THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Planning Study Report

Application for Planning Permission Under Section 16 of Town Planning Ordinance for Underground Quarrying at Tsing Yi North

October 2026

Applicant:
Mines Division
Geotechnical Engineering Office
Civil Engineering and Development Department
6/F, South Tower,
West Kowloon Government Offices,
11 Hoi Ting Road,
Kowloon

Consultants:
AECOM Asia Company Limited
19/F, Tower A,
83 King Lam Street,
Cheung Sha Wan,
Kowloon

EXECUTIVE SUMMARY

1.1 This Section 16 Planning Application is submitted by the Civil Engineering and Development Department (CEDD) (the Applicant) to seek permission from the Town Planning Board (the TPB) for the implementation of the proposed Tsing Yi North Underground Quarry (TYNUQ) at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island (Application Site) in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North of the Cavern Master Plan (CMP).

1.2 Hong Kong's construction industry has long relied on rock, primarily as aggregates in concrete, for buildings and infrastructure. While local quarries have historically played a strategic role in supplying these materials, the evolving needs of the city now call for a broader vision.

1.3 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. As concluded under the Executive Summary of the Pilot Study, SCVA No. 10 at Tsing Yi North is proposed to be implemented by an underground quarrying-cum-cavern development approach.

1.4 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the proposed TYNUQ shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply.

1.5 As advocated in the 2025 Policy Address, the innovative "Underground quarry-cum-cavern development" model under this proposed development aims to enhance long-term land supply more efficiently while providing a sustainable local source of rock materials. Under this approach, excavated materials from the underground quarry will be reused as aggregates for the construction industry, directly supporting Hong Kong's economic growth and resource sustainability, while the formation of underground cavern spaces presents a unique opportunity to address land supply challenges.

1.6 The Application Site falls within areas zoned "GB", "OU(RTRU)", "OU(BMIU)" and an area shown as "Road" on the approved Tsing Yi Outline Zoning Plan ("the OZP") No. S/TY/32, while a small portion of land without OZP covered. Given that the proposed development is directly administered and managed by CEDD, and serves to create underground space for the Government, it is regarded as "Government Use" which is a Column 2 use under the above zones, and planning permission from the TPB under section 16 of the Town Planning Ordinance is required.

1.7 The proposed development will include underground quarry operation by formation of connection tunnels and production caverns. Surface ancillary activities will be carried out concurrently at Ngau Kok Wan and Wok Tai Wan to support quarry operation, including stockpiling, rock processing, concrete production and asphalt production, etc. Since Ngau Kok Wan and Wok Tai Wan fall within "OU(RTRU)", the concerned area for ancillary activities is subject to a maximum plot ratio of 0.4 and a building height restriction of +40mPD.

1.8 The proposed development under this application is considered in line with the policy directive as an innovative means of enhancing land supply. The proposed development also offers a new revenue stream for the Government as it will be implemented under a revenue-generating contract, which aligns with the Government's latest initiative to identify new sources of income.

1.9 Furthermore, the majority of the proposed development is underground and the ancillary operations will be located on already formed land with height restrictions. They are distant from residential areas and adjoining to the existing area with a similar nature of land use, which is considered compatible with the surrounding development and well-blended in with the surrounding context and green backdrop. Technical assessments have demonstrated that the proposed development would not cause insurmountable impacts on traffic, environmental, landscape and visual impact, drainage and sewerage, waterworks, or be subject to geotechnical impacts.

1.10 In view of the above planning merits, we sincerely seek favourable consideration from the TPB to give its support to this application.

行政摘要

1.1 根據城市規劃條例第 16 條，土木工程拓展署 (下稱「申請人」) 向城市規劃委員會 (下稱「城規會」) 呈交規劃申請 (下稱「申請」)。申請擬議在《岩洞總綱圖》中第 10 號策略性岩洞區青衣北的青衣島西北部的牛角灣、鑊底灣、担桿山路西南面以及石環山西北面的山體內 (下稱「申請地點」) 申請擬議青衣北地下採石場發展。

1.2 長久以來，香港的建築業高度依靠石料 (主要用作混凝土的骨料) 以進行房屋及基礎建設。雖然本地採石場在歷史上於物料供應方面一直扮演著策略性角色，但隨著城市不斷演變的發展需求，如今需要更宏大的願景。

1.3 於 2019 年，土木工程拓展署聯同規劃署共同進行了「策略性岩洞區發展規劃及工程先導研究 - 可行性研究」(下稱「先導研究」)，以協助政府預留土地進行岩洞發展，並促進岩洞發展計畫的落實。根據先導研究行政摘要的結論，第 10 號策略性岩洞區青衣北建議採用「地下採石暨岩洞發展」模式進行開發。

1.4 2020 年初內地採石場因疫情暫時停工，導致內地石料進口短缺，對香港建築業造成了重大影響，進一步突顯了本地採石場在供應鏈中的重要性。為加強應對危機的準備，擬議的青衣北地下採石場應及時推進，並配合其他與採石相關的措施，以穩定本地石料供應。

1.5 如 2025 年《施政報告》所提倡，本擬議發展項目採用的「地下採石暨岩洞發展」創新模式，旨在更有效率地增加長遠土地供應，同時提供可持續的本地石料來源。在此模式下，地下採石所挖掘出的物料將用作建築物料的骨料，直接支持香港的經濟增長及資源可持續性；而形成的地下岩洞空間，亦提供了解決土地供應挑戰的獨特契機。

1.6 申請地點座落於《青衣分區計劃大綱核准圖編號 S/TY/32》(下稱「大綱核准圖」) 的「綠化地帶」、「其他指定用途」註明「康樂及與旅遊業有關的用途」、「其他指定用途」註明「船廠及依靠海運之工業用途」及顯示為「道路」的區域內，亦有小部分土地未有大綱核准圖覆蓋。由於擬議發展項目由土木工程拓展署直接管理，旨在為政府創造地下空間，因此被視為上述分區附表第二欄用途下的「政府用途」，因此須根據城市規劃條例第 16 條向城市規劃委員會申請規劃許可。

1.7 擬議發展項目包括透過建造連接隧道及岩洞進行地下採石，而地面附屬作業將同時於牛角灣及鑊底灣進行以配合採石場營運，一般包括物料存放、石料加工、混凝土生產、瀝青生產等。由於牛角灣及鑊底灣座落於「其他指定用途」註明「康樂及與旅遊業有關的用途」地帶內，相關附屬作業運作區域受最大地積比率 0.4 及建築物高度主水平基準以上 40 米所限制。

1.8 本申請中擬議的發展與政府以創新方法增加土地供應的政策方向一致。此外，由於擬議發展項目將以收入合約方式推展，這能為政府提供新的收入來源，與政府尋求新收入來源的方向相符。

1.9 再者，考慮到擬議發展的主要部分將會於地下進行，而附屬作業將位於現有已設立高度限制的土地上，該等設施遠離住宅區並與具類似土地用途性質的區域相連，因此該項目可與周邊發展相協調，並與周圍環境及綠化背景相融合。同時，各項技術性評估結果均顯示，是次發展計劃將不會對交通、環境、景觀和視覺影響、排水排污及水務等造成負面影響，而擬議的發展亦不會受土力影響。

1.10 基於上述規劃優點及支持理據，懇請城規會委員對支持是項申請作出正面考慮。

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1 Summary of Application

Applicant	:	Civil Engineering and Development Department, Mines Division, the Government of the Hong Kong Special Administrative Region
Consultants	:	AECOM Asia Company Limited
Applied Use	:	Application Site – "Government Use"
Existing Use	:	Application Site – Majority is vegetated slopes, Ngau Kok Wan and Wok Tai Wan are works areas of the Government construction project for stockpile and rock processing
Location	:	Application Site – A Government land located at: (i) Caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North; (ii) Ngau Kok Wan and southwest of Tam Kon Shan Road; and (iii) Wok Tai Wan
Site Area	:	Application Site – About 393,000m^2 for the construction and operation of Tsing Yi North Underground Quarry (TYNUQ)
Statutory Plan	:	Tsing Yi Outline Zoning Plan No. S/TY/32 gazetted on 18 October 2022
Zoning	:	Application Site – About 307,000m^2 under "Green Belt" zone, 69,000 m^2 under "Other Specified Uses (Recreation and Tourism Related Uses)", 2,150m^2 under "Other Specified Uses (Boatyard and Marine-oriented Industrial Uses)", 14,200m^2 area shown as "Road", 650m^2 area outside OZP
Previous Application(s)	:	Application Site – Nil

2 Introduction

2.1 Purpose of the Application

2.1.1 This application is prepared by AECOM Asia Company Limited on behalf of the Applicant, Civil Engineering and Development Department (CEDD), to seek permission from the Town Planning Board (the TPB) for the implementation of the proposed Underground Quarrying at Tsing Yi North (the proposed development) under Agreement No. CE 79/2023 (GE).

