

For discussion  
on 7 May 2001

## **Legislative Council Panel on Planning, Lands and Works**

### **Infrastructure for Penny's Bay Development, Package 2**

#### **Purpose**

This paper seeks Members' support to the proposed construction of infrastructure and associated works for Penny's Bay Development, Package 2, under part of the Public Works Project (PWP) Item No. **660CL**.

#### **Problem**

2. We need to provide the necessary infrastructure and government, institution and community (GIC) facilities to support the development of Hong Kong Disneyland (HKD) at Penny's Bay on Lantau Island.

#### **Proposal**

3. The Director of Civil Engineering (DCE), with the support of the Secretary for Economic Services, proposes to upgrade part of **660CL** to Category A for the construction of infrastructure, associated works and GIC facilities at an estimated cost of \$3,917 million in money-of-the-day (MOD) prices to serve the development of Phase 1 of HKD.

#### **Background**

4. Since signing of the project agreements with The Walt Disney Company in December 1999 on Phase 1 of HKD, Government has been taking active steps to implement the agreement. The first major Government works contract for reclamation at Penny's Bay was awarded in April last year and reclamation works commenced in May 2000.

5. Considerable progress has since been made in the design of the associated and supporting infrastructure and GIC facilities for HKD Phase 1. We have completed the detailed design of the first batch of infrastructure works and have scheduled to seek Public Works Sub-Committee's support and Finance Committee's approval for the first infrastructure contract.

6. On 23 April 2001, we briefed the Legislative Council Panel on Economic Services on the proposed works under 'Infrastructure for Penny's Bay Development, Package 2' and the progress of HKD. Members took note of the proposed works. In view of the scale of the proposed works, we also consider it appropriate to consult this Panel before we seek the support of Public Works Subcommittee.

#### **Documents Attached**

7. To facilitate Members' consideration of the proposed works in detail, an advanced copy of our draft submission to Public Works Sub-Committee is attached at Annex.

---

Tourism Commission  
Economic Services Bureau  
May 2001

*(Draft)*

**For discussion  
on 16 May 2001**

**PWSC(2001-02)XX**

**ITEM FOR PUBLIC WORKS SUBCOMMITTEE  
OF FINANCE COMMITTEE**

**HEAD 705 - CIVIL ENGINEERING**

**Civil Engineering - Land Development**

**660CL - Site formation, construction of associated infrastructure and provision of government, institution and community facilities for an international theme park on Lantau Island**

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **660CL**, entitled “Infrastructure for Penny’s Bay Development, Package 2”, to Category A at an estimated cost of \$3,917 million in money-of-the-day prices; and
- (b) the retention of the remainder of **660CL** in Category B.

**PROBLEM**

We need to provide the necessary infrastructure and government, institution and community (GIC) facilities to support the development of Hong Kong Disneyland (HKD) at Penny’s Bay on Lantau Island.

## PROPOSAL

2. The Director of Civil Engineering (DCE), with the support of the Secretary for Economic Services, proposes to upgrade part of **660CL** to Category A at an estimated cost of \$3,917 million in money-of-the-day (MOD) prices for the construction of infrastructure and associated works to serve HKD Phase 1.

## PROJECT SCOPE AND NATURE

3. The scope of the part of **660CL** which we now propose to upgrade to Category A comprises -

- (a) dredging and reclamation works for the formation of about 10 hectares (ha) of land at Yam O;
- (b) construction of a dual-2 lane/dual-3 lane carriageway (namely Road P2) about 2.2 kilometres (km) in length (including minor roads and a subway), reprovisioning of access to an existing power station, and the associated slope and drainage works;
- (c) construction of West Resort Road about 1.8 km in length including minor roads/paving area, and the associated slope and drainage works;
- (d) construction of a temporary access road and site formation for utilities reserve;
- (e) construction of a central pedestrian walkway about 900 metres in length including an underpass;
- (f) construction of an at-grade public transport interchange at the proposed rail station at Yam O;
- (g) construction of an at-grade Penny's Bay public transport interchange (PBPTI) near the proposed Penny's Bay Rail Station including a public access deck over the Station;
- (h) construction of two public piers;
- (i) construction of hard and soft landscape works including landscape berms, a maintenance depot for soft landscape works, roadside planting and about 10 ha of

woodland planting;

