For Information
23 March 2012

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Shatin to Central Link – Funding Application for the Main Works

Purpose

This paper aims to inform Members of our proposal to upgrade Public Works Programme **61TR** "Shatin to Central Link – construction of railway works – remaining works" and **62TR** "Shatin to Central Link – construction of non-railway works – remaining works" to Category A to meet the cost for constructing the main body of the railway works and non-railway works of the Shatin to Central Link (SCL).

Background

2. The 17-kilometre (km) SCL is a territory-wide strategic railway project with ten stations[1]. The project, linking up with a number of existing railways, forms two strategic railway corridors, namely the "East West Corridor" and the "North South Corridor" –

(a) The "East West Corridor" – The SCL will connect Tai Wai Station of the Ma On Shan Line to Hung Hom Station of the West Rail Line. It will allow passengers to travel direct from Wu Kai Sha Station to East Kowloon, Hung Hom, New Territories West and Tuen Mun without interchanging, providing more direct and convenient railway services for passengers travelling between New Territories East and New Territories West.

(b) The "North South Corridor" – The SCL will extend the existing East Rail Line from Hung Hom Station across the harbour to Admiralty Station. It will allow passengers from Lo Wu (using the East Rail Line) and Huanggang (using the Lok Ma Chau Spur Line) to reach

[1] The ten stations of the SCL are: Tai Wai, Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Ho Man Tin, Hung Hom, Exhibition and Admiralty.

the heart of Hong Kong Island directly.

3. The SCL will serve a catchment of residential population approaching 380 000 and employment population approaching 260 000. Upon completion, the SCL will expand the railway network in Hong Kong, providing services to a large number of passengers.

4. At the meeting of the Subcommittee on Matters Relating to Railways held on 2 March 2012, we updated Members of the latest progress of the SCL project and explained to Members the details of the two railway scheme amendments, gazetted in July and November 2011, for addressing public concerns and demands. We also informed Members that the detailed design of the SCL was substantially completed, and that the independent consultant appointed by us had finished examining the estimate on the construction cost of the SCL. To strive for funding approval before the Legislative Council summer recess this year thus enabling commencement of works by mid 2012, we will submit a paper to the Public Works Subcommittee to seek the funding approval for the SCL main works (both railway works and non-railway works) within the next few weeks.

Scope of the Project

5. The scope of **61TR** is as follows –

(a) Construction of the main body of the railway works under the SCL, including –
   (i) construction of a 11 km railway line to extend the Ma On Shan Line from Tai Wai Station with the West Rail Line at Hung Hom;
   (ii) construction of a 6 km railway line to extend the East Rail Line across the harbour from Hung Hom to Admiralty;
   (iii) construction, along the railway lines described in (i) and (ii) above, of the new railway stations and new railway facilities at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Hung Hom and the Hong Kong Convention and Exhibition Centre;
   (iv) construction of ancillary works and modification of existing railway facilities to meet the construction and

operational needs of the SCL; and

(b) Procurement of rolling stock, railway systems, and operation and maintenance facilities.

6. The scope of **62TR** is as follows –

(a) Construction of the essential public infrastructure works, including –
   (i) Tsz Wan Shan elevated pedestrian walkway system;
   (ii) covered walkway between To Kwa Wan Station and Kai Tak Development Area;

(b) Construction of reprovisioning, remedial and improvement works, including –
   (i) road facilities;
   (ii) government facilities, which comprises recreational/ sports facilities, sitting-out facilities, conservation works, etc; and

(c) Construction of the enabling works.

7. The SCL will pass through a number of districts in the urban area. The construction of railway stations and railway tunnel will be carried out in densely populated old districts. Coupled with the need to ensure that the operation of those existing railway lines, to which the SCL will be connected, will not be affected during the construction of the SCL, the proposed works are very complicated. We anticipate that the Tai Wai to Hung Hom section would be completed by 2018. In view of the interface with other major infrastructure projects such as the Wanchai Development Phase II and Central-Wanchai Bypass, as well as the underwater tunneling works, we anticipate that the Hung Hom to Admiralty section would be completed by 2020.

Construction Cost

8. In February 2011 when we sought Finance Committee's funding approval for the SCL advance works (including the construction of Ho Man Tin Station and Admiralty Station), we indicated in the submitted paper that the

construction cost of the SCL project would exceed $60 billion (in September 2009 prices).

9. After careful cost control through extensive efforts to strive for enhancement and optimization of design, the funds now we apply for the railway works and non-railway works are approximately $52.4 billion and $4.9 billion (both in September 2011 prices) respectively. Taking into account the funding approvals already granted by the Finance Committee in 2010 and 2011 for the various protection works and advance works items, the overall construction cost for the SCL project is about $64.9 billion (in September 2011 prices).

Enclosure A
Enclosure B

10. The respective funding application papers (draft) for **61TR** and **62TR** (at **Enclosure A** and **Enclosure B** respectively) provide in detail the project scopes, cost breakdowns and reasons for increase in construction cost.

11. The independent consultant has studied carefully the detailed design of the SCL, and investigated the latest trend of construction cost and scale of the proposed works. Having completed the assessment, the independent consultant considered that the current construction cost estimate is reasonable.

Way Forward

12. We plan to consult the Public Works Subcommittee in April 2012 about the SCL railway and non-railway main works. We will seek funding approval from the Finance Committee in May 2012.

Advice Sought

13. Members are invited to note the content of this paper.

Transport and Housing Bureau
March 2012

[DRAFT]

For discussion
on 18 April 2012

PWSC(2012-13)XX

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS
Transport – Railways
61TR – Shatin to Central Link – construction of railway works – remaining works

Members are invited to recommend to the Finance Committee the upgrading of the remainder of **61TR** to Category A at an estimated cost of $65,433.3 million in money-of-the-day prices for carrying out the remaining railway works of the Shatin to Central Link.

PROBLEM

We need to implement the remaining railway works of the Shatin to Central Link (SCL).

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade the remainder of **61TR** to Category A at an estimated cost of $65,433.3 million in money-of-the-day (MOD) prices for carrying out the remaining railway works of the SCL.

PROJECT SCOPE AND NATURE

3. The SCL, with a total length of 17 kilometres (km), consists of the following two sections –

(a) Tai Wai to Hung Hom section: this is an extension of the Ma On Shan Line from Tai Wai via Southeast Kowloon to Hung Hom where it will join the West Rail Line; and

(b) Hung Hom to Admiralty section: this is an extension of the East Rail Line from Hung Hom across the Victoria Harbour to Wan Chai North and Admiralty.

4. The SCL will have ten stations. Apart from improvements to the existing Tai Wai Station, construction of new stations at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Ho Man Tin, Hung Hom, the Hong Kong Convention and Exhibition Centre (the Exhibition) and Admiralty will be carried out. Construction of the Ho Man Tin Station and Admiralty Station were included in the advance works items of the SCL project and funding were approved by the Finance Committee (FC) in February 2011. These advance works are being implemented in conjunction with the Kwun Tong Line Extension (KTE) and South Island Line (East) (SIL(E)) projects respectively. A plan showing the proposed alignment of the SCL is at **Enclosure 1**.

5. The scope of **61TR** comprises –

(a) construction of the SCL's main body of railway works, which includes –

(i) an 11 km railway line extending the Ma On Shan Line from the existing Tai Wai Station to Hung Hom where it will join the West Rail Line;

(ii) a 6 km railway line extending the East Rail Line from Hung Hom across the Victoria Harbour to Admiralty;

(iii) new stations, along the two railway lines described in (i) and (ii) above, at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Hung Hom and the Exhibition (the layout plans and cross-sections of the seven new stations are shown in **Enclosure 2**);

(iv) associated railway facilities at the new stations in (iii) above including station concourses, passenger waiting areas, platforms, etc.;

(v) stabling sidings including modification of the existing Hung Hom freight yard which has ceased operation to provide stabling sidings and associated approach tracks (the layout plan of the proposed stabling sidings is shown in **Enclosure 3**) and additional siding tracks at the Pat Heung depot ;

(vi) bifurcation from the existing East Rail Line from Ho Man Tin to Hung Hom to form an underground section, to match with the vertical alignment of the SCL harbour-crossing section (the proposed alignment and cross-section of the bifurcation are shown in **Enclosure 4**);

(vii) associated ventilation facilities and emergency accesses for the railway tunnels;

(viii) building services works;

(ix) ancillary construction works (details of the relevant items are given in **Enclosure 5**);

(x) modification of existing railway facilities to cater for the operation of the SCL (details of the relevant items are given in **Enclosure 6**); and

(b) procurement of rolling stock, railway systems, as well as operation and maintenance equipment (details of the relevant items are shown in **Enclosure 7**).

6. We have substantially completed the detailed design of the railway works. Subject to the funding approval of the FC, we expect that the proposed railway works will commence in mid-2012 to enable completion of the Tai Wai to Hung Hom section in 2018 and the Hung Hom to Admiralty section in 2020. We will separately submit funding application for the construction of the remaining non-railway works (PWSC(2012-13)xx).

JUSTIFICATION

Strategic Railway

7. The 17 km SCL is a territory-wide strategic railway project with ten stations. The SCL will be linked with a number of existing rail lines, forming two strategic railway corridors, namely the "East West Corridor" and the "North South Corridor".

(a) The "East West Corridor" connects Tai Wai Station of the Ma On Shan Line with Hung Hom Station of the West Rail Line. Passengers may travel directly from Wu Kai Sha Station to East Kowloon, Hung Hom, West New Territories and Tuen Mun without interchanging, providing a more direct and convenient railway service for passengers commuting between East New Territories and West New Territories.

(b) The "North South Corridor" extends the East Rail Line from Hung Hom Station across the Victoria Harbour to Admiralty Station. Passengers from Lo Wu (using the East Rail Line) and Huanggang (using the Lok Ma Chau Spur Line) may reach the heart of Hong Kong Island directly.

The alignments of the two corridors are at **Enclosure 8**.

8. Of the ten stations along the SCL, six will be interchange stations linking to a number of existing and future railway lines and bringing further enhancements to the railway service in Hong Kong. The six interchange stations are –

(a) Tai Wai Station – interchange station for the "East West Corridor" and "North South Corridor";
(b) Diamond Hill Station – interchange station for the Kwun Tong Line and SCL;
(c) Ho Man Tin Station – interchange station for the KTE and SCL;
(d) Hung Hom Station – interchange station for the "East West Corridor" and "North South Corridor";
(e) Exhibition Station – interchange station for the SCL and the future North Island Line; and
(f) Admiralty Station – interchange station for the SCL, Tsuen Wan Line, Island Line and SIL(E).

9. Upon completion, the SCL will expand the coverage of the railway network in Hong Kong and serve a wide catchment of 380 000 residential and 260 000 employment population. The SCL will –

(a) reduce significantly the journey time for passengers commuting among East Kowloon, East New Territories and Hong Kong Island;

(b) provide railway service for various districts currently not provided with railway network connection, such as Hin Keng, Kai Tak, To Kwa Wan and Ma Tau Wai, and increase the capacity of the railway section from Shatin to Kowloon and that across the Harbour to help facilitate railway passenger flow and relieve the existing burden on the rail lines in urban Kowloon and the Hong Kong side;

(c) reduce the reliance on road-based public transport in existing developed areas, and alleviate the traffic congestion and environmental nuisance on existing road networks, including the demand on the Hung Hom Cross Harbour Tunnel;

(d) become an important component of the Kai Tak Development by providing public transport service not only to the proposed new commercial and residential developments in the area, but also to the government facilities at Kai Tak; and

(e) stimulate the rejuvenation of To Kwa Wan and Kowloon City.

Project Benefits

10. According to the Government's estimation of the future population and employment situation in Hong Kong, the SCL will carry about 1.1 million passengers per day in 2021. During the 50 years of operation of the SCL, the average travelling time saving will reach 75 million hours per year, and the direct economic benefits generated in 2021 in terms of time saving to passengers will reach $4.4 billion. Direct economic benefits are mainly about benefits to passengers in terms of travelling time saving, without accounting for other indirect economic or environmental benefits, etc. Based on the direct economic benefits generated from the SCL alone, we estimate that the economic internal rate of return (EIRR) of the SCL project is 6%. For other railway projects that have been recently implemented, namely the KTE, SIL(E), Hong Kong section of the Guangzhou-Shenzhen-Hong Kong

Express Rail Link (XRL) and West Island Line, their EIRRs are 7%, 6%, 6% and 5% respectively. The operation of the SCL is thus considered financially viable.

11. In March 2008, the Executive Council decided to adopt the service concession approach to finance the SCL project. We have briefed Members on this financing approach[1] at a number of Legislative Council (LegCo) meetings. Under the service concession approach, the Government will fund the construction of the SCL and its ancillary infrastructure under the public works programme, and ultimately owns the railway. The MTRCL will be granted a service concession for the operation of the SCL upon the completion of its construction. The MTRCL will pay service concession payment accordingly, which is dependent on the fare prices, actual patronage and non-fare revenues after the SCL has come into operation. Based on the current assessment, the total service concession payment will amount to about $88 billion (in MOD prices) over the service concession period (50 years) of the SCL. Upon the end, expiry or termination of the service concession period, the MTRCL will have to return the operating railway to the Government. The residual value of the railway should be quite substantial.

CONSTRUCTION COST

12. In March 2008, based on the merger proposal jointly submitted by the MTRCL and the Kowloon-Canton Railway Corporation in 2005, we estimated that the total project cost of the SCL (including railway and non-railway works) would be $38.17 billion in April 2007 prices. At that time, the SCL project was at a conceptual stage, with the design and site investigation yet to commence, and no pre-feasibility study had been conducted. Therefore, the estimated cost was only a crude preliminary estimate.

13. When we sought funding approval from the FC for the advance works of the SCL (including the construction of the Ho Man Tin Station and Admiralty Station) in February 2011, we estimated in the paper submitted to the FC that the construction cost of the SCL would be over $60 billion (in September 2009 prices). Following the substantial completion of the detailed design of the SCL by the MTRCL, we appointed an independent consultant (IC) to scrutinize the estimated construction cost of the SCL based on the detailed design to ensure that it was a reasonable estimation. The IC has now completed the independent assessment. After careful cost control, including the effort to strive for enhancing and streamlining the railway design at the design stage, the funding we now apply for the construction of the main body of the railway works is about $52.4 billion (in September 2011 prices) and that for the construction of the non-railway works via PWSC(2012-13)xx is about $4.9 billion (in September 2011 prices). Taking into account the various protection and advance works items, the funding of which were approved by the FC

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[1] In 2008 when it reported to the Subcommittee on Matters Relating to Railways on the delivery of the SCL project, the Administration explained in detail the considerations for adopting the concession approach for implementing the project. In January 2011, upon the request of the Subcommittee, the Administration submitted a paper to explain again the considerations for adopting the concession approach as the financing means.

in 2010 and 2011, the total construction cost of the entire SCL project is estimated to be about $64.9 billion[2] (in September 2011 prices). A breakdown is shown in **Table 1** below –

Table 1 – Estimated construction cost for the entire SCL project

	Description	Estimate ($ million) (in Sep 2011 prices)	Estimate ($ million) (in MOD prices)
(1)	Protection works with funding already approved[3]	640	695
(2)	Advance works with funding already approved[3] - **63TR** Construction of railway works – advance works - **64TR** Construction of non-railway works – advance works	6,969	7,703
(3)	**61TR** Construction of railway works – main works (funding application via this paper)	52,396	65,433
(4)	**62TR** Construction of non-railway works – main works (separate funding application via PWSC(2012-13)xx)	4,904	5,983
	Total construction cost	64,909	79,814

As compared with the crude estimate for the SCL in April 2007 prices, the reasons for the increase in construction cost are as follows –

(a) Construction prices surged rapidly over the preceding period of more than four years. The construction cost of the SCL is no exception. The latest estimate on the construction cost of the SCL reflects an overall escalation of the project cost of some 47% (around $17.9 billion) between 2007 and 2011, a magnitude in line with the increase of over 50% for general construction works over the same period.

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[2] In May 2008, we obtained separately FC's funding approval at a sum of $2,407.5 million (in MOD prices) for the design and site investigation works for the project.

[3] Between June 2010 and June 2011, the FC approved the following estimated costs at the respective price level –
Protection works
(a) The estimated cost of **59TR** at the sum of $146.1 million in September 2009 prices;
(b) The estimated cost of **58TR** at the sum of $478.5 million in September 2010 prices;
Advance works
(c) The estimated cost of **63TR** at the sum of $5,517.9 million in September 2010 prices; and
(d) The estimated cost of **64TR** at the sum of $1,305.8 million in September 2010 prices.

(b) When the funding application for the advance works of the SCL was submitted in February 2011, we estimated an increase of $5 billion for incorporating suggestions and requests put forward by stakeholders. Having further considered the needs of the public, the construction cost is revised upwards to reach $5.2 billion for acceding to stakeholders' suggestions and requests. The relevant details are at **Enclosure 9**.

(c) When the funding application for the advance works of the SCL was submitted in February 2011, we estimated an increase of $7 billion for the design changes in response to the actual circumstances and technical requirements. With stringent cost control and design enhancement and after a detailed assessment of the data obtained from field survey and ground investigation, we have reduced the additional cost incurred by the design changes for meeting the technical requirements to $3.6 billion. The relevant details are at **Enclosure 9**.

