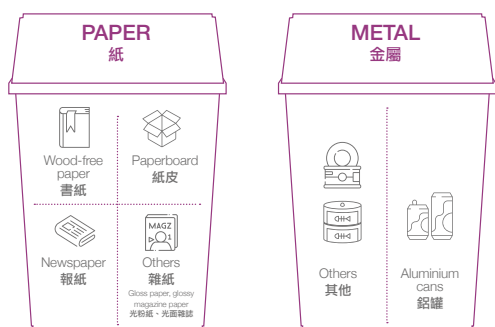
其餘拿到磅上磅重，並按回收物類別記錄重量

3 Preliminary Separation 初步分揀

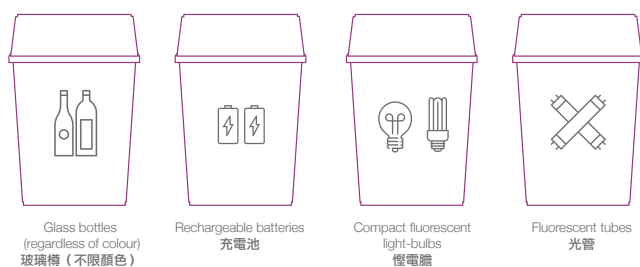
Recyclable materials are preliminarily separated and put into waste collection bags or designated collection boxes.

按回收物類型，初步分揀進不同的收集袋及專用回收箱內

1 Recyclable materials required further separation 需進一步分揀的回收物



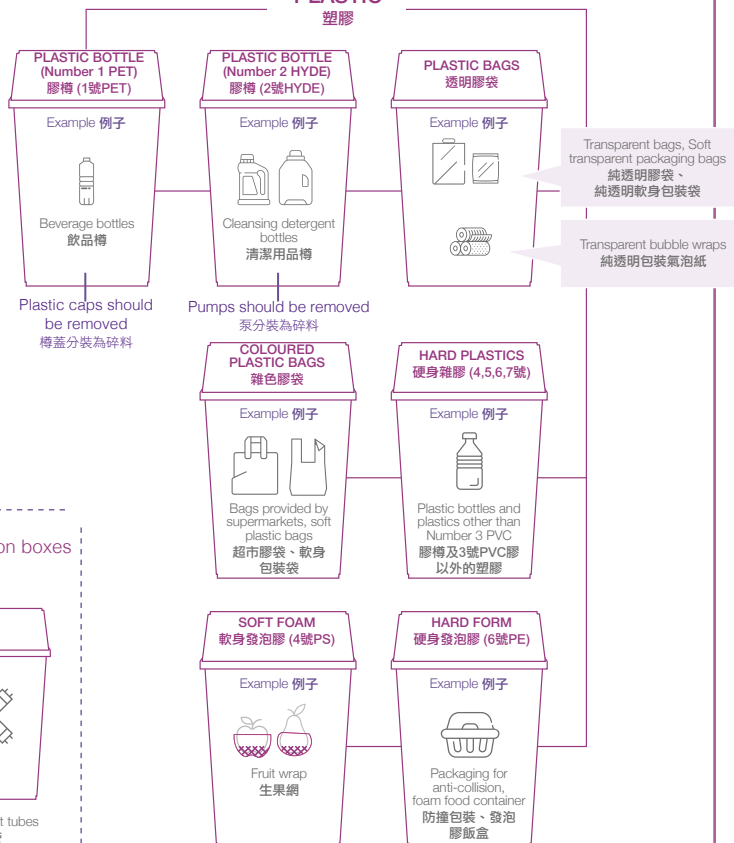
2 Other recyclable materials – Directly dispose into designated collection boxes 其他回收物 – 直接放進專用收集箱



3 Proposed newly-added Recyclable materials 建議新增的回收物



PLASTIC 塑膠



4 Rewards Upon completion 記錄及獎勵

Upon completion of the waste separation procedures, the participants will be rewarded according to the weight of recyclable materials accepted.

完成分揀步驟後，按所記錄的回收物重量獲得獎勵



b. Multi-Purpose Communal Space 多用途公用空間

According to the features of the neighbourhood community, this communal space is a place to encourage nearby residents to establish their eco-consciousness and pursue eco-friendly lifestyle. This area offers a series of community services and activities that are themed on eco-friendly living, and also displays related information. Here are some of the proposed services and activities to be held in this area:

按社區本身的需要，這個空間會以鼓勵街坊建立環保意識及實踐環保生活為目的，提供一系列以環保生活為主題的社區服務、主題活動及展示相關訊息及知識。以下是一些在這區提供的服務和建議活動內容：

1 Freecycle Resource Sharing Freecycle 資源共享

Reduce consumption, save money, and not to waste useful resources in the community
減少消費，節省金錢，同時不用浪費社區內有用的資源

a



Sending the idle but useable items at home to the Community Recycling Centre (Items should be selected according to categories and conditions)

將家中閒置但有用的物品帶到社區回收中心
(需按物品種類及狀況篩選)

b

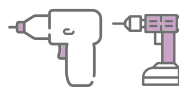


Take required items
拿取有需要的物品

2 Maintenance Equipment Rental 工具借用

No extra tools will be required for minor maintenance and DIY furniture at home. You don't have to purchase every tool you need and save space for storing these tools.
當家中偶有小範圍需要維修，或有些小家具想自己動手造時，不用每樣工具都添置整齊，但久久才用一次造成浪費，並佔據家中儲物位置

a



Borrow tools such as electric drill, electric screwdriver and tools for metalworking and woodworking for use on-site or at home

借用如電鑽、電螺絲批、金工、木工等工具，即場或回家使用

b



Using the borrowed tools with care and return the tools on time
小心使用，按時交還工具

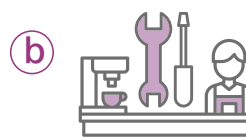
3 Special Corner: Platform for Various Environmental Protection Activities

工作台 — 舉辦不同環保活動



Upcycling Workshop

Turning recyclable materials into something useful
「升級再造」工作坊
利用回收物料創造成新的有用物品



Repair Caf

Mutual-aid services for maintenance of small electrical appliance
維修工作坊
提供維修小型電器的街坊互助服務



Various environment-related DIY workshops
各類環保DIY工作坊等

4 Special Corner: Thematic Resource Sharing

資源共享主題空間



Children's Corner
Resource sharing zone for kids
小朋友資源共享專區



Book-floating Corner
漂書閣



Community Refrigerator
Collection and sharing of leftover from markets
社區雪櫃
街市剩菜收集及共享



Self-service Sewing
自助縫紉



Production and storage of eco-enzymes
環保酵素製作及存放



Wait, what does everyone actually want?
等々等。大家心目中又會想要邊樣?

5 Exhibitions themed on eco-friendliness and environmental protection

以生態友善和環保為主題的展覽

The area will be regularly leased out for holding thematic exhibitions on eco-friendliness and environmental protection to educate the neighbourhood community.

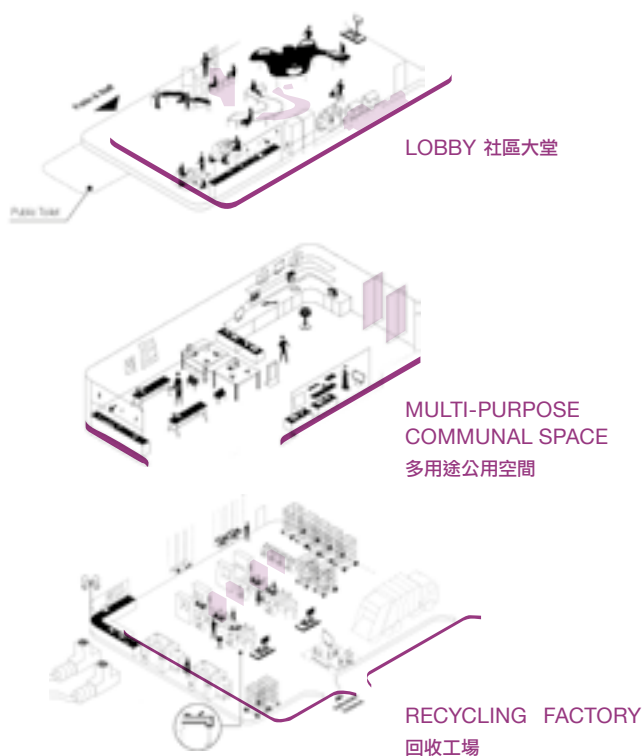
定期借出場地給相關團體舉辦以生態友善及環保為主題的展覽，向鄰里居民傳播相關信息



c. Recycling Factory 回收工場

This is a worksite for classification and storage of recyclables. Workers collect different categories of recyclables, do secondary sorting, cleaning and arrange storage. Besides handling household recyclables from the neighbourhood community, the worksite can also process recyclables from small businesses in the neighbourhood, gathered from single-storey tenement buildings nearby, or from the scavengers in the community. If they follow the instructions and classify the recyclables appropriately, they can also be rewarded with credits. This worksite can also work with the recycling centres in the district and forms a network of recycling services. The synergy among this recycling factory and the other recycling centres can enhance the efficiency of the amount of recyclables handled and the logistic arrangements.

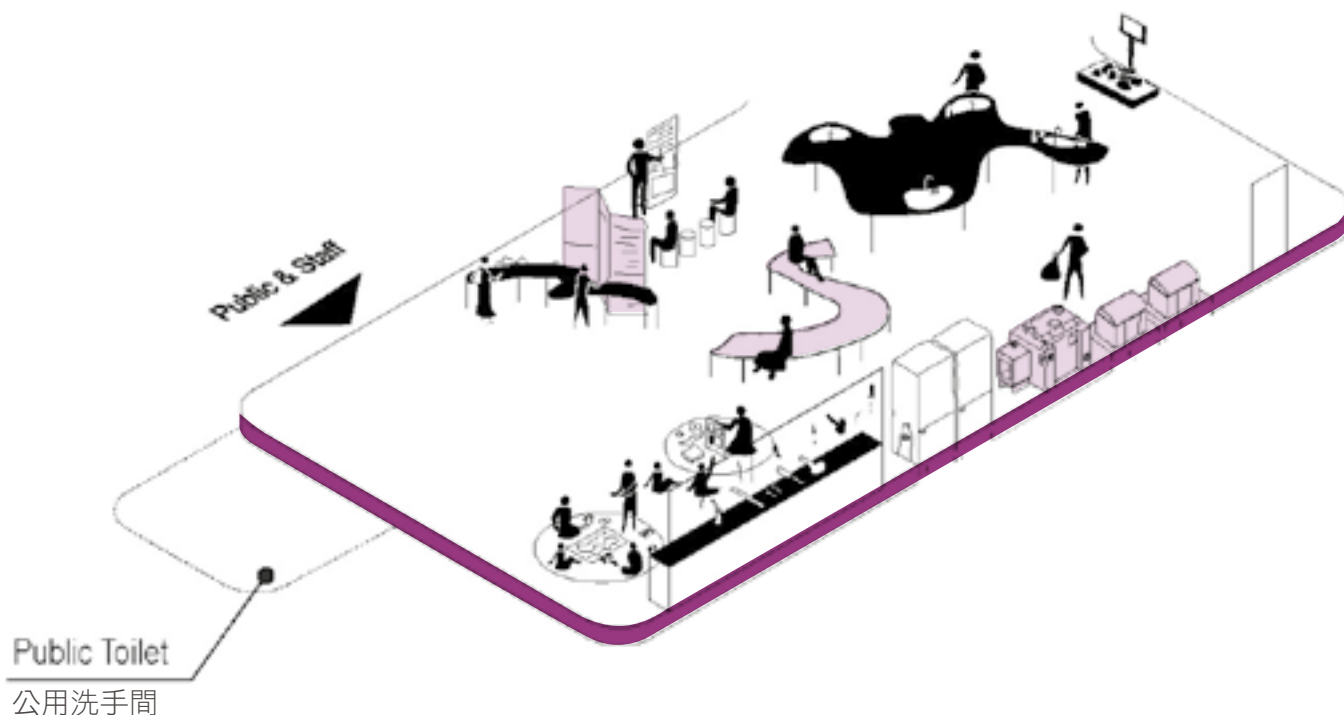
這區用以分類及儲存回收物。工作人員將收集的廢物進行二次分類、清洗及儲存。除了處理街坊的家居廢物，工場也處理社區中的其他回收物，例如從社區內的小商戶、舊式的單棟大樓、或是拾荒者那裡收集回收物。若他們也按指示將棄置的廢物妥善分類，他們同樣可以獲得積分獎勵。這回收工場也可和同區的回收中心互相合作協調，形成一個地區回收網絡，提升處理地區回收物數量及物流方面的效率。



In short, we suggest the community recycling centre should be divided into the aforementioned three areas (Lobby, Multi-purpose Communal Space and Recycling Factory), so as to provide comprehensive and user-friendly services to the community. Here are some issues we should take care of when we plan each area:

總括而言，我們建議社區回收中心應該劃分為上述提及的三個區域（社區大堂、多用途公用空間、回收工場），以提供更全面及貼合街坊需要的服務。以下是每個區域在規劃時應該注意的事項：

The Lobby 社區大堂



- 1 Reception counter in compliance with barrier-free access requirements
- 2 Large common worktable with integrated sinks, cleaning tools and facilities
- 3 Recycling bins (categorised) with delivery chute/ belt connected to the Recycling Factory which facilitates transportation of recycling materials
- 4 Measuring devices to allow simple alerts of storage volume to workers
- 5 Scale for users to weigh their recyclables
- 6 Food waste recycling and storage bins for hygienic storage of food waste and decomposing food waste into high-quality fertiliser (to be located at outdoor area if possible)
- 7 Display screens for showing information and notice messages, such as instruction of recycling procedures
- 8 Male, female and accessible Toilets in compliance with government guidelines
- 1 符合無障礙設施設計規定的接待櫃檯
- 2 面積充足的工作台，並附有水槽及清潔工具和設施
- 3 分類回收箱，並設有連接到回收工廠的輸送斜槽/皮帶，方便傳送回收物
- 4 提醒工作人員回收箱使用量的感應器
- 5 測量回收物重量的磅
- 6 設置收集及儲藏廚餘的容器，以確保處理廚餘的過程衛生，並有效把廚餘分解成優質肥料（盡量把容器放置在室外區域）
- 7 以顯示屏傳遞有關回收中心服務的信息，例如回收分類指示
- 8 符合政府要求準則的男、女及暢通易達洗手間

Multi-purpose Communal Space

多用途公用空間



1 Small pantry and self-service counter

2 Reconfigurable multi-purpose table and chair sets

3 For the crafting and repair area, there will be a large crafting table and storage racks for tools with smart devices allowing public to borrow and return the tools