2.1.2 The request for planning permission involved a piece of Government land located at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North. The tunnel portals will be located at Ngau Kok Wan and Tam Kon Shan Road, situated to the north and northeast of Shek Wan, respectively. The Application Site location plan is shown in **Figure 2.1**.

2.2 Structure of the Report

2.2.1 This Report is divided into 9 sections.

Section 1	Summary of Application
Sections 2 and 3	Discussion on the project background, details of the Application Site, including its location, existing and surrounding land uses, accessibility, land status
Section 4	Discussion on the planning context
Section 5	Summary of the development proposal
Section 6	Summary of the technical assessments
Section 7	Overview of the public consultation undertaken for the project
Section 8	Justifications in support of the planning proposal.
Section 9	Recommendations and the conclusion

2.3 Project Background

2.3.1 Hong Kong's construction industry has long relied on rock, primarily as aggregates in concrete, for buildings and infrastructure. While local quarries have historically played a strategic role in supplying these materials, the evolving needs of the city now call for a broader vision. In particular, the formation of underground cavern spaces presents a unique opportunity to address land supply challenges while also contributing to sustainable resource use.

2.3.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry. To ensure continuity in local rock supply and to support strategic land use planning, the Government has been exploring alternative approaches. Among these, the creation of cavern spaces through underground quarrying offers dual benefits: it supports rock supply in the short term and unlocks valuable underground land for future development. In this connection, underground quarrying, in this context, serves as an interim process only — a method to create cavern spaces that can be repurposed for long-term government use.

2.3.3 The quarrying process not only yields good quality rock but also facilitates the formation of these valuable underground assets. These caverns, formed through controlled underground quarrying, can be potentially repurposed for various uses or strategic facilities, which are subject to further review and refinement during the later stages, particularly near the completion of cavern formation. The after-use will be determined based on evolving government needs, technical feasibility, and stakeholder engagement. Therefore, this planning application is confined to the proposed underground quarrying process. The after-use in the future caverns would require a separate future study.

2.3.4 The concept of "underground quarry-cum-cavern development" is not unprecedented. It has proven to be commercially viable in countries like Switzerland, Norway, and the United States, where cavern spaces are used for cold storage, warehousing, and recreational complexes.

2.3.5 Preliminary reviews under a previous Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

2.3.6 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses, and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan jointly promulgated by CEDD and PlanD in 2017, was recommended to be taken forward.

2.3.7 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. As concluded under the Executive Summary of the Pilot Study, SCVA No. 10 at Tsing Yi North is proposed to be implemented by an underground quarrying-cum-cavern development approach. The cavern space formed could potentially serve as a land bank for storage/warehouse/logistics. The after-use will be further investigated and ascertained before the completion of the Tsing Yi North Underground Quarry (TYNUQ) quarry contract, based on the development need/potential in the area by that time. It is envisioned as an integral part of the long-term local quarry strategy.

2.3.8 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the scheme shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply.

2.3.9 AECOM Asia Company Limited was commissioned by CEDD in June 2024 to undertake an Investigation, Design and Construction (IDC) assignment for developing a new underground quarry at Tsing Yi North.

2.3.10 Development-by-stages approach is adopted for the proposed TYNUQ "underground quarry-cum-cavern development" to facilitate a phased implementation of the underground quarrying and subsequent cavern utilization. This approach comprises the following key stages:

- Stage 1 – Cavern Planning and Development: The Civil Engineering and Development Department (CEDD) will tender a revenue-earning contract for the entire cavern excavation in the form of underground quarrying.
- Stage 2 – Underground Quarrying: During cavern formation, the quarry operator will undertake underground quarrying operations for approximately 25 years. Ancillary operations, such as stockpiling, rock processing, concrete production and asphalt production, will be carried out concurrently. Revenues generated from the sale of aggregates, concrete, and/or asphalt products will support the cost of rock extraction to be borne by the quarry operator. Through recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites, the proposed development can also bring environmental benefits by relieving the burden of the public fill bank and landfill sites through recycling the excavated rocks. The underground quarrying contract will be directly administered by the CEDD.
- Stage 3 – Strategic Review and Land Use Study: Near the completion of the underground quarrying stage, a study may be conducted by the Government to ascertain the potential long-term land uses of the cavern space. This will be subject to various factors, including funding arrangements and policy direction at the time.
- Stage 4 – Cavern Handover and Future Utilization: Upon completion of the underground quarrying, the quarry operator will hand over the cavern space to the Government for the construction of public facilities, or may be disposed/leased to the private sector or through Public-Private Partnerships (PPP), depending on the confirmed future land use.

2.3.11 Stage 1 and Stage 2 as described under Section 2.3.10 would be implemented under this proposed development, while Stage 3 and Stage 4 would be subject to future separate study.

2.4 Description of the Project

2.4.1 The proposed TYNUQ (Application Site) falls within areas zoned “GB”, “OU(RTRU)”, “OU(BMIU)” and an area shown as “Road” on the approved Tsing Yi Outline Zoning Plan (“the OZP”) No. S/TY/32, while a small portion of land without OZP covered. According to the covering Notes of the OZP, in any area shown as ‘Road’, all uses or developments require permission from the Town Planning Board. Given that the proposed development is directly administered and managed by CEDD, and serves to create underground space for the Government, it is regarded as “Government Use” which is a Column 2 use under the above zones, and planning permission from the TPB is required (i.e. s.16 Planning Application for Planning Permission).

2.4.2 The works to be implemented under this proposed development comprise the following:

(a) Design and construction of the cavern spaces via underground quarrying;

(b) Design and carry out ancillary activities for quarry operation (i.e., stockpiling, rock processing, concrete production and asphalt production etc.); and

(c) Other associated works, including site formation works, utilities works, drainage works, landscaping works, etc.

3 Site Context

3.1 Location

3.1.1 The Application Site for the proposed TYNUQ is located at the northwestern portion of Tsing Yi Island, which is situated to the west of Kwai Chung and Tsuen Wan. Ngau Kok Wan is to the north of the proposed underground quarry site, Tam Kon Shan Road is to the northeast of the proposed underground quarry site, Fung Shue Wo is to the east, Shek Wan is to the south, and the coastal area facing Ma Wan Channel and Wok Tai Wan is to the west.

3.2 Existing Conditions

3.2.1 The Application Site covers an area of about 393,000m^2. The Site is located at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North. The tunnel portals will be located at Ngau Kok Wan and Tam Kon Shan Road, situated to the north and northeast of Shek Wan, respectively.

3.2.2 Ngau Kok Wan with the existing access road is currently occupied by Contract No. DC/2020/05 – Relocation of Sha Tin Sewage Treatment Works to Caverns – Main Caverns Construction (STSTW – Main Caverns Construction) under TGLA No. GLA-TKT 1940 for stockpiling and rock processing. Wok Tai Wan is also currently occupied by STSTW – Main Caverns Construction under TGLA No. GLA-TKT 1939 for stockpiling. The surface land located between Wok Tai Wan and the existing access road is currently a green belt. Another surface land of the Application Site, Tam Kon Shan Portal, is slopes with vegetation. The existing site conditions and photos of the Application Site can be found in **Figure 3.1**.

3.2.3 As the planning proposal is intended to facilitate an underground quarry, existing underground facilities are also reviewed. As revealed from the utility undertakings' record, there is no major underground utility within the Application Site. Major public utilities (e.g. CLP cables, WSD pipes, DSD pipes, telecommunication cables etc.) are located at the northeast of the Application Site, along the Tam Kon Shan Road.