14. The IC has studied carefully the detailed design of the SCL and reviewed the works items and the cost accordingly. The IC has also checked the latest construction price trends and scope of the proposed works. Subsequent to the review, the IC considers the current estimated construction cost reasonable. Under the established project entrustment arrangement, the Government will pay for the actual cost of the construction works based on the prices established from appropriate tendering processes. During the construction period, the Government will engage an independent engineering consultant to scrutinise the works undertaken by the MTRCL, including the expenditure on individual items, so as to closely monitor the payment procedures.

WORKS TO BE ENTRUSTED TO THE MTRCL

15. Under the concession approach, the SCL project will be funded by the Government. We plan to entrust the construction works, and testing and commissioning of the proposed railway (including all civil works, building works, building services, fire safety, railway electrical and mechanical system, track works and procurement of rolling stock, equipment and systems) under **61TR** to the MTRCL. To ensure smooth interface of works and facilitate works arrangement for concurrent implementation at the same sites, we will also entrust the construction of the non-railway works of the SCL under **62TR** (funding application via PWSC(2012-13)xx) to the MTRCL. As mentioned in paragraph 14 above, the Government will, in accordance with established project entrustment arrangement, pay for the actual cost of the construction works based on the prices established from appropriate tendering processes. The MTRCL, as the entrustee, will charge an on-cost as its project management cost[4] for the services it has provided for the management and supervision of the project.

16. Regarding the funding applications for the advance works of the SCL under item (2) in Table 1 above (namely **63TR** and **64TR**), the project management cost is assumed to be 16.5% of the construction cost. As pointed out in the funding applications for **63TR** and **64TR** (via PWSC(2010-11)34 and PWSC(2010-11)35), the estimate for project management

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[4] The project management cost is payable to the MTRCL for undertaking technical studies, design implementation, construction supervision and contract management during construction.

cost represents only a provisional figure. A specific funding proposal for the project management cost of the SCL can only be prepared after the IC has come up with a concrete estimate for the construction cost and project management cost based on the detailed design of the SCL. By then, we may adjust the provisional management cost for the advance works concerned in the funding applications for the SCL main works.

17. According to the completed detailed design of the SCL, the IC has conducted an in-depth study of the nature, scope, complexity and duration of the construction works of the project and assessed accordingly the risk management approach, technical requirements as well as professionals and manpower resources of the MTRCL necessary for the supervision and management of the entire project. The IC has also made reference to the relevant information of other railway projects to perform a detailed analysis and assessment on the project management cost for the SCL. After a comprehensive assessment by the IC, the project management cost for the entire SCL project (including the advance works and the main works) is adjusted downwards from the provisional assumption of 16.5% as depicted in paragraph 16 above to 10.5% of the total construction cost estimate including contingencies for all the works entrusted to the MTRCL. The sum concerned is estimated to be $6,097.2 million (in September 2011 prices), which includes the sum already approved by the FC for the advance works under **63TR** and **64TR** as per item (2) in Table 1 above as well as the sum for the main works under item (3) and item (4) in Table 1 above of which the funding approval is being sought[5]. Such sum comprises $5,478.6 million (in September 2011 prices) for the railway works and $618.6 million (in September 2011 prices) for the non-railway works. The IC estimates that the project management cost actually required for **61TR** will be $4,984.5 million (in September 2011 prices). After deducting the relevant part of the project management cost earmarked for the advance railway works of the SCL under **63TR**, the funding applied via this paper for the project management cost becomes $4,755 million (in September 2011 prices). Under the same arrangement, the project management cost actually required for the non-railway works under **62TR** (via PWSC(2012-13xx) is $466.5 million (in September 2011 prices). After deducting the project management cost earmarked for the advance non-railway works of the SCL under **64TR**, the project management cost being sought via PWSC(2012-13)xx becomes $445 million (in September 2011 prices). For other recent railway projects including the KTE, SIL(E), Hong Kong Section of the XRL and West Island Line, their rates of the project management costs range from 7.4% to 12.4%. Comparing against these projects, the SCL is a 17 km railway line with ten stations. The scale of project is very substantial. In terms of construction, the SCL will build stations and railway tunnel in densely populated old districts. Coupled with the need to connect to a number of existing railway lines, operation of which must not be compromised during construction, the SCL works are very complicated. Furthermore, construction of the SCL will involve closure of a number of main roads, as well as tens of reprovisioning and improvement items for the facilities affected by the works. The project management and supervision work under the SCL project is therefore more complicated in comparison with that of the other railway projects mentioned above. As such, the IC considers the rate of 10.5% for the SCL reasonable.

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[5] The protection works under item (1) in Table 1 have been separately undertaken by the Civil Engineering and Development Department and the Highways Department. No project management cost is payable to the MTRCL for such works. Separately, the project management cost for the design and site investigation works is $341 million.

FINANCIAL IMPLICATIONS

18. We estimate that the cost of **61TR** is $65,433.3 million in MOD prices, broken down as follows –

					$ million
(a)	Construction of railway works				38,843.6
	(I)	Civil works		26,099.6	
		1. New stations	10,434.4		
		— Hin Keng	562.9		
		— Diamond Hill	1,402.0		
		— Kai Tak	699.5		
		— To Kwa Wan	1,699.5		
		— Ma Tau Wai	1,786.6		
		— Hung Hom	2,731.9		
		— Exhibition	1,552.0		
		2. Tunnels	14,249.0		
		— Underground tunnel	10,335.1		
		— Cross-harbour tunnel	2,859.1		
		— Tunnel-related structures	1,054.8		
		3. Stabling sidings	1,416.2		
		— structural works	1,274.8		
		— track works	141.4		
	(II)	Building works		1,421.0	
	(III)	Building services works		2,209.0	
	(IV)	Railway E&M works		5,246.2	
	(V)	Rolling stock		3,867.8	
(b)	Modifications of existing railway facilities				3,851.2
	(I)	Civil works		1,572.3	
	(II)	Building works		405.5	

			$ million	
	(III) Building services works	252.4		
	(IV) Railway E&M works	1,621.0		
(c)	Project management cost payable to MTRCL for planning, management and supervision of the project		4,755.0[6]	
(d)	Fees for independent consultants appointed by the Government for monitoring and vetting MTRCL's work including cost of the project		182.9	
(e)	Contingencies		4,763.3	
		Sub-total	52,396.0	(in September 2011 prices)
(f)	Provision for price adjustment		13,037.3	
		Total	65,433.3	(in MOD prices)

19. In respect of the items described in paragraph 18(a) above, the estimated cost is $38,843.6 million (in September 2011 prices), covering a 17-km-long rail line, seven new railway stations and stabling sidings. The rail line is mainly composed of railway tunnels, of which about 2 km in length are submerged railway tunnel. The cost will cover tunnel boring, laying of submerged tunnel, construction of ventilation facilities, foundation works, structural works for stations, building works, building services works, track works, railway E&M works, related ancillary and support works, etc. The cost will also cover the procurement of rolling stock for use on the SCL.

20. In respect of the items described in paragraph 18(b) above, the estimated cost of $3,851.2 million (in September 2011 prices) is used for modifying existing railway facilities to cater for the construction and operation of the SCL. They include station platforms on the East Rail Line and Ma On Shan Line; control and communication systems at operations control centres and stations on the East Rail Line, Ma On Shan Line and West Rail Line;

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[6] The IC estimates that the project management cost actually required for **61TR** will be $4,984.5 million (in September 2011 prices). After deducting the relevant part of the project management cost earmarked for the advance railway works of the SCL under **63TR**, the funding applied via this paper for the project management cost becomes $4,755 million (in September 2011 prices).

existing signalling system of West Rail Line and Ma On Shan Line, Pat Heung Depot, Ho Tung Lau Depot, Lo Wu Marshalling Yard, Mong Kok Freight Terminal, Homantin siding and Hung Hom North track area to facilitate the setting up of railway facilities; existing tracks at Tai Wai and Hung Hom for connecting to the proposed railway sections; existing ticketing system and passenger information system, etc.

21. In respect of the item described in paragraph 18(c) above, the estimated cost of $4,755 million (in September 2011 prices) is used for settling the project management cost. Please refer to paragraphs 16 to 17 above for details.

22. In respect of the item described in paragraph 18(d) above, the estimated cost of $182.9 million (in September 2011 prices) is used for engaging an independent engineering consultant to scrutinise the works conducted by the MTRCL during the construction stage of the project.

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

Year	$ million (Sep 2011)	Price adjustment factor	$ million (MOD)
2012-2013	2,203.0	1.05325	2,320.3
2013-2014	9,029.1	1.11118	10,033.0
2014-2015	10,187.5	1.17229	11,942.7
2015-2016	10,503.7	1.23677	12,990.7
2016-2017	8,333.0	1.30479	10,872.8
2017-2018	7,188.8	1.37656	9,895.8
2018-2019	3,064.7	1.45227	4,450.8
2019-2020	1,469.9	1.53214	2,252.1
2020-2021	391.3	1.61641	632.5
2021-2022	25.0	1.70531	42.6
	52,396.0		65,433.3

24. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2012 to 2022. The MTRCL will, where appropriate, include the provision for price adjustment, when inviting tenders for the proposed works. We will engage a consultant to undertake the service described in paragraph 22 above on a lump sum basis with the provision for price adjustment.

25. We estimate that the remaining railway works will incur an additional annual recurrent expenditure of $52.46 million.

PUBLIC CONSULTATION

26. Since mid-2008, the Government and the MTRCL have conducted extensive public consultation on the SCL scheme. We consulted 11 district councils along the proposed railway alignment at more than 40 meetings by introducing the SCL project, reporting on the project progress and seeking their views on the railway scheme. We also made use of various channels, such as web pages, brochures, leaflets, digests and newsletters, to provide comprehensive information for the public. Community consultation activities, including site visits, roving exhibitions, public forums and school talks, were held to brief community groups and residents on the SCL scheme and collect their opinions that could help further improve the scheme.

27. The statutory consultation stage of the SCL project commenced when its railway scheme was gazetted on 26 November 2010 under the Railways Ordinance. During the statutory consultation period, we continued to collect valuable opinions from community stakeholders and residents, brief relevant stakeholders on the gazette content and amendments, and handle objections lodged by the public according to the statutory procedures. During the objection period, we received a total of 92 objection cases, which were mainly concerned with the overall planning of the SCL project; railway alignment; arrangements and locations of stations, entrances, pedestrian linkage facilities, ventilation facilities and stabling sidings; environmental impact; traffic and transport impact; impact on the existing buildings and structures; use of explosives; setting up of temporary works areas and works sites on Government land and facilities; resumption of underground strata; railway protection zone; and reprovisioning of public facilities and public areas.

28. Taking into consideration public concerns and views, we proceeded with two stages of scheme amendments gazetted on 15 July and 11 November 2011 respectively. The major amendments are shown as follows –

<u>First stage scheme amendments (15 July 2011)</u>

(a) to amend the proposed tunnel works near Harcourt Road; and
(b) to amend the temporary works area in Sha Tin.

<u>Second stage scheme amendments (11 November 2011)</u>

(a) to cancel the proposed stabling sidings in Diamond Hill;
(b) to amend the alignment of the railway tunnel to reduce resumption of underground strata of buildings;
(c) to amend the layout of the proposed pedestrian facilities in Tsz Wan Shan;
(d) to cancel the proposed temporary concrete batching plant in Kai Tak;
(e) to add emergency accesses between the proposed Kai Tak Station and To Kwa Wan Station;
(f) to modify the existing freight yard in Hung Hom and the associated facilities for the SCL operation and stabling of trains; and
(g) to construct noise barriers to the north of the existing Hung Hom freight yard.

29. Subsequent to our detailed explanations, responses to public concerns and two rounds of amendments to the railway scheme, 12 objectors have withdrawn their objections[7] to the SCL scheme. No new objection case was received during the two stages of scheme amendments. This indicates that the amendments have responded to the aspirations of the public. As regards those objections not withdrawn, a total of 12 panel hearings were held in accordance with the administrative procedures between December 2011 and February 2012 to allow the objectors who had not withdrawn their objections to reflect their concerns and opinions to the hearing panel which was formed by non-official, independent members. The hearing panel was satisfied with the fair, open and highly transparent manner by which the Government handled the objection cases. The hearing panel also agreed that the objectors had been given ample opportunities to express their opinions, and that the Government, in response to the objectors' views, had reasonably reviewed the railway scheme and explained to the objectors why their opinions were not accepted.

30. We consulted the Subcommittee on Matters Relating to Railways under the Panel on Transport of the LegCo (the Subcommittee) on 27 March 2008, 31 March 2009, 4 November and 6 December 2010, 7 January 2011 and 6 May 2011 respectively.

31. We updated the Subcommittee on the progress of the railway scheme and consulted it on the funding proposal of the SCL project on 2 and 23 March 2012 respectively. [Views and responses of the Subcommittee]

ENVIRONMENTAL IMPLICATIONS

32. The SCL project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499), and Environmental Permits (EPs) are required for the construction and operation of the project. On 17 February 2012, the Director of Environmental Protection (DEP) approved the four Environmental Impact Assessment (EIA) Reports for the SCL project, which concluded that the environmental impacts of the proposed works under the SCL project could be controlled to within the criteria under the EIAO and the Technical Memorandum on EIA Process. Under the SCL project, the MTRCL will implement the environmental mitigation measures and environmental monitoring and audit (EM&A) programme recommended in the approved EIA Reports, and comply with relevant conditions under the EPs and other statutory requirements for environmental protection. The mitigation measures recommended for the construction phase mainly include the adoption of quieter equipment, movable noise barriers and noise insulating fabric to minimise construction noise impact; regular water spraying for dust control; and control of dredging and filling rates for marine construction with deployment of silt curtains to minimise water quality impact. For the operation phase, the mitigation measures include the construction of noise enclosures or barriers in Tai Wai, Ho Man Tin and Hung Hom; and tree planting and landscaping along the alignment of the SCL. We have included the cost,

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[7] Under the Railways Ordinance, objections unconditionally withdrawn will be deemed to have never been submitted by the objectors. Objections not withdrawn or conditionally withdrawn will be deemed to be objections unresolved and they will subsequently be submitted to the Chief Executive in Council for consideration.

amounting to $750 million (in September 2011 prices), of implementing the related environmental mitigation measures and EM&A programme in the overall project estimate.

33. As regards the modification or ancillary works for other railway facilities to cater for the operation of the SCL, the MTRCL will conduct the works in accordance with the requirements of the EIAO and other relevant anti-pollution legislation. Though the remaining works, the scale of which are relatively smaller, should not have significant impacts on the environment, the MTRCL will implement necessary measures during the works period to minimise any possible impact.

34. The MTRCL has considered measures in the planning and design stages to reduce the generation of construction waste where possible. Such measures include the use of bored/mined tunnelling method to reduce the amount of excavation works; reduction of the size and number of offline plant rooms; and minimisation of the overall size of the plant buildings and tunnel section through effective structural scheming for plant building and tunnel layout. In addition, the MTRCL will require contractors to reuse inert construction waste (e.g. excavated rock and soil materials) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities[8]. The MTRCL will encourage contractors to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

35. The MTRCL will also require contractors to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. The MTRCL will ensure that day-to-day operations on site comply with the approved plan. The MTRCL will require contractors to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The MTRCL will control the delivery of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

36. The MTRCL estimates that the main SCL railway works will generate in total about 11 726 800 tonnes of construction waste. Of these, the MTRCL will reuse about 2 729 500 tonnes (23.3%) of inert construction waste on site and 6 722 700 tonnes (57.3%) of inert construction waste on other construction sites, and deliver 2 038 200 tonnes (17.4%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, the MTRCL will dispose of 236 400 tonnes (2.0%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfills is estimated to be $84.6 million for the project (based on a unit cost of $27 per tonne for disposal at public fill reception facilities and $125 per tonne at landfills[9]).

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[8] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

[9] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90 per m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

37. The MTRCL estimates that the project will generate about 2 430 000 tonnes of marine mud. The MTRCL will dispose of the dredged marine mud at respective designated disposal sites to be allocated by the Marine Fill Committee.

ENERGY SAVING MEASURES

38. The various energy-saving measures to be adopted for the SCL include –

(a) High-efficiency lighting system
A high-efficiency lighting system will be adopted in all new stations. The station lighting control system will also be improved to achieve energy saving with the aim of further reducing energy consumption.

(b) High-efficiency air-conditioning system
A fresh water-cooled type air-conditioning system, in place of the air-cooled type, will be installed in all possible areas of new stations to save air-conditioning energy consumption.

(c) Utilisation of regenerated energy
To achieve the objective of utilisation of regenerated energy, devices will be installed in the lifts and escalators of new stations to utilise energy regenerated by the downward movements of lifts and escalators.

(d) Regenerative braking systems for trains
The braking of trains will convert their kinetic energy into electricity for use by other trains within the network.

(e) Use of natural light
Natural light will be used in new stations wherever possible as a green design.

HERITAGE IMPLICATIONS

39. The MTRCL has carried out the cultural heritage impact assessment for the SCL project in accordance with the EIAO. The report is included in the approved EIA report.

40. The MTRCL will assign a qualified archeologist to conduct further archaeological investigation at the ex-Tai Hom Village and To Kwa Wan Station in accordance with the recommendation of the EIA report. To conserve the remnants of the former Kowloon City Pier, the tunnel section beneath this works site will be constructed by underground excavation method. We understand the public's aspiration for the preservation of the historical structures. As regards the two historical structures located within the site of the proposed Diamond Hill Station, namely the Old Pillbox (declared as Grade 2) and the Royal

Airforce Hangar (declared as Grade 3), the MTRCL will submit a detailed conservation scheme of these historical structures during construction stage.