4 Display shelf for upcycled goods

5 Display screens to showcase events and information

1 小型茶水間及自助櫃檯

2 易於摺疊的多功能組合檯椅

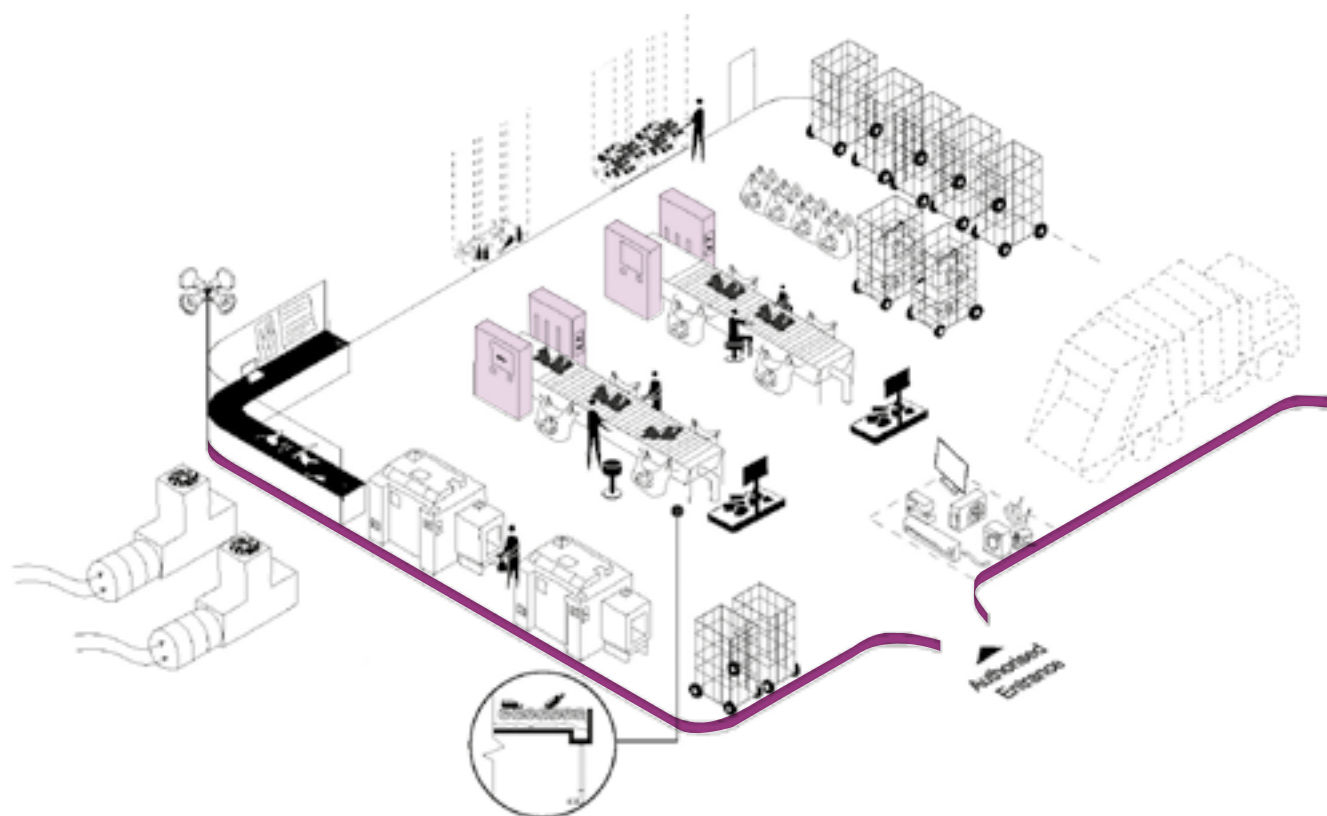
3 在工藝及維修區域設有大型工作檯及工具儲存架，這裡的工具附有智能裝置，以便公眾借用及歸還

4 展示升級再造貨品的陳列櫃

5 以顯示屏傳遞各種活動資訊和其他信息

The Recycling Factory

回收工場



- 1 Ventilation & deodorisation system to remove bad smell
- 2 Large sorting tables with adjustable height and storage racks for tools
- 3 One large scale for each sorting zone
- 4 High-pressure water hose and sufficient cleaning equipment with good drainage system
- 5 Sufficient storage space near goods lift to facilitate loading and unloading
- 6 Storage area for cage carts and recycle bags for carrying different categories of materials
- 7 PA system for announcement and music broadcast

- 1 良好的通風及除臭系統
- 2 可調較高度的大型分類檯及工具儲存架
- 3 每個分類區域均設有電子磅
- 4 高壓水喉，充足的清潔裝備及良好的排水系統
- 5 充裕的儲存空間，這些空間靠近載貨升降機，方便上落貨
- 6 儲存空間附近備有籠車及回收袋，用以承載不同種類的物料
- 7 公共廣播系統用以播放訊息或音樂

Part 3 第三部分:

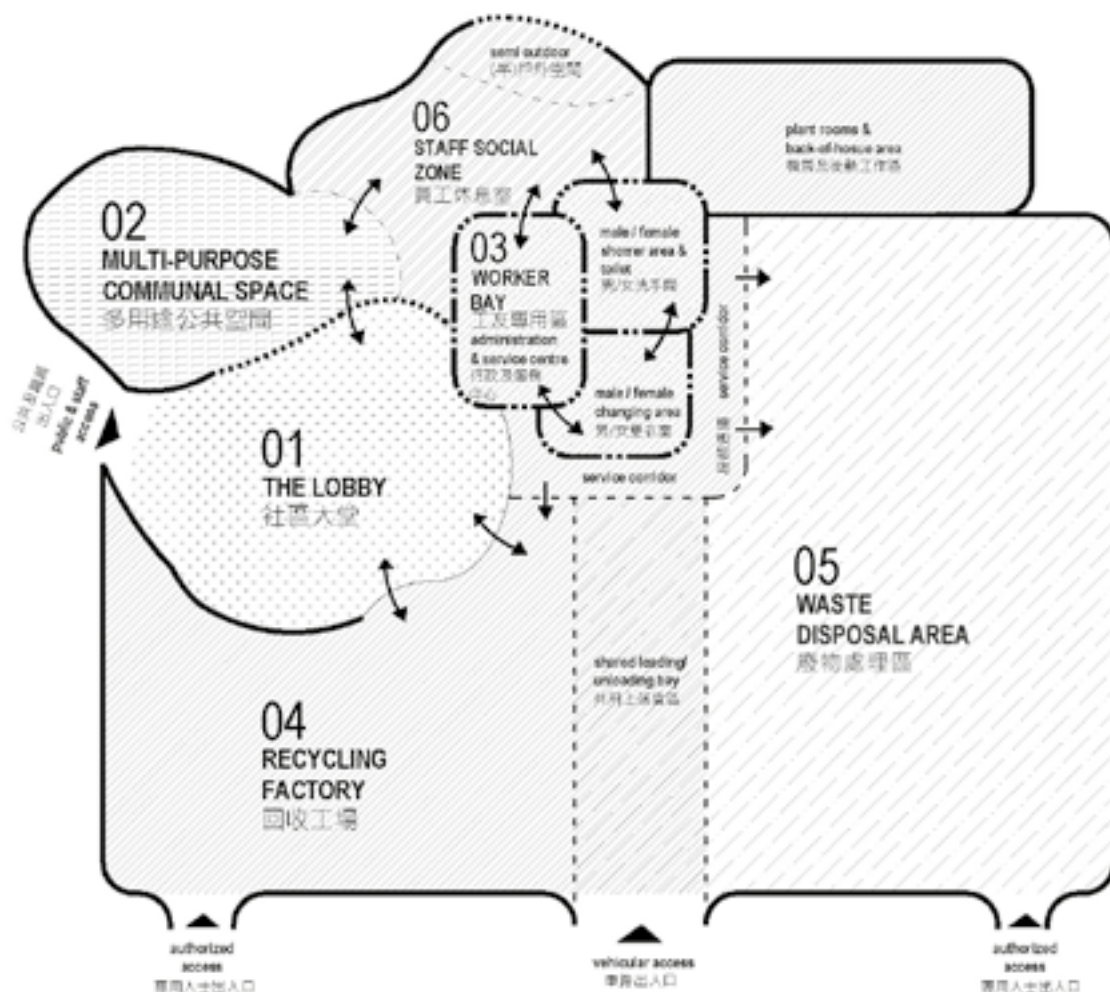
Integrating waste disposal and recycling facilities into a hub of waste treatment 結合廢物棄置及回收設施的綜合廢物處理中心

From government's initiative of constructing a new multi-purpose waste management building in Hung Shui Kiu, and the implementation of Community Green Stations by the Environmental Protection Department, we can anticipate the forthcoming trend of handling refuse and recyclables in an integrated service system at community level.

Hence, we connect the aforementioned zones in Part 1 (design guidelines concerning cleaners' needs) and Part 2 (design guidelines concerning recycling and upcycling facilities) into an integrated system and make different zones interflow with each other. While we work on the connection between different zones, we pay special attention to the moving practices of the end-users and level of connectivity between different zones. Areas with different functions are thoughtfully connected in order to create synergy, resulting higher efficiency of the whole system.

從政府決定興建洪水橋新式綜合大樓的項目，以及環境保護署在各區推行「綠在區區」項目，我們可以預見，在社區層面建立一個結合廢物處理及環保生活的服務系統，是未來的發展趨勢。

因此，我們將前文第1部分 (關注清潔工需求的設計準則) 和第2部分 (回收中心及相關設施的設計則) 的建議區域組合，連結成一個互通的系統。當中我們考慮到最終用家的移動方向和不同區域之間的關聯，我們相信妥善地把不同功能的區域相互連接，能產生協同效應，整個系統有更好的發揮。



01 The Lobby 社區大堂

This is the first welcoming point of the waste management hub, channelling the public and workers to their respective destinations to engage in different waste treatment activities

這裡是進入整棟廢物處理綜合大樓的第一個接待點，公眾人士和員工經社區大堂，可以到達大樓不同的地方，進行廢物處理工作。

02 Multi-purpose Communal Space 多用途公用空間

This area is a communal place where nearby residents could share ideas of eco-friendly waste treatment and ways of living, carry out handy craftwork and repair work to bring their personal waste a second life, and also exchange of upcycled items. This place can also be hired for organising activities and displaying thematic information.

這個公用空間適合用來舉辦不同活動，街坊可以在這裡分享自己環保生活習慣及廢物處理心得，在工藝及維修區為廢物加工製作、轉化為有用的物品，並與其他人士交換升級再造物品。團體亦可租用這個空間舉辦活動或展示專題訊息。

03 Worker Bay 工友專用區

This is where the cleaners get themselves prepared before being sent off to the work sites and get discharged after they are back.

清潔工友每天開始工作前，可以在這裡準備。完成一天的工作後，他們會回到這裡換衣服和作清洗。

04 Recycling Factory 回收工場

In this area, workers will do secondary classification, cleaning and storage of pre-sorted recyclables.

工作人員在這裡將已經完成初步分類的回收物進行二次分類、清洗及儲存。

05 Waste Disposal Area 廢物處理區

This is where public waste from neighbourhood area are collected (from street cleaners, refuse collection vehicles or directly delivered by the public) and stored for further reorganisation and treatment.

這裡是主要收集附近社區的垃圾的地方，街道清潔工、垃圾車及公眾直接帶來的垃圾，都會在存放在這裡，待進一步整理及處理。

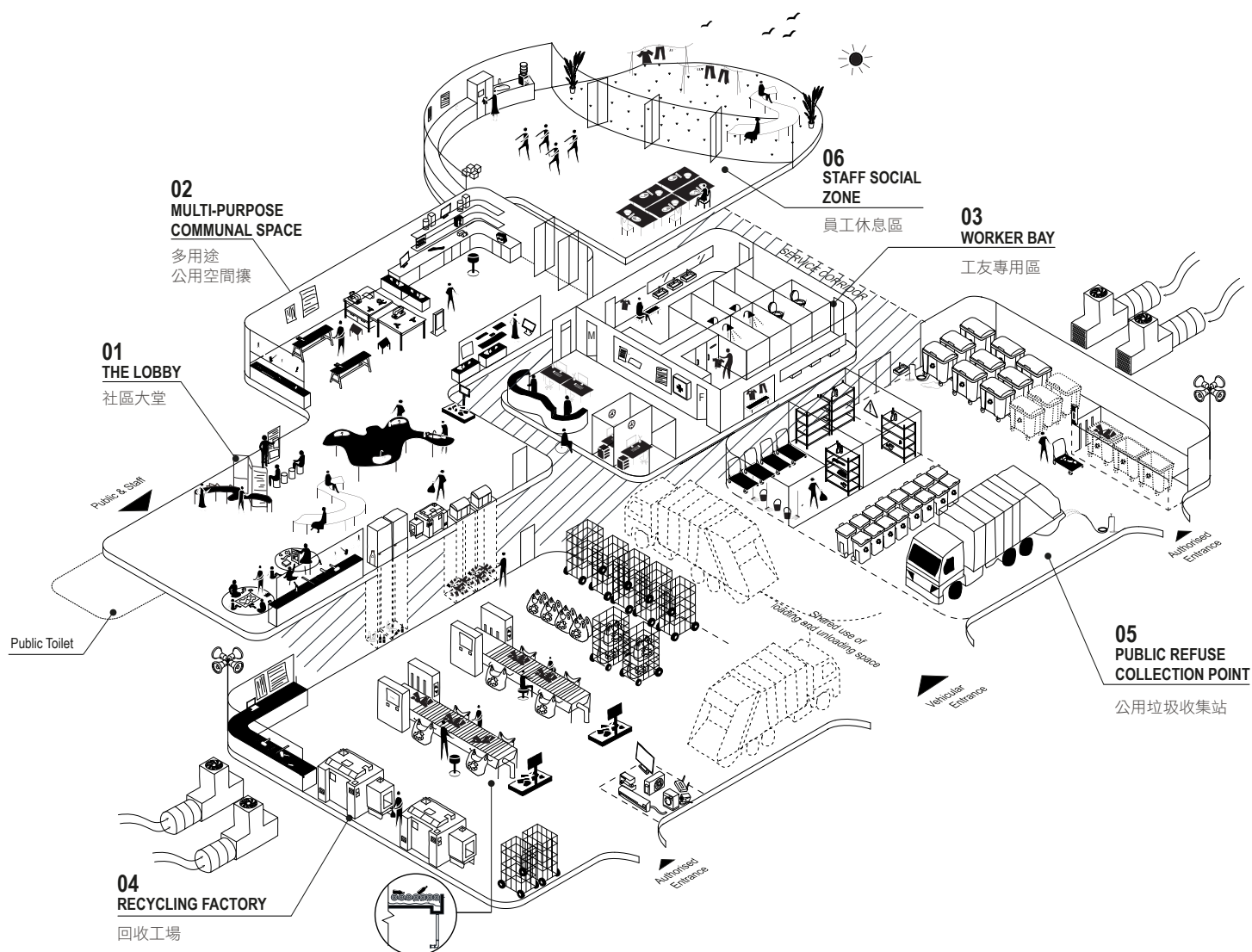
06 Staff Social Zone 員工休息區

This area is exclusive for staff's use – a resting space for cleaners to get relaxed from their undesirable duties, establish their social life in workplace and their sense of belonging. Visits to the cleaners by concern group could be occasionally arranged here.

這個是員工專用的區域，清潔工經過一天辛勞的工作後，可以在這裡休息，與其他工友聯誼，建立對工作的歸屬感。關顧清潔工的團體偶爾也可以在這裡探訪清潔工友。

An ideal integrated system

理想的互通系統



Connectivity between zones

不同區域之間的關聯

- Direct access from the main road to The Lobby which offers the public a welcoming setting
- Easy access between The Lobby and the Multi-purpose Communal Space to facilitate public engagement in various activities
- Visual connection from the Multi-purpose Communal Space to Recycling Factory so that the two recycling processes are related but at the same time the noise and stinky smell in recyclable collection space are separated from the communal area
- Potential connection from the Multi-purpose Communal Space to the Staff Social Zone for more active interaction between cleaners and members of the public.
- A service corridor acts as a buffer to separate Worker Bay and public area with waste processing area like Waste Storage and Disposal Area and Recycling Factory
- Worker Bay is adjacent to Staff Social Zone to facilitate workers to have their breaks between works
- Recycling Factory shares loading bay with Waste Storage and Disposal Area for better use of space and also to facilitate collection of bulk amount of recyclables from the neighbourhood
- Efficient circulations are established inside Waste Storage and Disposal Area and Recycling Factory for all types of carts, trolleys, vehicles, etc. with well-demarcated parking areas
- 主要道路上有入口直達社區大堂，以方便舒適的格局迎接公眾進入廢物處理綜合大樓
- 社區大堂與多用途公用空間相連，以便進行各項公眾參與活動
- 多用途公用空間及回收工場有視覺上關聯，強調兩個區域皆與廢物回收有關，但同時兩個區域是分隔的，以免處理回收物的噪音和臭味傳到公用空間。
- 多用途公用空間與員工休息區毗鄰，鼓勵公眾及清潔工之間有更多互動及交流。
- 以服務通道分隔工友專用區和公用空間，以及廢物處理區域如公共垃圾收集站和回收工場。
- 工友專用區毗鄰員工休息區，以便工友在工作期間小休。
- 為節省空間，公共垃圾收集站和回收工場共用上落區，這樣亦方便收集附近居民送來的大件回收物。
- 公共垃圾收集站和回收工場內設有四處流通的通道，方便籠車、手推車及垃圾車出入，這兩處亦設有分界標示清晰的停泊區，方便停泊存放不同運輸工具。

Part 4 第四部分:

Application of design proposal to the actual site in Hung Shui Kiu

把設計方案應用於洪水橋廢物處理綜合大樓

Being regarded as one of the most prominent examples of vertical city, and one of the most compact cities in the world, land resource in Hong Kong is always in short supply. Even in the newly-developed suburban area, you can hardly find a large piece of land for building the ideal integrated waste management hub as we proposed. Therefore, to take our idea into reality and make the plan feasible, we have to work on the actual situation and readjust spatial arrangements in the integrated system. Based on the limited information provided by the Food and Environmental Hygiene Department (including location plan, site area and designated purposes of some floors), and the proposed zoning arrangement as mentioned earlier, we conduct architectural and spatial design for the multi-purpose waste management building in Hung Shui Kiu. Scope of design includes the façade of the building, spatial arrangement of G/F to 2/F, and the use of rooftop.

