

TOWN PLANNING BOARD

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**For consideration by The Town Planning Board
on 3.3.2020**

**Study on Existing Profile and Operations of Brownfield Sites
in the New Territories**

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PURPOSE

This paper outlines the findings of the Study on Existing Profile and Operations of Brownfield Sites in the New Territories (“the Study”) and the Government’s follow-up actions for TPB member’s information.

BACKGROUND

2. Planning Department (“PlanD”) commissioned a consultant in April 2017 to undertake the Study. The major task was to capture a snapshot of comprehensive profile and spatial distribution of the brownfield sites in the New Territories (“NT”) as well as to understand the nature, site characteristics and operational details of the brownfield sites. The information captured will be useful reference materials facilitating land use planning.

3. PlanD released the findings of the Study in November 2019. The publication of the consultant’s final report and executive summary, together with aggregated survey data in machine-readable format and map viewer showing the spatial distribution of brownfield sites were uploaded onto PlanD website¹. An executive summary of the Study is enclosed at **Appendix I**. This paper outlines the major findings.

¹ The findings of the Brownfield Study were uploaded onto PlanD’s website on 25 November 2019.

(https://www.pland.gov.hk/pland_en/p_study/comp_s/Brownfield/Home_e.html)

HIGHLIGHT OF THE STUDY FINDINGS

Definition, total size and spatial distribution

4. Brownfield sites under the Study are defined to include “primarily agricultural land² in the NT which has been formed and occupied by industrial, storage, logistics and parking uses”. The consultant started the Study by conducting in July 2017 a desktop examination which helped formulate an initial baseline estimate of about 1,300 hectares (ha) of brownfield sites in active use. Subsequently with the benefit of helicopter aerial photos, satellite images and unmanned aerial vehicle photos, land which were likely brownfield sites including but not limited to the estimated 1,300 ha were identified for on-site field and questionnaire surveys to capture a snapshot of status and usage during the period from August 2017 to October 2018. During site visits, field surveyors of the consultant recorded site information (including uses and operational characteristics), conducted interviews by questionnaire with operators, and verified the boundaries of individual operations. Operators found in some 3,420 sites (around 46% of those actively-used brownfield sites) were interviewed.

5. Based on the above on-site surveys, the Study eventually identified **1,414** ha of active brownfield sites, with another 165 ha of inactive brownfield sites³. The active brownfield sites are predominantly found in Northwest and Northeast NT. A table showing the area and number of brownfield sites, broken down by industry and sub-region, is shown at **Table 1** below.

² “Agricultural land” refers to land essentially used for agriculture in the past as shown in satellite images taken in the 1960s, regardless of the land lease status and zoning.

³ Inactive brownfield sites refer to sites which were previously “agricultural land” and subsequently formed but found vacant or with vacant structures not in operation during the surveys.

Table 1: Area and Number of Brownfield Sites by Industry and Sub-region (in descending order of the territory-wide total site area)

Type of Industry	Sub-region				Total			
	SENT	SWNT	NENT	NWNT	Area (ha)	%	No. of Sites ⁴	%
	Area (ha)	Area (ha)	Area (ha)	Area (ha)				
General Warehouse / Storage	2	1	106	270	379	27	2718	37
Construction	10	4	103	250	367	26	1558	21
Logistics	less than 1	less than 1	20	165	186	13	560	8
Vehicle Repairing and Related	3	2	23	109	137	10	1102	15
Vehicle Parking	2	less than 1	13	91	106	7	435	6
Port Back-up (Container-related)	0	0	19	69	88	6	152	2
Waste Recycling	less than 1	0	29	56	85	6	441	6
Rural Industries	less than 1	less than 1	8	14	23	2	104	1
General Workshops	2	0	4	16	22	2	176	2
Vehicle Scrapping	0	0	less than 1	20	21	1	127	2
Total Active Brownfield Sites*	20	8	326	1060	1414	100	7373	100
Inactive Brownfield Sites	4	2	50	109	165	-	996	-
Total*	24	10	376	1169	1579	-	8369	-

(* Figures may not fully tally due to rounding differences.)