LAND ACQUISITION

41. About 1.8 hectares of underground strata of land will be resumed for the construction of the entire SCL project. We will also create rights of temporary occupation for about 0.9 hectares of land as well as easement and other permanent rights for about six square metres of air space. About 276 hectares of government land in the New Territories, Kowloon and Hong Kong Island will be affected. No private building is required to be resumed under the relevant legislation.

42. We have reviewed the design of the project to minimise land acquisition and clearance cost. The compensation cost for land acquisition and clearance for the SCL project is estimated to be around $9 million. Funds will be made available under **Head 701** – Land Acquisition of the Capital Works Reserve Fund. A breakdown of the land acquisition and clearance costs is at **Enclosure 10**.

BACKGROUND INFORMATION

43. In March 2008, the Executive Council decided to adopt the service concession approach to finance the SCL project. Under the service concession approach, the Government will provide for the railway facilities of the new railway projects. The MTRCL will be granted service concession to operate the new facilities. We upgraded **51TR "**Shatin to Central Link – design and site investigation" to Category A at an estimated cost of $2,407.5 million in MOD prices in May 2008 and commenced the preliminary design in November 2008.

44. We upgraded **58TR** to Category B in October 2009 and then part of **58TR** to Category A in July 2010 as **59TR** "Shatin to Central Link – construction of railway works – protection works in Wan Chai Development Phase II" at an estimated construction cost of $152.6 million in MOD prices for the protection works of the SCL tunnel in Wan Chai Development Phase II. The funding application was approved on 2 July 2010 and the works started in August 2010.

45. We upgraded **61TR** to Category B in September 2010 and then part of **61TR** to Category A in February 2011 as **63TR** "Shatin to Central Link – construction of railway works – advance works" at an estimated construction cost of $6,254.9 million in MOD prices for the expansion of part of Admiralty Station and Ho Man Tin Station to accommodate the SCL railway facilities. The funding application was approved on 18 February 2011 and the works started in May 2011.

46. We upgraded **62TR** to Category B in September 2010 and then part of **62TR** to Category A in February 2011 as **64TR** "Shatin to Central Link – construction of non-railway

works – advance works" at an estimated construction cost of $1,448.2 million in MOD prices for the reprovisioning of the International Mail Centre in Hung Hom and reconstruction of the Harcourt Garden and Hong Kong Park. The funding application was approved on 18 February 2011 and the works started in May 2011.

47. We upgraded **58TR** "Shatin to Central Link – construction of railway works – protection works" to Category A in June 2011 at an estimated construction cost of $541.6 million in MOD prices for the protection works of the SCL tunnel in Causeway Bay Typhoon Shelter. The funding application was approved on 24 June 2011 and the works started in September 2011.

48. Of the 6 670 trees within the project boundary, 3 537 trees will be felled and 2 475 trees will be preserved. To carry out the proposed works, 658 trees will be transplanted elsewhere or within the works area of the project. All the said trees are not important trees[10]. We will incorporate planting proposals as part of the project, including no less that 3 618 new trees to be planted and around 3.3 hectares of grassed area to be provided.

49. The MTRCL estimates that the construction of the SCL will create about 13 620 jobs (including 11 160 for labourers and another 2 460 for professional/technical staff), providing a total employment of 475 100 man-months.

Transport and Housing Bureau
April 2012

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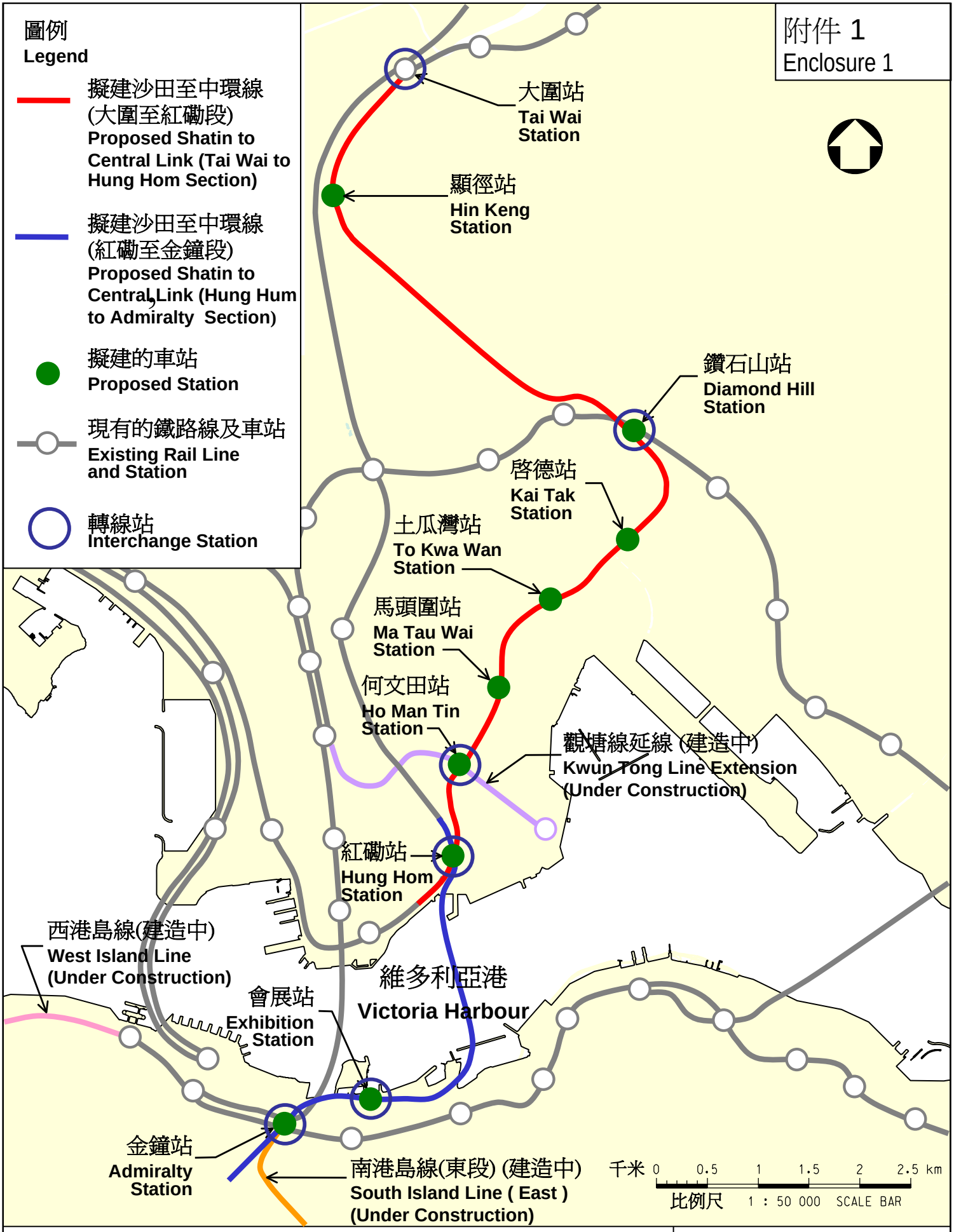
[10] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –
(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument and trees in memory of important persons or events;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree size, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.



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擬建沙田至中環線的走線

PWP Item No. 61TR – Shatin to Central Link – Construction of Railway Works - Remaining Works
Proposed Alignment of the Shatin to Central Link

圖號 drawing no.
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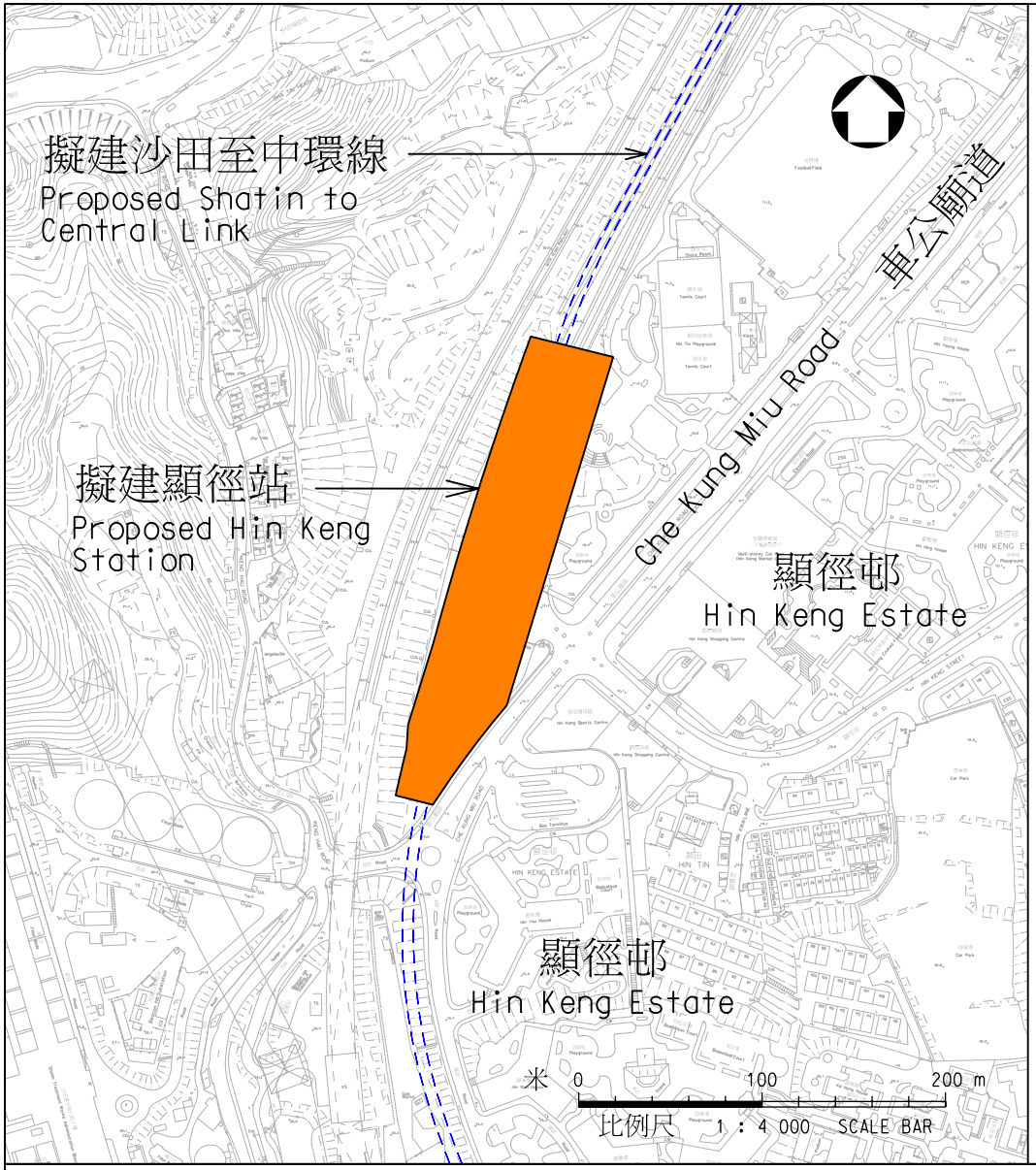

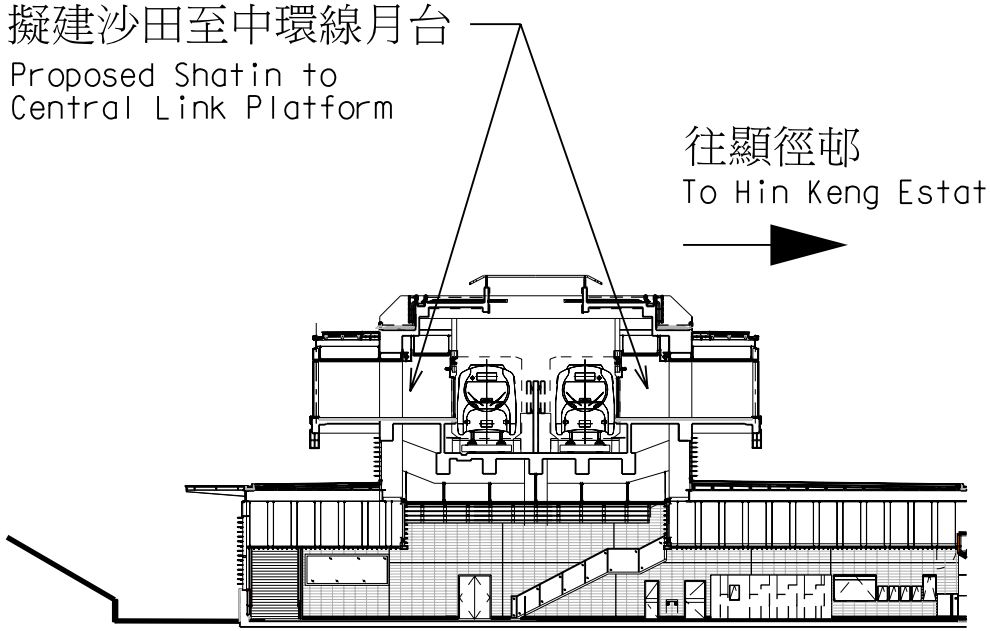

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Typical Section
(不按比例 N.T.S.)

圖則名稱 drawing title

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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建顯徑站
Proposed Hin Keng Station

圖號 drawing no.
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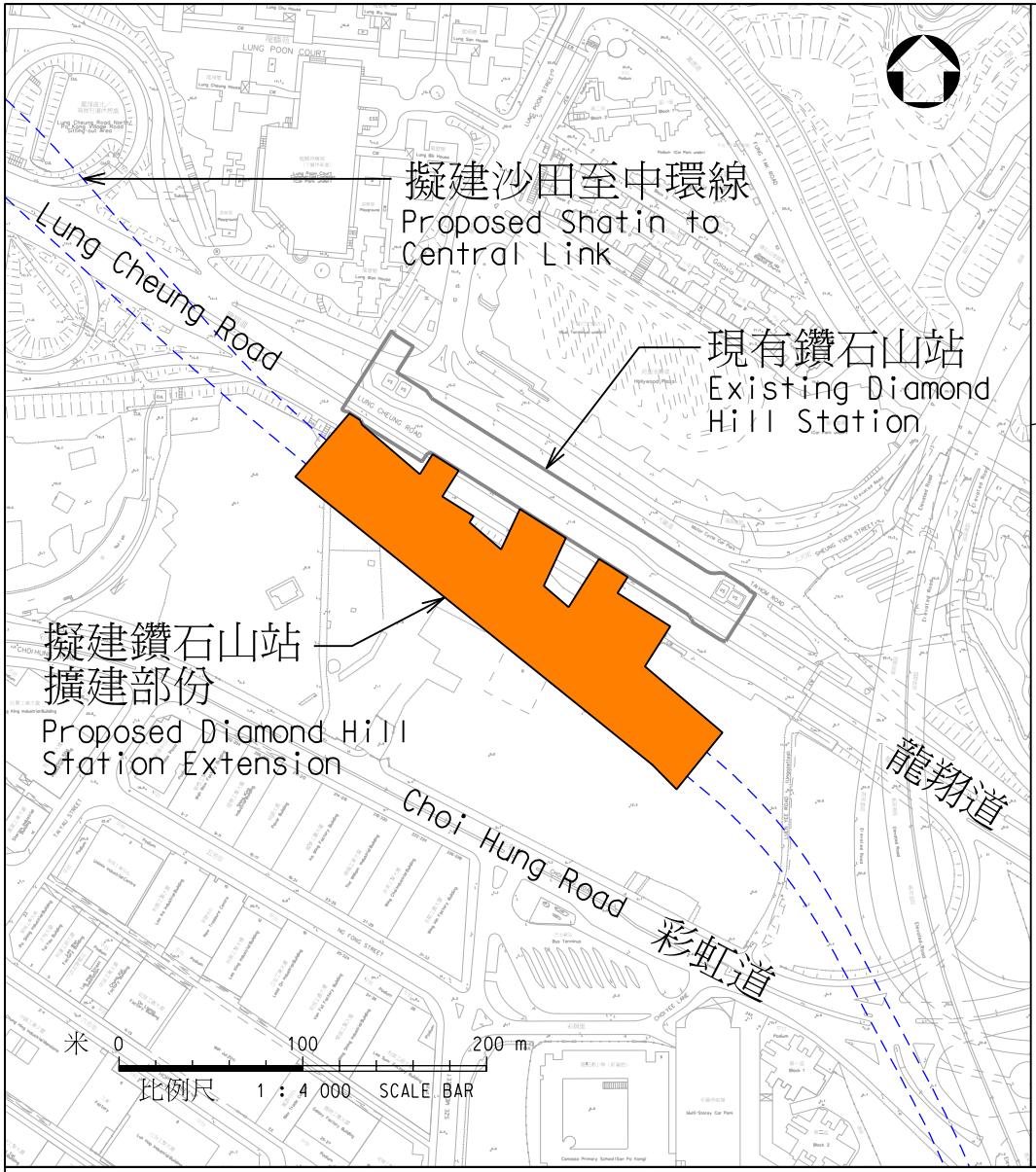