香港擁有高密度的城市景觀，是世界上數一數二的垂直城市，土地資源一直供不應求。即使在由郊區發展而成的新市鎮，也難以找到一塊適合的空地，興建上述理想中的綜合廢物處理中心。要把我們的設計方案應用在現實環境，我們需要按實際狀況，將上述建議的服務系統重新作空間上的整理。因此，我們根據食環署提供有限的資料（包括項目平面圖、面積及部分樓層管理安排），結合前文的建議，為興建洪水橋綜合大樓的項目進行建築及空間設計，內容包括建築物外觀設計、地面至二樓的空間規劃，以及天台用途的建議。

(i) Location plan and site area

位置圖和場地面積

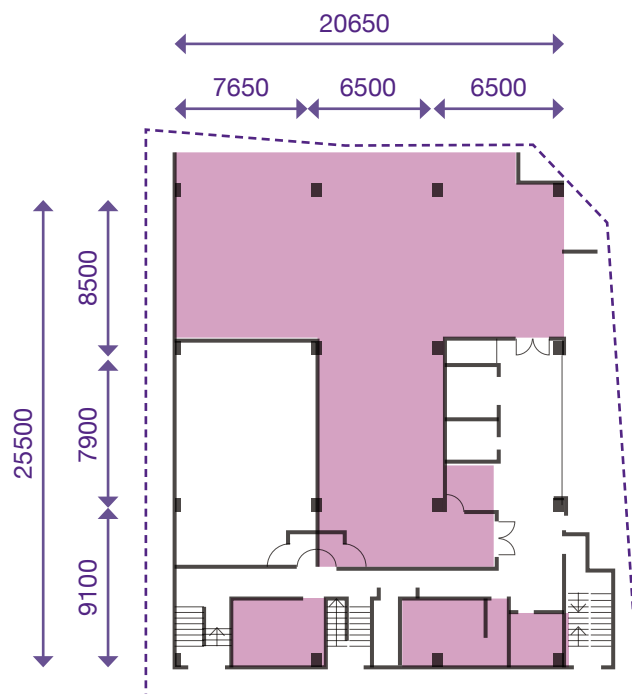
The six-storey multi-purpose building will be built on an idle lawn at the junction of Hung Yuen Road and Hung Ping Road. Site area is about 735m². The public refuse collection point on the G/F will face Hung Ping Road, while the entrance for public and staff will be on Hung Yuen Road.

這座六層高的多功能建築將建在洪元路與洪平路交界的一塊閒置草坪上，佔地面積約735平方米。地下的公共垃圾收集站面向洪平路，而為公眾及員工而設的大樓入口則位於洪元路。



Some dimensions of the building can be found from the preliminary spatial configuration submitted by the Architecture Services Department to the members of Yuen Long District Council on 11 March 2019 (see diagram below). These are the important figures that our design grounded on.

根據建築署於2019年3月11日交予元朗區議會的文件，我們得知建築物的大概樓層呔吋(見右圖)。我們根據這些數據進行空間規劃。

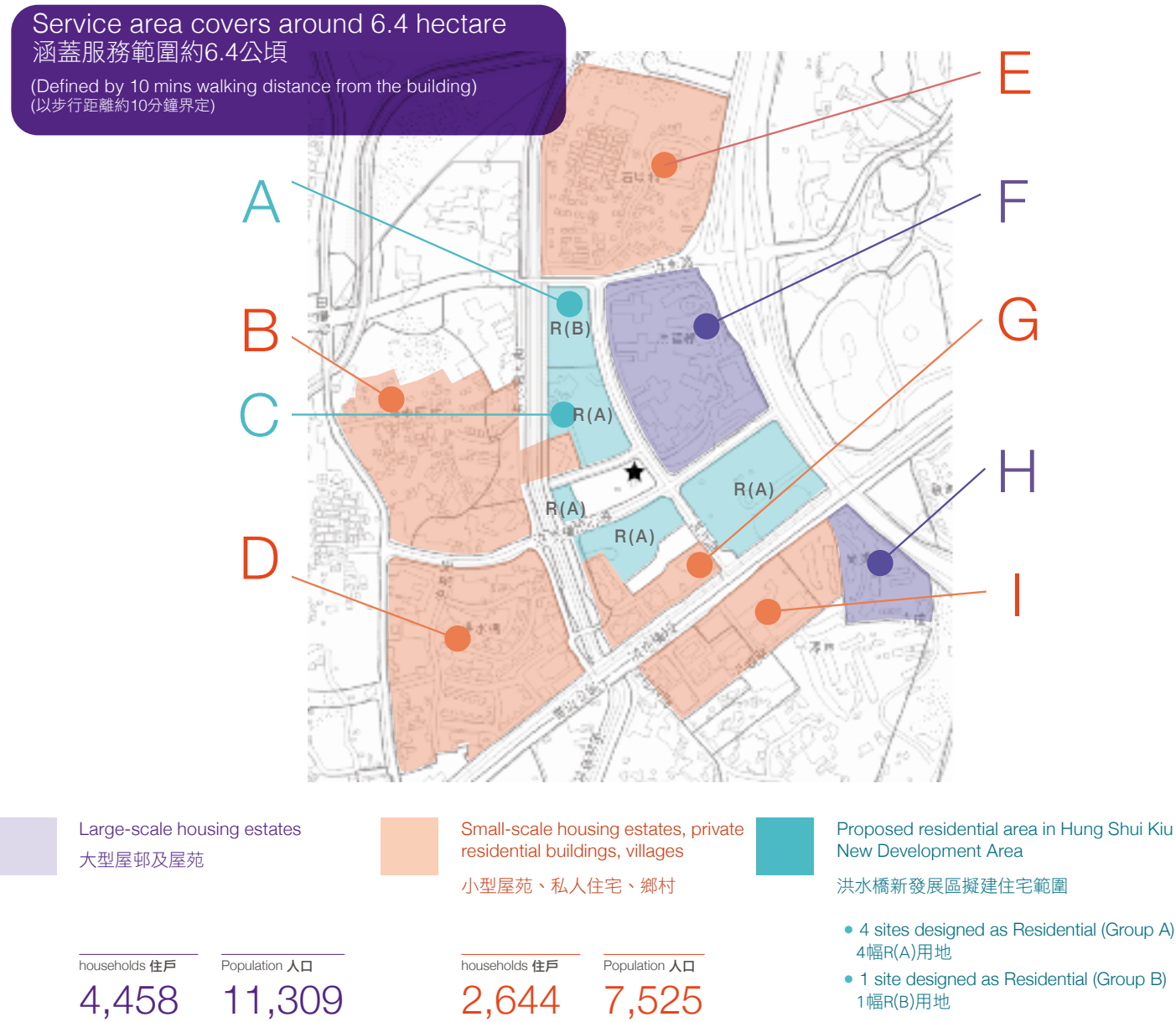


Measurement unit 量度單位: mm 毫米



(ii) Background info of Hung Shui Kiu district (population, types of household) and estimate amount of waste to be handled in the district
洪水橋新發展區的背景資料 (人口、住戶組合) 及估算該區的垃圾量

- Estimated population increased 新增人口估算：



- Additional population of 6300 is expected in 2024
預計至2024年起碼新增約6300人口

Total amount of households
家庭住戶總數
7,102

Total population
總人口
18,834



Estimation in 2024
2024年估算

Total amount of households
家庭住戶總數
9,480

Total population
總人口
25,134

A Development Project at the intersection of Hung Yuen Road and Hung Chi Road by Cheung Kong Asset Holdings Limited
長實洪元路及洪志路交界項目

units 278 completed 2022
單位 落成年份

B San Lee Uk Tsuen, Bellevue Court, Sheffield Villas
新李屋村、頤景居、瑞豐華庭

households 285 Population 816
住戶 人口

C Rehousing units by Hong Kong Housing Society
房協安置房屋

units 2100 completed 2024
單位 落成年份

D Casa De Oro, Parkview Garden, Tin Sam Villa, Tak Cheung Building, Tak Hing Building
金閣豪園、柏雨花園、田心居、德祥樓、德興樓

households 633 Population 2322
住戶 人口

E Shek Po Tsuen
石埗村

households 491 Population 1121
住戶 人口

F Hung Fuk Estate
洪福邨

households 3823 Population 9425
住戶 人口

G Aster Court, Coronet Court, Beauty Court, Park Nara
雅珊園、錦珊園、麗珊園、泉薈

households 615 Population 1766
住戶 人口

H Uptown
尚城

households 635 Population 1884
住戶 人口

I The Woodsville, Symphony Garden, Treasure Court, Lai Hung Garden, Hung Fook Building, Pak Fook Building, Dor Fook Building, Hang Fook Building

漆林、朗峰園、翠珊園、麗虹花園、洪福樓、百福樓、多福樓、幸福樓

households 620 Population 1500
住戶 人口

In 2018, amount of domestic waste disposed of per person is 0.9kg. Among these domestic wastes, 92% is recyclable (0.82kg). By 2024, amount of recyclables produced in this area will be 20,610kg.

If the Community Recycling Centre focuses on collecting the recyclables from small-scale housing estates, private residential buildings and villages, and sets the target of receiving 50% of recyclables, the Centre will handle 3,085kg of recyclables every day.

2018年家居廢物人均每日棄置量為0.9公斤，其中92%為可回收物品(0.82公斤)。按此推算，至2024年此範圍內每日生產20,610公斤可回收廢物。

若社區回收中心主要協助處理小型屋苑、私人住宅及鄉村住宅範圍的回收需求，將回收目標定於50%，則回收中心每日應起碼能處理3,085公斤廢物。

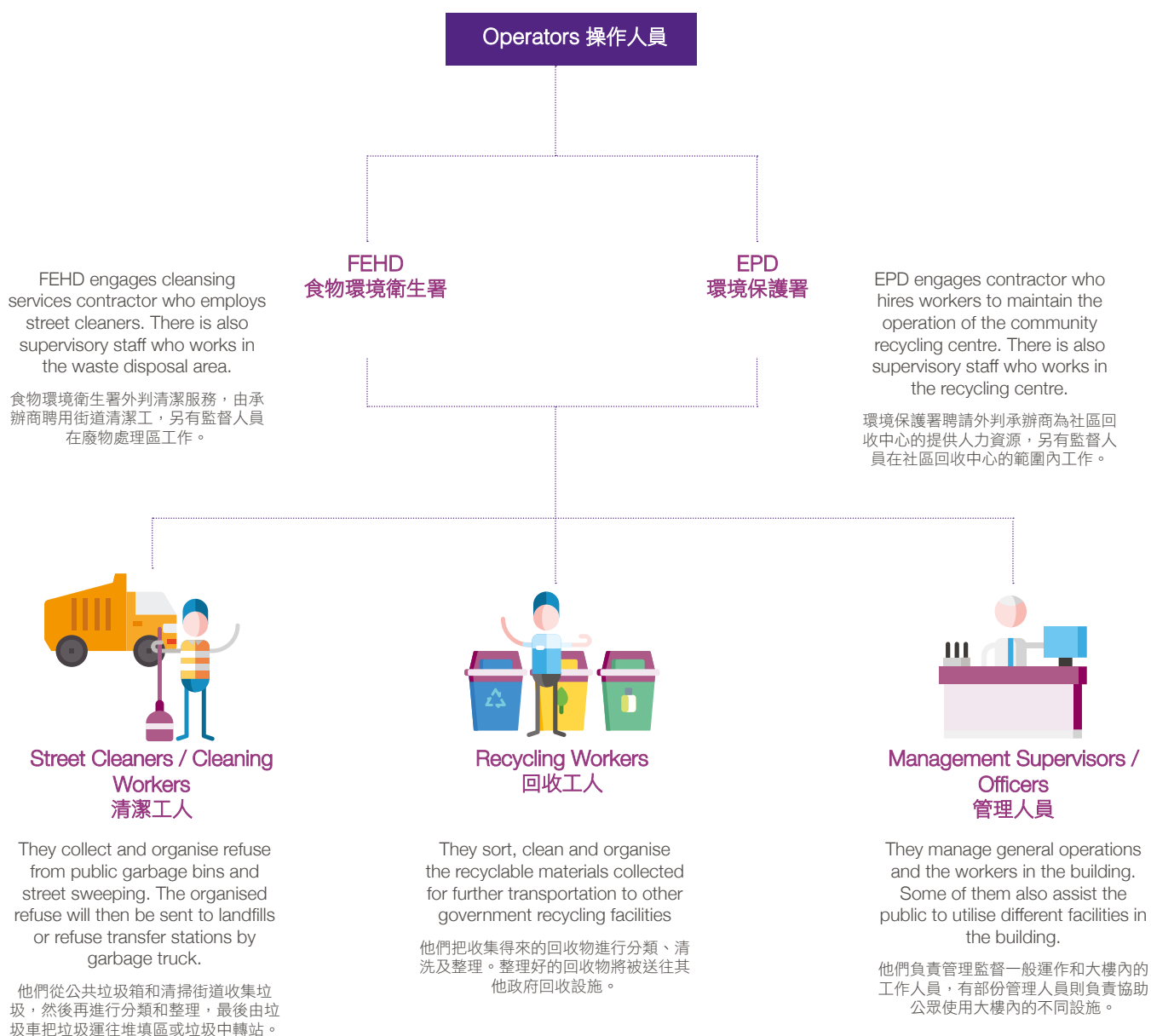
• Users category 用戶類別：

In this section, the possible users of the refuse collection point and community recycling centre will be listed. The users can be divided into two categories – the operators who work in the building and the public users.

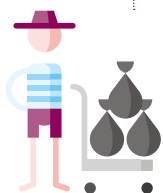
According to FEHD's plan, the community recycling centre will be managed by EPD. Thus, the multi-purpose building will be managed by two government departments. EPD will probably follow the usual practice of FEHD to outsource the operation of the community recycling centre.

這部份會介紹使用或有機會使用這幢綜合大樓的垃圾站或社區回收中心的用家。用戶可分為兩大類，分別是在綜合大樓工作的操作人員，以及公眾用家。

根據食環署的計劃，綜合大樓的社區回收中心將會交由環保署管理。因此，綜合大樓將會由兩個政府部門管理。相信環保署亦會仿效食環署，以招標形式聘請外判承辦商負責協助處理社區回收中心的日常運作：



Public users 公眾用家



Self-employed waste collectors
私人垃圾收集商
(俗稱「街佬」)

They collect waste from small-scale commercial or old, single-storey residential buildings in the neighbourhood community and then dispose refuse at the waste disposal area in the building

他們為附近社區中的小型商戶或單幢式的舊唐樓收集垃圾，並把垃圾帶到綜合大樓的廢物收集區。



Scavengers
拾荒者

They collect bulk recyclables from the neighbourhood community and dispose at the recyclable collection facility at the waste disposal area in the building

他們從社區收集回收物，並帶到公用垃圾站內的回收物收集區。



Residents in the neighbourhood
附近居民

They bring their household waste to the building for disposal, recycling or upcycling. They can also participate in different activities held in the building or get relaxed in the public space.

他們把自己的家居廢物帶到綜合大樓棄置、回收或升級再造。他們也可以參與大樓內舉辦的不同活動，或在公共空間休息放鬆。



Small business operators in the neighbourhood
附近的小商戶

They bring legal categories of waste to the building for disposal and recycling.

他們可以把合法的垃圾類別帶到綜合大樓棄置或回收。

• Architectural idea 建築設計概念：

Besides the concern about connectivity among different zones, we also believe careful spatial design could make the public users feel welcoming and more willing to use the facilities inside. Therefore, we put much effort in enhancing the degree of openness and transparency in the design. Even though the space is limited, we hope each zone can be interconnected meticulously and synergy is created among different zones, suggesting our ideal imagination of waste handling in the community.