- (j) construction of part of a public water recreation centre to the south of the future Chok Ko Wan Link Road (CKWLR) with a lake of about 12 ha including the associated water supply and irrigation system;
- (k) construction of a sewerage network from Penny's Bay to Yam O;
- (l) construction of a stormwater drainage system including box culverts about 4.6 km in length and Western Channel about 2.1 km in length, and the associated site formation and geotechnical works;
- (m) construction of water supply systems for fresh water and salt water from Yam O to Penny's Bay;
- (n) construction of a refuse collection point as one of the GIC facilities;
- (o) removal of asbestos containing materials within the area of Cheoy Lee Shipyard;
- (p) environmental monitoring for the proposed works;
- (q) employment of an Independent Environmental Checker (IEC) to audit the environmental monitoring works and a consultant to operate an Environmental Project Office (ENPO);
- (r) employment of consultants for site supervision of the proposed works and certifying completion of the infrastructure works and GIC facilities undertaken by Government in relation to the development of HKD Phase 1; and
- (s) employment of non-civil service contract (NCSC) staff for the delivery of projects in relation to the development of HKD Phase 1.

---

A site plan showing the details of the proposed works is at Enclosure 1. We intend to start the proposed works in November 2001 for completion in phases by October 2005.

4. The remaining works of **660CL** to be retained in Category B include –

- (a) dredging and reclamation works for the remaining Penny's Bay Reclamation (80 hectares);
- (b) investigation, design and construction of the remaining associated infrastructure and landscaping works;
- (c) construction of the remaining section of Road P2;
- (d) construction of the remaining part of the water recreation centre;
- (e) construction of the remaining water supply system for the lake in the water recreation centre;
- (f) construction of sewerage works from Siu Ho Wan sewage treatment plant to Yam O;
- (g) construction of a salt water supply system from Tai Ho to Yam O;
- (h) construction of GIC facilities for HKD Phase 1 including a police post and a fire/ambulance station;
- (i) decommissioning of Cheoy Lee Shipyard and construction of all infrastructure works within the Cheoy Lee Shipyard site;
- (j) environmental monitoring for the remaining works; and
- (k) provision for site supervision of the remaining works.

## JUSTIFICATION

5. Government entered into agreement with The Walt Disney Company and Hongkong International Theme Parks Limited (HKITP) in December 1999 on the development of HKD Phase 1. To implement the agreement and support the development of HKD, Government has to provide a fully formed and serviced site on reclaimed land at Penny's Bay, associated and supporting infrastructure and GIC facilities. According to the agreed implementation programme for the project, we should invite tenders for the first infrastructure contract in Penny's Bay in June 2001 for commencement in November 2001 in order to enable HKD Phase 1 to open in 2005. Failure to achieve the above milestone will put the project timetable at risk and lead to deferment of the economic benefits that could be derived from the operation of the theme park.

6. As the Environmental Impact Assessment (EIA) study for the decommissioning of Cheoy Lee Shipyard will not be completed until early 2002, infrastructure works that fall within the area of Cheoy Lee Shipyard will only be carried out in the second infrastructure contract to commence in mid 2002. However, as suspected asbestos containing materials have been identified in preliminary investigations of the Shipyard, we propose to remove the asbestos containing materials first under the first infrastructure contract for completion before mid 2002. This would enable the decommissioning work to commence at the beginning of the second infrastructure contract to ensure timely completion of all infrastructure works.

7. We will implement an Environmental Monitoring and Auditing (EM&A) programme for the proposed construction works in accordance with the requirements set out in the approved EIA report on "Construction of an international theme park in Penny's Bay of North Lantau and its essential associated infrastructures" and the Environmental Permits issued in April 2000. The EM&A programme includes implementation of environmental monitoring works, employment of an IEC to audit the monitoring works, and establishment of an ENPO to oversee and audit the possible cumulative environmental impacts arising from the developments in Northeast Lantau. To ensure a consistent approach, the IEC will also audit the monitoring works for all construction works undertaken by Government in relation to the development of HKD from 2001 to 2006.