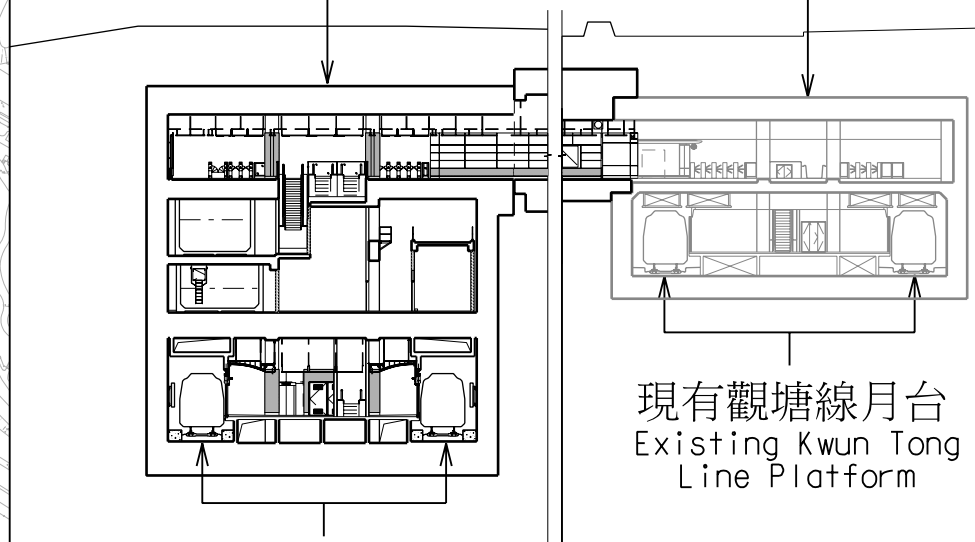

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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建鑽石山站
Proposed Diamond Hill Station

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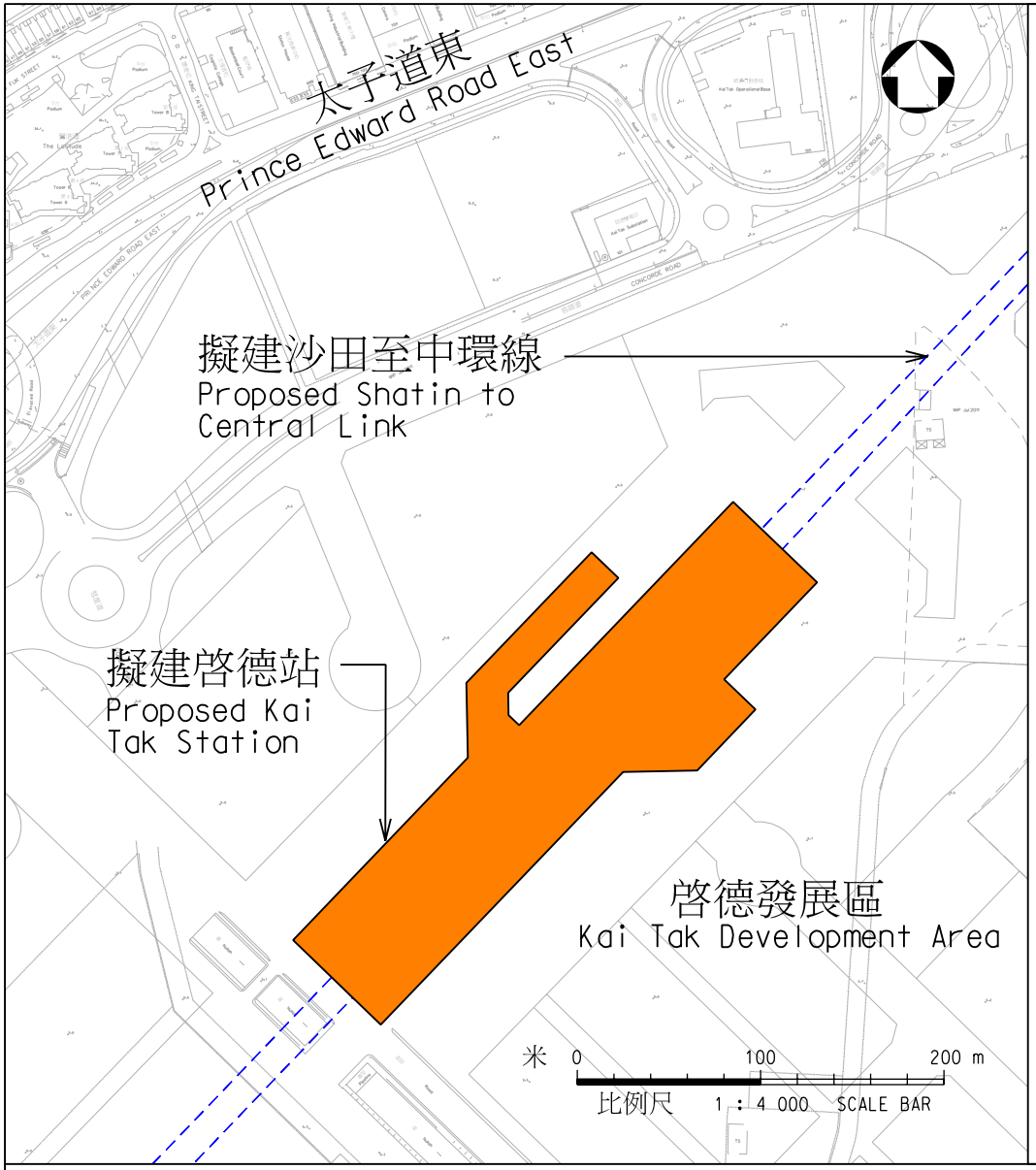
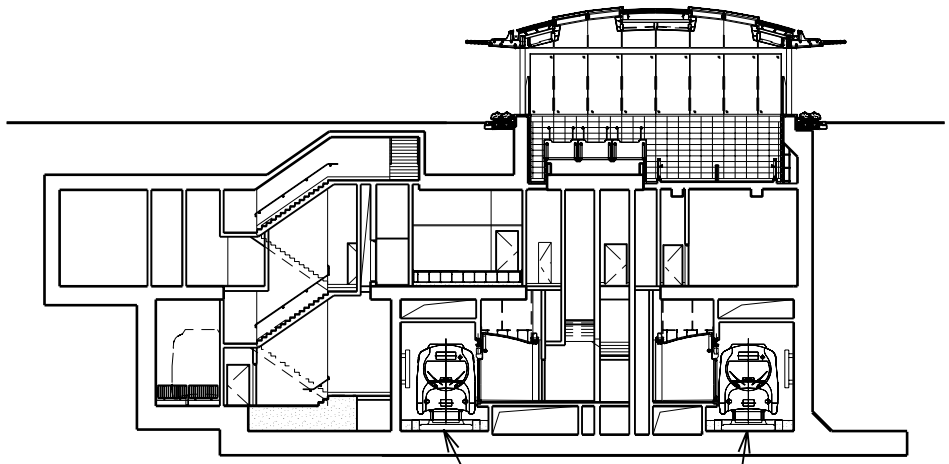


往啓德發展區
To Kai Tak Development Area



擬建沙田至中環線月台
Proposed Shatin to Central Link Platform

典型切面圖
Typical Section
(不按比例 N.T.S.)

圖則名稱 drawing title

工務計劃項目第61TR號 - 沙田至中環線 - 鐵路建造工程 - 餘下工程
PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建啓德站
Proposed Kai Tak Station

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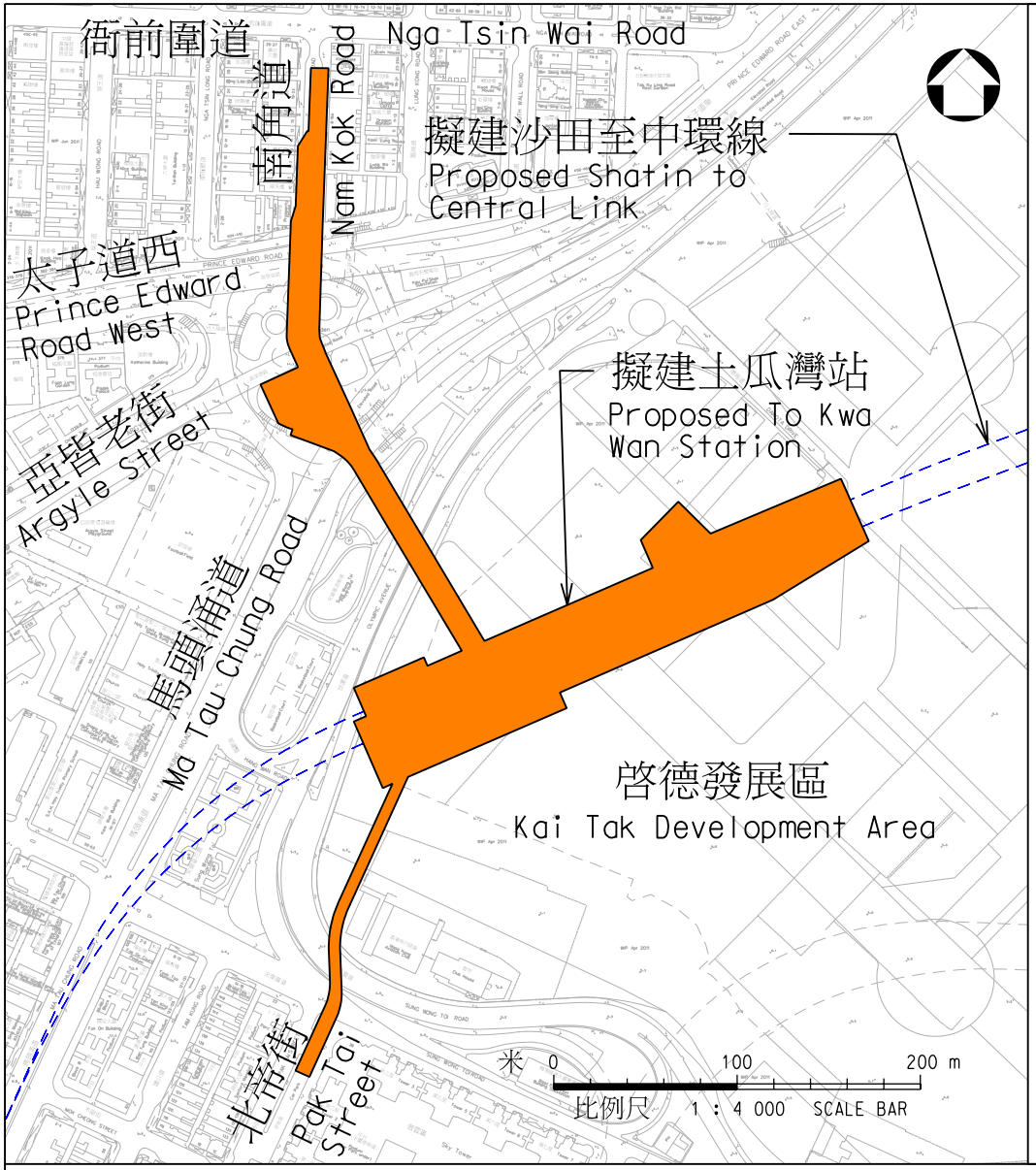

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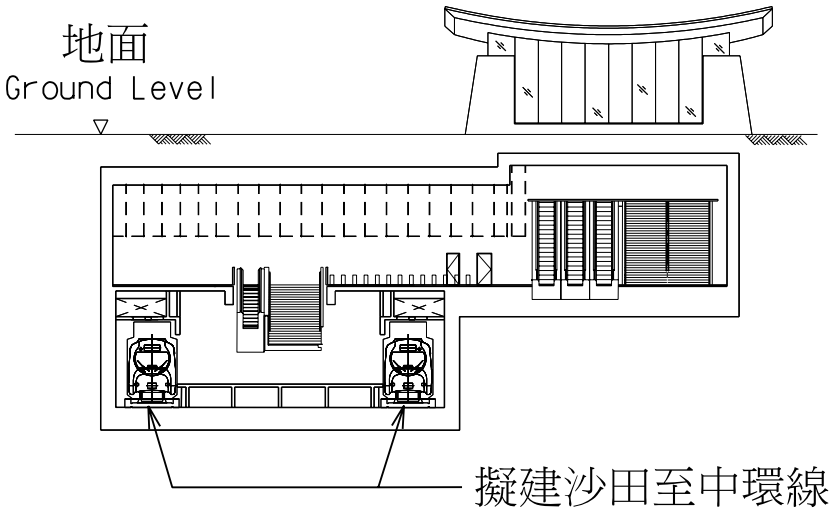
To Kai Tak Development Area



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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建土瓜灣站
Proposed To Kwa Wan Station

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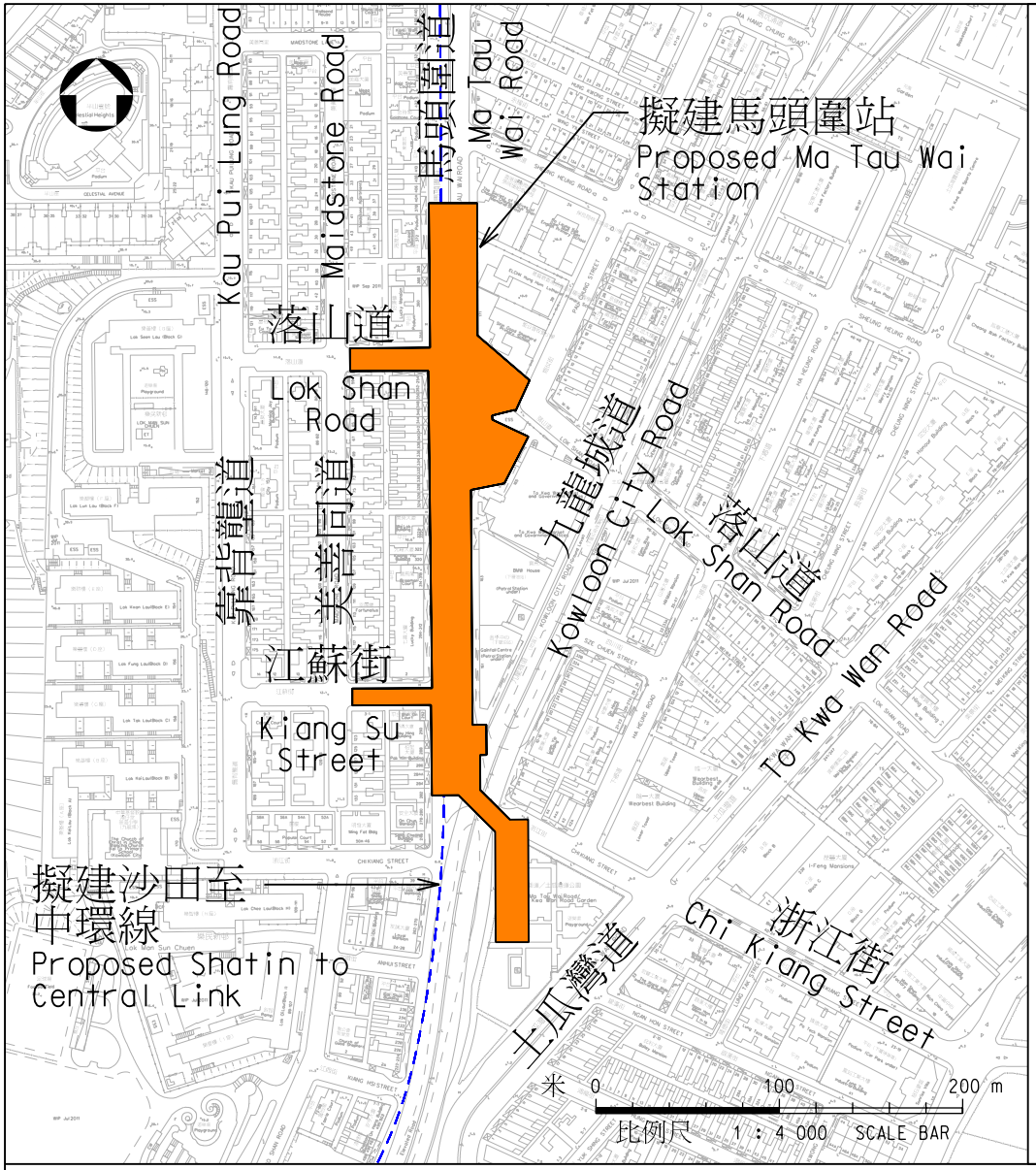
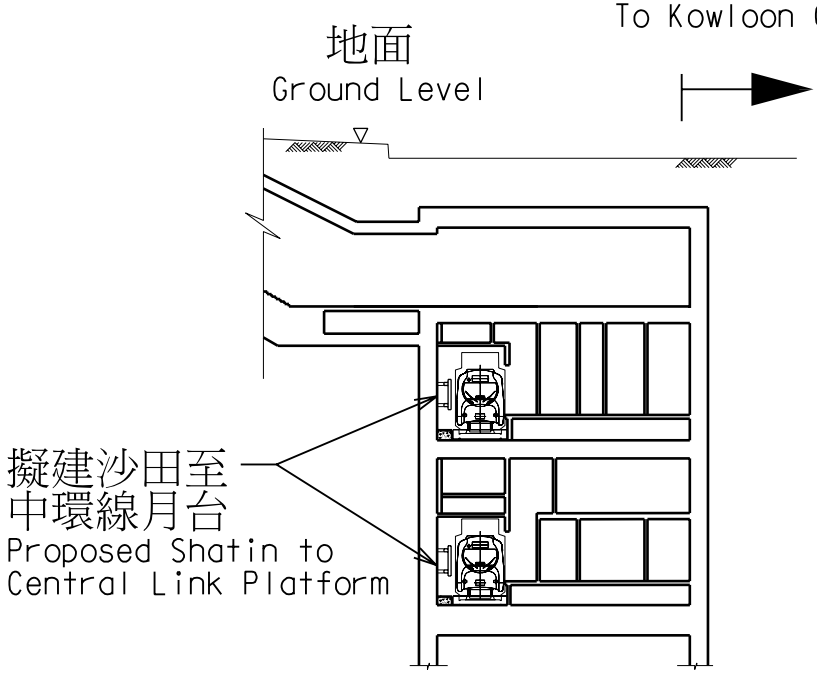