“The major architectural elements maintained the material originality and have minimum decorative cladding or components so as to reduce the production and construction waste.”

– Occurrence Design & Research

除了考慮不同區域之間的關聯外，我們也考慮到如何透過空間設計讓公眾感到賓至如歸，並願意主動地及互動地使用這地方。因此，我們在建築設計及規劃時都特別留意開放性及透明度。我們希望在有限的空間中，將每個區域都能巧妙地連結起來，整體上產生協同效應，讓我們對社區廢物處理的理想想像能有效呈現出來。

「在建築元素方面，為了減少施工時產生的建築廢料，我們選擇保留建築材質的原始肌理，並只作簡約的牆面裝飾。」

– Occurrence Design & Research



Proposed Architectural Design of Socially Inclusive Waste Management Hub
建議社區共融廢物處理中心



Entrance Experiences 置身大樓外的觀感：

‘The proposal of Socially Inclusive Waste Management Hub targets to detach itself from the conventional norm of an entirely enclosed and separated architecture. The proposed scheme suggests the possible architectural openness and spatial fluidity within the building without compromising the efficiency and technical constraints.’

– Occurrence Design & Research

‘The combination of bare concrete façade, natural wood planes, maximized transparency with a touch of earthy pink increases the lightness of the mass and reduces its infrastructural appearance.’

– Occurrence Design & Research

「這幢社區共融廢物處理中心的設計將與一般的公共建築物不同，不再是一般的密封式設計及單幢的獨立建築。我們希望新的建築設計不會遇到技術上的限制，並在不影響到綜合大樓的運作效率下，也能突顯建築物的開放性及空間的流動性。」

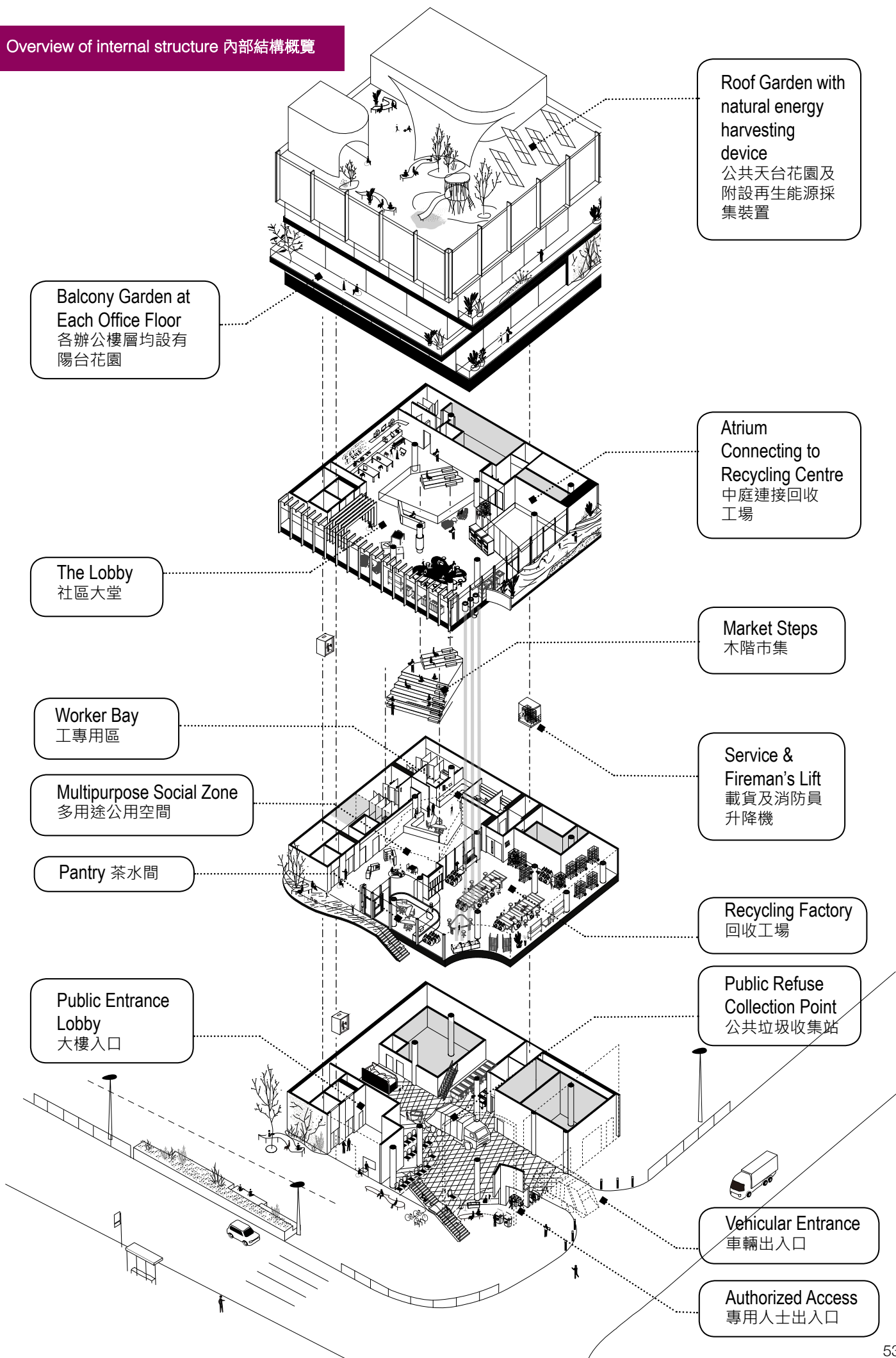
– Occurrence Design & Research

「大樓的外觀物料以清水混凝土—配合自然原木板、並用淺淺的暗粉紅色點綴來增加透明感，使建築物看上去更輕盈及在外觀上減少公共建築的感覺。」

– Occurrence Design & Research



Overview of internal structure 內部結構概覽

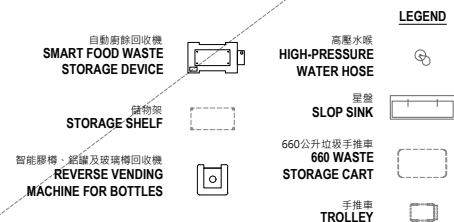
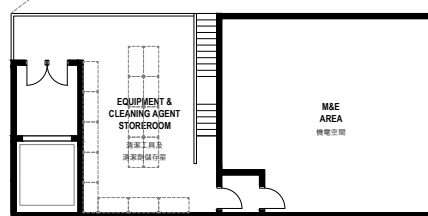
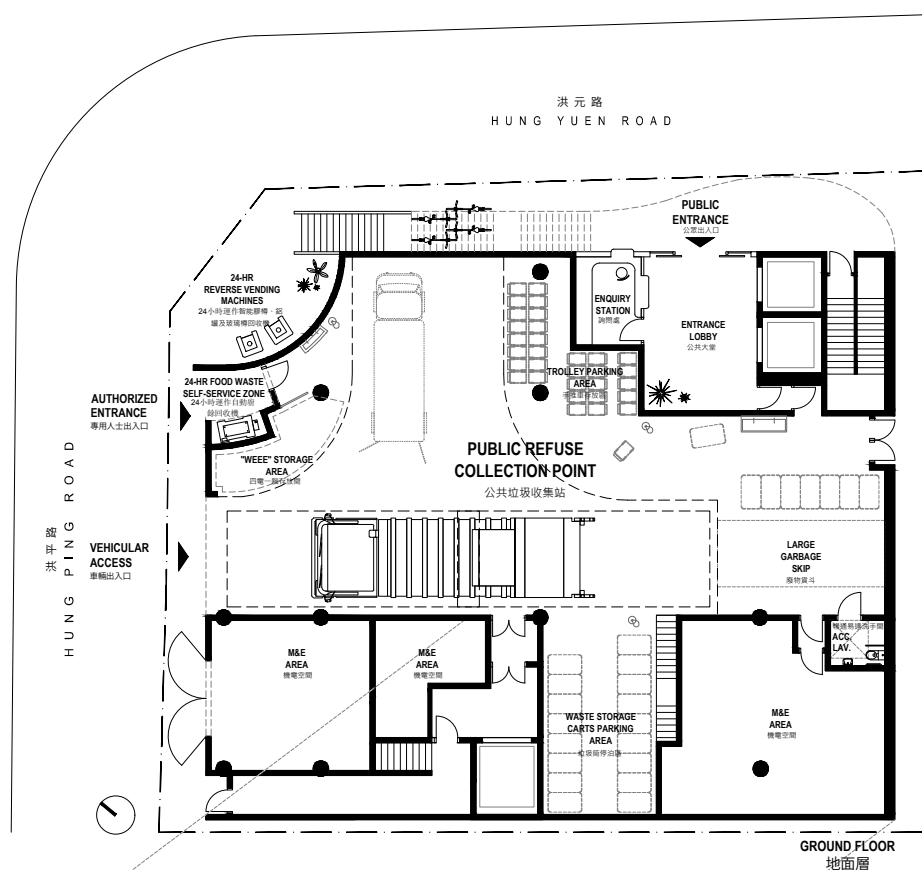
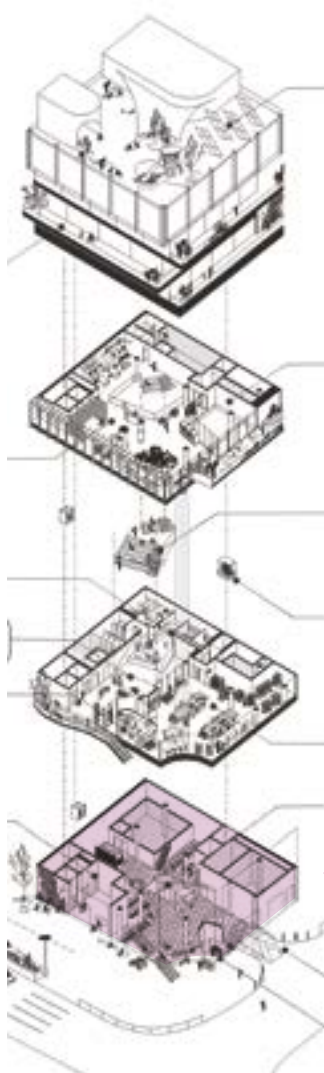