8. The PBPTI and central pedestrian walkway referred to in paragraphs 3(g) and 3(e) above are in the immediate vicinity of HKITP's works including the carparks and retail, dining and entertainment facilities, the construction of which will be concurrent with Government's works. In order to minimize interfacing problems, it is advantageous to have a single party to carry out the construction work in that area. As the PBPTI and central pedestrian walkway are the main gateway to the theme park, their design should be compatible with the overall theming of the park so as to create a sense of arrival and anticipation. To achieve an integrated landscape and aesthetic design and to minimize interfacing problems, we intend to entrust to HKITP the design, construction, supervision and completion certification of the PBPTI and central pedestrian walkway but excluding the structural works of the public access deck and the underpass. The underpass needs to be constructed in conjunction with the utilities works co-ordinated by the Government.

9. Part of the PBPTI takes the form of a deck which runs over the Penny's Bay Railway Station and provides access to the central pedestrian walkway for visitors arriving by vehicle. As this public access deck falls within the Penny's Bay Railway Station to be constructed by the railway operator, we intend to entrust the design, construction and supervision of its structural works to the railway operator in order to minimize interfacing and site possession problems during

construction.

10. The staff of DCE responsible for the HKD project are already fully committed. The workload will continue to build up when the proposed infrastructure works progress to the construction stage. It is therefore necessary to deploy additional staff resources to cope with the increasing workload. In this regard, we propose to employ NCSC staff for four years from July 2001. We are currently reviewing the need for additional staff resources for DCE for implementation of the HKD project.

### FINANCIAL IMPLICATIONS

11. We estimate the capital cost of the project (as at 18 April 2001) to be \$3,917 million in MOD prices (see paragraph 12 below), made up as follows –

	<b>\$ million</b>
(a) Dredging and reclamation at Yam O	211
(b) Road P2, reprovisioning of access to an existing power station and minor roads	302
(c) West Resort Road and minor road/paved area	165
(d) Temporary access road and site formation	97
(e) Central pedestrian walkway	320
(i) Central pedestrian walkway including construction supervision and completion certification costs (to be entrusted to HKITP) <sup>1</sup>	300
(ii) Underpass	20
(f) Public transport interchange at Yam O	65

---

<sup>1</sup> The estimated cost includes about \$26 million on-costs for construction supervision and completion certification, equivalent to 9.5% of the construction cost.



(g)	PBPTI	218
(i)	PBPTI including construction supervision and completion certification costs (to be entrusted to HKITP) <sup>2</sup>	188
(ii)	Structural works for public access deck including construction supervision costs (to be entrusted to the railway operator) <sup>3</sup>	30
(h)	Two public piers	212
(i)	Landscape works	517
(j)	Part of a public water recreation centre including water supply and irrigation systems	279
(k)	Sewerage networks	145
(l)	Stormwater drainage system	561
(m)	Fresh and salt water supply systems	116
(n)	Refuse collection point	3
(o)	Removal of asbestos containing materials in Cheoy Lee Shipyard	6
(p)	Environmental monitoring works	12
(q)	Consultants' fees for	334
(i)	Construction supervision including provision of resident site staff and completion certification of works	292

---

<sup>2</sup> The estimated cost includes about \$16 million on-costs for construction supervision and completion certification, equivalent to 9.5% of the construction cost.

<sup>3</sup> The estimated cost includes about \$2.6 million on-costs for construction supervision, equivalent to 9.5% of the construction cost.

(ii) environmental auditing by IEC	22	
(iii) operation of ENPO	20	
(r) Employment of NCSC staff	26	
(s) Contingencies	357	
Sub-total	3,946	(in September 2000 prices)
(t) Provision for price adjustment	(29)	
Total	3,917	(in MOD prices)

Due to insufficient in-house resources, DCE proposes to engage consultants to carry out the construction supervision, completion certification, auditing of environmental monitoring works and operation of the ENPO. DCE also proposes to employ non-civil service contract staff to cope with the workload in project delivery.