往九龍城道
To Kowloon City Road



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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建馬頭圍站
Proposed Ma Tau Wai Station

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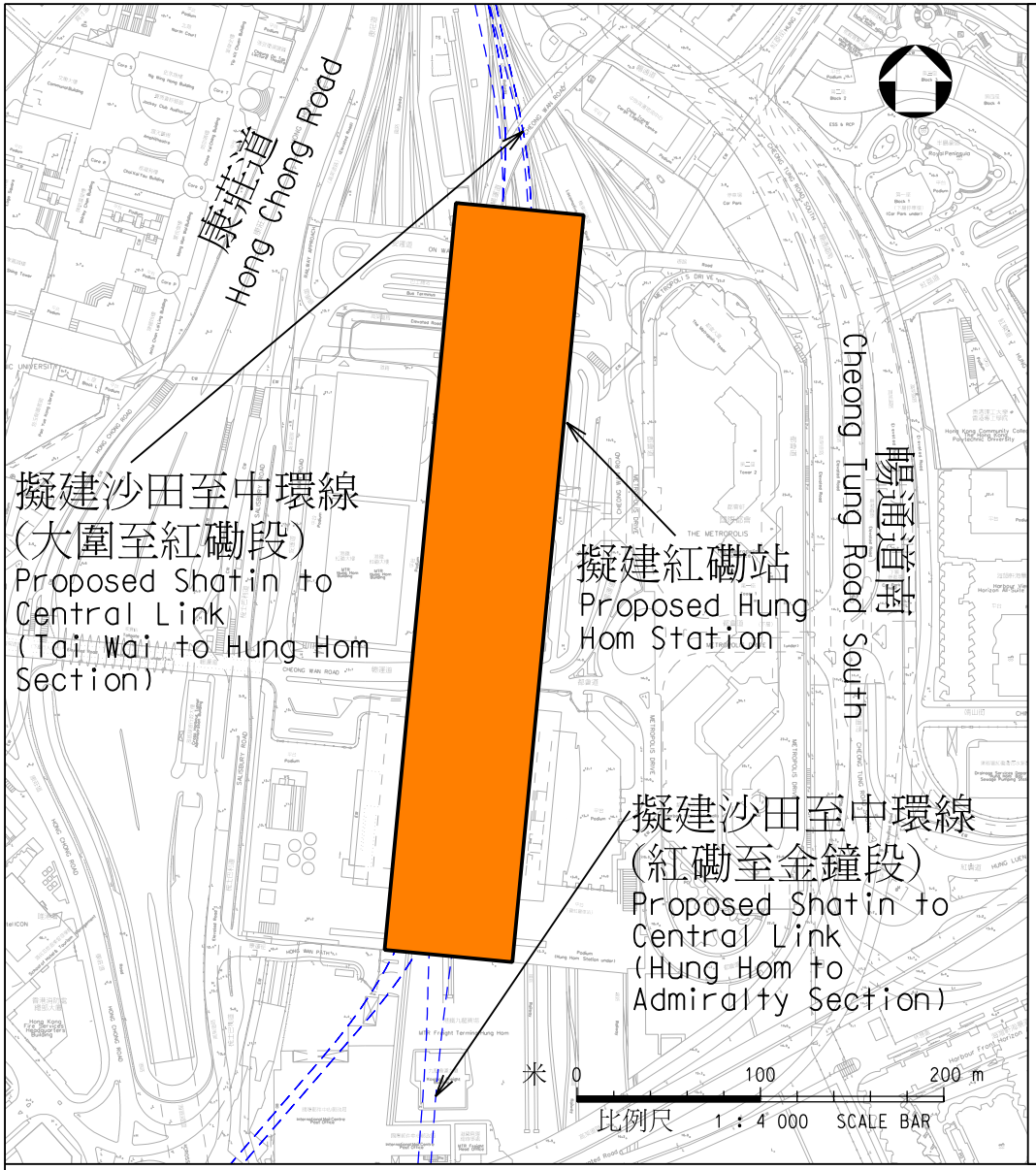

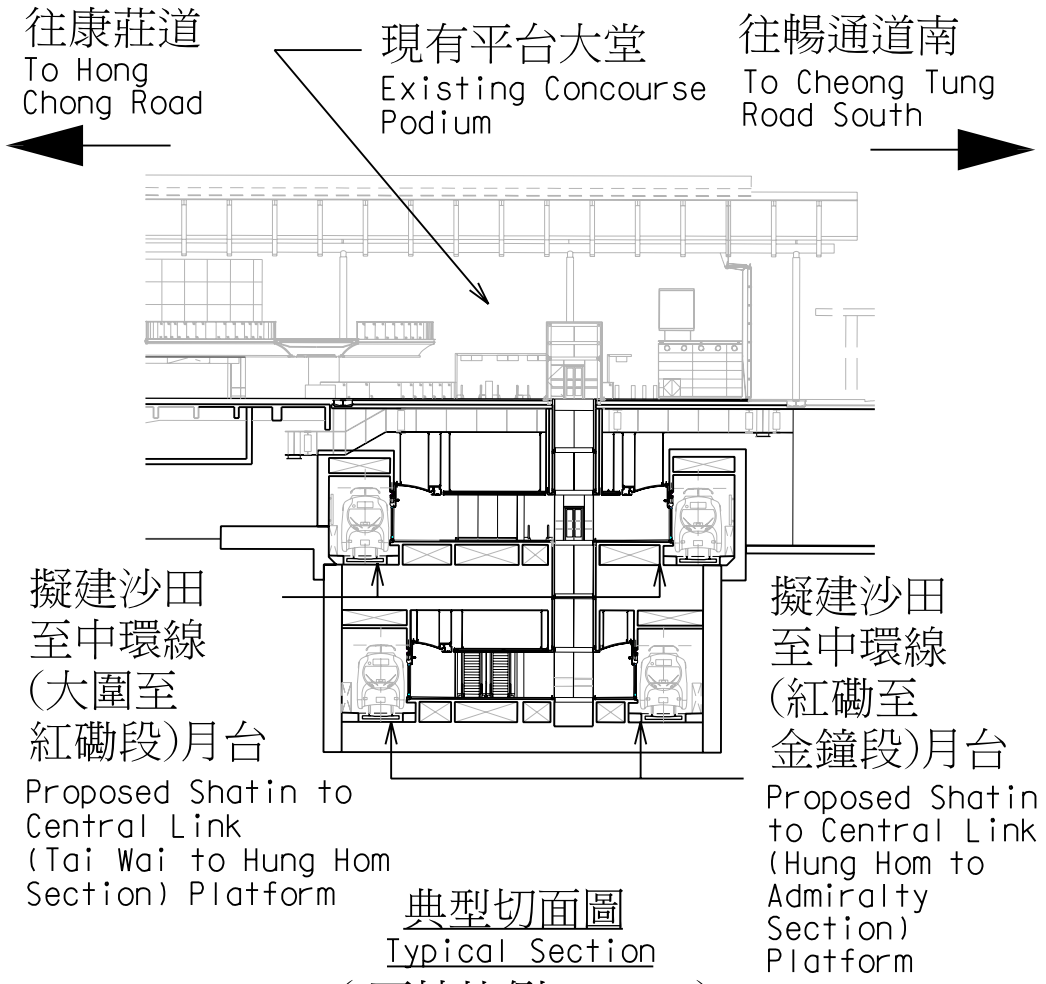

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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建紅磡站
Proposed Hung Hom Station

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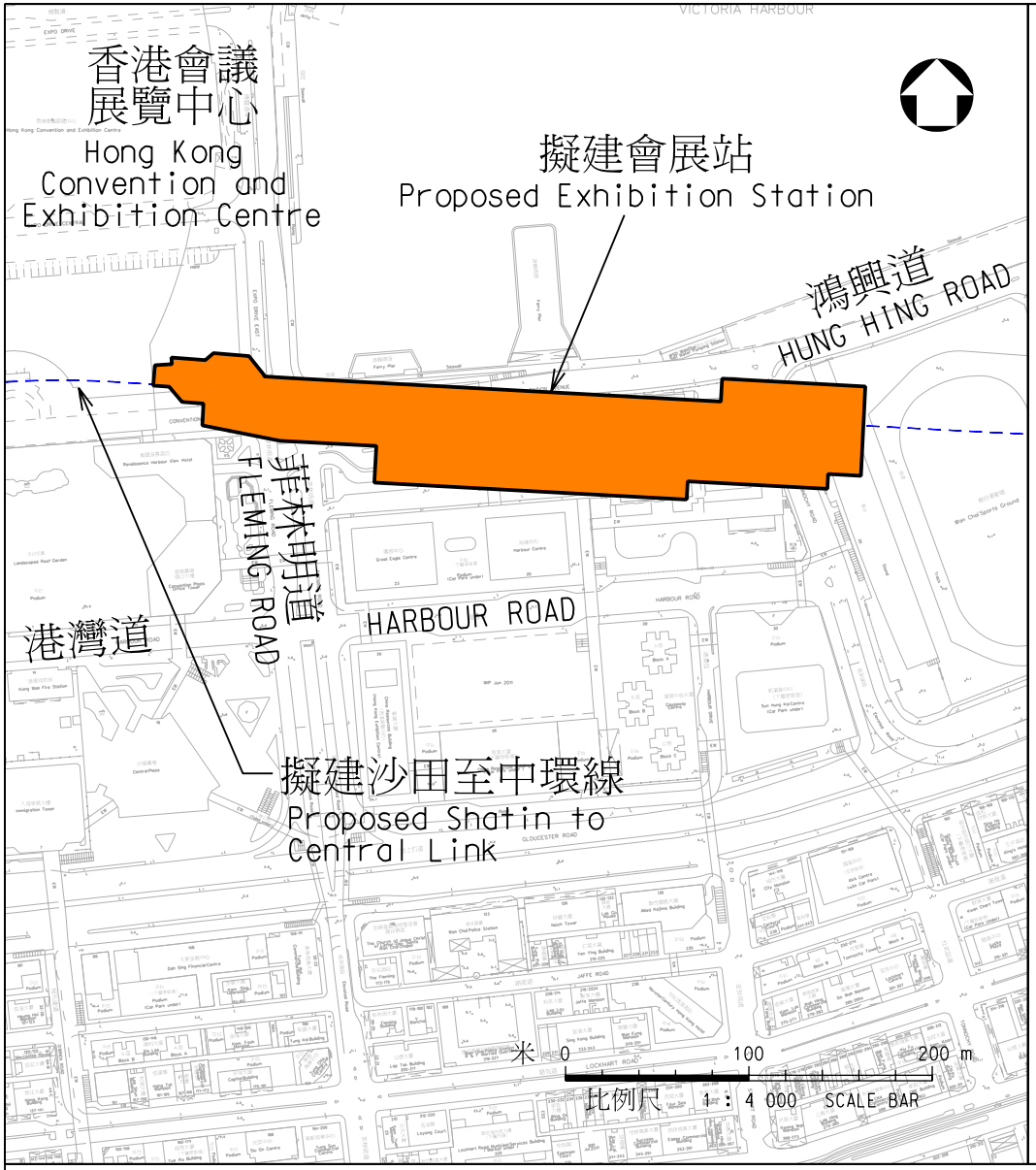

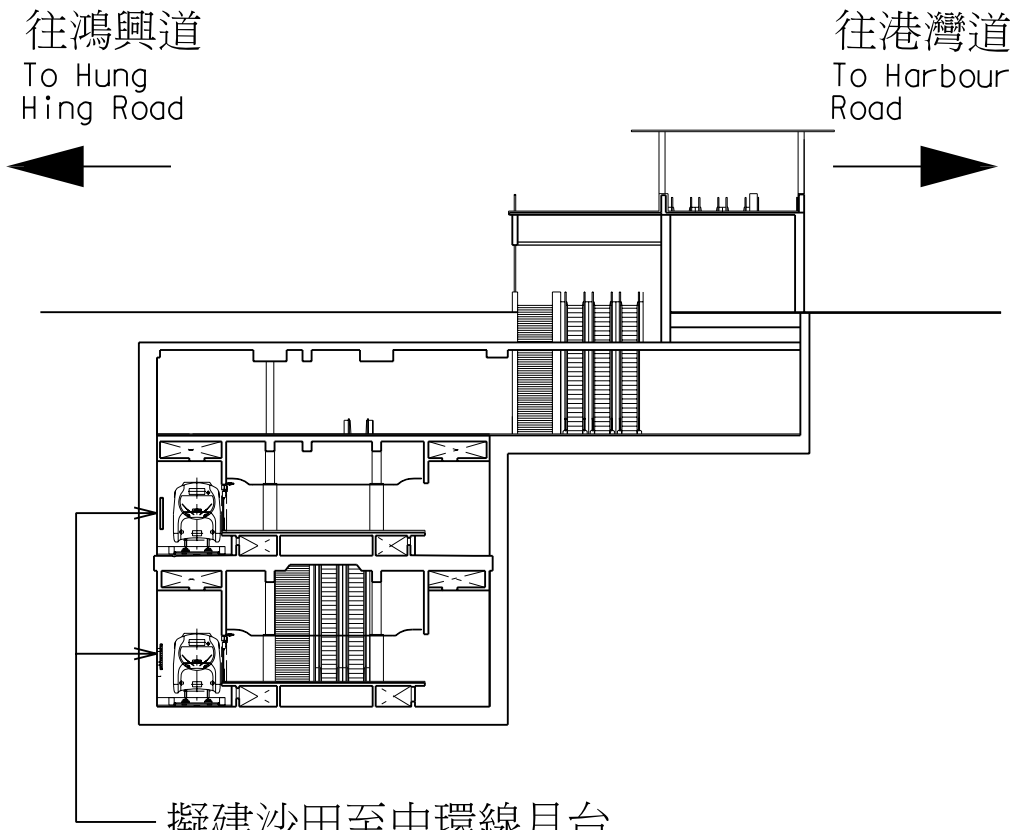

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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建會展站
Proposed Exhibition Station

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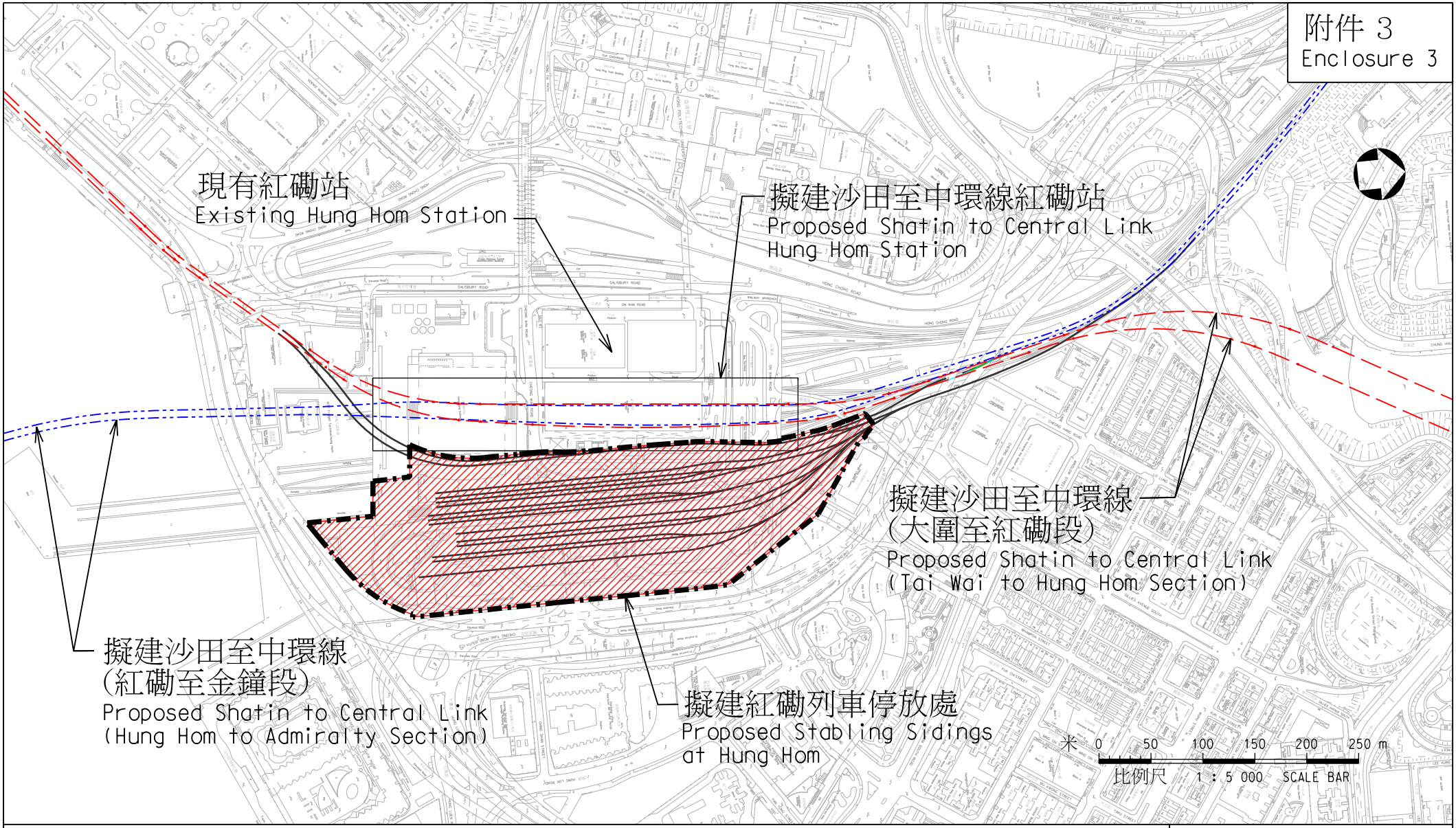
附件 3
Enclosure 3