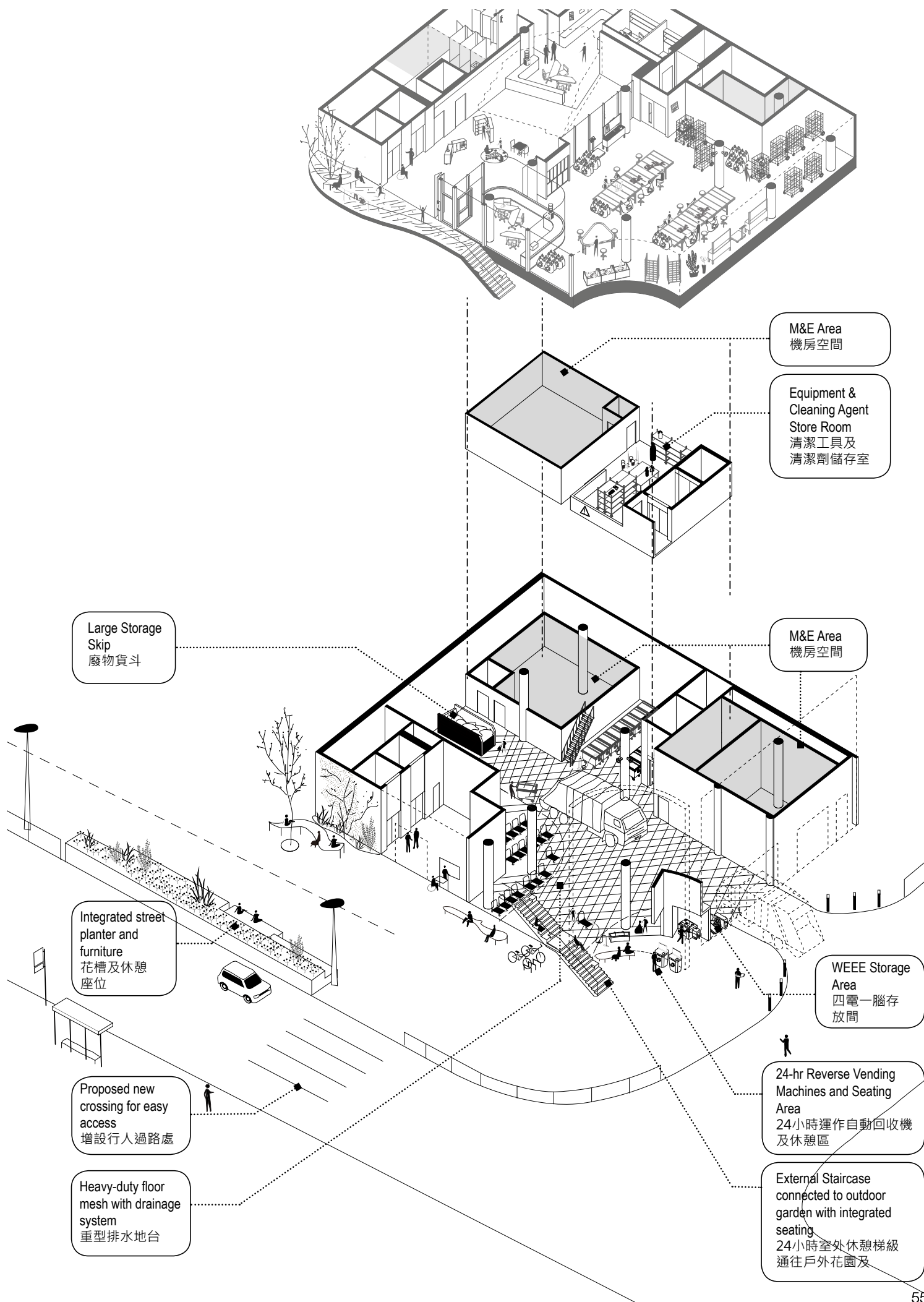
G/F and M/F

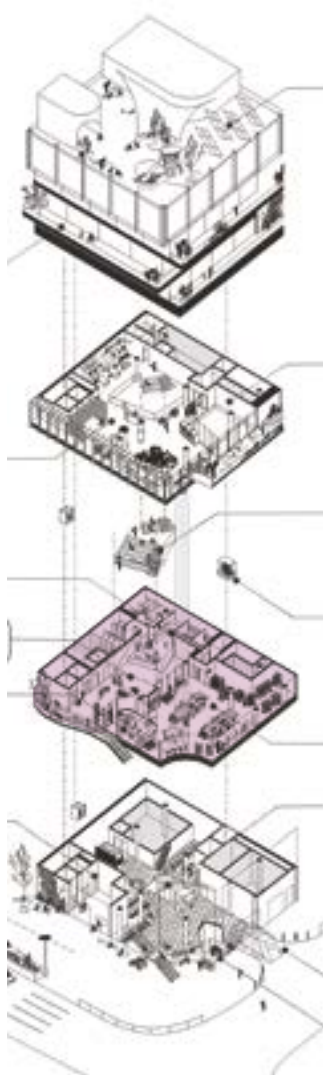
– Waste storage and working area

地下及閣樓

– 垃圾存放及工作區





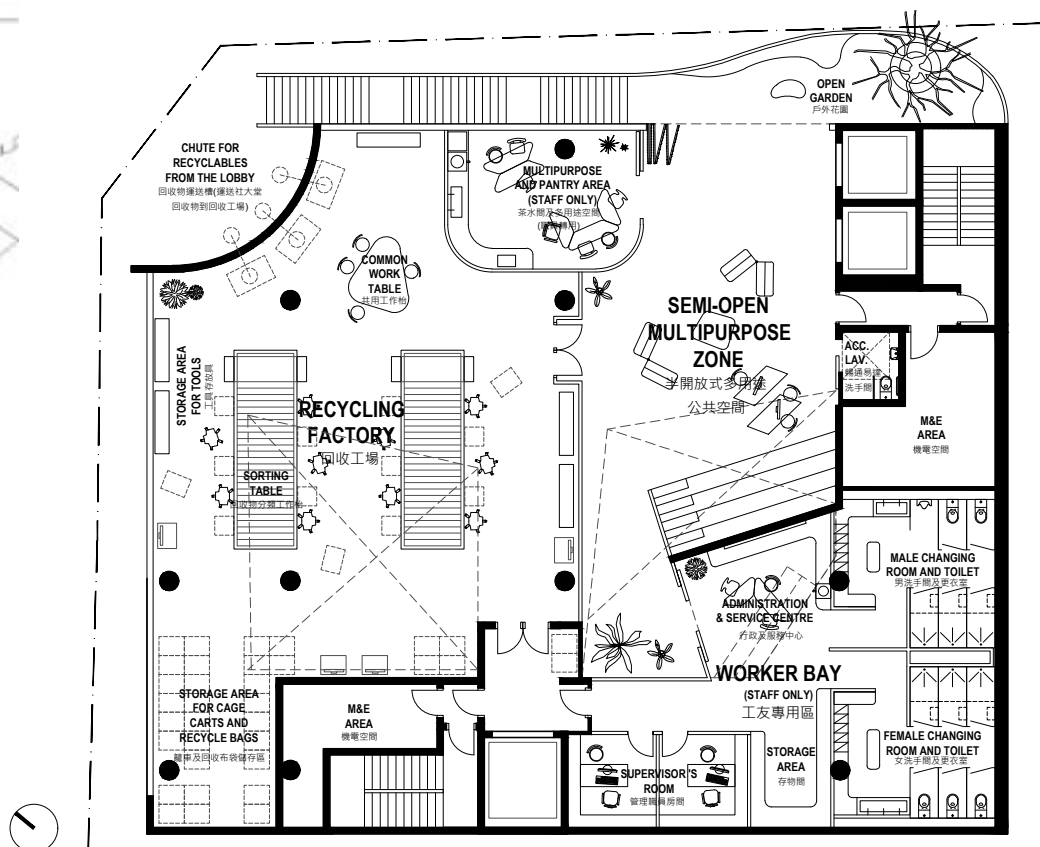
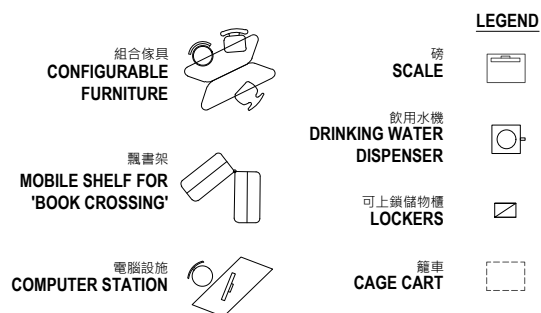


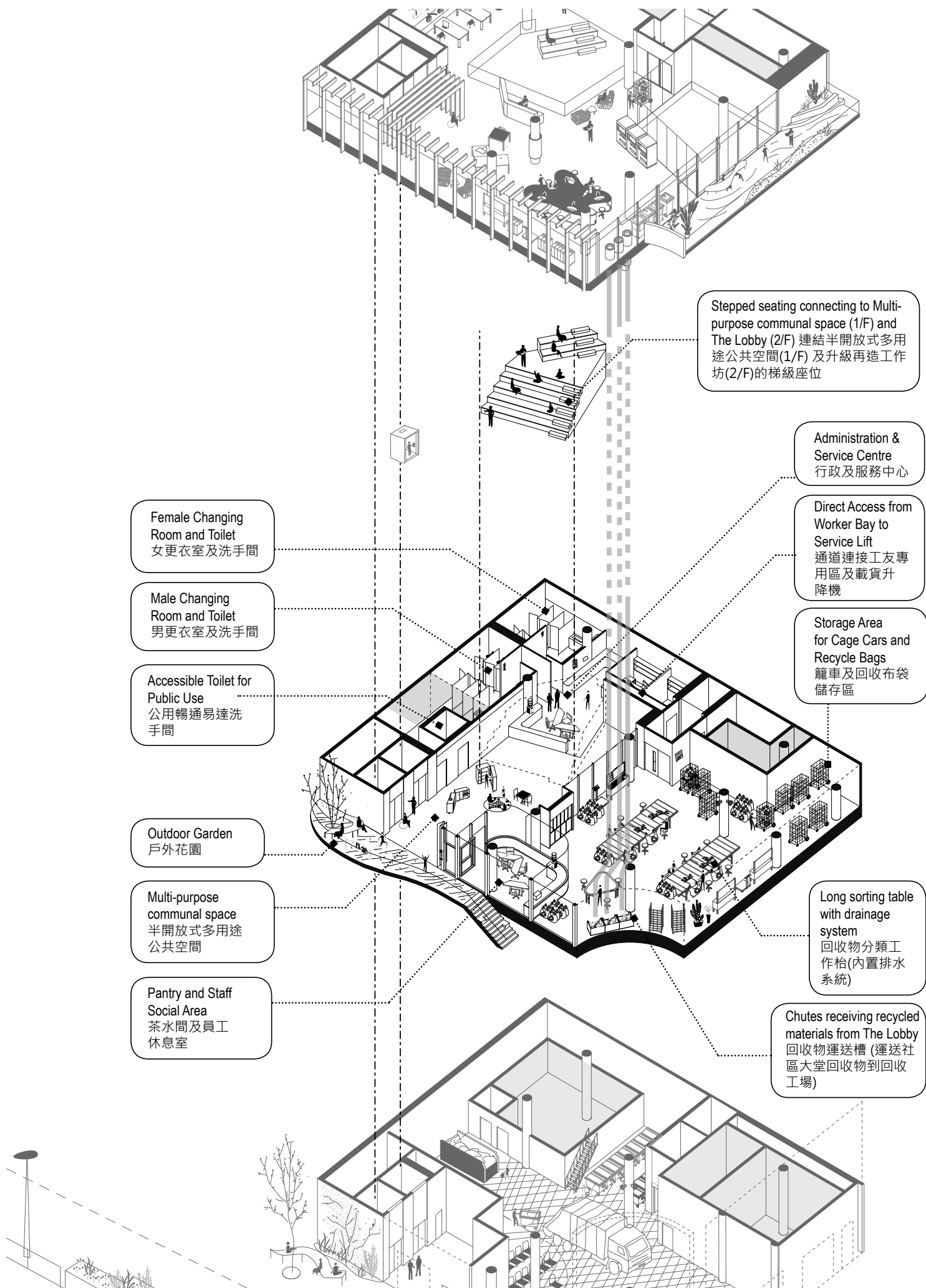
1/F

- Multi-purpose communal space, Worker Bay, Recycling Factory Staff Social Zone

一樓

- 多用途公用空間、工友專用區員工休息區及回收工場





Multi-purpose Communal Space

This Multi-purpose Communal Space is a semi-outdoor area with one side connecting to the outdoor garden and the other side to the Market Steps. This communal space is separated from the Worker Bay on the same floor. This place could be used for small-scale exhibition with the theme of environmental protection, displaying educational information, or arranging services that fulfil the needs of the community, such as book exchange corner. In this zone, visitors can also view the operation of the Recycling Centre via a transparent glass wall.

The Upcycling Workshop on the 2/F, the Market Steps and the semi-outdoor Multi-purpose Communal Space make up a chain of connecting spaces that is themed on eco-lifestyle. The services and activities offer in these areas could be adjusted from time to time to cater the needs of the neighbourhood community. We hope the facilities in this multi-purpose waste management building could become part of neighbourhood community's everyday life, enhance their eco-consciousness, and leading them to a green life.

多用途公用空間

多用途公用空間是一個半開放式的室內區域，一邊與戶外花園相連，另一邊可通往2樓的木階市集，與同一層的員工專用區則分隔開。這公用空間可用來定期舉辦一些以環保為主題的小型展覽、展示教育性的資訊，或按社區需要而安排服務，例如設立漂書閣。在這個區域內，到訪者也可以透過玻璃牆看到回收工廠的運作情況。

2樓的升級再造工作坊、木階市集及1樓的半開放式多用途公用空間是三個相連的區域，這一系列的區域在以環保生活為主題框架下，不時可以根據街坊的需要去調整服務及活動內容。我們希望使用這幢綜合大樓的設施能成為街坊日常社區生活的一部份，藉此強化他們的環保意識及幫助他們實踐環保生活。





Recycling Centre

The pre-sorted recyclables will be sent to this place for workers to do secondary sorting, cleaning and packing up. Specially designed sorting table (with mesh metal top, drip tray and drainage system) facilitates easy cleaning of the items and equipment. Sufficient storage space and direct access to the service lift also enables easy transportation of the sorted and packed items to loading area.

The atrium between the Recycling Centre on the 1/F and The Lobby on the 2/F, together with the glass wall between the Recycling Centre and Multi-purpose Communal Space, enhance the visual transparency and allow the public to have better understanding on the recycling operation and logistics.

回收工場

工作人員在這裡將已經完成初步分類的回收物進行二次分類、清洗及儲存。這裡設有專門設計的分揀工作台(設有金屬網面、滴水盤與和排水系統)，以便清潔物品和設備。這裡亦有足夠的儲存空間供存放已分類的物品，以及設有直接通往載貨升降機的通道，以便將已分類和包裝好的物品輕鬆地運送到裝卸區。

1樓的回收工場及2樓社區大堂之間的中庭，以及回收工場和多用途公用空間之間的玻璃牆，都能增加視覺上的透明度，讓公眾可以更清楚地了解回收中心的工序及運作。





Staff Social Zone

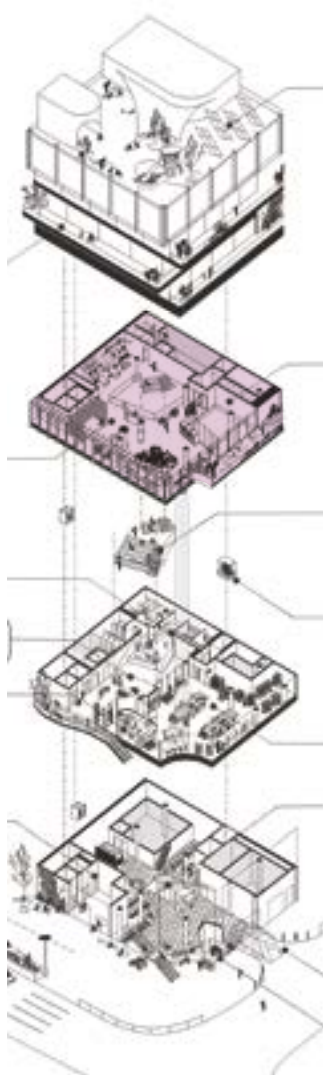
We hope to provide a well-lit, well-equipped and clean resting space for the staff. The Staff Social Zone is right next to the semi-outdoor Multi-purpose Communal Space but this zone serves only the cleaners and workers in the Recycling Centre. A piece of translucent insulated glass separates the outdoor garden and the semi-outdoor Multi-purpose Communal Space. Such semi-confined space could secure the staff's privacy and avoid the staff from feeling uneasy about taking break in the public eye, while on the other hand, natural lighting in the space is also ensured. There is pantry in this zone to provide clean facilities such as drinking water dispenser, microwave oven, steamer, refrigerator, and so on.

員工休息區

我們希望提供員工一個光線充足，設備齊全而又整潔的休息空間。員工休息區鄰近半開放式多用途空間，該空間只供清潔工和回收工場的工作人員使用。半透明的隔熱玻璃分隔了戶外花園及半開放式多用途空間，一方面能保障員工們的私隱，避免員工在完全透明的空間休息會感到不自在；另一方面又能確保光線充足。該區也有茶水間，為員工提供清潔的飲水機、微波爐、蒸爐及雪櫃等設備。