12. Subject to approval, we will phase the expenditure as follows –

<b>Year</b>	<b>\$ million (Sept 2000)</b>	<b>Price Adjustment Factor</b>	<b>\$ million (MOD)</b>
2001 – 2002	153	0.98000	150
2002 – 2003	826	0.97976	809
2003 – 2004	979	0.98759	967
2004 – 2005	1,017	0.99549	1,012
2005 – 2006	585	1.00346	587
2006 – 2007	246	1.01149	249
2007 – 2008	140	1.01958	143
	3,946		3,917

13. We have derived the MOD estimates on the basis of Government's latest forecast of trend labour and construction prices for the period 2001 to 2008. We will tender the civil engineering works, apart from the proposed entrustment

works, under a standard re-measurement contract as the actual quantities of major items for dredging, filling, piling and foundation works, slope works and drainage works cannot be accurately determined at the design stage. For the employment of consultant for construction supervision, we intend to exercise an option in an existing consultancy agreement for design and construction of infrastructure for Penny's Bay development requiring the consultant to provide site staff for the purpose. The consultant for this agreement was selected through the usual competitive lump sum fee system. We will select the IEC and the consultant for operation of the ENPO through the normal competitive lump sum fee arrangement. The infrastructure contract and the consultancy agreements will have provisions for inflation adjustment as the duration of the contract and consultancy agreements will exceed 21 months and 12 months respectively.

14. The proposed works will be completed in phases from 2003 to 2005. The woodland planting will need to be maintained from 2006 to 2014. Our preliminary estimate (as at 18 April 2001) of the annual recurrent expenditure arising from the works is as follows -

Financial Year	Recurrent consequence (\$M)
2002-03	7.83
2003-04	14.11
2004-05	48.97
2005-06	87.56
2006-07 – 2014-15	87.69
2015-16 onwards	87.56

## **PUBLIC CONSULTATION**

15. The project is based on the Recommended Outline Development Plan for the Theme Park and Northshore Lantau Development which was generally supported by the Tsuen Wan District Council (TWDC) and Islands District Council (IsDC) during consultation in March 2000 and endorsed by the Committee on Planning and Land Development at its meeting on 6 July 2000. We presented the proposed roadworks to IsDC on 22 May 2000 and circulated an information paper on the proposed roadworks to TWDC in June 2000. Members of the two District Councils made no comment on the proposal. We consulted IsDC and TWDC again on 25 and 26 September 2000 respectively on the proposed sewerage scheme and land resumption for Penny's Bay Development. Members supported the proposed sewerage scheme and land resumption.

16. We gazetted the proposed roadworks in two road schemes under the Roads (Works, Use and Compensation) Ordinance (Chapter 370) on 21 July 2000. Four objections were received. These related to the resumption of land, creating of easements and land affected by the roadworks. We met with the objectors to try to resolve the objections. As a result, one objector has conditionally withdrawn his

objection. The other three objections remained unresolved. We obtained the Chief Executive in Council's authorization of the proposed road schemes in January 2001 and we gazetted the authorization on 23 January 2001.

17. We gazetted the proposed sewerage works under the Roads (Works, Use and Compensation) Ordinance (Chapter 370) as applied by section 26 of the Water Pollution Control (Sewerage) Regulation on 29 September 2000. One objection was received. The objector opposed to the sewerage scheme as it would mean the resumption of land. We met with the objector but the objection remained unresolved. We obtained the Chief Executive in Council's authorization of the proposed sewerage scheme in April 2001 and we gazetted the authorization on 20 April 2001.

18. On 23 April 2001 we briefed the Legislative Council Panel on Economic Services on the proposed works under "Infrastructure for Penny's Bay Development, Package 2". Members of the Panel took note of the proposed works. [We also briefed the Legislative Council Panel on Planning, Lands and Works on 7 May 2001. Members of the Panel [supported] the proposed works.] *[to be updated after consultation]*

## ENVIRONMENTAL IMPLICATIONS

19. The proposed works include designated projects under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). In March 2000 we completed an EIA study on "Construction of an international theme park in Penny's Bay of North Lantau and its essential associated infrastructures" which covered the proposed works and another EIA study under "Northshore Lantau Development Feasibility Study" which addressed the overall cumulative impacts in North-East Lantau region. The EIA studies concluded that the proposed works would meet established environmental standards and legislation after implementation of the recommended mitigation measures in the construction and operation stages. The two EIA reports were endorsed with conditions by the Advisory Council on the Environment on 17 April 2000 and approved by the Director of Environmental Protection on 28 April 2000.