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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

擬建紅磡列車停放處

Proposed Stabling Sidings at Hung Hom

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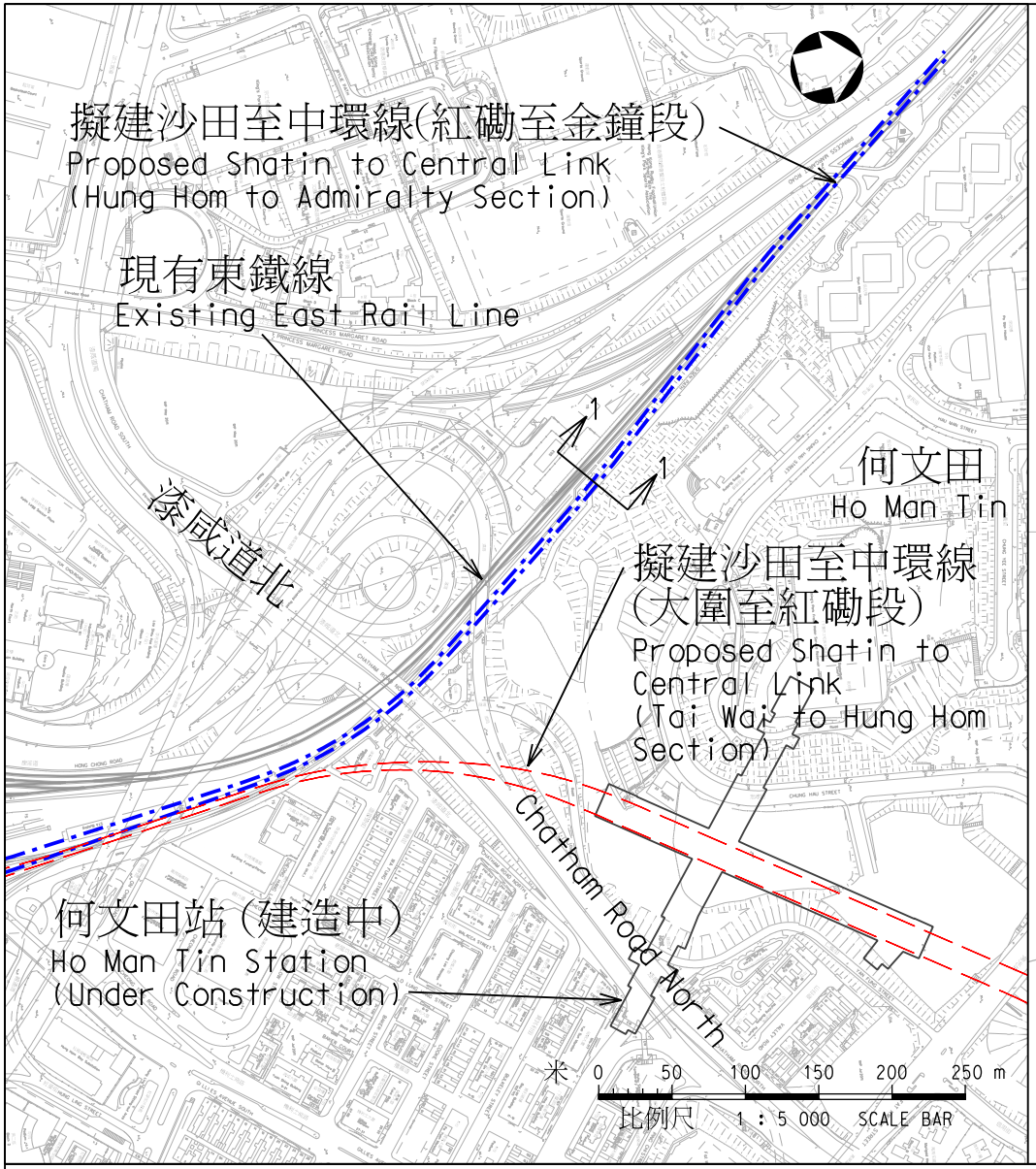
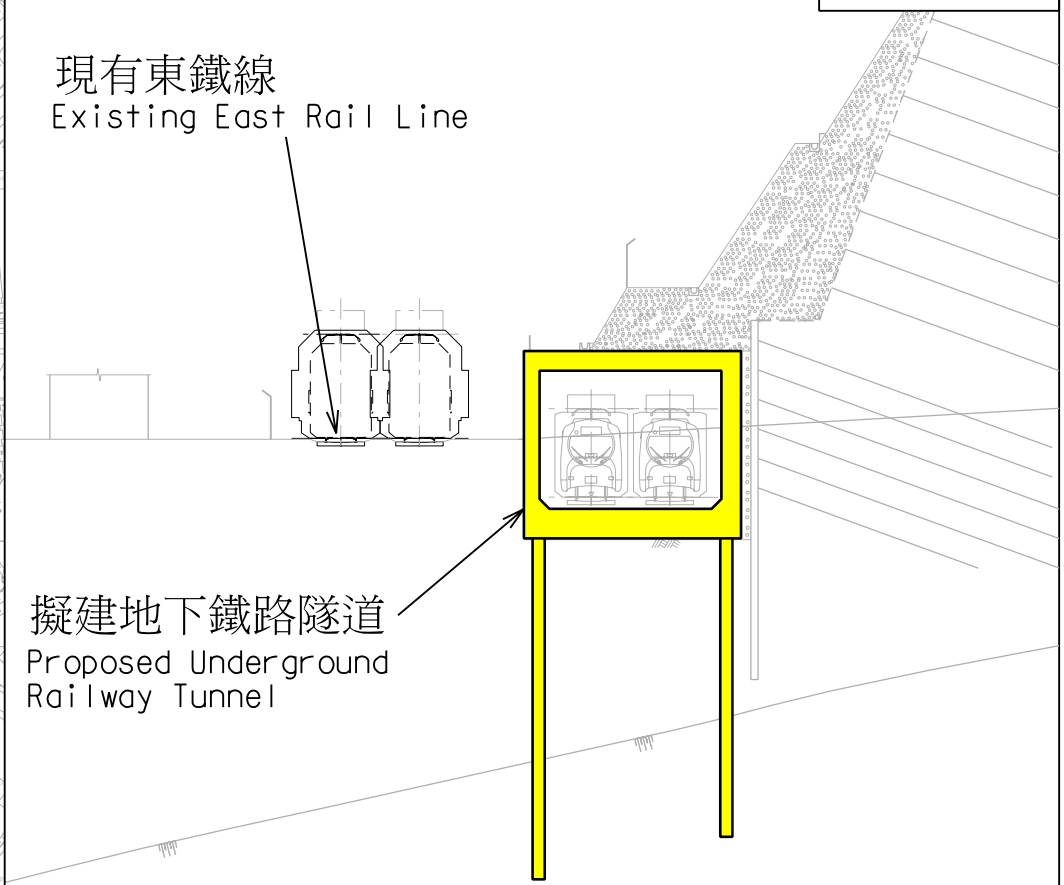
附件 4
Enclosure 4





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(不按比例 N.T.S.)

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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

為現有東鐵線建造一段地底鐵路支線

Bifurcation from the Existing East Rail Line to Form an Underground Railway Line

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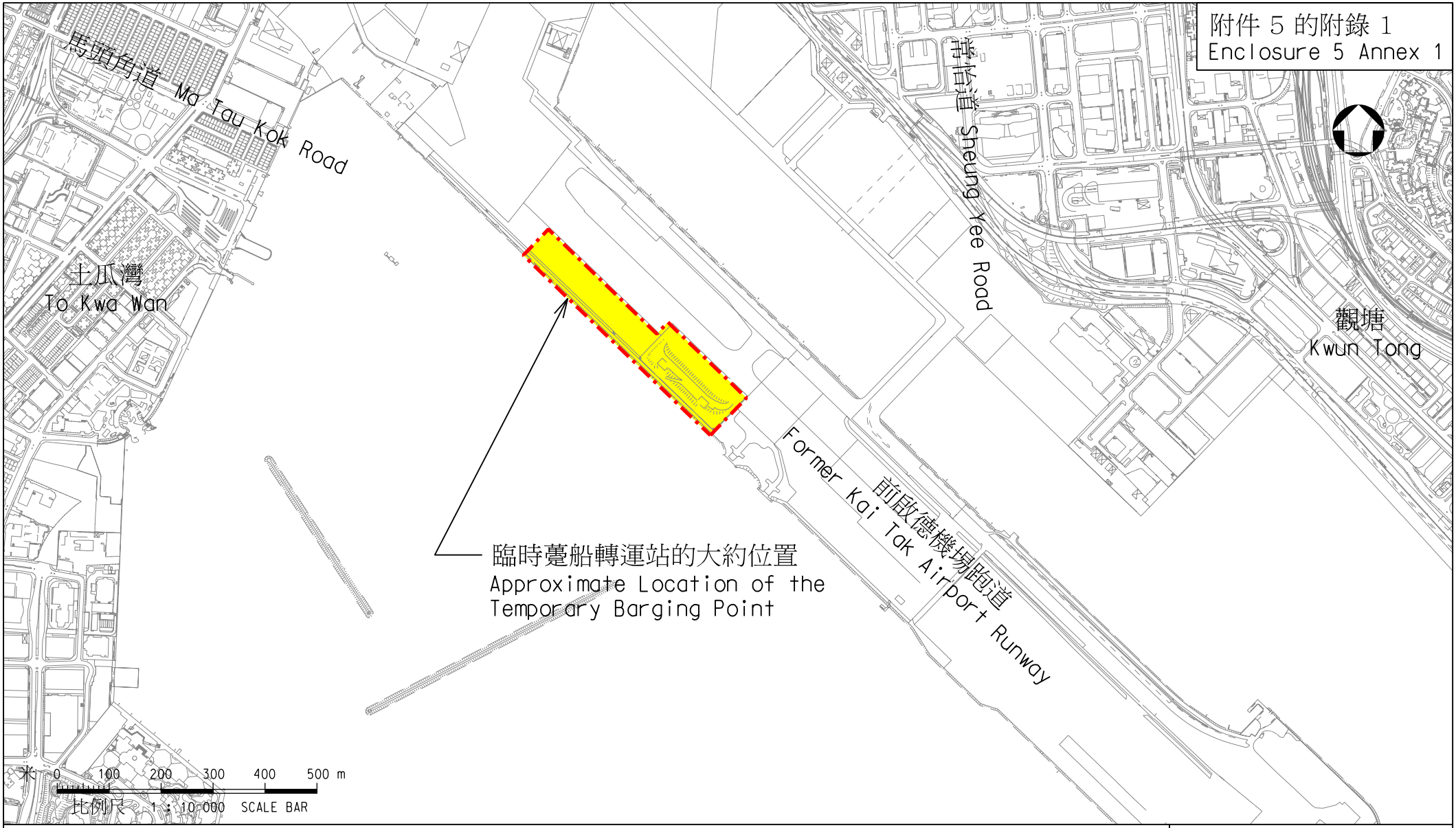
Ancillary Works for the Construction of the Shatin to Central Link

1. Setting up of temporary barging points at Kai Tak Development Area, Hung Hom and Wanchai. The location plans are at **Annex 1**, **Annex 2** and **Annex 3** respectively.

2. Construction of a temporary casting yard for submerged tube tunnel and a concrete batching plant at Shek O. The location plan is at **Annex 4**.

3. Setting up of a temporary magazine site at Tseung Kwan O. The location plan is at **Annex 5**.

附件 5 的附錄 1
Enclosure 5 Annex 1



圖則名稱 drawing title

工務計劃項目第61TR號 - 沙田至中環線 - 鐵路建造工程 - 餘下工程
PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works
位於啓德發展區的臨時躉船轉運站的位置圖
Location Plan of the Temporary Barging Point at Kai Tak Development Area

圖號 drawing no.
HRWSCL003-SK0364

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路 政 署
HIGHWAYS DEPARTMENT

A4 210X297

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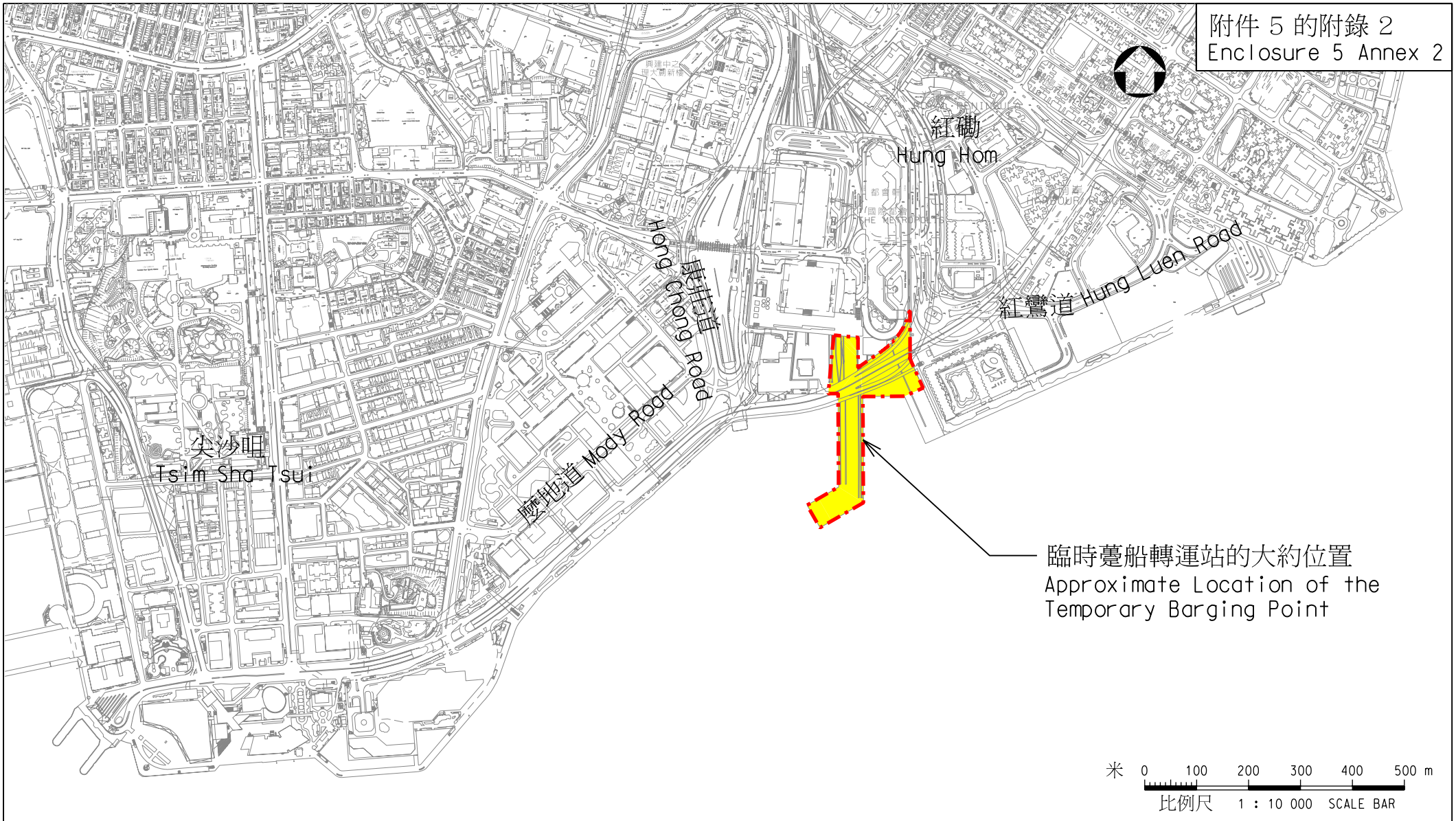
附件 5 的附錄 2
Enclosure 5 Annex 2



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工務計劃項目第61TR號 - 沙田至中環線 - 鐵路建造工程 - 餘下工程
PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works
位於紅磡的臨時躉船轉運站的位置圖
Location Plan of the Temporary Barging Point at Hung Hom

圖號 drawing no.
HRWSCL003-SK0365

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附件 5 的附錄 3
Enclosure 5 Annex 3

圖則名稱 drawing title

工務計劃項目第61TR號 - 沙田至中環線 - 鐵路建造工程 - 餘下工程
PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works
位於灣仔的臨時躉船轉運站的位置圖
Location Plan of the Temporary Barging Point at Wan Chai