6. Among the active and inactive brownfield sites taken together, 653 ha of brownfield sites are under active development or re-planning through New Development Areas (“NDAs”) / Potential Development Areas (“PDAs”), while some other 120 ha are covered by government projects under

⁴ The “sites” were counted by the consultant with reference to the physical features on site (e.g. fencing and road) observed in brownfields captured during on-site visit and also the responses or information collected during interviews with brownfield operators. It is possible that one brownfield site occupies more than one land lot, or that one land lot may be divided into a few brownfield sites for different operations.

active planning⁵, and about 30 ha are under known development projects initiated by the private sector. These altogether make up 51% of the total brownfield area, underlining the long-held position that development involving brownfield sites has been an important component of Government’s multi-pronged land supply strategy. For those brownfield sites with no known development plans, 76 ha are within conservation-related zones, and the remaining 700 ha are scattered around different parts of the NT, with their possible development potential under review (please see paragraph 14 below). A breakdown is at **Table 2** below.

Table 2: Breakdown of Brownfield Sites (active and inactive)

Brownfield Sites	Area (ha)
(A) Covered by NDAs / PDAs projects	653 (41%)
- Hung Shui Kiu/Ha Tsuen (HSK/HT)	- 246
- New Territories North (NTN)	- 243
- Yuen Long South (YLS)	- 94
- Kwu Tung North / Fanling North (KTN/FLN)	- 70
(B) Covered by other development projects	150 (10%)
- Projects by Government	- 120
- Projects by private sector	- 30
(C) Within conservation-related zones ⁶	76 ⁷ (5%)
(D) Remaining <i>(Possible development potential under review/to be reviewed as announced in 2019 Policy Address)</i>	700 (44%)

⁵ Examples include public housing development at Wang Chau, Kam Tin South and Long Bin.

⁶ Conservation-related zones include “Conservation Area”, “Costal Protection Area”, “Country Park”, “Site of Special Scientific Interest”, “Other Specified Uses (“OU”) annotated “Comprehensive Development and Wetland Enhancement Area”, “OU(Comprehensive Development to include Wetland Restoration Area)”, and “OU(Nature Park)”. Only the parts of brownfield sites falling within the boundaries of these zonings are identified as within conservation-related zones.

⁷ Of these brownfield sites on conservation-related zones, over 50% of the related land area involves “existing uses” tolerated under the Town Planning Ordinance (i.e. building or land uses that had been in existence immediately before the first publication of the draft plan for the Interim Development Permission Area/Development Permission Area), while the rest are subject to ongoing enforcement action or investigation.

Economic uses

7. As shown in **Table 1** above, the 1,414-ha active brownfield sites accommodated a wide range of industries, including construction machinery and materials storage, logistics and port back-up, vehicle repair, vehicle parking, recycling, rural industries, and other general open storage and warehouses. Notwithstanding the lower land efficiency and the need for addressing environmental and traffic impact, these operations have been relying heavily on brownfield sites as main operating grounds in view of the affordable rent as well as operational and locational considerations. The snapshot median and average monthly rents were around \$3 and \$3.9 per square foot respectively at the time of the Study⁸. Put it another way, brownfield sites are filling a gap in land supply for industrial operations unable to find or afford accommodation in urban areas.

8. Many brownfield operations play a part in Hong Kong economy's production chain serving some industries. For example, operations in the logistics industry (accounting for 186 ha, i.e. 13% of the total) meet the growth of e-commerce and the need for business-to-customer goods distribution. The vehicle repairing and related services (accounting for 137 ha, i.e. 10% of the total) are serving a real demand involving both commercial and private vehicles. At least for now, many see themselves not unwanted economic activities that can be readily phased out or relocated outside Hong Kong (only 3% of respondents in the Study considered it possible to operate outside Hong Kong). They were also providing about 52,000 jobs, mostly being full-time, as estimated by the consultant based on questionnaire results suitably extrapolated.

9. The ecosystems of these industries are expected to undergo changes when existing brownfield sites are cleared for development or alternative land uses. According to interviews conducted during the Study, in case of clearance, some 10% of the respondents said they would terminate their business, while 63% said they would find alternative sites to continue

⁸ These rental levels are a fraction of the average monthly rent of private flatted factories in the NT, which stood at \$16 per square foot in September 2019 according to Rating and Valuation Department.

operation. Also, 43% said they saw the need to operate at open-air sites⁹. “Subsidy on rent” and “sufficient floor space for operation and storage” were cited as the two key factors that would encourage brownfield operators to move into purpose-built multi-storey buildings (“MSBs”) and other specially designed facilities.