20. We will implement the recommended environmental mitigation measures by incorporating them into the works contract. The key measures include control on the rates and methods of reclamation for Yam O Reclamation, at least 6 ha of compensatory tree planting, erection of fences to protect rare/restricted/protected plant species, construction of sewage pumping stations with backup facilities and odour control, provision of oil interceptors at public transport interchanges and landscape works on the earth berms. We will also incorporate into the works contract standard measures to control pollution during construction. We will establish an ENPO to monitor the cumulative environmental

effects of all concurrent construction projects in the North-east Lantau area. The costs of implementing the environmental mitigation measures (\$310 million) and the EM&A programme (\$54 million) including establishment of ENPO (\$20 million), employment of IEC (\$22 million) and environmental monitoring works (\$12 million) have been included in the overall project estimate.

21. At the planning and design stages of the project, we have given due consideration to minimizing the generation of construction and demolition (C&D) materials. To further minimize the generation of C&D materials, we will encourage the contractors to use steel instead of timber in formwork and temporary works.

22. We estimate that about 2.68 million cubic metres (m<sup>3</sup>) of C&D materials will be generated by this project. Of these, about 1.22 million m<sup>3</sup> (45.5%) will be reused on site, about 1.41 million m<sup>3</sup> (52.6%) will be reused in the second infrastructure contract, and 0.05 million m<sup>3</sup> C&D waste (1.9%) will be disposed of at landfills. The reclamation works at Yam O will receive 0.7 million m<sup>3</sup> of public fill. We will require contractors to submit waste management plans to Environmental Protection Department (EPD) for approval. The waste management plans will describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste generated from the construction activities, and will include recommended mitigation measures for construction waste management, including designation of areas for segregation and temporary storage of reusable and recyclable materials. We will ensure that the day-to-day operations on site comply with the approved waste management plans. We will implement a trip-ticket system to control the proper disposal of C&D materials and will record the reuse, recycling and disposal of C&D materials for monitoring purposes.

23. We estimate that the reclamation works at Yam O will produce 1.8 million m<sup>3</sup> of uncontaminated mud. There will be sufficient capacity in designated areas for disposal of the uncontaminated marine mud.