3.3 Land Uses

Surface Land

3.3.1 Under the proposed development, the surface land consists of Ngau Kok Wan, Wok Tai Wan, and the southwest of Tam Kon Shan Road to facilitate quarry operation and transportation. The surface land also covers the portion of the main access tunnels and its associated portals of proposed TYNUQ.

Underground Stratum

3.3.2 Under the proposed development, the underground stratum consists of the underground quarry for the excavation of main access tunnels, connection tunnels, and production caverns of the proposed TYNUQ.

Surrounding Area

3.3.3 The Application Site is surrounded by infrastructure, industrial activities, and steep natural terrain. Residential and GIC uses are located further northeast and east of the Application Site.

3.3.4 To the north and northeast of Application Site are areas zoned "Other Specified Uses" annotated "Cement Plant" ("OU(Cement Plant)") and "Other Specified Uses" annotated "Boatyard and Marine Oriented Industrial Uses" ("OU(BMIU)") with an area of about 0.9 ha and 7.7 ha respectively. The area zoned "OU(Cement Plant)" accommodates a cement plant while the area zoned "OU(BMIU)" accommodates several workshops and shipyards along the north shore of Tsing Yi Island, and a Portable Emission Measurement System Laboratory operated by the Environmental Protection Department (EPD). A site, with an area of 4,335 m^2 and falling within the "OU(BMIU)" zone, area shown as "Road" and occupying a small portion of area not covered by any statutory plan is under s.16 planning application (No. A/TY/150) for a proposed temporary concrete batching plant for a period of 5 years. The application was approved with conditions on a temporary basis by the TPB on 4 July 2025.

3.3.5 To the further northeast along the northern waterfront is Tsing Yi Northeast Park, which occupies an area of about 6.2 ha and is zoned "Open Space" ("O"). To the east of Tsing Yi Northeast Park are a cluster of public housing developments zoned "Residential (Group A)" ("R(A)") and with a total area of about 20.2 ha, including Queen's College Old Boys'

Association Secondary School, Cheung On Estate, Cheung Fat Estate, and Ching Wang Court.

3.3.6 To the east and southeast of the Application Site are another cluster of public housing developments zoned "Residential (Group A)" ("R(A)") and occupying a total area of about 13.9 ha, which includes Cheung Wang Estate and Cheung Hang Estate. They are entwined with areas zoned "G/IC", which have a total site area of about 4.2 ha and mainly accommodate fresh water reservoirs serving the needs of the wider district of Tsing Yi Island. To the south of the public housing developments is Mount Haven, a private housing development zoned "Residential (Group B)" ("R(B)") and with a site area of about 2.9 ha.

3.3.7 To the immediate north of Wok Tai Wan are the existing Lantau Link Visitors Centre and Lantau Link Viewing Platform zoned "Other Specified Uses" annotated "Viewing Platform" ("OU(VP)") for public enjoyment of the scenic view of Tsing Ma Bridge. Furthermore, the Northwest Tsing Yi Interchange and Cheung Tsing Highway flank the western coast of Tsing Yi Island between Wok Tai Wan and Ngau Kok Wan.

3.3.8 To the southwest of the Application Site lies an industrial belt along the southern and western shores of Tsing Yi Island, zoned "Industrial" ("I") and with a site area of about 10.2 ha. It provides land for dockyards, boatyards, oil storage, chemical industries, and other industries requiring direct marine access.

3.3.9 To the south of the Application Site is a large extent of natural slopes of Tsing Yi Liu To Shan, zoned "GB" and with a land area of about 17.7 ha. It serves as a physical barrier separating the aforementioned industrial belt at the southwest from the aforementioned residential developments at the southeast. Within the "GB" zone, a network of natural pathways has been established leading to the hilltop of Liu To Shan in Tsing Yi Area 28, providing the public with a panoramic view for leisure and recreational activities.

3.4 Accessibility

3.4.1 The Application Site is served by two existing access roads which will be managed by the quarry operator. One is an existing access road connecting the North West Tsing Yi Interchange (NWTYI) northbound to Ngau Kok Wan. Another access is at the off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road connecting to the proposed Tam Kon Shan Portal.

3.4.2 Site access would be provided at these two locations to facilitate vehicle access during the construction and operation of the proposed development.

3.4.3 Barging points are available at Ngau Kok Wan and Wok Tai Wan, which could facilitate marine access to the site during the construction and operation of the proposed development.

3.5 Land Status

3.5.1 The Application Site, including both surface land and underground stratum as described in Section 3.3, is on the government land.

3.5.2 Wok Tai Wan and Ngau Kok Wan, with the associated existing access road, are located within an existing TGLA No. GLA-TKT 1939 and TGLA No. GLA-TKT 1940, respectively. The Drainage Services Department (DSD) will hand back to the Lands Department (LandsD) on 31 December 2026, tentatively.

3.5.3 There will be a potential interface at Wok Tai Wan surface land with the Tsing Yi- Lantau Link project (TYLL) as it will be used as a works area by TYLL during its construction stage. Subject to the actual implementation programme of TYLL, the quarry operator will take over the Wok Tai Wan surface land before the commencement of construction of TYLL. Upon receiving the TYLL construction notice, the quarry operator will vacate part of the sea access to Wok Tai Wan surface land and the concerned surface land area to the Highways Department (HyD) in due course.

3.5.4 The remaining part of the Application Site is unallocated Government land.

3.5.5 **Figure 3.2** shows the land status of the Application Site and the surrounding land lots.

4 Planning Context

4.1 Statutory Plan

4.1.1 The Application Site is highlighted in a red line as shown in **Figure 2.1** and its existing zoning can be seen in **Figure 4.1**. The Application Site consists of four components.

4.1.2 Firstly, there is the underground area beneath Yau Kom Tau, currently zoned "Green Belt" ("GB") and area shown as "Road" on the approved Tsing Yi Outline Zoning Plan No. S/TY/32 ("the OZP"). The underground area is located within the Strategic Cavern Area No.10 (SCVA No.10) – Tsing Yi North.

4.1.3 Secondly, there are two proposed portal areas for access to the underground area, namely 1) the proposed Tam Kon Shan Portal at the north-eastern corner under "Other Specified Uses" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)"), "GB" and area shown as 'Road'; and 2) the proposed Ngau Kok Wan Portal including areas for surface ancillary operations (e.g. stockpiling, rock processing, concrete production, asphalt production, etc.) located at the northwest currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), "GB" and the area shown as "Road". The Ngau Kok Wan Portal is connected to North West Tsing Yi Interchange via the associated existing access road of TGLA No. GLA-TKT 1940, which is zoned "GB" and the area shown as "Road" on the OZP.

4.1.4 Thirdly, there is a works area (currently zoned "GB" and "OU(RTRU)") for the installation of a conveyor belt system connecting the existing access road to the existing surface land at Wok Tai Wan for rock transportation.

4.1.5 Lastly, the Wok Tai Wan Surface Land for stockpiling is currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), and with a minor portion extending beyond the OZP boundary to the west.

4.1.6 The proposed development falls within "GB", "OU(RTRU)", "OU(BMIU)" and the area shown as "Road" on the approved Tsing Yi Outline Zoning Plan ("the OZP") No. S/TY/32. According to the covering Notes of the OZP, in any area shown as 'Road', all uses or developments require permission from the Town Planning Board. Since underground quarrying and its ancillary operations are administered and managed by CEDD, it can be regarded as "Government Use" which is a Column 2 use under the above zones, and planning permission from the TPB is required (i.e. s.16 Planning Application for Planning Permission).

4.1.7 With reference to the Definition of Terms (DoT), 'Government Use' is defined as any place, structure or premises used directly in connection with or in support of Government administration, or the provision of Government services and facilities for use by and for the benefit of the public. As underground quarrying and its ancillary operations are part of the cavern works to be directly administered and managed by the CEDD as an employer by a Government revenue-earning contract under construction and operation phases and with the intention of land bank creation (i.e. creating caverns). Moreover, through recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites, the proposed development can also bring environmental benefits by relieving the burden of the public fill bank and landfill sites through recycling the excavated rocks. Therefore, the proposed development is regarded as a construction site developed for the benefit of the public and hence is reasonable to be considered as 'Government Use'. **Table 4.1** presents a summary of the proposed use of TYNUQ under each zoning and their respective permitted use to be applied under the Schedule of Uses in the OZP.