Land Status

10. The Study notes that a vast majority of brownfield land is under private ownership. In terms of both area and number of sites, the majority of active and inactive brownfield sites are on private land (83%). For the minority on government land (17%), most are covered by short-term tenancies (“STTs”), STTs under processing, or government land allocations.

11. Land resumption in accordance with the law has been and will continue to be an important tool in developing brownfield sites on private land for which public purposes have been identified through due planning processes. As mentioned in the 2019 Policy Address, a steady stream of land resumption projects under the Lands Resumption Ordinance (Cap. 124) is in the pipeline. With major NDAs (KTN/FLN, HSK/HT and YLS), as well as a number of public housing and other public works projects in the pipeline, about 700 ha of private land (including quite a significant number of brownfield sites) will be resumed.

Potential Environmental, Ecological and Traffic Impacts from the Brownfield Sites

12. Brownfield sites in different industries would generate different degrees of potential environmental, ecological and traffic impacts on the surrounding sensitive receivers. While the Study has not appraised such impacts in detail, based on the field survey findings and qualitative assessments, it is noted that brownfield sites in the industries of waste recycling, vehicle repairing and related, vehicle scrapping, rural industries, general workshops, port back-up (container related), logistics and

⁹ Some brownfield operations may by nature require an open-air setting. Some business undertakings considered that operations involving bulky/heavy materials or machinery might not be suitably accommodated in MSBs. They cited examples including those for storage of heavy and bulky construction machinery (e.g. metal beams, cranes, boom lifts), storage of heavy and bulky recyclables (e.g. ferrous metal), and container storage.

construction generate higher potential environmental impact in terms of noise, dust, odour, visual and land/water contamination. As some brownfield sites are in close proximity to wetlands and fish ponds, the brownfield operations at these clusters are creating adverse ecological impacts on the surrounding fish ponds and wetland (e.g. water contamination). Active brownfield sites in logistics, port back-up (container related) and vehicle parking industries generate relatively more traffic impacts as compared to other industries, mainly due to high traffic flow into/out of the sites.

Possible development potential of brownfield sites

13. For the remaining 700 ha of brownfield sites outside NDAs/PDAs or other areas involving known development projects, the consultant has attempted to provide a broad-brush assessment of their possible development potential based on the following three criteria, namely

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- (a) **strategic location:** it refers to the distance of brownfield clusters to existing new towns¹⁰;
- (b) **transport connectivity:** it refers to the distance¹¹ of brownfield sites to the existing highways; and
- (c) **size of brownfield clusters:** brownfield sites locating close to one another are referred to as a brownfield cluster. There would be a higher opportunity for alternative development if a brownfield cluster is larger in size¹².

14. The consultant considers that brownfield sites within walking distance (i.e. 500 metres) to existing new towns and major highways, and with a size of at least 2 ha may likely have higher possible development potential

¹⁰ It means the distance measured from the edge of the brownfield sites to the boundaries of the existing new towns. The delineation of the existing new towns is adopted from the boundaries developed by Civil Engineering and Development Department (“CEDD”) and PlanD for new town development.

¹¹ The classification is based on straight-line distance to existing highways without taking into account the actual access to those highways and their capacity.

¹² With reference to the average site area of potential public housing developments identified by Government, the consultant considers that brownfield clusters with an area of 2 ha or more can be classified as having higher development potential.

than others. By applying the three quantitative criteria in a mechanical manner, the consultant has grouped the 700 ha of brownfield sites into three categories. The grouping is shown in **Table 3** below. It should be emphasised that the consultant’s broad-brush, formula-based approach should not be taken as a conclusive assessment on the development potential of the sites concerned, which would be subsequently subject to PlanD’s further review on individual sites taking into account planning considerations such as land use compatibility amongst others (please see paragraph 16 below).