圖號 drawing no.
HRWSCL003-SK0366

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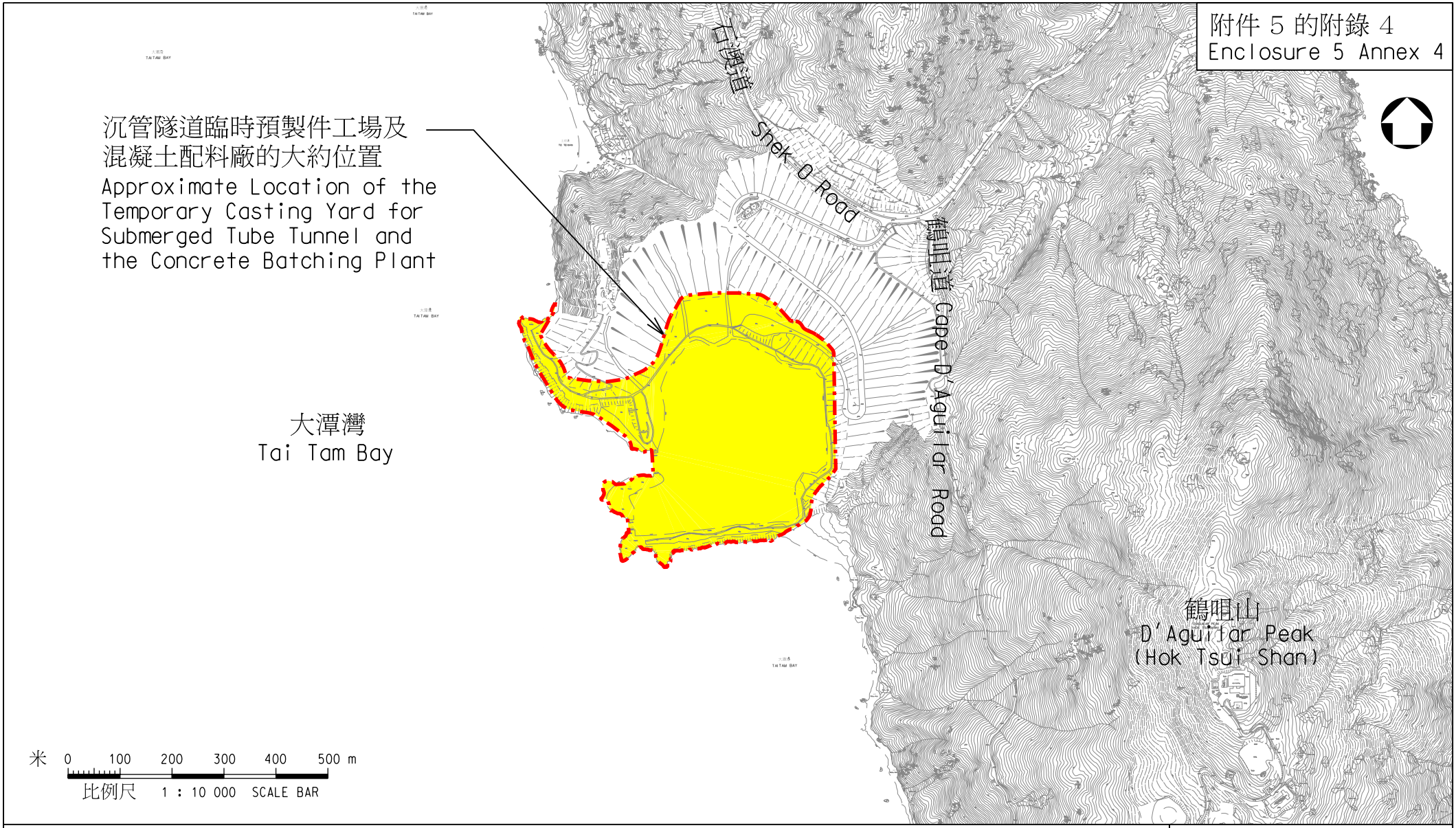
附件 5 的附錄 4
Enclosure 5 Annex 4



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PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

位於石澳的沉管隧道臨時預製件工場及混凝土配料廠的位置圖

Location Plan of the Temporary Casting Yard for Submerged Tube Tunnel and the Concrete Batching Plant at Shek O

圖號 drawing no.

HRWSCL003-SK0367

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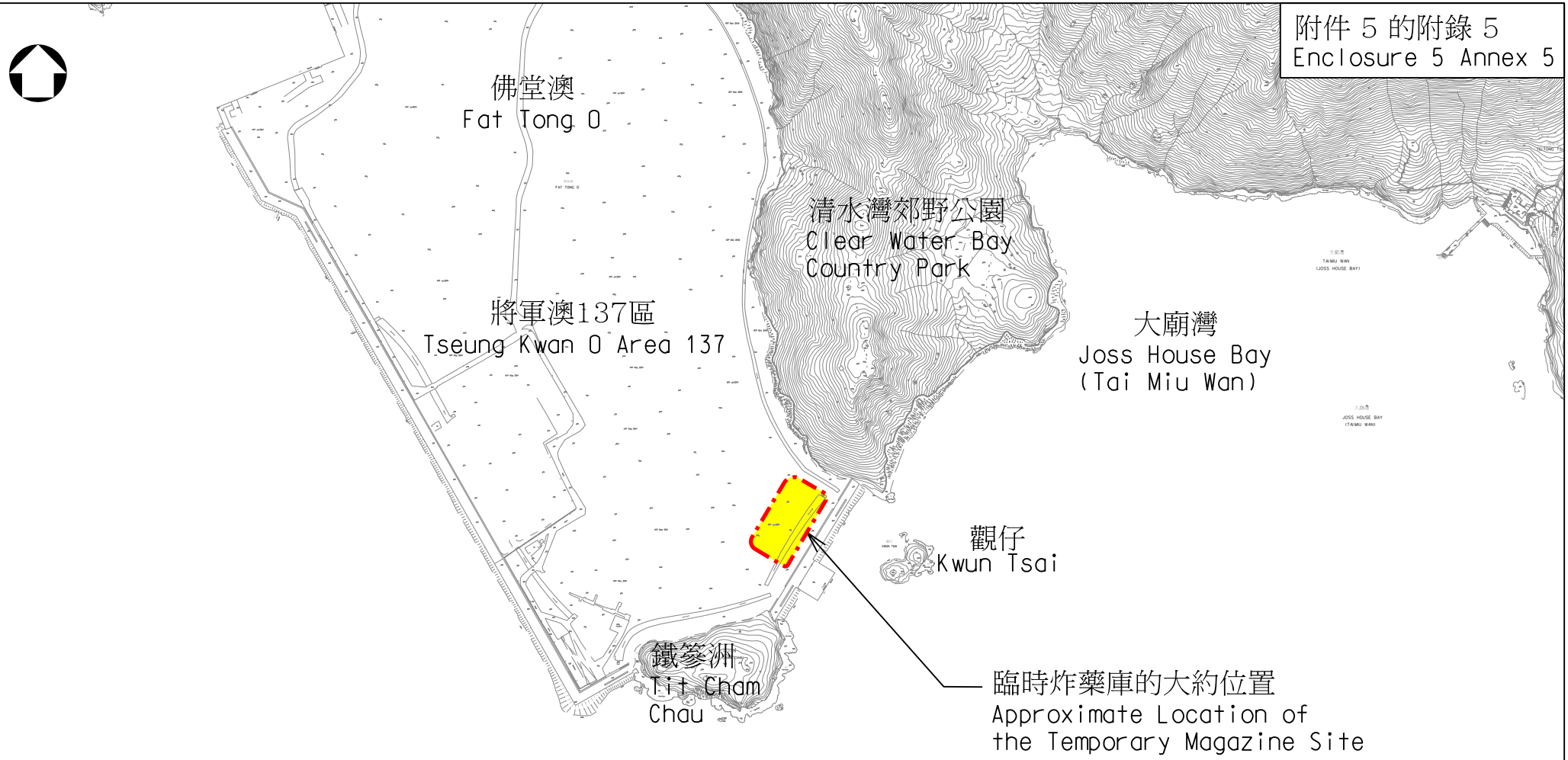
附件 5 的附錄 5
Enclosure 5 Annex 5



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工務計劃項目第61TR號 - 沙田至中環線 - 鐵路建造工程 - 餘下工程

PWP Item No.61TR - Shatin to Central Link - Construction of Railway Works - Remaining Works

位於將軍澳137區的臨時爆炸品儲存倉的位置圖

Location Plan of the Temporary Magazine Site at Tseung Kwan O Area 137

圖號 drawing no.
HRWSCL003-SK0368

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Modification of Existing Railway Facilities

1. Modification of station platforms of the East Rail Line to cater for the operation of the SCL (the alignment of the East Rail Line is shown at **Annex 1**).

2. Modification of station platforms of the Ma On Shan Line to cater for the operation of the SCL (the alignment of the Ma On Shan Line is shown at **Annex 2**).

3. Modification of control and communication systems of the operations control centres and the stations of East Rail Line, Ma On Shan Line and West Rail Line.

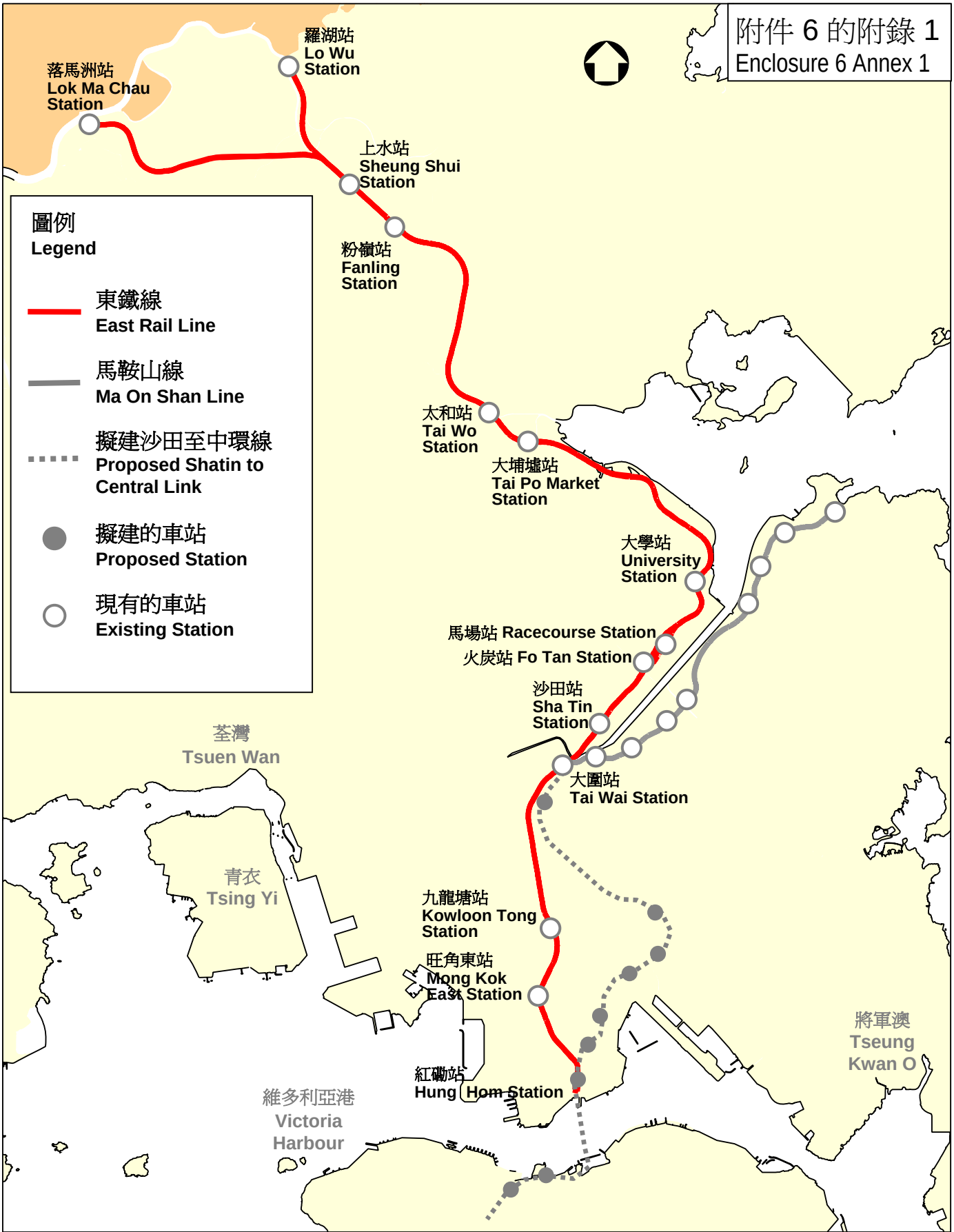
4. Modification of Pat Heung Depot to cater for the operation of the SCL.

5. Modification of Lo Wu Marshalling Yard, Ho Tung Lau Depot, Mong Kok Freight Terminal, Homantin siding and Hung Hom North track area to facilitate the setting up of railway facilities.

6. Modification of existing tracks at Tai Wai and Hung Hom for connection with the new railway sections.

7. Modification of the signalling systems of the West Rail Line and Ma On Shan Line.

8. Modification of the existing ticketing system and passenger information system.



圖則名稱 drawing title

工務計劃項目第61TR號 — 沙田至中環線 — 鐵路建造工程 — 餘下工程
PWP Item No. 61TR – Shatin to Central Link – Construction of Railway Works - Remaining Works
東鐵線
East Rail Line

圖號 drawing no.
HRWSCL003-SK0333

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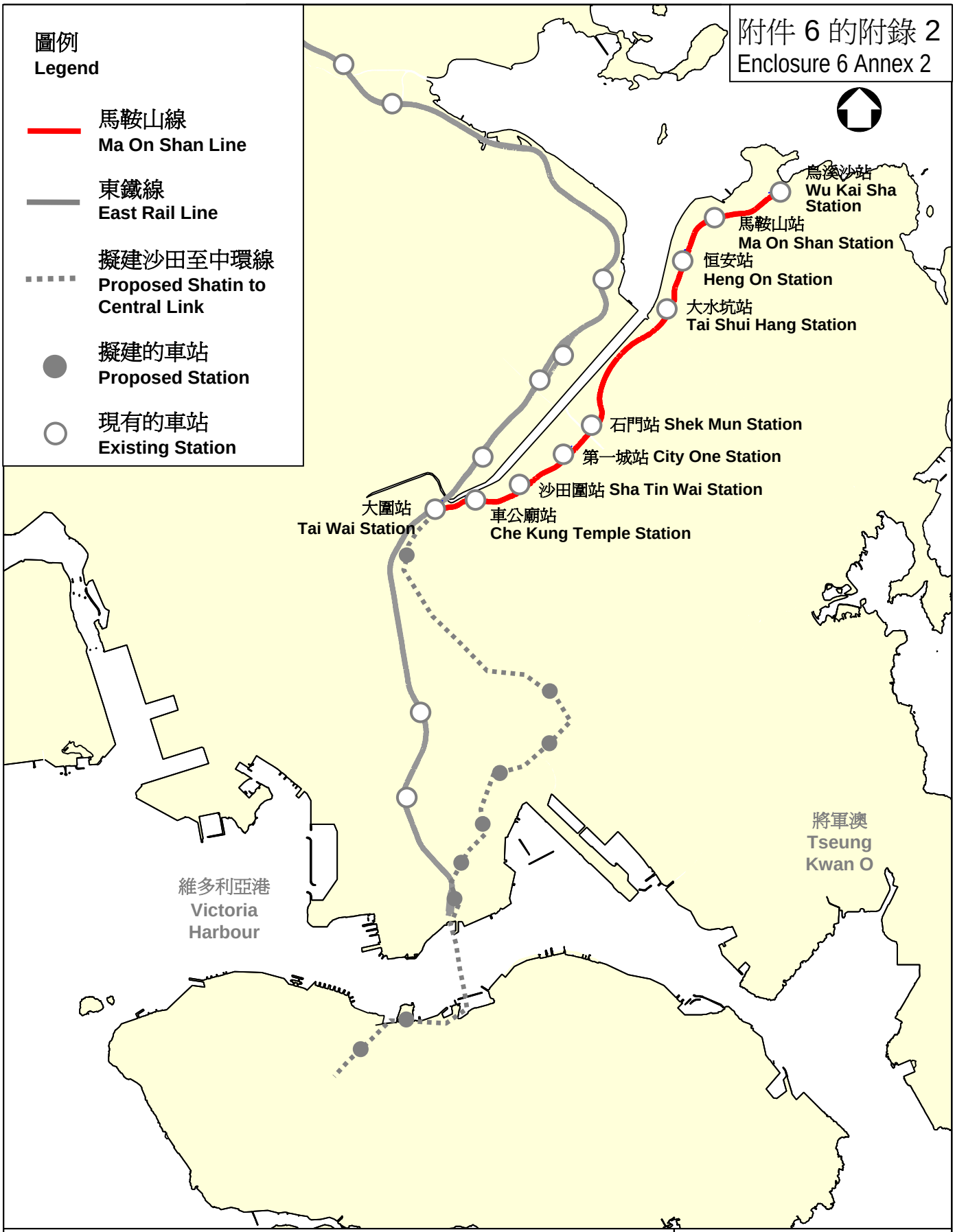

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PWP Item No. 61TR – Shatin to Central Link – Construction of Railway Works - Remaining Works
馬鞍山線
Ma On Shan Line

圖號 drawing no.
HRWSCL003-SK0334

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Enclosure 7 to PWSC(2012-13)XX

Procurement of
Rolling Stock, Railway Systems, Operation and Maintenance Equipment