4.1.8 This s.16 application for planning permission only confines to the proposed TYNUQ. The after-use in the future caverns is subject to future study and therefore not covered under this s.16 application.

Table 4.1 Proposed Use by Zoning and Suggested Applied Use

Land Use Zonings	Proposed Use Based on Initial Layout	Suggested Applied Use	Other OZP Restrictions that Need to be Applied
"Green Belt" ("GB") Approx. Area: 307,000m^2 (78.1%)	• Mainly the cavern portion, including rock extraction/ processing/ stockpiling within caverns • Ancillary operations and access road (existing) in the surface area at Ngau Kok Wan • Access road (existing)/ tunnels/ portals • Conveyor belt system at Wok Tai Wan	'Government Use (not elsewhere specified)'	Nil
Area shown as "Road" Approx. Area: 14,200m^2 (3.6%)	• Minor portion, mainly involving cavern, access tunnels/ portals and access road (existing)	'Government Use'	Nil
"Other Specified Use (Recreation and Tourism Related Uses)" ("OU(RTRU)") Approx. Area: 69,000m^2 (17.6%)	• Ancillary operations and access road (existing) in the surface area at Ngau Kok Wan • Stockpiling area at Wok Tai Wan	'Government Use'	• Maximum Plot Ratio: 0.4 • Building Height Restriction: +40mPD
"Other Specified Use (Boatyard and Marine-oriented Industrial Uses)" ("OU(BMIU)") Approx. Area: 2,150m^2 (0.5%)	• Mainly access tunnels/portals	'Government Use'	Nil

4.2 Previous Application

4.2.1 There is a previous planning application involving the Application Site. The proposed Ngau Kok Wan works area zoned "OU(RTRU)" on the OZP partially falls within the site boundary of Application No. A/TY/87 for a proposed concrete batching plant which was rejected by the Metro Planning Committee of the Town Planning Board on 29 April 2005.

4.2.2 The Wok Tai Wan portion is the subject of an ongoing rezoning application No. Y/TY/2. The application proposes to rezone 19.9 ha of land from "Industrial", "OU(RTRU)" and "GB" to "Residential (Group A)6", "Residential (Group A)7" and area shown as 'Road'; and to incorporate an area currently not covered by the approved Tsing Yi Outline Zoning Plan No. S/TY/32 (the OZP) into the OZP and rezone it to "Residential (Group A)6" and "Other Specified Uses" annotated "Marina Club" and amend the Notes of the zone applicable to the site. The application will be considered by the Metro Planning Committee of the Town Planning Board on 11.9.2026 (tentative).

5 Development Proposal

5.1 Layout Plan

5.1.1 To facilitate the Town Planning Board (TPB)'s consideration of the planning permission, a schematic development proposal is prepared for the Application Site. The area of the Application Site is about 393,000m^2. The schematic layout plan is shown in **Figure 5.1**.

5.1.2 The development schedule for the proposed TYNUQ's ancillary activities at Ngau Kok Wan and Wok Tai Wan is shown in **Table 5.1**. The existing ground level is approximately +5mPD. The proposed ancillary activities that support quarry operation generally include stockpiling, rock processing, concrete production and asphalt production, etc. Since Ngau Kok Wan and Wok Tai Wan fall within "OU(RTRU)", the concerned area for ancillary activities is subject to a maximum plot ratio of 0.4 (i.e. Ngau Kok Wan maximum GFA: 8,520m^2) and a building height restriction of +40mPD. The schematic layout arrangement of the ancillary activities at Ngau Kok Wan and Wok Tai Wan is indicative only. The detailed arrangement and layout of the ancillary activities at Ngau Kok Wan and Wok Tai Wan shall be prepared by the quarry operator, bounded by these requirements.

Table 5.1 Development Schedule for the Proposed Ancillary Activities at Ngau Kok Wan and Wok Tai Wan

Ngau Kok Wan Site Area	About 21,300m^2 (maximum GFA: 8,520m^2)
Wok Tai Wan Site Area	About 50,000m^2 (GFA is not applicable to Wok Tai Wan since no building is proposed)
Maximum Plot Ratio	0.4
Building Height Restriction	40mPD

5.1.3 The underground quarry is formed by the proposed connection tunnels and production caverns. Connection tunnels will be built around the perimeter of the underground quarry. The minimum dimensions of the underground openings as proposed under the Pilot Study are maintained to satisfy the spatial requirement of the potential after-use.

5.1.4 There are three portals proposed at two portal areas, two at Ngau Kok Wan and one at Tam Kon Shan. They are necessary for the operation of the underground quarry. The site formation of the proposed portals will require cutting of existing slopes. The proposed main access tunnels will be constructed to connect the proposed portals and the underground quarry for ancillary operation. There are two main access tunnels for the Ngau Kok Wan Portal and one main access tunnel for the Tam Kon Shan Portal.

5.1.5 Subject to the need of the quarry operator, the underground quarry is allowed for stockpiling the excavated rocks / aggregates, storage of construction materials, rock processing and concrete production.

5.1.6 The arrangement of the proposed main access tunnels, connection tunnels, and production caverns of the underground quarry will be developed within the underground strata of the Application Site. **Table 5.2** presents the proposed excavation dimensions of the underground openings.

Table 5.2 Proposed Dimensions of Tunnels and Caverns

Type of Tunnel/Cavern	Typical Span (m)	Typical Height (m)
Main Access Tunnel	16	10 to 22
Connection Tunnel	16	22
Production Cavern	20	20

5.1.7 Unlike other capital works cavern development projects, one of the primary aims of the underground quarry is to extract good-quality rock. The programme of excavation/quarrying will be dependent on the demand for rock products in the local market. During the operation phase, with the approval by the CEDD, the quarry operator can propose to alter tunnel / cavern opening locations within the underground quarry footprint if a substantial underground section with poor geological conditions is anticipated. This will also help safeguard the stability of production caverns for the after-use.

5.1.8 Ancillary activities will include stockpiling, rock processing, and associated activities such as concrete production and asphalt production. Blasted rocks will undergo on-site crushing to achieve suitable aggregate sizes. Some aggregates will be further processed for concrete production or asphalt production at Ngau Kok Wan before being transported off-site to construction sites. Indicative dimensions of the ancillary structures are presented in **Table 5.3** and illustrated in **Figure 5.2** and **5.3**. The ancillary operation arrangements at Ngau Kok Wan and conveyor belt arrangement at Wok Tai Wan are subject to the contractor's design.

Table 5.3 Indicative Dimensions of typical ancillary structures

Type of ancillary structures	Length (m)	Width (m)	Height (m)
Rock Processing	45	10	35
Concrete Production	55	45	35
Asphalt Production	55	10	35
Conveyor Belt	140	6	9

5.1.9 TYNUQ will also serve as one of the major centralised locations to recycle surplus good quality rock from local construction projects. Subject to the capacity of TYNUQ, surplus rocks from other projects will be imported to Ngau Kok Wan either by trucks via the existing access road, by barge via an existing barging point at Ngau Kok Wan, or by barge via an existing barging point at Wok Tai Wan through the proposed conveyor belt at Wok Tai Wan and then by trucks through the existing access road to Ngau Kok Wan. In the event that the stockpile capacity at Ngau Kok Wan is insufficient, the surplus rock (generated from this project or other construction projects) would be delivered to Wok Tai Wan for stockpile via the existing access road by truck and then through the proposed conveyor belt, or by barge via the existing barging points at Ngau Kok Wan and Wok Tai Wan. In the absence of current vehicular access to Wok Tai Wan, the proposed conveyor belt would provide a logistical link between Ngau Kok Wan and Wok Tai Wan, complementing marine transport and enhancing the overall attractiveness of the project.

5.2 Landscape and Visual Proposal

5.2.1 Potential landscape and visual impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The landscape impact assessment covers an area within 500 m of the site. The visual envelope extends to Tuen Mun Road to the north, Ma Wan to the west, the natural hillside backdrop to the south, and industrial and shipyard areas along Tam Kon Shan Road to the east.