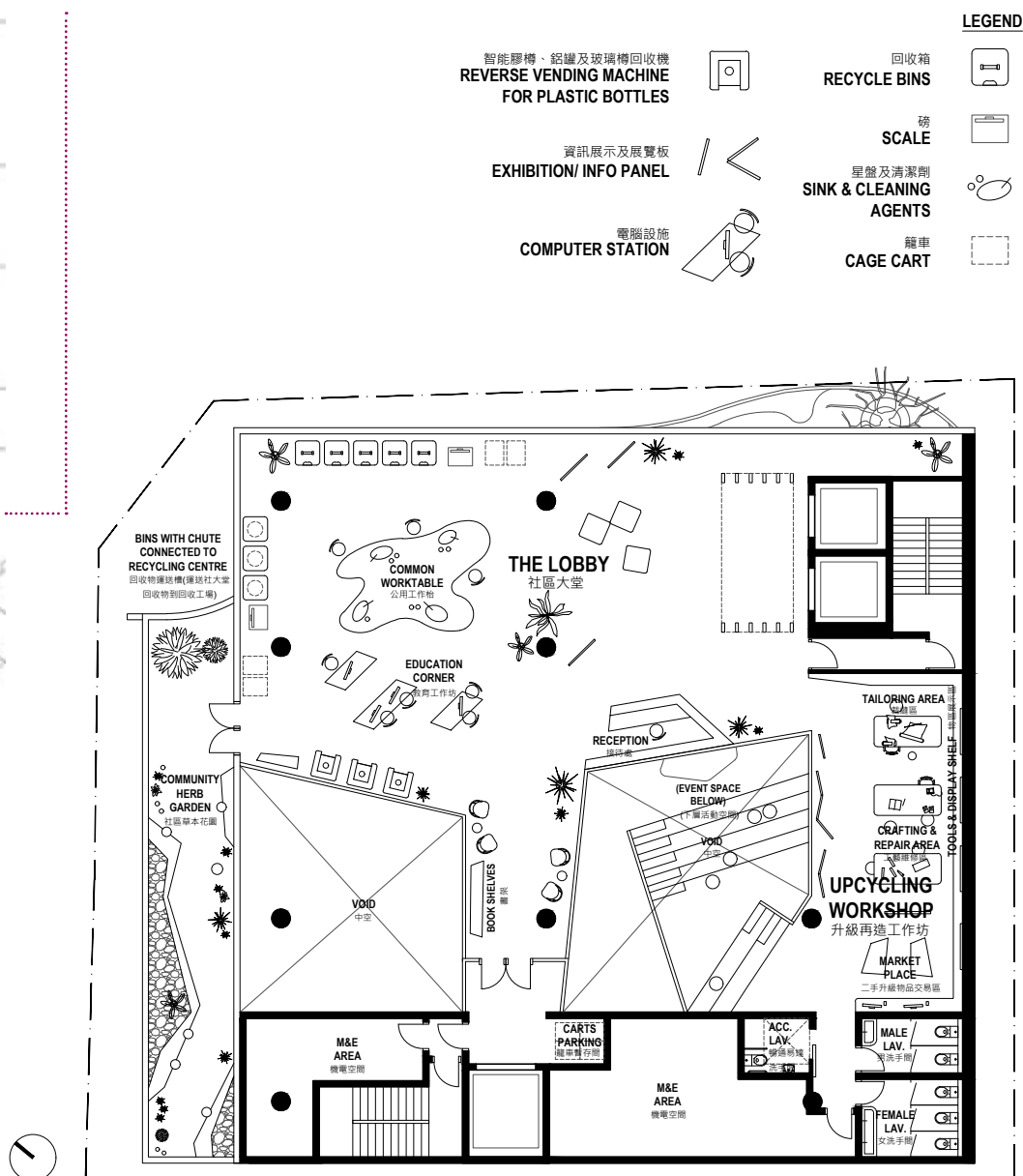


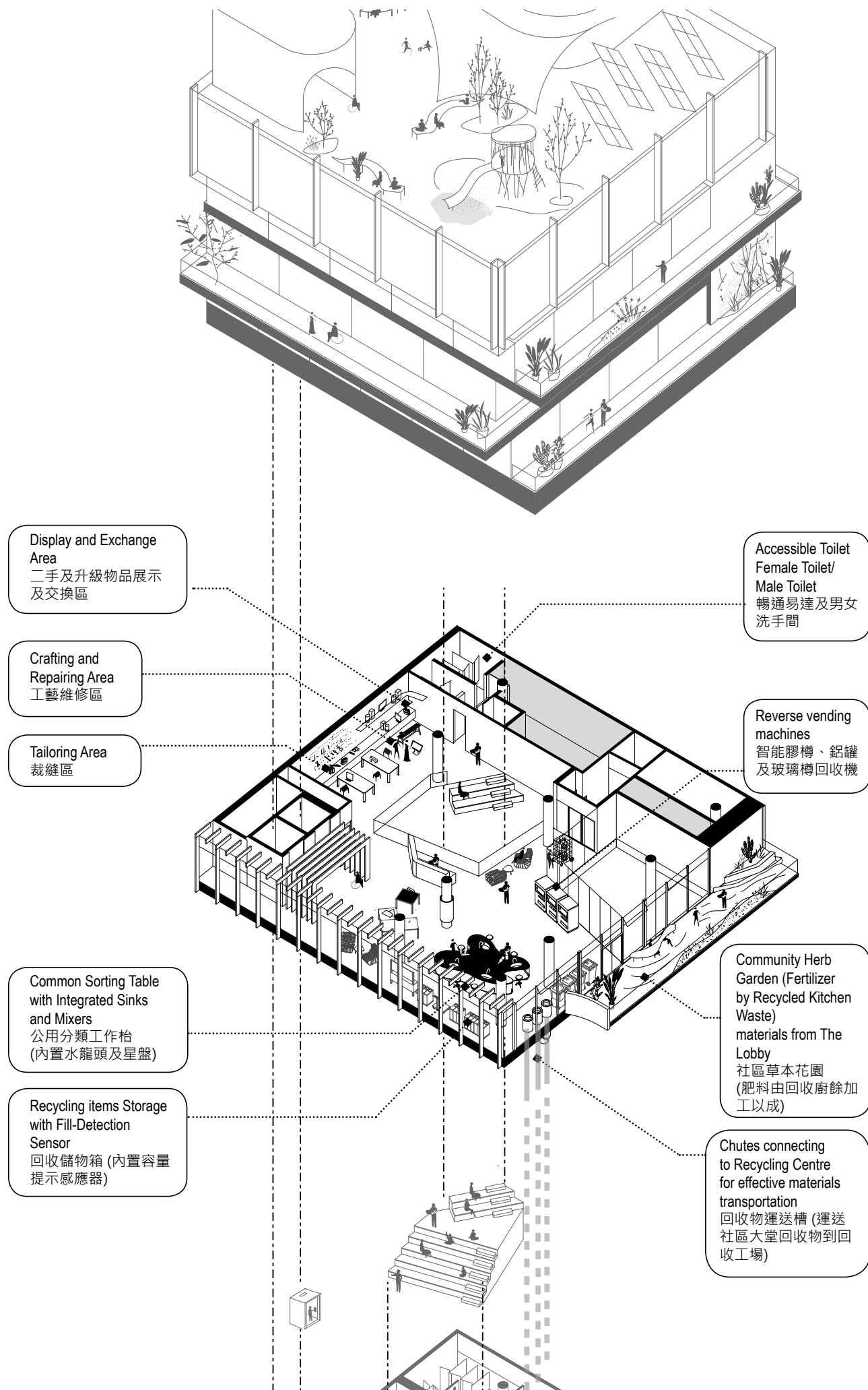
2/F

- The Lobby, Upcycling Workshop

二樓

- 社區大堂及升級再造工作坊





The Lobby

Situated on 2/F, The Lobby is accessible directly from public entrance facing Hung Yuen Road and the lift right next to the entrance, and shall be the first welcoming point of the waste management hub. Public users can bring their recyclables to this area, place them into recycling bins or designated areas. There is self-service counter where public users can do preliminary sorting and cleaning of their recyclables.

Public users will find this place so lively when they enter the floor. This place is equipped with education corner, smart recycling devices, seating area, large sinks-integrated sorting tables and an herb garden. The public is encouraged to engage in social conversations or enjoy a cup of coffee with each other after their recycling activities.

社區大堂

公眾可從面向洪元路的入口乘搭電梯直達位於2樓的社區大堂，這裡是預設公眾進入整棟大樓的第一個接待點。公眾可以把自己帶來的家居回收物放進回收桶，或跟指示放到適當的位置。社區大堂亦提供地方讓公眾為回收物進行初步分類和清潔。

當公眾走進社區大堂，將發現眼前是一個充滿活力的環境，內裡包括環保教育區域、各種智能回收設備、休息區、專門用於分類及清洗的工作檯、園藝小花園等。公眾可以在不同的角落閒談，或坐下喝杯咖啡休息放鬆。





Upcycling Workshop

Located on the same floor as The Lobby, Upcycling Workshop is a connecting space between The Lobby and the Multi-purpose Communal Space. The Market Steps are extended from the Upcycling Workshop as an access towards the Multi-purpose Communal Space. The Upcycling Workshop will mainly be used by the public and environmental organisations for conducting community activities such as hand-crafting workshops and repair courses. Neighbourhood residents can also borrow equipment here, ranging from hand-held crafting tools, sewing machine, electrical drill to heavy-duty tools.

A market place and display area is located adjacent to this area to encourage both social connection and items exchange. The Market Steps are not only an access but it can also be used as work area for events, audience platform, or relaxing stepped seating at any time of the day.

升級再造工作坊

升級再造工作坊和社區大堂位於同一層，以木階市集連接通往1樓的半開放式多用途公用空間。這空間主要讓公眾人士或環保組織舉辦活動，例如手工藝工作坊或維修課程等社區活動。街坊平日也可以在這裡借用各種工具，包括各款輕便的手工具、縫紉機、電鑽，甚至其他相對重型的工具。

這空間也設有展示區域，沒有特別活動進行時，這區主要是二手或升級再造物品交換區，鼓勵街坊進行社交聯繫和物品交換。而木階市集不單是通往1樓的多用途公用空間的梯級通道，它更是一套可以讓公眾席地而坐的階梯式座位。此外，部分台階也可以按需要，劃作活動的工作區或觀眾席。







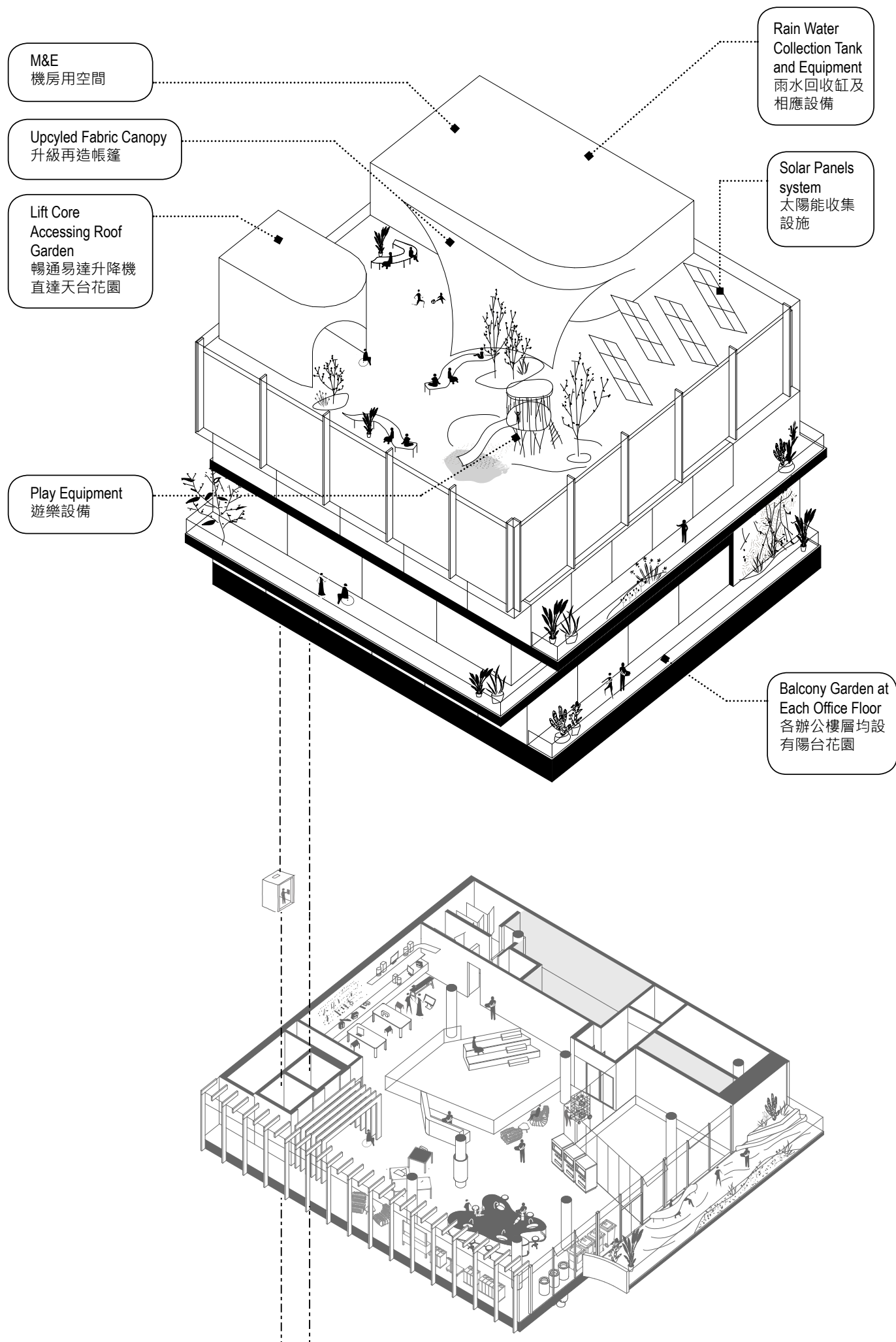
Others and R/F 其他樓層及天台

There is balcony garden on each office floor of this building. This is not only to fulfil the architectural concepts of openness and transparency, but also for the staff to take a break at outdoor area or to have a sunbath without leaving their workplace. A pleasant environment could help the staff perform their best at work.

During office hours, the R/F is open as a public green deck in order to attract more visitors to the building. Such open space could enhance the connection between the neighbourhood community and this building, and eventually could help the building become part of the neighbourhood community's everyday life. The space is furnished with play and fitness equipment. There is also solar photovoltaic system at the rooftop for generation of solar energy.

綜合大樓的各辦公樓層均設有陽台花園，這樣除了切合開放、透明的建築概念，也讓員工不用離開工作範圍，就可以在戶外地方透透氣或曬曬太陽，幫助他們調整至最佳的工作狀態。

在辦公時間內，天台是一個開放給公眾的綠色休憩空間，以吸引更多使用這幢大樓，增加附近街坊與綜合大樓的聯繫，長遠有助綜合大樓成為街坊社區生活的一部份。這空間設有遊樂設施及舒展四肢的健身設備，另外也設有太陽能光伏系統裝置。



E. A Proposed Working Model of the Social Innovative Project 社會創新項目的建議運作模式

For better execution of some forward-looking social innovation projects, various stakeholders in the society should explore together the best way of cooperation. After the trial of designing the multi-purpose waste management building, we believe trust and balanced division of works among different parties, including the university department which is in charge of social innovation, related government departments, community organisations, professionals (architects and designers), and the local community, are crucial. On the one hand, it is unrealistic to rely only on local community, the laymen, to complete the design. On the other hand, we cannot let the professionals work behind the closed door and build everything according to their knowledge. We need to explore a way of implementing social innovation project that every stakeholder can trust each other, maintain a balance among each other's role, and efficiently participate in the process of implementation. We believe successful implementation of a social innovation project is founded upon the interactive process among various stakeholders. Here is our proposed working model of the social innovative project concerning social infrastructure:

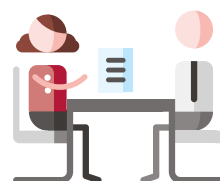
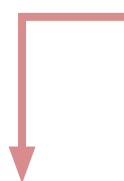
社會上不同的持份者應該一起探索最有效的合作模式，才可以完善地實踐具前瞻性的社會創新項目。經過這次設計綜合廢物處理中心的實驗過程，我們認為在實踐一些社區建設項目時，相關單位——包括大學的社創部門、相關政府部門、地區組織、專業人員(建築師及設計師)，以及地區群眾之間的互信和分工合作上的平衡是十分重要。一方面，我們不能不切實際地只依靠群眾參與去完成設計規劃，另一方面，也不能只以專家的見解去閉門造車。我們需要探索的，是如何能讓各持份者既能互相信任，又能保持角色上平衡的一套實踐方法，並讓各單位都能有效率地參與。我們相信一個社會創新項目的成功，是建立在各持份者參與的互動過程這基礎上的。以下是我們對有關社區建設的社會創新項目的建議運作模式：



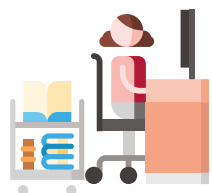
Department-in-charge in an university sets upon a social infrastructure project initiated by the Government
大學社創部門鎖定一個社會性的政府建設項目



Consult end-users and neighbourhood community
諮詢用家和街坊的意見



Finalised design proposal will be handed over to community organisations for their future negotiation with related government departments
最後設計方案轉交地區組織，以便他們與相關政府部門協商及爭取訴求



Preliminary research
前期調查及研究



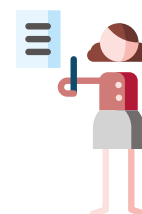
Liaise and communicate with
end-users and community
organisations that concern about
the subject matters
與用家及熟悉相關議題的地區組織
聯絡，並諮詢他們對該議題的意見



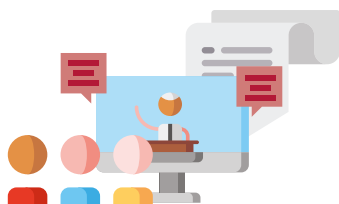
Attend meetings between
community organisations and
government departments
出席政府部門與地區組織的會議



Professionals (including practitioners or from other
departments in the university) are engaged to create and
enhance the design based on the proposal set by the
department-in-charge in the university
邀請專業人士（包括大學其他部門的專家）就訂立的方案內
容進行設計



University department works on the
design proposal with relatively bold
and ambitious contents
大學社創部門制定設計方案，內容可
以相對大膽及冒險



Local community organisations, district councillors and
professionals from other departments in the university
can be invited to write articles on print or online media
/ social media to publicise the project and also keep
public discussion and attention to the project alive
before it is actually implemented.

邀請地區組織、區議員及大學其他部門的專家於紙媒、網
上媒體及社交平台撰寫文章，在規劃建議落實前，繼續推
廣設計方案，保持計劃在社區內的熱度。



University departments could gather
all the information and findings for
publishing academic articles for future
reference and record
大學學系可就著項目內容撰寫學術文章

F Acknowledgement

特別鳴謝

We would like to extend our sincere gratitude to every unit participated in this project. Without their assistance and support, under limited time and resources, the design proposal could never be made possible. In the process, we have also obtained valuable experience which helps us further develop some better social innovation projects in the future.

Special thanks (in arbitrary order):

- Waste No Mall
- Ms Li Mei-siu (the Vice President of Hong Kong Food and Environmental Hygiene Department Staff Rights Union)
- Hong Kong Women Worker's Association
- Waste Picker Platform
- Mr Siu King-chung (Associate Dean of School of Design, the Hong Kong Polytechnic University)
- All the cleaners we have approached
- All the neighbourhood residents in Hung Siu Kiu who have given us their views

在有限的資源和時間限制下，我們再次感謝各參與單位的付出及貢獻，才能讓這設計計劃書順利完成，過程中也讓我們取得寶貴的經驗，有助我們將來去實踐更完善的社會創新項目。

特別鳴謝下列的單位，排名不分先後：

- 不是垃圾站
- 李美笑女士（食物及環境衛生署職工權益工會副主席）
- 香港婦女勞工協會
- 拾平台
- 蕭競聰先生（香港理工大學設計學院副院長）
- 我們曾接觸過的清潔工
- 所有曾給予意見的洪水橋街坊

Appendix I

Preparation works ran from February to April in 2019, including a series of data collection, public engagement workshops, interviews with cleaners and non-government organisations, and site visits to the existing refuse collection points. The preparation works help us better understand the current situations of cleaning industry, as well as appropriately define the scope of design content which related to cleaners.

* (From Feb to April in 2019, we have talked with about 35 cleaners in order to understand their working conditions and needs.)