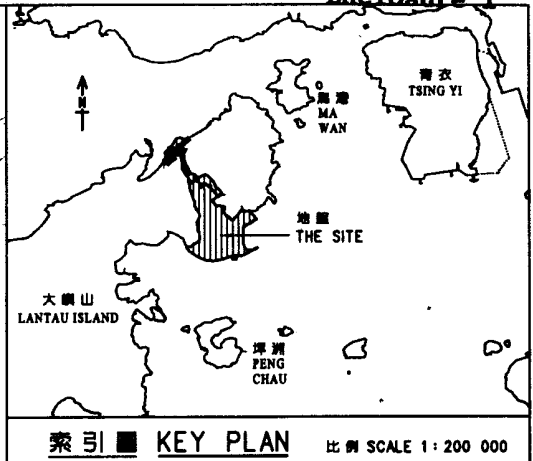
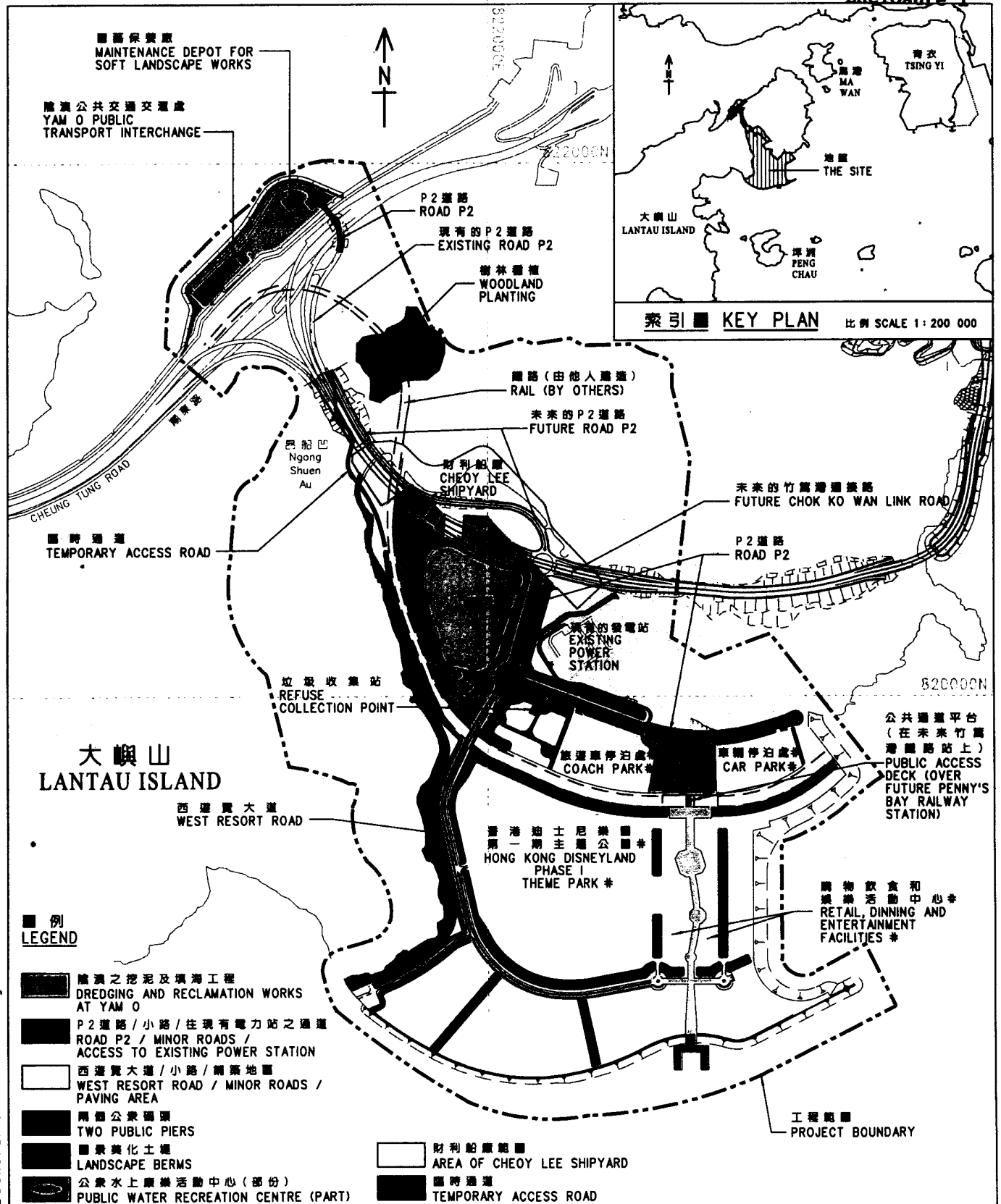
24. We will fully comply with the statutory requirements of the Air Pollution Control Ordinance regarding removal and disposal of asbestos containing materials in Cheoy Lee Shipyard, including submission to EPD for approval of an Asbestos Investigation Report and Asbestos Abatement Plan .

## **LAND ACQUISITION**

25. We will resume 0.45 hectares of private land and create easement over the MTRCL lot under the Roads (Works, Use and Compensation) Ordinance (Chapter 370). We have acquired another 18.7 ha of land by voluntary surrender. We will also require clearance works on Government land. We have reserved the land acquisition and clearance cost estimated at \$1,520 million under Head 701 – Land Acquisition .