5.2.2 Although the proposed underground quarry is primarily implemented deep below the existing ground surface, a relatively small portion of aboveground works is still unavoidable, such as site formation works for the tunnel portals and ancillary operations. Approximately 765 trees, including some undesirable trees, are anticipated to be affected by the proposed site formation works at Ngau Kok Wan and Tam Kon Shan. The tree felling locations are generally within Ngau Kok Wan Surface Land, Ngau Kok Wan Portals, Tam Kon Shan Portal, and Wok Tai Wan Works Area. No Old and Valuable Trees have been identified within the assessment area. The tree compensation strategy is included in **Appendix G**.

5.2.3 The potentially affected landscape resources (LRs) and landscape character areas (LCAs) are Hillside Vegetation along Tsing Yi North Coastal Road (LR1), Coastal Landscape along Wok Tai Wan and Cheung Shue Tau (LR3), and Transportation Corridor Landscape (LCA2) as shown in **Figure 5.4**. Upon full implementation of all proposed mitigation measures, the

residual landscape impacts on LRs and LCAs are anticipated to be negligible during the operation phase.

5.2.4 The most affected public viewers are recreational users of the beaches along Castle Peak Road – New Ting Kau and Ting Kau (RE1 and RE2, respectively) (**Figure 5.5, 5.6, and 5.8**) and travelers at Cheung Shue Tau (T1) (**Figure 5.7**). With the implementation of mitigation measures, the residual visual impacts on public viewers during the operation phase are anticipated to be slight to negligible.

5.2.5 Mitigation measures, such as tree preservation and the erection of decorative screen hoarding during the construction phase, as well as sensitive and aesthetically pleasing design and compensatory planting, where appropriate, during the operation phase, are recommended. Nevertheless, to further soften the visual impact of the industrial buildings and facilities, both hard and soft landscape mitigation measures have been explored. These include implementing a sensitive and aesthetically pleasing design tailored for the structures, as well as examining the technical feasibility of installing epiphytic wall-mounting planters on the walls of suitable structures to enhance vertical greening. Photomontages are produced to illustrate the acceptability of the visual effects of the proposed development (**Figures 5.5 to 5.8**).

5.3 Environmental Considerations

Air Quality Impact

5.3.1 Potential air quality impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as within 500m of the Application Site.

5.3.2 During the construction phase, potential dust emissions may arise from limited portal formation works, excavation, spoil handling, and vehicle movement. Mitigation measures in accordance with the Air Pollution Control (Construction Dust) Regulation, including watering, covered stockpiles, paved haul roads and wheel-washing facilities, will be implemented. Emissions from construction plants will be controlled through the use of ultra-low sulphur fuel, avoidance of exempted NRMMs and adoption of electric alternatives where practicable. With these measures, no adverse construction air quality impact on nearby air sensitive receivers is anticipated.

5.3.3 During the operation phase, quarrying activities will be predominantly conducted within underground caverns, with dust emissions largely confined and controlled through blasting doors, wet suppression, and dust collection systems as far as practicable. Ancillary operations will be enclosed and fitted with appropriate emission control systems. With the implementation of recommended mitigation measures, all predicted air pollutant concentrations comply with relevant standards, and no adverse air quality impact on nearby air sensitive receivers is anticipated.

Noise Impact

5.3.4 Potential noise impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as 300m within the Application Site.

5.3.5 No noise sensitive receivers are located within the 300 m assessment area, with the nearest representative receivers situated approximately 350 m to 900 m away from the Application Site and largely screened by intervening natural terrain. During the construction phase, works will include portal site formation and mechanical breaking for the initial sections of the main access tunnel. Given the localized scale of surface works, the use of non-blasting methods at the early stage, substantial separation distances to receivers, and terrain screening, construction noise impacts are anticipated to be insignificant. During the operation phase, quarrying by drill-and-blast method will be conducted underground and outside restricted hours. With the implementation of good site practices and recommended mitigation measures, noise impacts from both construction and operation phases are expected to be insignificant.

Water Quality Impact

5.3.6 Potential water impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as 500m within the Application Site.

5.3.7 During the construction phase, key potential sources include construction site runoff,

wastewater from site activities such as wheel washing and dust suppression, accidental spillage of fuels and chemicals, and sewage from the construction workforce. Mitigation measures, including effective site drainage, silt and sediment control, proper storage and handling of chemicals, and the provision of chemical toilets with licensed servicing, will be implemented. With the adoption of good site practices and recommended mitigation measures, construction-phase water quality impacts are anticipated to be minimal.

5.3.8 During the operation phase, potential water quality impacts may arise from quarrying and ancillary operations, surface runoff from portal areas and existing access roads, and marine vessel activities associated with material transport. Process water and drilling water will be treated and recycled as far as practicable, while surface runoff will be managed through a designed drainage system incorporating appropriate erosion and silt control measures. Marine operations will comply with relevant statutory requirements and good practice to prevent water pollution. With the implementation of these measures, water quality impacts during the operation phase are anticipated to be minimal and acceptable.

5.4 Drainage and Sewerage Proposal

5.4.1 The proposed development will not interfere with the existing drainage system, which collects the surface runoff. With a minor change in site topography due to the proposed site formation works, drainage channels are proposed to collect surface runoff and groundwater seepage, and connect to the existing drainage system. Due to the coastal location of the proposed development, the majority of groundwater seepage from the caverns during the construction and operation phases would be diverted to sea via the existing outfall through the existing nullah at Ngau Kok Wan, while some of the groundwater seepage would be diverted to the existing culvert at Tam Kon Shan Road.

5.4.2 Surface runoff from the sites will be discharged into the existing drainage system via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sandbag barriers would be required to be provided on site during construction works to properly direct stormwater to such silt removal facilities. Perimeter channels will be provided on site boundaries where necessary to intercept storm runoff from outside the site so that it will not wash across the site. Catchpits and perimeter channels will be constructed in advance of site formation works and earthworks.

5.4.3 During the construction and operation phase, the workforce on site is anticipated to generate sewage effluent. Adequate and sufficient chemical toilets will be provided in the works area to handle sewage from the construction workforce and a licensed collector is to be employed to clean and maintain the chemical toilets on a regular basis. No discharge of sewage to the inland water is allowed.

5.4.4 The sewage generated by the proposed development would not be directly discharged to the existing sewerage network. Sewage is required to be treated by the on-site sewage treatment facility with discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO), or tanked away by a registered waste collector.

5.5 Traffic Arrangement

5.5.1 Two vehicle site accesses will be provided to access the Application Site. One is an existing access road connecting the North West Tsing Yi Interchange (NWTYI) northbound to Ngau Kok Wan. Another access is at the off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road connecting to the proposed Tam Kon Shan Portal.

5.5.2 To avoid illegal entrance to the underground quarry, access control is required at the portals to guard against unauthorized access.

5.5.3 Since no pedestrian access is available for both site accesses, all staff and visitors would be required to access the site solely by vehicles / shuttles during both construction and operation of the proposed development.

5.5.4 In consideration of ancillary parking and loading / unloading (L/UL) spaces, there is no parking standard specifically for quarrying in the Hong Kong Planning Standards and Guidelines (HKPSG). Therefore, the proposed provision of ancillary parking and loading/unloading facilities for ancillary operation at Ngau Kok Wan is referred to the standards for Industrial Use (I) under General Industrial Use (GIU). **Table 5.4** summarizes the proposed number of parking and L/UL spaces for ancillary operation at Ngau Kok Wan.

Table 5.4 Provision of Parking and L/UL Facilities for Ancillary Operation at Ngau Kok Wan

Parking and L/UL Facilities	Proposed Number of Parking and L/UL Provision
Parking Facilities:	
Motorcycle	5
Private Car (PC)	10
Light Goods Vehicle (LGV)	5
Heavy Goods Vehicle (HGV)	3
L/UL Facilities:	
Goods Vehicle	7
Container Vehicle Loading / Unloading Bay	1

5.5.5 Barging points are available at Ngau Kok Wan and Wok Tai Wan for marine access to the Application Site. During the construction phase, it is expected to generate marine traffic, primarily due to the transportation of construction materials, including construction machinery, equipment, and ancillary facilities. During the operation phase, the concrete and asphalt production activities will require a consistent supply of raw material (e.g. aggregates and cement etc.) for production. These materials will be delivered primarily by marine transportation from suppliers to alleviate traffic pressures on the road network. In addition, an internal marine transfer between Wok Tai Wan and Ngau Kok Wan will be established for the transport of stockpiled rock. This includes the delivery of excavated or processed rock from Ngau Kok Wan to Wok Tai Wan for storage, and the transfer of stockpiled rock from Wok Tai Wan to Ngau Kok Wan for further processing.