前期工作於2019年2月至4月進行，這段時期的工作讓我們更了解清潔行業的現況及幫助我們之後能更準確地界定有關清潔工部分的設計內容範圍。前期工作包括進行一系列數據收集、公眾參與工作坊、和清潔工及非政府組織的訪談，以及到垃圾收集站實地考察時等，此外，我們也做了以下數據收集的工作：

*（從2019年2月至4月，我們訪談了大約35名清潔工，以了解他們的工作狀況和需求。）

Data Collection Details 數據收集詳情

A. Site visit to refuse collection points 實地考察垃圾收集站

DATE & TIME 日期及時間	PURPOSES OF THE SITE VISIT 實地考察目的
4/2/19: 15:30-17:30 12/3/19: 10:00-12:00 14/3/19: 16:30-17:30 25/3/19: 10:00-12:30 13/4/19: 14:30-16:30	To understand the cleaners' needs and their working condition. Based on the observation and data collection, the final design of the project will be developed 了解清潔工的工作狀況和需求，最終設計將會根據觀察所得及搜集得來的資料去製作
	CONTENT 內容
	4/2: • Observation and interview the cleaners in Lan Kwai Fong Refuse Collection Point 觀察蘭桂坊垃圾收集站及訪問垃圾收集站內清潔工
	• Observation and interview the 8 cleaners in Gage Street Refuse Collection Point 觀察蘭桂坊垃圾收集站及訪問垃圾收集站內8位清潔工
	12/3: • Observation in the refuse collection point in Hung Fuk Estate and the village-type refuse collection points nearby 觀察洪福邨垃圾收集站及附近鄉村式垃圾收集站
	14/3: • FEHD officer introduced the two refuse collection points near Yuen Long Government Offices 食物環境衛生署官員介紹兩個在元朗政府合署附近的垃圾收集站
	25/3: • Observation and interview the person-in-charge of the outsourced cleansing company in the refuse collection point in Kwai Chung Estate 觀察葵涌邨垃圾收集站及訪問清潔服務公司負責人
	13/4: • Observation and interview 2 cleaners at the refuse collection point next to Hoh Fuk Tong Station of MTR Light Rail 觀察輕鐵何福堂站旁的垃圾收集站及訪問2位清潔工

B. Interview with cleaner concerned groups 與清潔工關注組織訪談

DATE 日期	PURPOSES OF THE INTERVIEW/CONSULTATION 訪談及諮詢目的
28/1/19: 15:00-17:00	To understand the cleaners' needs and their working condition 了解清潔工的工作狀況和需求
29/1/19: 16:00-17:00	
1/2/19: 10:00-11:30	
19/2/19: 10:30-12:00	
	INTERVIEWED GROUP 訪談單位
28/1	<ul style="list-style-type: none"> Li Mei-siu, the Vice President of Hong Kong Food and Environmental Hygiene Department Staff Rights Union 李美笑 (食物及環境衛生署職工權益工會副主席)
29/1	
	<ul style="list-style-type: none"> Ho Tin Lok, Programme Officer of Catholic Diocese of HK Diocesan Pastoral Centre for Workers 何天樂 (天主教香港教區教區勞工牧民中心節目主任)
1/2	<ul style="list-style-type: none"> Wu Mei-lin, Representative from Hong Kong Women Worker's Association 胡美蓮 (香港婦女勞工協會代表)
19/2	
	<ul style="list-style-type: none"> Chan Chi, Tuen Mun Zine 陳姿 《屯們誌》

C. Follow the daily routine of a street cleaner 跟隨街道清潔工工作

DATE & TIME 日期及時間	TARGETED CLEANER 目標清潔工
17/2/19: 07:00- 12:00	Uncle Kwan, 69 year-old, male 坤叔, 69歲, 男性
18/2/19: 16:00- 20:00	
	VENUE 場地
	17/2: Ho Man Tin 何文田
	18/2: Mongkok 旺角
	CLEANER'S DUTY 清潔工的工作
	Street sweeping and clearing litter bins in Ho Man Tin 於何文田掃街及清理垃圾桶
	Clearing litter bins in Mongkok 於旺角清理垃圾桶
	PURPOSES OF THE ACTIVITY 當日活動目的
	To understand the cleaners' working procedures and operation details. 了解清潔工的工作程序及實際運作詳情

D. Join the cleaners' gathering held by Waste Picker Platform 參加拾平台為清潔工舉辦的聚會

DATE & TIME 日期及時間

28/1/19: 17:00-18:00

12/2/19: 17:00-18:30

VENUE 場地

Waste Picker Platform in Tai Kok Tsui

位於大角嘴的拾平台

PURPOSES OF THE ACTIVITY 當日活動目的

To talk with the cleaners and to understand their needs.

與清潔工訪談並了解他們的需要

E. Site visit to street cleaner's work site, organised by Waste Picker Platform
由拾平台主辦、實地考察清潔工的工作場所

DATE & TIME 日期及時間

29/1/19: 19:30-21:30

VENUE 場地

Near the market in Chun Yeung Street, North Point

北角春秧街街市附近

PURPOSE OF THE ACTIVITY 當日活動簡介

To participate in regular visits to cleaners organised by Waste Picker Platform

參與拾平台到清潔工工作場所的定期探訪

G. Join the survey with the neighbourhood community in Hung Shui Kiu, organised by Waste No Mall
由不是垃圾站主辦、參與向洪水橋街坊進行的問卷調查

DATE & TIME 日期及時間

31/3/19: 16:30- 18:30

7/4/19: 16:00-18:00

ORGANISER 主辦單位

Waste No Mall

不是垃圾站

VENUE 場地

31/3:

- Near Hung Shui Kiu Station of MTR Light Rail
輕鐵洪水橋站附近

7/4:

- Hung Fuk Estate
洪福邨

PURPOSES OF THE ACTIVITY 當日活動目的

- To understand and collect the views of neighbourhood community on FEHD's preliminary design of the new refuse collection point in Hung Shui Kiu
了解及收集街坊對食環署提出在洪水橋興建新垃圾收集站的意見

Appendix II

From May to July in 2019, we had meetings and consultations with the different stakeholders, and site-visits to various local recycling points. We sorted out some requirements and ideas for the design content, and discussed with architects, aiming to work out a pragmatic design for the new refuse collection point.

從2019年5月到7月，我們與不同的持份者進行會議和諮詢，並實地考察了一些地區回收中心。我們構想了一些設計概念及列出一些設計要求，並與建築師討論，為新垃圾收集站制定符合現實條件的設計。

Data Collection Details 數據收集詳情

A. Meetings with different stakeholders 與不同的持份者進行會議

DATE & TIME 日期及時間	CONTENT 內容
10/5/19: 11:30 – 13:30	10/5:
18/5/19: 19:30 – 22:00	<ul style="list-style-type: none">Meeting between members from PolyU JCDISI and Waste No Mall, and Officers from Environment Protection Department (EPD) in Legislative Council Complex 香港理工大學賽馬會社會創新設計院代表、不是垃圾站及環境保護署官員於立法會綜合大樓進行會議
19/6/19: 14:45 – 17:00	<ul style="list-style-type: none">Waste No Mall gave comments on the new refuse collection point based on previous site-visits and presented public views based on previous surveys on the street. 不是垃圾站根據實地考察的所見，為新垃圾收集站提供運作上的意見，並反映之前擺街站時收集了的公眾意見。
27/6/19: 18:30 – 20:00	<ul style="list-style-type: none">Presented views to the Environment Protection Department on the aspects of managing and operating the recycling centre 向環境保護署提出對回收中心管理及操作上的意見。Understood the attending parties' expectations on the management of the new refuse collection point 了解在場的各單位對管理新垃圾站的期望
	18/5:
	<ul style="list-style-type: none">Meeting between members from PolyU JCDISI, Waste No Mall and New Opportunity Limited, architects from Occurrence Design & Researchs and an urban planner in PolyU JCDISI 香港理工大學賽馬會社會創新設計院、不是垃圾站、新機有限公司代表、Occurrence Design & Researchs 的建築師及一位城市規劃師於香港理工大學賽馬會社會創新設計院進行會議The group of architects collected views from Waste No Mall and New Opportunity Limited on the design of the recycling centre 讓建築師團隊了解不是垃圾站和新機有限公司對回收中心設計的看法The group of architects collected views on developing street cleaner's part of the project 讓建築師團隊了解有關街道清潔工部份的設計內容的意見Aligned the expectation on the design proposal among different parties in order to reach the mutually-agreed target 調整各單位對設計方案的期望，以達到一致的目標
	19/6:
	<ul style="list-style-type: none">Meeting between members from PolyU JCDISI, committees from Hong Kong Women Worker's Association, architects from Occurrence Design & Researchs and graphic designer in Hong Kong Women Worker's Association 香港理工大學賽馬會社會創新設計院代表、香港婦女勞工協會委員、Occurrence Design & Researchs 的建築師及平面設計師於香港婦女勞工協會進行會議Discussion on the first design draft 討論設計初稿Consulted Hong Kong Women Worker's Association on their views on the design of the refuse collection point 就清潔垃圾收集站的設計，向香港婦女勞工協會徵詢意見
	27/6:
	<ul style="list-style-type: none">Preview of the first design draft 預覽設計初稿Sought the attendees' views on the operations of the refuse collection point 徵詢與會者對新垃圾站設計的實際操作的建議

B. Site visits the Recycling Points 實地考察回收中心

DATE & TIME 日期及時間

29/5/19: 10:30 – 17:30

6/6/19: 14:00 – 17:00

8/6/19: 11:00 – 13:00

VENUE 場地

29/5

- Missing Link – Polyfoam Recycling Scheme

迷失的寶藏：發泡膠回收行動

- Waste Recycling Point of Boys' Brigade in Tsuen Wan

香港基督少年軍回收中心 - 荃灣

- Community Green Station in Tin Shui Wan

天水圍綠在區區

6/6

- New Opportunity Limited – Yuen Long Environmental Education Centre

新機有限公司 - 元朗環保教育中心

8/6

- Community Green Station in Sai Wan Ho

西灣河綠在區區

PURPOSES OF THE ACTIVITY 當日活動目的

- To understand the operation and workflow of various recycling centres, as well as the advantages and disadvantages of each of these recycling centres
了解各個回收中心的運作和工作流程，以及每個回收中心的優點和缺點
- To decide the positioning of the new refuse collection point so as to fill the gap in the existing status of recycling works and organisations
決定新垃圾站的定位，以填補現時地區回收工作的不足
- To develop a checklist of the recycling centre in the new refuse collection point based on the observations made in the site visits
根據實地考察的結果，為新垃圾站裡的回收中心制定一份設計注意事項清單



C. Meetings on the design details for the refuse collection point 有關垃圾收集站設計細節的會議

DATE & TIME 日期及時間

11/6/19: 15:00 – 17:00

9/7/19: 15:00 – 17:30

VENUE 場地

- PMQ
元創方
- PolyU JC DISI
香港理工大學賽馬會社會創新設計院

WHO ATTENDED THE MEETINGS 與會人士

- Members from PolyU JC DISI and graphic designer
香港理工大學賽馬會社會創新設計院代表及平面設計師
- Members from PolyU JC DISI and Waste No Mall, Architects from Occurrence Design & Researchs
香港理工大學賽馬會社會創新設計院及不是垃圾站代表、Occurrence Design & Researchs 的建築師

CONTENT 內容

11/6

- Discussed the mood and tone of the design proposal with the graphic designer
與平面設計師討論設計建議書的色調及風格

9/7

- Preview the second design draft on cleaners' part and recycling centre
預覽有關清潔工部分及回收中心設計的第二稿
- Discuss the details of the recycling centre with Waste No Mall
與不是垃圾站討論回收中心的細節
- Sought comments from the members from Waste No Mall on the design layout for further fine-tuning
向不是垃圾站的成員徵詢意見，再調整設計方案

Appendix III

A. Event Details 活動詳情

Event 1 : Concerns over the Working Conditions of Cleaners – Workshop 1 關注清潔工就業處境工作坊 1

EVENT TYPE 活動類型

Workshop
工作坊

LEADERS/SPEAKERS 主講

- Max Leung ((PolyU JCDISI))
梁迪釗 (香港理工大學賽馬會社會創新設計院)
- Li Mei-siu, the Vice President of Hong Kong Food and Environmental Hygiene Department Staff Rights Union
李美笑(食物及環境衛生署職工權益工會副主席)

DATE 日期

2/3/2019

TIME 時間

10:00-13:00

VENUE 場地

PolyU Jockey Club
Innovation Tower
香港理工大學賽馬會創新樓

AUDIENCE TYPE 參加者類型

Public
公眾人士

NUMBER OF PARTICIPANT

參加者人數

14

BRIEF DESCRIPTION OF EVENT 當日活動簡介

In the workshop, design thinking was introduced as a tool for handling social issues. Through group discussion and activities, participants learnt and put the concept of design thinking into practice in considering social issues.

Li Mei-siu, the Vice President of Hong Kong Food and Environmental Hygiene Department Staff Rights Union introduced cleaning industry and cleaners' duty in waste management. The seminar gave the participants an overall picture of the actual cleaners' operation.

在工作坊上，講者會講解以設計思維作為處理社會問題的工具。透過小組討論和活動，參加者學習及應用設計思維，並嘗試以設計思維思考社會問題。

食物及環境衛生署職工權益工會副主席李美笑介紹了清潔行業和清潔工在廢物處理方面的職責。研討會全土地讓參與者了解清潔工實際工作狀況。



Event 2 : Concerns over the Working Conditions of Cleaners – Workshop 2 關注清潔工就業處境工作坊 2

EVENT TYPE 活動類型

Workshop
工作坊

LEADERS/SPEAKERS 主講

- Wu Mei-lin, Representative from Hong Kong Women Worker's Association
胡美蓮 (香港婦女勞工協會代表)

DATE 日期

2/3/2019

TIME 時間

14:00-18:00

VENUE 場地

PolyU Jockey Club
Innovation Tower
香港理工大學賽馬會創新樓

AUDIENCE TYPE 參加者類型

Public
公眾人士

NUMBER OF PARTICIPANT

參加者人數

14

BRIEF DESCRIPTION OF EVENT 當日活動簡介

In this session, the participants were divided into 4 groups and attended a site visit led by the staff of Hong Kong Women Worker's Association to the public refuse collection points in Tsim Sha Tsui and Hung Hom. On the one hand, through observation and interview with the cleaners, the participants gained understanding on the actual working condition of cleaners. On the other hand, the participants can put into practice how to observe and make use of design thinking that they learnt in the morning session. All the data will be collected for further development of the project.

由香港婦女勞工協會的工作人員帶領，參加者分為四個小組到尖沙咀和紅磡的公共垃圾站作實地考察。一方面，參與者透過觀察和訪談，可以了解清潔工的實際工作狀況；另一方面，參與者可以在現場學習如何觀察，並嘗試利用在上午活動中學習到的設計思維去思考。所有收集得來的資料將用於開展設計項目。



Event 3 : Concerns over the Working Conditions of Cleaners – Workshop 3 關注清潔工就業處境工作坊 3

EVENT TYPE 活動類型

Workshop
工作坊

LEADERS/SPEAKERS 主講

- Wu Mei-lin, Representative from Hong Kong Women Worker's Association
胡美蓮 (香港婦女勞工協會代表)

DATE 日期

9/3/2019

TIME 時間

14:00-18:00

VENUE 場地

Hong Kong Women
Worker's Association in
Kwun Tong
位於觀塘的香港婦女勞工協會

BRIEF DESCRIPTION OF EVENT 當日活動簡介

By attending cleaner's work tryout in the community in person, the participants could empathically get to know the working condition of cleaners. This could also help the participants design a more effective proposal for improvement of the cleaners' working condition.

通過親身體驗清潔工工作，參與者更能有同理心地了解清潔工的工作處境。這也可以幫助參與者提出更務實、貼地的建議，去改善清潔工的工作狀況。

AUDIENCE TYPE 參加者類型

Public
公眾人士

NUMBER OF PARTICIPANT 參加者人數

8



Event 4 : Concerns over the Working Conditions of Cleaners – Workshop 4 關注清潔工就業處境工作坊 4

EVENT TYPE 活動類型

Workshop
工作坊

DATE 日期

23/9/2019

TIME 時間

14:00-18:00

VENUE 場地

PolyU Jockey Club
Innovation Tower
香港理工大學賽馬會創新樓

AUDIENCE TYPE 參加者類型

Public
公眾人士

NUMBER OF PARTICIPANT 參加者人數

13

LEADERS/SPEAKERS 主講

- Siu Ming (Waste No Mall)
梁德明 (不是垃圾站)
- Conal Chan, ENVAC Manager
ENVAC經理 陳增成
- Max Leung (PolyU JCDISI)
梁迪釗 (香港理工大學賽馬會社會創新設計院)

BRIEF DESCRIPTION OF EVENT 當日活動簡介

Through understanding the background of building a new refuse collection point in Hung Shui Kiu and coming into contact with the idea and the works of the community group Waste No Mall, the participants' vision on the future waste management was expanded. The participants were further guided by the design thinking kits to generate proposal which brings benefits to cleaners in the new refuse collection point.