Table 3: Classification of 700 ha Remaining Brownfield Sites by Possible Development Potential Identified by the Consultant

Possible Development Potential ¹³	Major Locations of Brownfield Sites	Area of Brownfield Sites
High	Sha Po Tsuen, Shap Pat Heung, Ping Shan, Tai Hang, Lam Tei, etc.	160 ha
Medium	Ngau Tam Mei, Lau Fau Shan, etc.	290 ha
Low	Shek Kong, Pat Heung, etc.	250 ha
Total remaining brownfield sites		700 ha

FOLLOW-UP ACTIONS BY GOVERNMENT

15. Taking into account the findings of the Study, the Government

¹³ The following criteria are taken into consideration in the consultant’s classification -

Criteria	Classification of Possible Development Potential of Brownfield Sites		
	High	Medium	Low
Distance from existing new towns	≤ 500 m	≤ 2000 m and > 500 m	> 2000 m
Distance from existing highways	≤ 500 m	≤ 2000 m and > 500 m	> 2000 m
Size of brownfield clusters	≥ 2 ha	≥ 0.25 ha and < 2 ha	< 0.25 ha

will spearhead efforts in land use planning involving brownfield sites in the NT based on the following main directions –

- (a) redeveloping brownfield sites with potential for housing or other uses to unlock their development potential for the wider public good;
- (b) providing land or space to support sustainable development of industrial operations, including displaced brownfield operations still needed by the economy, with due regard to the benefits of cluster development, need for greater land efficiency and operational requirements for some businesses to operate outdoor; and
- (c) combating unauthorised development, as well as encouraging phasing out and preventing proliferation of brownfield operations with priority given to operations at or near ecologically sensitive areas.

16. For (a), the Government is pursuing vigorously various NDAs/PDAs and other public housing projects to turn 773 ha of brownfield sites into housing or other uses beneficial to the community. Another 30 ha would be taken forward through private sector initiatives. These altogether make up over half of the total brownfield areas identified in the Study. As for the remaining 700 ha with no known development plan, as announced in the 2019 Policy Address, PlanD aims to assess, by phases, how many of the 450 ha classified by the consultant as having relatively higher possible potential for development would be suitable for public housing, having regard to factors including land use compatibility and site constraints. PlanD has substantially completed the assessment of the 160 ha of brownfield sites that are closer to existing infrastructures and identified suitable clusters for public housing. Civil Engineering and Development Department (“CEDD”) will soon embark on technical studies on the shortlisted clusters to ascertain the scope for public housing development and the extent of infrastructure works required in due course. The remaining 290 ha of brownfield sites will be covered in PlanD’s next stage of review which is targeted for completion by end 2020.

17. For (b), on a macro planning level, the Government will, based

on the estimated land requirements of relevant industries, identify large land parcels with good accessibility and infrastructure in major development projects including the NTN NDA, Lam Tei Quarry and near-shore reclamation at Lung Kwu Tan to provide concentrated, orderly and more land efficient accommodation for brownfield operations. This will be in addition to the 72 ha of land reserved for logistics, port back-up, storage and workshop uses in both MSB and open-air setting in the HSK/HT and YLS NDAs.

18. Separate studies commissioned by CEDD have initially confirmed the architectural and technical feasibility of purpose-built industry-specific MSBs but indicated the need for considerable capital investment owing to the special access, headroom and loading requirements. Riding on the findings of the Study and the preliminary findings in CEDD's studies, CEDD are making preparations to launch a market sounding exercise shortly to ascertain the market interest towards developing and running MSBs for key brownfield businesses under different scenarios involving different contractual requirements and tender conditions.

19. For (c), PlanD will continue to strengthen enforcement actions in respect of brownfield sites involving non-compliances under the planning and land regimes, including giving priority to combating unauthorised developments near or at environmentally sensitive areas. PlanD is also reviewing the Town Planning Board Guidelines for Application for Open Storage and Port Back-up Uses ("TPB PG-No. 13E") with regard to the latest planning circumstances.

ADVICE SOUGHT

20. Members are invited to note on the findings of the Study and the way forward being taken by Government.

ATTACHMENT

Appendix I Executive Summary of the Study on Existing Profile
and Operations of Brownfield Sites in the New
Territories

Planning Department
March 2020