**BACKGROUND INFORMATION**

26. We upgraded **660CL** to Category B in November 1999. On 26 November 1999, Finance Committee approved to accept in principle the financial implications, estimated at \$13.569 billion in September 1999 prices, for the site formation, construction of associated infrastructure and the provision of Government, institution and community facilities in connection with the development of an international theme park on Lantau Island. The proposed works are part of the \$13.569 billion mega project.
27. We funded the EIA study under “Northshore Lantau Development Feasibility Study” under PWP item **108AP** at a cost of \$7.0 million and the EIA study for “Construction of an international theme park in Penny’s Bay of North Lantau and its essential associated infrastructures” under block allocation Subhead **5101CX** at a cost of \$7.8 million.
28. On 17 December 1999, Finance Committee approved the upgrading of part of **660CL** to Category A as **662CL** entitled “Reclamation of Penny’s Bay Stage 1 works, design of site formation at Yam O and design of associated infrastructure and government, institution and community facilities for the development of Hong Kong Disneyland Phase 1 on Lantau Island” at an estimated cost of \$6,923.9 million in MOD prices. We commenced the reclamation works in May 2000 for completion in phases from November 2001 to January 2003. We commissioned a consultancy for the infrastructure design in April 2000 and completed the detailed design of the proposed works in May 2001.
29. On 27 April 2001, Finance Committee approved the upgrading of another part of **660CL** to Category A as **322WF** entitled “Infrastructure for Penny’s Bay Development, Package 1 – Yam O Tuk fresh water service reservoir and associated works” at an estimated cost of \$165 million in MOD prices. We will commence construction works in August 2001.
30. Including this project, we have now sought Finance Committee’s approval for about 93% of the works for the development of HKD Phase 1. Generally, the works of HKD are within budget.
31. We estimate that the project will create some 1 890 new jobs comprising 350 professional/technical staff and 1 540 labourers totalling 81 700 man-months.



**圖例 LEGEND**

- 填海之挖泥及填海工程  
DREDGING AND RECLAMATION WORKS AT YAM O
- P2 道路 / 小路 / 往現有電力站之通道  
ROAD P2 / MINOR ROADS / ACCESS TO EXISTING POWER STATION
- 西邊覽大道 / 小路 / 鋪築地面  
WEST RESORT ROAD / MINOR ROADS / PAVING AREA
- 兩個公眾碼頭  
TWO PUBLIC PIERS
- 園景美化土堤  
LANDSCAPE BERMS
- 公眾水上康樂活動中心 (部份)  
PUBLIC WATER RECREATION CENTRE (PART)
- 西面明渠  
WESTERN CHANNEL
- 垃圾收集站  
REFUSE COLLECTION POINT
- 填海公共交通交匯處  
YAM O PUBLIC TRANSPORT INTERCHANGE

- 財利船廠範圍  
AREA OF CHEOY LEE SHIPYARD
  - 臨時通道  
TEMPORARY ACCESS ROAD
  - 中央行人大道  
CENTRAL PEDESTRIAN WALKWAY
  - 竹篙灣公共交通交匯處  
PENNY'S BAY PUBLIC TRANSPORT INTERCHANGE
- \* 由香港國際主題樂園有限公司負責的項目  
WORKS BY HKITP

P:\DisneyLand\_Reclamation\SD\_C\_General\sd1001\_076b.dgn

81801034  
COPYRIGHT RESERVED


B	10.4.01	GENERAL REVISION	(Sd.)	(Sd.)
A	21.3.01	GENERAL REVISION	(Sd.)	(Sd.)
no.	date	description	checked	approved

**title**  
660CL (部份)  
竹篙灣發展計劃的基礎設施  
第二組  
660CL (PART)  
INFRASTRUCTURE FOR PENNY'S  
BAY DEVELOPMENT, PACKAGE 2

	name	initial	date
designed			
drawn	K. L. LAU	(Sd.)	15.3.2001
checked	Y. T. WONG	(Sd.)	15.3.2001
approved	W. L. CHAN	(Sd.)	15.3.2001
office	專責事務處 SPECIAL DUTIES OFFICE		

**drawing no.**  
SD 1001-076B

**scale**  
1:20 000



**CIVIL ENGINEERING  
DEPARTMENT  
HONG KONG**