Through introduction of the vacuum waste processing system by Conal Chan, the Manager of ENVAC in Hong Kong Science Park, the participants understand how waste can be handled odourlessly and how the system has been applied overseas.

透過了解在洪水橋建立新垃圾站的背景，以及認識社區團體不是垃圾站的理念和工作，擴闊參加者對未來社區廢物處理的視野。參加者嘗試利用設計思維的思考方式，為改善新垃圾站內清潔工的工作處境提出建議。

透過香港科學園ENVAC經理陳增成介紹的真空廢物處理系統，參加者可以了解到系統如何無味處理廢物，以及外國如何應用該系統。



Event 5 : Concerns over the Working Conditions of Cleaners – Workshop 5 關注清潔工就業處境工作坊 5

EVENT TYPE 活動類型

Workshop
工作坊

LEADERS/SPEAKERS 主講

- Harold Yip, the Executive Director of Secure Information Disposal Services Ltd
資訊機密處理有限公司執行董事葉文琪
- Rena Lau (PolyU JCDISI)
劉燕娜 (香港理工大學賽馬會社會創新設計院)
- Max Leung (PolyU JCDISI)
梁迪釗 (香港理工大學賽馬會社會創新設計院)

DATE 日期

30/3/2019

TIME 時間

14:00-18:00

VENUE 場地

PolyU Jockey Club
Innovation Tower
香港理工大學賽馬會創新樓

BRIEF DESCRIPTION OF EVENT 當日活動簡介

Sharing on waste audit offered the participants a more comprehensive view of waste management. The second half of the workshop allowed the participants to make use of the scientific data to do calculation and analysis, and to develop suggestion on building a public refuse collection point in a community based on calculations and analysis. Lego bricks are used as the tool to visualize their idea and imagination of the refuse collection point.

AUDIENCE TYPE 參加者類型

Public
公眾人士

有關廢物審計的分享，可以讓參加者更全面地了解廢物處理行業。參加者在工作坊的後半部分，有機會試用數據進行計算和分析，並根據分析結果去提出在社區中建立公共垃圾站的不同建議。參加者可利用樂高積木去表達他們的理想中垃圾站。

NUMBER OF PARTICIPANT

參加者人數

8



Event 6 : Concerns over the Working Conditions of Cleaners – Workshop 6 關注清潔工就業處境工作坊 6

EVENT TYPE 活動類型

Workshop
工作坊

LEADERS/SPEAKERS 主講

- Leung Tak Ming (Waste No Mall)
梁德明 (不是垃圾站)
- Rena Lau (PolyU JCDISI)
劉燕娜 (香港理工大學賽馬會社會創新設計院)

DATE 日期

6/4/2019

TIME 時間

14:00-18:00

VENUE 場地

PolyU Jockey Club
Innovation Tower
香港理工大學賽馬會創新樓

BRIEF DESCRIPTION OF EVENT 當日活動簡介

The participants gained understanding on how public engagement could be applied to social projects. Taking the project of building Hung Shui Kiu refuse collection point as the real example, the participants presented some possible issues and details to be considered from the perspective of organizing neighbourhood community. Through the creation of a “stakeholder map”, the participants tried to sort out relations between different stakeholders and listed out what should be considered in the issue. To conclude the workshops, we collated the data previously collected and showed the participants the needs of cleaners.

AUDIENCE TYPE 參加者類型

Public
公眾人士

參加者了解到如何把公眾參與應用到社會項目。參加者以興建洪水橋垃圾收集站項目為案例，從組織鄰里社區的角度提出了一些要考慮的問題和細節。通過製作「持份者關係/權力分配圖」，參與者嘗試梳理不同持份者之間的關係，並列出當中需要考慮的角度和細節。最後，我們向參加者展示以前收集及整理關於判清潔工行業的數據及資料，並總結我們對清潔工需求的見解。

NUMBER OF PARTICIPANT

參加者人數

8



B. Project Outcomes 項目成果

Outcomes

- Increase the participants' knowledge on cleaning industry and waste management
- Introduce the concept of design thinking to the participants and apply the concept of design thinking to a social project
- Collect data for further development of social project on establishing a cleaner-friendly working environment
- Raise concerns over the poor working condition of outsourced cleaners
- Raise participants' consciousness of sustainable waste management practices
- Regularly organising workshops for the public is an effective way for PolyU JCDISI's image building and promotion

成果

- 增加參加者對清潔行業和廢物處理的認識
- 向參加者介紹設計思維的思考方式，並將其應用於社會項目
- 收集數據，以供發展「建立對清潔工友善的工作環境」這議題的社會項目之用
- 讓更多人了解及關注外判清潔工惡劣的工作狀況
- 提高參加者對可持續廢物處理實踐的意識
- 定期舉辦工作坊讓公眾參與，有助建立香港理工大學賽馬會社會創新設計院形象，亦有宣傳效果



Appendix IV

STAGE 3 第三階段

A. Public Consultation 公眾諮詢

DATE & TIME 日期及時間

23/9/19: 15:00-19:00

25/9/19: 15:00-19:00

VENUE 場地

23/9

- Vacant site (next to the bus stop) adjacent to Hung Fuk Estate in Hung Shui Kiu
洪水橋洪福邨對開空地 (巴士站旁)

25/9

- Vacant site near Hung Shui Kiu Station of MTR Light Rail
洪水橋輕鐵站附近空地

PURPOSES OF THE ACTIVITY 當日活動目的

- Collecting views from the neighbourhood community on the design of the refuse collection point and the services provided in the recycling centre.
收集鄰里社區居民對垃圾收集站及回收中心設計的意見
- Explain to those who are unfamiliar about the plan of building multi-purpose waste management building
向不了解綜合大樓興建計劃的街坊解釋計劃細節
- To empower end-users (neighbourhood community and cleaners) in related topics though the process of understanding the design details
讓直接用家 (鄰里社區居民及清潔工) 在了解設計細節的過程期間，在相關題目上充權
- Explain to the neighbourhood about some basic details and procedures of classifying domestic waste
講解基本的家居廢物分類須知和程序

PARTICIPATING UNITS 參與單位

Organiser:

Waste No Mall

主辦單位：

不是垃圾站

Co-organiser:

PolyU JCDISI

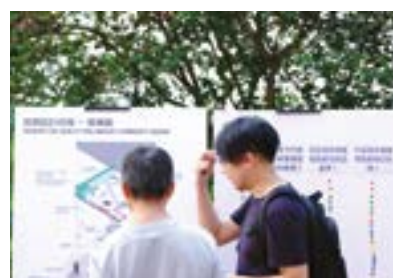
合辦單位：

香港理工大學賽馬會社會創新設計院

NUMBER OF PEOPLE REACHED 接觸的人數

We have reached 238 people who stopped over and tried to study the information, exchange ideas and give comments. Among these 238 people, 92 people did the questionnaires.

總共有238人停下來了解資訊、交流和給予意見，當中有92人做了問卷



B. A meeting to discuss the design of the community recycling centre

討論有關綜合大樓公共垃圾站部分的會議

DATE & TIME 日期及時間

28/10/19: 15:30-18:00

PARTICIPATING UNITS 參與單位

Waste No Mall, Occurrence Design & Research, PolyU JCDISI

不是垃圾站、Occurrence Design & Research及香港理工大學賽馬會社會創新設計院

MEETING VENUE 會議地點

Ward office of member of LegCo, Eddie Chu Hoi-dick, in Kwai Fong

朱凱迪議員在葵芳的地區辦事處

PURPOSES OF THE MEETING 會議目的

- Deciding on the design of the multi-purpose building as well as the design direction and details of the community recycling centre.

決定綜合大樓的設計及社區回收中心最後設計方向和細節

- Based on the views collected and the points-to-notes aroused by the neighbourhood community during public consultation, the draft design was reviewed and modified.

就公眾諮詢時收集的意見及街坊提出的關注事項，再檢視設計初稿及作出改善修正

C. A meeting to discuss about the public refuse collection point in the multi-purpose building

討論有關綜合大樓公共垃圾站部分的會議

DATE & TIME 日期及時間

30/10/19: 14:30- 17:00

PARTICIPATING UNITS 參與單位

Li Mei-siu (Vice President of Hong Kong Food and Environmental Hygiene Department Staff Rights Union)

Occurrence Design & Research

PolyU JCDISI

李美笑 (食物及環境衛生署職工權益工會副主席)

Occurrence Design & Research

香港理工大學賽馬會社會創新設計院

VENUE 地點

Room V717, V Core, PolyU

香港理工大學創新大樓V717室

PURPOSES OF THE MEETING 會議目的

- For finalisation of design, the spatial design and details in the draft design of the public refuse collection point and those related to cleaners were discussed

討論設計初稿中有關公共垃圾站及清潔工部分的空間規劃及當中細節，以便之後落實最終設計

- Seek views on the design planning, and understand the possible concerns of FEHD in actual implementation

徵詢設計規劃上的意見，了解食物及環境衛生署在執行上可能會有的顧慮

C. A meeting to discuss about the public refuse collection point in the multi-purpose building
討論有關綜合大樓公共垃圾站部分的會議

DATE & TIME 日期及時間

13/1/20: 14:30- 17:00

PARTICIPATING UNITS 參與單位

Wu Mei-lin, Representative from Hong Kong Women Worker's Association
PolyU JCDisI

胡美蓮 (香港婦女勞工協會代表)
香港理工大學賽馬會社會創新設計院

VENUE 地點

Hong Kong Women Worker's Association
香港婦女勞工協會

PURPOSES OF THE MEETING 會議目的

- Explain the final design, as well as the spatial design and details of the public refuse collection point and those related to cleaners
向直接用家解釋最終的設計，以及有關公共垃圾站及清潔工部分的空間規劃及當中細節
- Explain the layout of the final design proposal and seek views from Mei-lin
解釋最終設計計劃書的排版內容，並徵詢意見

About PolyU Jockey Club “Operation Soinno”

關於理大賽馬會社創「騷•In•廬」

Organised by the Jockey Club Design Institute for Social Innovation (JCDISI) at The Hong Kong Polytechnic University (PolyU) and funded by The Hong Kong Jockey Club Charities Trust, the 3-year social innovation project commenced in 2018 aims to innovate solutions, in collaboration with a wide spectrum of stakeholders, to respond to social challenges with a view to improving life in Hong Kong. JCDISI puts its strategic focus on tackling the combined impact of “Double Ageing” (ageing of people and building) in Hong Kong, the programme would engage the trans-disciplinary forces of academia, non-governmental organisations, professional bodies, members of the public, corporations and the Government to generate innovative ideas and practical actions.

由香港理工大學(理大)賽馬會社會創新設計院主辦及香港賽馬會慈善信託基金捐助，於2018年8月1日正式啟動，計劃為期三年，以期匯集社會各方，以創新理念和務實可行的社會創新方案，應對多項社會挑戰，共同改善香港的生活。以應對香港「雙老化」（即人口老化及住屋老化）的複合效應為工作的策略焦點，聯合學術界、非政府組織、專業團體、熱心的社會人士、企業和政府，攜手構建創新方案，並按此制訂建議的實際行動。

The four pillars of the project

項目四大範疇



“One from Hundred Thousand” — to organise a series of participatory symposia and workshops open to the public to collect views on social issues, facilitate discussion and co-create solutions. JCDISI names the platform based on the belief that if one person from every 100,000 people (i.e. 70+ persons from the 7 million+ population of Hong Kong) can sit together and contribute their time, passion, knowledge and creativity, they can innovate solutions for a specific problem.

「十萬分之一」社創研討會 - JCDISI相信，假若每十萬人之中有一人，即香港七百多萬人口當中的七十多名市民，能貢獻時間、熱誠、知識與創意，攜手合作，定能為特定的社會議題帶來創新的解決方案。透過一系列的參與式研討會及工作坊，收集市民對社會議題的意見、促進討論，並共同設計務實和創新的方案。



“Solnno Action Projects” — to collaborate with non-government organisations, professional bodies and academia for developing innovative ideas generated at “One from Hundred Thousand” into designs or prototypes.

社創行動項目 - 聯合非政府組織、專業團體和學術界，把「十萬分之一」社創研討會上衍生出來的創新理念，轉化成可以執行的設計及專案原型。



“Solnno Design Education” — to introduce social innovation and design thinking into the curriculum of secondary school education to nurture students as social innovators. Social innovation workshops will be organised for students and teachers and multi-media interactive teaching kits will be developed in this regard.

啟迪創新習作 - 將社會創新和設計思維引入中學課程，培育青年成為社會創新推動者，內容包括為中學師生開設社會創新工作坊、製作多媒體互動教材等等。



“Solnno Knowledge Platform” — to document and disseminate for public use the social innovation experience and knowledge generated from the programme through various formats, including academic papers, videos, design and practice guidelines, case study reports, workshops, regional and international conferences and exhibitions.

社創知識平台 - 以不同形式（如學術論文、短片、設計與指引、個案報告、工作坊、地區及國際會議、展覽等），記錄是項計畫的各環節，包括社會創新過程、創造的方案與知識等等，並公開予公眾參考應用。

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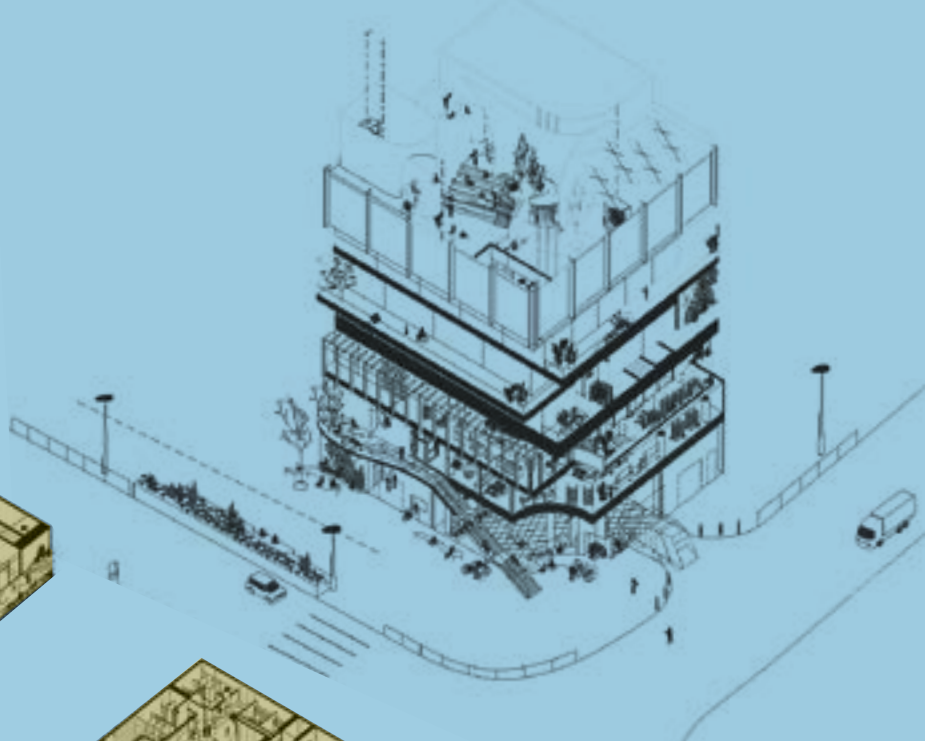
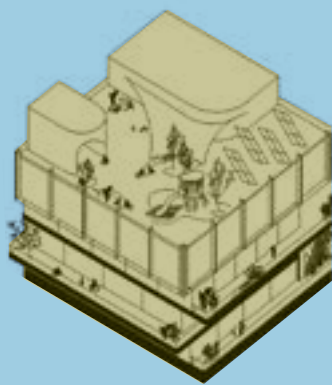
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同心同步同進 RIDING HIGH TOGETHER

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