5.6 Utilities Requirement

5.6.1 To facilitate the construction and operation of the proposed development, power and water supply to the Application Site would be required, in particular, to support the operation of the ancillary facilities at Ngau Kok Wan.

5.6.2 Based on the available information and confirmation from the relevant utility undertakings, the existing power and water supply at Ngau Kok Wan and Wok Tai Wan are insufficient to support the operation of the ancillary facilities. Accordingly, it has been agreed with CLP and WSD that a new power and water supply source could be provided near the proposed Tam Kon Shan Portal, where spare capacity for the proposed development is available along Tam Kon Shan Road.

5.6.3 The quarry operator will be responsible for coordinating with the relevant utility undertakings on the detailed arrangement and carrying out the laying of power cables and water pipes from the new supply source near Tam Kon Shan Portal to Ngau Kok Wan to support the proposed development. This includes all associated equipment and facilities, and shall be carried out at the operator's own cost and time.

6 Technical Assessments

6.1 Geotechnical Assessment

6.1.1 A geotechnical assessment has been conducted to review and assess the geotechnical constraints of establishing the proposed development. This has been conducted through a comprehensive review of available geological maps, geological memoirs, aerial photographs, and ground investigation (GI) records.

6.1.2 Due to limited existing GI information in the vicinity of the proposed development, project-specific GI works have been carried out. The geotechnical properties and parameters, discontinuous orientation, and rock mass quality have been reviewed with reference to the results of project-specific GI works.

6.1.3 Site formation works in the form of cut slopes are proposed for Ngau Kok Wan Portals and Tam Kon Shan Portal. As the surface land at Ngau Kok Wan is considered to be small and irregular in shape, site formation works in the form of retaining structures will be allowed on the west to enlarge the surface land at Ngau Kok Wan. However, the implementation of this expansion depends on the quarry operator's decision on whether the existing surface land at Ngau Kok Wan is sufficient to support his ancillary operations.

6.1.4 All registered man-made features that may affect or be affected by the proposed development have been classified by considering either the debris travel distance and angle in accordance with GEO TGN No. 15, or their locations within the blasting influence zone. The existing features no. 6SE-D/C 544, 6SE-D/C 554, 6SE-D/F252, and 6SE-D/F253 will be modified by the proposed site formation works at the Tam Kon Shan Portal and Ngau Kok Wan Portals. For the remaining parts of these features, further assessment on the features shall be conducted with due consideration of the extent of the Tam Kon Shan Portal and Ngau Kok Wan Portals formation works. Upgrading works may be required to ensure that the features are up to the current geotechnical standard. The existing features no. 6SE-D/C 485, 6SE-D/C 192, and 6SE-D/F88 will be removed by the proposed site formation works at Tam Kon Shan Portal, Ngau Kok Wan Portals, and Ngau Kok Wan surface land expansion. No modification works are anticipated to the existing features along Wok Tai Wan and the existing access road to Ngau Kok Wan.

6.1.5 It is considered that catchments TY-NT1, TY-NT2, TY-NT3, and TY-NT4a may pose potential natural terrain hazards to the proposed developments downslope at Ngau Kok Wan. The assessment results show that none of the debris can reach beyond a 10-meter buffer zone. A 10-meter no-manned facility zone along the surface land boundary at Ngau Kok Wan is proposed during the Amber rainstorm signal or above is in force as a plausible mitigation measure for the catchments as part of the holistic risk mitigation strategy.

6.1.6 Depending on the ground condition, drill-and-blast and mechanical excavation are anticipated to be adopted for the excavation of the underground quarry. Underground quarry excavation will be carried out in an enclosed underground space with blast door(s) at portals. With careful control of maximum instantaneous chargeweight (MIC) of the explosives, coupled with the implementation of necessary monitoring and mitigation measures in place, no adverse impact to nearby sensitive receivers would result due to blasting-induced vibration, flyrock, and air overpressure.

6.1.7 The excavated material from tunnels / caverns is mainly rock. These rocks would be further processed on-site for the production of construction materials. Soil and low-quality rock would be sent to public fill reception facilities for reuse as filling material, where appropriate.

6.1.8 The proposed development is considered technically feasible from the geotechnical perspective.

6.1.9 The extract of the geotechnical assessment report is enclosed in **Appendix A**.

6.2 Traffic Impact Assessment

6.2.1 A traffic impact assessment has been conducted to assess the potential traffic impact on the surrounding road networks due to the potential traffic generated from the proposed development.

6.2.2 Vehicular accesses provided at NWTYI and off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road are considered acceptable from a traffic

engineering point of view in terms of location and access arrangement.

6.2.3 Since no pedestrian access is available for both site accesses, all staff and visitors would be required to access the site solely by vehicle during both the construction and operation of the proposed development. As such, the impact on the existing public transport operations is not anticipated.

6.2.4 Construction vehicles are expected to travel to the site during the construction phase. The performance of all junctions and road links along construction traffic routings would be operating within capacity during AM, PM, and logistic peak hours on normal weekdays for the construction peak year 2028. Nevertheless, it is considered that the traffic impact induced by the construction traffic at the concerned road links is insignificant, given that the V/C ratio remains unchanged compared to the reference case scenario.

6.2.5 During the operation phase, the performance of all the study junctions and road links would be operating within capacity during AM and PM peak hours on weekdays for the design year 2031.

6.2.6 Nevertheless, it is considered that the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal and the road links would still operate in a manageable degree (V/C ratio < 1.2).

6.2.7 Following the implementation of the tunnel to the Tam Kon Shan Portal, development traffic would be able to access the site alternatively from the Tam Kon Shan Portal as well.

6.2.8 To mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the development traffic would be prohibited from traveling through these two interchanges during AM and PM peaks.

6.2.9 In view of the minimal effect on the critical road links and sufficient capacity of all other study junctions and road links during both the operation and construction phases of the proposed development, the traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.

6.2.10 The traffic and transport impact assessment report is enclosed in **Appendix B**.

6.3 Marine Traffic Impact Assessment

6.3.1 A marine traffic impact assessment has been conducted to assess and evaluate potential marine traffic impacts and cumulative effects arising from the proposed development within the study area during the construction and operation.

6.3.2 The primary marine activity during construction and operation phases is the transportation of material. There are no marine construction works proposed under the proposed development.

6.3.3 It is not anticipated that the construction and operation of the proposed development will be impacted by metocean conditions or have a significant interface with any existing or planned marine facilities. It is also identified that the annual collision and grounding incident level or risk level would not significantly increase with the implementation of the proposed development.

6.3.4 It is identified that the risk values for all undesirable scenarios are within the as low as reasonably practicable (ALARP) region. To ensure risks are minimised and managed, further risk control measures are recommended for the construction and operation of the proposed development, including site survey, general marine traffic management measures, marine traffic control and a contingency plan for adverse weather and emergency conditions. A new risk value is calculated to evaluate the effectiveness of the proposed risk control measures. It is identified that the recommended risk control measures have further reduced risk values.

6.3.5 In the event of any changes to the approved development which may affect the findings or recommendations of the Marine Traffic Impact Assessment, a revised or supplementary Marine Traffic Impact Assessment shall be carried out by the Contractor based on his design.

6.3.6 The marine traffic impact assessment report is enclosed in **Appendix C**.

6.4 Environmental Review

6.4.1 A preliminary environmental review (PER) has been conducted for the proposed development to examine key environmental aspects related to the construction and operation, including air

quality, noise, water quality, waste management, land contamination, terrestrial ecology, landscape and visual impact, cultural heritage, and hazards to life.

6.4.2 Literature reviews are conducted to establish baseline environmental conditions. Major environmental elements and sensitive receivers in the vicinity of the Application Site have been identified and considered. While vegetation removal has been minimized through careful design, the recorded biodiversity in the potentially affected small areas is low. It is identified that these areas are generally under constant anthropogenic disturbance, such as human activities and heavy vehicle traffic. The direct ecological impact resulting from habitat loss is considered minor.

6.4.3 Potential impacts on sensitive receivers are identified, and a preliminary assessment was carried out based on the best available engineering information. Standard environmental practices and mitigation measures will be enforced to minimize these potential impacts. It is concluded that the proposed development would not lead to adverse environmental impacts with the implementation of the recommended mitigation measures and incorporation of appropriate design. Potential contamination arising from the proposed development should be assessed and remediated, if present, upon completion of the underground quarrying operation.

6.4.4 The preliminary environmental review report is enclosed in **Appendix D**.

6.5 Drainage and Sewerage Impact Assessment

6.5.1 A drainage and sewerage impact assessment has been conducted to assess the potential drainage and sewerage impact on the existing systems due to the proposed development.

6.5.2 The proposed development would not interfere with the existing drainage system, which collects the surface runoff. In general, the flow path and catchments after development will be similar to those before development. The catchment areas and drainage characteristics of the concerned catchments have no change. Albeit no change of the surface drainage characteristics is anticipated, groundwater seepage into the underground quarry shall generate additional drainage flow. Based on the drainage impact assessment, the groundwater seepage to be discharged from the cavern during the construction and operation phase is anticipated to be insignificant, with only <1% increase compared with the existing surface runoff from the catchment to the existing drainage system. With the proposed drainage channels in place, no potential drainage impacts arising from the proposed development are expected to affect the existing drainage system.

6.5.3 The average daily sewage generated from the proposed development is minimal. Domestic sewage will be tanked away by registered waste collector(s). Industrial wastewater from concrete production will be treated by the on-site wastewater treatment plant and then reused for production. If necessary, discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO) shall be obtained. Therefore, the sewage generated by the proposed development would not be directly discharged to the existing sewerage network. Based on the sewerage impact assessment, no adverse sewerage impact is anticipated from the proposed development.

6.5.4 The drainage and sewerage impact assessment report is enclosed in **Appendix E**.

6.6 Waterworks Impact Assessment

6.6.1 A waterworks impact assessment has been conducted to assess the potential impact on the existing waterwork facilities due to the proposed development.

6.6.2 The proposed development is located at the most downstream water mains network of the Tsing Yi water supply zone. After considering the system supply capacity and the convenience of connection to the existing water supply systems, connection to the water mains to the east of the proposed development near Tam Kon Shan Portal supplied by Tsing Yi North Low Level Fresh Water Service Reservoir (TYNLLFWSR) is proposed.

6.6.3 It is proposed that the waterworks connecting to the proposed development from the existing network will be undertaken by the quarry operator as part of the quarry contract. The details of the new connection and its alignment are subject to further discussion with WSD by the quarry operator, so that the actual water demand and the alignment of the new water pipe could fulfil the operational requirements.

6.6.4 Based on the assessment results, the proposed development would require an additional water demand, which is approximately 7.9% of and does not exceed the capacity of the TYNLLFWSR.

6.6.5 It is envisaged that the waterworks impact arising from the proposed development on the existing water supply system is acceptable.

6.6.6 The waterworks impact assessment report is enclosed in **Appendix F**.

6.7 Landscape Assessment

6.7.1 Landscape Assessment has been conducted to assess the impact on the landscape due to the proposed development.

6.7.2 Recognizing that natural terrain is a precious and irreplaceable resource, the project has been designed with the principle of minimal disturbance wherever possible. The underground quarry itself will not disturb the natural terrain above. Surface works are limited to the functional minimum required, such as the portals and ancillary operation area required to support the underground quarry. Though the Contractor will be allowed to slightly enlarge the surface land to the west at Ngau Kok Wan, this proposed expansion area is not entirely a “natural” slope. Instead, its majority would be formed by a registered man-made fill slope (Slope no. 6SE-D/F88) where anthropogenic disturbance has been documented and observed.

6.7.3 A broad-brush survey on the landscape resources, such as the approximate number of trees/tree groups within the site (including information on Old and Valuable Trees, trees of particular interest, rare and precious species, protected species scheduled under Cap. 96 and 586, mature trees) has been conducted. The survey estimates the approximate number of trees/tree groups that will be affected due to the proposed development, and the assessment also outlines the compensatory planting strategy.

6.7.4 A 1:1 compensatory ratio may not be achieved for the slope works due to site constraints, including the absence of suitable flat land, steep slope gradients, anticipated low survival rates, and the poor adaptability of heavy standard trees on slopes. Suitable compensatory planting will be adopted, with consideration of feasibility and biodiversity. For instance, woodland shrubs and climber mix will be deployed on the steep portal slopes. Additionally, the opportunity of off-site tree compensation has also been explored. It is agreed that off-site tree compensation of not less than 75 nos. of trees will be carried out in the area designated by Tsing Ma Control Area (TMCA) of HyD.

6.7.5 The schematic landscape design and landscape treatments/mitigation measures have been proposed to minimize the potential impacts. The Landscape Assessment can be referred to **Appendix G**.

7 Public Consultation

7.1 Kwai Tsing District Council

7.1.1 CEDD has consulted the District Facilities and Works Committee of the Kwai Tsing District Council (KTDC) on the proposed development on 8 April 2026 and a follow-up meeting on 7 May 2026. CEDD introduced and highlighted the importance of the proposed development. The assessment findings and the proposed mitigation measures to minimize the impacts are also elaborated as substantiation.

7.1.2 During the District Council (DC) consultation, DC members primarily expressed their concern about the potential traffic impact and communication channels with the project team throughout the implementation period.

7.1.3 In response to the concerns raised by DC members, the restricted period for using Tam Kon Shan Interchange and Tsuen Tsing Interchange at AM peak by site traffic is extended. In addition, two accesses (i.e. existing access road connecting NWTYI to Ngau Kok Wan and the off-slip of Tsing Yi North Coastal Road) shall be maintained throughout the project period to access the Application Site, thereby further reducing the use of Tam Kon Shan Interchange by site traffic. Shuttle bus service or meal arrangement shall also be provided by the quarry operator to facilitate site staff during mealtimes. To maintain close communication with stakeholders, the quarry operator would set up dedicated hotlines for receiving enquiries from DC members and the public throughout the project period.

7.2 Harbourfront Commission

7.2.1 CEDD has consulted the committee members of the Task Force on Harbourfront Developments in Kowloon, Tsuen Wan and Kwai Tsing (KTF) on the proposed development in July 2026.

7.2.2 According to the feedback from the committee members, they primarily expressed their concern about the potential visual impact on the coastal landscape, the disturbance to natural terrain, and the compatibility with the recreation and tourism planning intention of the “OU(RTRU)” zoning.

7.2.3 In response to the concerns raised by the committee members, the design has adopted an avoidance-first approach, limiting surface works to the functional minimum required for safe operations while keeping the natural terrain above the quarry largely undisturbed. In addition, landscaping and architectural mitigation measures will be implemented. Importantly, the use is not permanent in nature which the site will be reinstated upon project completion. Therefore, the long-term recreation and tourism potential of the area will not be prejudiced.

8 Justifications

8.1 Alignment with Government Policy on Long-term Strategy for Cavern Development

8.1.1 Land supply is always limited in Hong Kong. A key priority of the current-term Government is to increase land supply. Given Hong Kong's hilly terrain and strong rock formations, cavern development by means of underground quarrying is a practical solution, especially in urban fringe areas, for enhancing long-term land availability and supporting sustainable growth and stability. This proposed underground quarrying delivers substantial long-term public benefits to Hong Kong by generating valuable future cavern space and contributing significantly to the city's strategic land bank.

8.1.2 Upon completion of the underground quarry, the cavern space created can be used for housing various facilities. Relocation of existing facilities to the cavern space could release any prime surface land for other value-added developments. Alternatively, the cavern space could be arranged for developing other facilities. The exact after-use will be determined based on the evolving government needs in the future, serving as a flexible and resilient component of Hong Kong's long-term land strategy.

8.1.3 The proposed underground quarrying operation represents an enabling stage for the creation of substantial underground cavern space which may be utilised for a wide range of future land uses subject to separate studies and statutory procedures. International and local experience has demonstrated that underground caverns can successfully accommodate various facilities, such as recreational facilities, logistics, warehouses, utilities, and industrial operations, thereby reducing demand for surface land.

8.1.4 In the context of Tsing Yi, the future cavern space may provide opportunities to support the long-term planning intentions of the surrounding industrial and marine-oriented areas. Subject to future feasibility studies and operational requirements, selected industrial functions that do not require direct surface exposure could potentially be accommodated underground, thereby enhancing land-use efficiency and operational flexibility within the district.

8.2 Sustainable Use of Local Resources

8.2.1 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the proposed TYNUQ shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply. As advocated in the 2025 Policy Address, the innovative "Underground quarry-cum-cavern development" model under this proposed development aims to enhance long-term land supply more efficiently while providing a sustainable local source of rock materials. Under this approach, excavated materials from the underground quarry will be reused as aggregates for the construction industry, directly supporting Hong Kong's economic growth and resource sustainability.

8.2.2 The underground quarry will receive surplus rock generated from other local construction projects for further processing into valuable rock products, such as concrete and asphalt. The proposed development not only offers a sustainable way out for the surplus rock, but also largely relieves the operational pressure on public fill reception facilities and landfill sites.

8.2.3 Tsing Yi is located at the central hub of Hong Kong, with a superior geographical position. Establishing an underground quarry in Tsing Yi not only stabilizes the local supply of rock materials but also strengthens the supply chain for local concrete and/or asphalt production, particularly in support of the development of the Northern Metropolis.

8.2.4 The proposed development is strategically located near an established industrial cluster in Tsing Yi. The Application Site is situated in close proximity to existing areas zoned "Other Specified Uses" annotated "Cement Plant" ("OU(Cement Plant)"), "Other Specified Uses" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)"), as well as other industrial operations along the western and southern shoreline of Tsing Yi. Furthermore, a temporary concrete batching plant has recently been approved in the vicinity under Application No. A/TY/150.

8.2.5 The proposed underground quarry-cum-cavern development can generate planning and

operational synergies with these existing and planned industrial activities. In addition to processing rock excavated from the underground quarry, the proposed development may also receive surplus good-quality rock arising from local construction projects for recycling and further processing into aggregates and other construction materials. Such materials may subsequently be supplied to existing and planned concrete batching plants, asphalt production plants, and other advanced construction industries within the district and elsewhere in Hong Kong.

8.2.6 Tsing Yi occupies a strategic position within the territory and is well connected by both road and marine transport networks. The availability of existing barging points at Ngau Kok Wan and Wok Tai Wan, together with direct connections to the strategic road network, enables efficient receipt of surplus rock and distribution of construction materials. The proposed development would therefore strengthen the local construction material supply chain and enhance resource circulation within Hong Kong.

8.3 Creation of Revenue Source for the Government

8.3.1 The proposed development offers a new revenue stream for the Government, as it will be implemented under a revenue-generating contract.

8.3.2 In alignment with the Government's latest initiative to identify new sources of income, this proposed development presents a viable opportunity to support this direction.

8.4 Compatible with Surrounding Context

8.4.1 The Application Site is on Government land and no insurmountable constraints on land ownership are envisaged for the proposed development. The Application Site is distant from residential areas and adjoining to the existing area with a similar nature of land use (i.e. industrial operations and mix of boatyards and workshops). This indicates that the proposed development is compatible with the surroundings.

8.4.2 The Application Site is surrounded by hilly terrain. The project has been designed from the outset with the principle of minimal disturbance to the natural terrain wherever possible. More importantly, the underground quarry itself will generally not disturb the natural terrain above through confining surface works strictly to the portals and ancillary operation area required to support the underground quarry. This spatial relationship between the underground quarry and the undisturbed natural terrain above is clearly illustrated in the typical longitudinal section provided in **Figure 8.1**. With the surface works restricted to the ancillary operations at Ngau Kok Wan as well as Wok Tai Wan and the implementation of height restrictions for ancillary activities, the proposed development is considered compatible with the rural character of the area.

8.4.3 It is fully acknowledged that the GB is a statutory zoning intended for natural environment conservation and ecosystem protection. The project's intersection with the Green Belt has been carefully managed through the principle of avoidance-first, resulting in a minimal site formation footprint confined to Ngau Kok Wan and Tam Kon Shan. As the majority of the proposed development is underground and the ancillary operation will be located on already formed land (i.e. Ngau Kok Wan and Wok Tai Wan), the proposed development aligns with the planning intention of the "GB" zone, which aims to conserve the existing natural environment. While minimal site formation works at the portals will necessitate the removal of some trees and vegetation, compensatory planting, such as woodland shrubs and climber mix, will be deployed on the steep portal slopes as a mitigation measure to restore the green buffer with the surrounding environment and maintain the visual integrity of the Green Belt. Together with other mitigation measures, such as erection of decorative screen hoarding, sensitive and aesthetically pleasing design, the modified landform could be blended into the surrounding landscape, effectively reducing visual and environmental impacts and ensuring that residual impacts are insignificant.

8.5 Not Prejudice the Long-term Planning Intention of the "OU(RTRU)" Zone

8.5.1 The underground quarrying is an interim process to create underground space and can be regarded as temporary in nature. Upon completion of the underground quarrying works, the surface land as well as the newly created underground space will be handed back to the Lands Department (LandsD) as a valuable land bank for the Government's future development.

Therefore, the proposed use remains transitional, ensuring it will not prejudice the long-term planning intention of the "OU(RTRU)" zoning.

8.5.2 Furthermore, the Tourism Commission (TC) has recently advised that there is currently no concrete or immediate project planned for the piece of land zoned as "OU(RTRU)". Since the Site will be reinstated in accordance with the requirements of relevant government departments and handed back to the Government for future comprehensive planning and development, the temporary utilization of the Site by this project will not permanently alter or compromise its future potential for recreation and tourism activities.

8.6 No Adverse Environmental and Engineering Impact

8.6.1 As discussed in Section 6, comprehensive technical assessments are conducted on geotechnical, traffic, environmental, landscape and visual, drainage and sewerage, and waterworks impacts.

8.6.2 With the incorporation of appropriate design, implementation of control and mitigation measures, no adverse environmental and engineering impact is anticipated from the proposed development.

9 Conclusion and Recommendations

9.1.1 This supporting planning statement is submitted under Section 16 of TPO to seek approval for the implementation of the proposed development (TYNUQ). The request for planning permission involved a piece of Government land located at Ngau Kok Wan, Wok Tai Wan, and southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in SCVA No. 10 – Tsing Yi North.

9.1.2 The proposed development is regarded as “Government Use” which falls under Column 2 of the Schedule of Uses in “GB”, “OU(RTRU)”, “OU(BMIU)” requiring planning permission from the Town Planning Board. According to the covering Notes of the OZP, in any area shown as “Road”, all uses or developments require permission from the Town Planning Board.

9.1.3 Technical assessments on geotechnical, traffic, environmental, landscape and visual impact, drainage and sewerage, and waterworks impacts have been conducted to ascertain the technical suitability of the proposed development. The conclusion of the technical assessments revealed that no adverse impact would be generated from the proposed development with the implementation of appropriate mitigation measures.

9.1.4 The proposed development would bring significant social, economic, and environmental benefits to Hong Kong. Implementation of TYNUQ is fully in line with the government policy on the creation of revenue sources, sustainable use of local resources, cavern development, and land supply. Underground quarrying is merely an interim process for creating an underground space. The initiative of “Underground quarry-cum-cavern development” supports rock supply in the short term and unlocks valuable underground land for future development. In particular, rock caverns are suitable for Hong Kong's long-term development from a geological perspective.

9.1.5 The proposed development takes into account the implementation programme of proposed developments in Hong Kong, such as the Northern Metropolis, and contributes toward enhancing the synergy effect by supplying sufficient concrete and/or asphalt.

9.1.6 In light of the abovementioned justifications and merits, the proposed development is considered acceptable for approval by the TPB. We sincerely seek the favourable consideration from the TPB to give support to this Application.

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