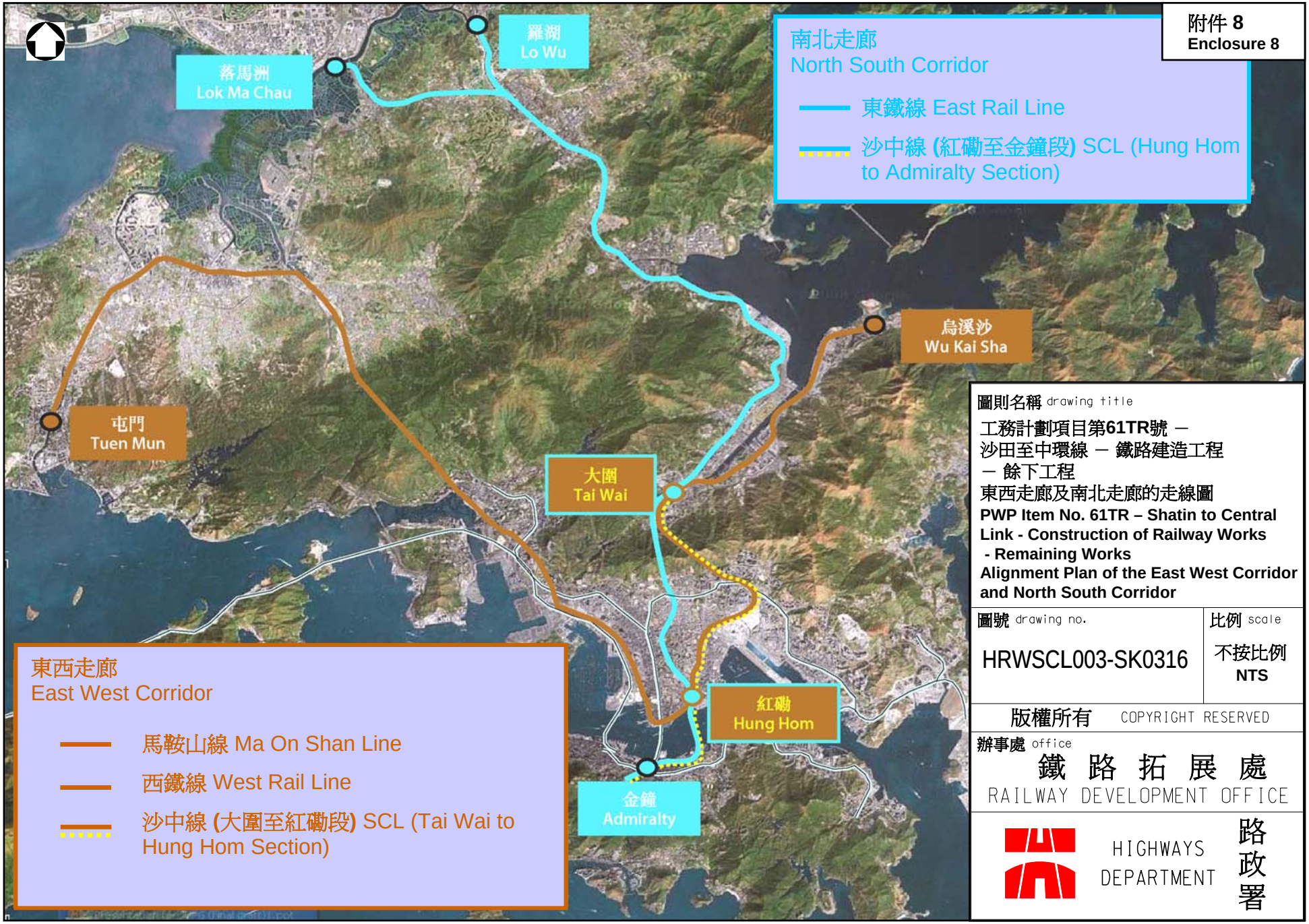
1. Procurement of new rolling stock for deployment at the proposed "East West Corridor" and "North South Corridor".

2. Provision of signalling system for the new railway lines.

3. Procurement of equipment for the new railway systems, including:-

   (a) station facilities;
   (b) environment control systems;
   (c) track works;
   (d) auxiliary siding facilities;
   (e) power supply systems; and
   (f) control and communication systems.

4. Procurement of new service vehicles and depot facilities to cater for the operation and maintenance of the SCL.



附件 8
Enclosure 8

圖則名稱 drawing title

工務計劃項目第61TR號 －
沙田至中環線 － 鐵路建造工程
－ 餘下工程
東西走廊及南北走廊的走線圖
PWP Item No. 61TR – Shatin to Central Link - Construction of Railway Works - Remaining Works
Alignment Plan of the East West Corridor and North South Corridor

圖號 drawing no.	比例 scale
HRWSCL003-SK0316	不按比例 NTS

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鐵 路 拓 展 處
RAILWAY DEVELOPMENT OFFICE

HIGHWAYS DEPARTMENT 路政署

Factors and Information on Individual Items Leading to Increase in Cost Estimate of the SCL

Preliminary Estimate

1. In the paper[1] submitted to the Finance Committee (FC) of the Legislative Council in February 2011, we explained in detail to Members that, based on the proposal jointly submitted by the MTRCL and the KCRC in 2005, we had estimated that the total project cost of the Shatin to Central Link (SCL) was about $38.17 billion in April 2007 prices. At that time, the SCL project was at a conceptual stage, with its design and site investigation yet to commence, and no pre-feasibility study had been conducted. The estimated cost was thus only a crude preliminary estimate.

Latest Estimate

2. In the above FC paper, we informed Members that the project cost of the SCL would be over $60 billion (in September 2009 prices). With the substantial completion of the detailed design of the SCL, our independent consultant has scrutinized the estimated construction cost in accordance with the detailed design. By exercising careful control over the cost, including optimizing and streamlining the design in the design process, the independent consultant estimates that the construction cost of the entire SCL project, including the advance works and protection works for which funding has been obtained, is about $64.9 billion (in September 2011 prices). The construction cost has increased mainly because over the period of more than four years from April 2007 to September 2011, the overall construction cost has increased by about 47% (about $17.9 billion) due to the upsurge in the cost of construction. In addition, to cater for the needs, we have incorporated some of the suggestions and requests made by stakeholders in respect of the design. The estimated cost for these engineering changes is about $5.2 billion[2]. Furthermore, the MTRCL has to revise the design to cope with actual site conditions and technical requirements. The estimated cost for these changes is about $3.6 billion.

Changes requested/proposed by stakeholders

3. Since 2008, we commenced design works and conducted an extensive public consultation exercise for the project. The design works are now substantially completed. Having regard to the actual situation or needs, we have incorporated changes to engineering works suggested or requested by some stakeholders. These engineering changes have increased the estimated cost by about $5.2 billion. The breakdown and detailed explanations are given below –

(a) <u>Addition of Hin Keng Station</u> (cost to be increased by about $1 billion)

At the strong request of the public, the Hin Keng Station will be added to the SCL to alleviate the congestion in the Tai Wai Station and facilitate access to

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1 Paper reference PWSC(20110-11)34.

2 The additional cost includes project management cost and contingencies.

railway services by local residents, thereby enhancing the transport and social linkage of the district. The construction cost of this station will be slightly higher than that of a typical above-ground station in general as the station will be built adjacent to a slope at the East Rail Line. During the construction stage, additional support and protection works will need to be provided to ensure that the operation of the East Rail Line will not be affected. Alterations to the turnaround tracks in the existing Tai Wai Depot will also be carried out to tie in with the works.

(b) Relocation of the International Mail Centre (IMC) from Hung Hom to Kowloon Bay (cost to be increased by about $1.2 billion) [3]

The relocation of the IMC from Hung Hom to Kowloon Bay was confirmed after the design works of the SCL commenced in late 2008. As the tunnel of the East West Corridor of the SCL will pass through the site of the existing IMC, it was confirmed after detailed investigation that the existing mail centre had to be demolished and re-provisioned. Through views collected during public consultation, we fully understand that the public expects that the services of the IMC should not be affected. Therefore, we must carefully plan the reprovisioning works, including the timetable. The new IMC at Wang Chin Street in Kowloon Bay will comprise six storeys with a usable floor area of about 20 000 m^2. The design and standards of the facilities for the IMC will have to meet the requirements of the Hongkong Post. In addition to adopting a number of greening and energy efficient features, automatic mail sorting and related equipment with a daily handling capacity of 4.5 million items will be provided in the new IMC. The existing IMC will be demolished after the reprovisioning works are completed.

(c) Relocation of the Harbour Road Indoor Games Hall and Wan Chai Swimming Pool (cost to be increased by about $650 million)

The need to relocate the recreational facilities at Harbour Road was confirmed after the design works for the SCL commenced in late 2008. As the Exhibition Station of the SCL will be located under the existing Harbour Road Indoor Games Hall and Wan Chai Swimming Pool, both facilities will have to be relocated to the car park area south of their present site. The facilities to be re-provisioned include a swimming pool, a games hall, a gymnasium, multi-purpose rooms, squash courts, table tennis saloons, changing rooms, store rooms, first aid room, electrical and mechanical plant rooms and filtering facility for the swimming pool. As we fully understand that the public expects that the services of the indoor games hall and training pool at Wan Chai should not be affected, we will carefully plan the reprovisioning works, including the reprovisioning timetable of the relevant facilities. The new building will have a floor area of about 16 500 m^2 and the re-provisioned facilities will meet the latest standards. In particular, the Wan Chai Swimming Pool will become an indoor pool and be upgraded to a 50 m x 25 m pool meeting international standards for the training of athletes.

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3 In February 2011, the Finance Committee of the Legislative Council has approved the funding application of $1.193 billion for the reprovisioning works of the IMC.

(d) Proposed walkway system near Tsz Wan Shan Estate Central Playground (cost to be increased by about $300 million)

We understand from the public consultation that there is a great demand for enhancement of the pedestrian links in Tsz Wan Shan for the residents of the district. Residential developments in Tsz Wan Shan are built on undulated terrain, and it is exhausting for pedestrians, particularly the mobility-handicapped or elderly, to traverse long steep gradients. The proposed pedestrian link aims to improve the pedestrian walkways among the residential developments in the Tsz Wan Shan district (for example Tsz Oi Court, Tsz Lok Estate), provide safe and barrier-free access linking up the Diamond Hill Station of the SCL with the neighbouring residential developments, and encourage the local community to make use of railway services which are environmental-friendly so as to improve the traffic condition in the Tsz Wan Shan district.

(e) Proposed walkway system at Yuk Wah Street (cost to be increased by about $250 million)

From the public consultation, there is a great demand for improving the pedestrian facilities between the residential developments at Yuk Wah Street, providing convenient access to the residents nearby to the SCL Diamond Hill Station. In view of a number of residential developments in the area and the busy traffic nearby, we propose to provide the pedestrian facilities (for example lifts and escalators) at suitable locations, encouraging the local residents to make use of the environmental-friendly railway services thus ultimately improving the traffic condition in the area.

(f) Proposed Fung Tak pedestrian walkway system (cost to be increased by about $50 million)

. To encourage residents near Fung Tak Estate using the SCL, we propose to provide convenient access in the area by installing additional pedestrian facilities (for example covered walkway and lifts) nearby.

(g) Reprovisioning and enhancement of the Harcourt Garden (cost to be increased by about $200 million)[4]

The design of the SCL in 2008 confirmed that the Admiralty Station would need to be expanded into an integrated station serving both the SCL and SIL(E). This proposal is more desirable than the original design of building two separate stations at Admiralty. To enable the construction of the integrated station, the MTRCL will need to make use of the Harcourt Garden as a works site. The garden will also be converted, elevated and re-provisioned to facilitate the construction of the underground station. The Harcourt Garden will be redesigned and the works will be carried out and completed in tandem with the

4 A total amount of $196 million was approved by the Finance Committee of the Legislative Council in February 2011 for reprovisioning and enhancement of the Harcourt Garden.

expansion works of the Admiralty Station. To tie in with the works of the underground station, the garden will be elevated by five to six metres to allow building of more open space and a landscape deck. The space enjoyed by the public will be increased from around 5 000 m^2 at present to around 9 000 m^2 afterwards. Lifts linking up the station concourse, ground level and the garden will be installed at the entrance to the garden to provide barrier-free access. The Harcourt Garden will be connected to the footbridges linking up the neighbouring commercial buildings to achieve pedestrian and vehicle segregation and provide comfortable and safe links for pedestrians to and from the station, the Harcourt Garden and neighbouring commercial buildings.

(h) Reprovisioning and enhancement of district sitting-out areas (cost to be increased by about $ 150 million)

Given the large scale of the SCL project whose alignments traverse many districts, it is necessary to designate certain district sitting-out areas as temporary works sites. After extensive discussions with the district councils concerned, we suggest to allocate additional project funding to carry out enhancements and improvements in the reprovisioning of affected sitting-out areas where possible. Examples include sitting-out areas in Ma Tau Wai, the rest garden at the Cross Harbour Tunnel Hong Kong entrance, Ma Chai Hang Recreation Playground and Hin Tin Playground.

(i) Reprovisioning of affected facilities of the Police Force (cost to be increased by about $300 million)

The tunnel of the North South Corridor of the SCL will pass through the Police facilities next to the Causeway Bay Typhoon Shelter. Having considered the public concern on harbour protection, we have to avoid unnecessary reclamation. It was confirmed after the preliminary design that the Police facilities will have to be entirely demolished to make way for the construction of this section of SCL tunnel and the ventilation facilities above the tunnel. Upon completion of the works, the area available for the reprovisioning of the Police facilities will be reduced thus increasing design complexity and construction difficulty. As a result, the construction cost increases.

(j) Additional disposal and import of fill materials due to proposed changes of stockpiling areas and barging point (to be increased by about $500 million)

From the extensive public consultation conducted, we were aware of the public's concern about the temporary storage of excavated materials at the Kai Tak area. We have therefore substantially reduced the storage area in the latest planning. As a result, one million cubic metres of excavated materials generated from the construction of the SCL tunnels and stations in Diamond Hill and Kowloon City could not be stored for the subsequent backfilling, leading to a considerable increase in transportation cost. As the barging point at Hoi Sham Park has been cancelled, the excavated materials generated in the vicinity will have to be transported to the barging point at Kai Tak, increasing the cost of transportation and handling of the excavated materials.

(k) Reduction of temporary works sites and cancellation of the temporary concrete batching plant in Kai Tak (cost to be increased by about $200 million)

In the extensive public consultation conducted, we were aware of the strong request of local people for reducing the temporary works sites and cancellation of the temporary concrete batching plant in Kai Tak for the SCL. After careful deliberation, we have reduced some temporary works sites in Sha Tin District and Kowloon City District and cancelled the temporary concrete batching plant in Kai Tak by making additional arrangements for working procedures and procurement of concrete. Such arrangement will increase the construction cost of the SCL.

(l) Construction of enabling works for the topside property developments above the stations and concrete block works for the future Sung Wong Toi Garden (cost to be increased by about $400 million)

To support the future development of the topside property developments above the stations, the foundation and structure frameworks of the stations have to be strengthened (for example the raft foundation of the To Kwa Wan Station has been changed to pile foundation). It is also necessary to provide additional supports for the concrete block works at the future Sung Wong Toi Garden.

Design Changes

4. In the course of design, the MTRCL has to revise the design to cope with actual site conditions and meet technical requirements. The estimated cost for these changes is about $3.6 billion, with breakdown and detailed explanations as shown below –

(a) Changes to the design of stations, e.g. revision of the design of stations to take into account the latest site investigation information (cost to be increased by about $600 million)

After conducting a series of site investigation along the alignment of the SCL, the MTRCL has confirmed that it is necessary to revise the design to take account of the information obtained, including –

- additional strengthening works for the external walls of the existing Diamond Hill Station to avoid implications on the safety of the station during the construction of the SCL;

- additional lateral diaphragm walls and related bracing structures to further reduce the impact on the neighbouring buildings during the construction of the Ma Tau Wai Station; the depth of the diaphragm walls has to increase because it has been found that the rock stratum in the vicinity of the Ma Tau Wai Station is deeper than expected.

- the large quantity of gravel found at the ex-Tai Hom Village site has to be crushed or removed before building the 600 m long diaphragm walls at the site; and

- the seawall and disused railway facility found at the old reclamation for the Hung Hom Station have to be removed before construction of the tunnel.

(b) Additional fire service provisions at stations to meet the latest fire safety requirements (cost to be increased by about $700 million)

Fire service equipment for railways is different from that of ordinary buildings, most of which cannot be finalised until the design stage and after deliberations with and analysis of risks by the Fire Services Department (FSD). As described in paragraph 1 above, the design for the SCL had not yet started when the preliminary cost estimate was submitted to the Legislative Council in March 2008. The rough estimated costs for stations, including fire safety facilities, were based on the typical design of previous stations. Since early 2010, the MTRCL and the FSD have been discussing the detailed design of most of the stations and the necessary fire safety facilities. Having received the detailed station design from the MTRCL and in view of the incidents in the past few years, the FSD has requested for enhancement of the protection for firemen entering the scene of incidents as well as means of escape for the public. Hence, the following additional facilities will be provided under the SCL to meet the prevailing fire services requirements –

- additional fire service lifts (nine in total) for the secondary fire service entrances at the stations;

- separate entrance for the underground CLP transformer room, hence an increase in the area of the stations;

- enhancement of stations backup fume extracting facilities, hence an increase in the area of the stations; and

- automatic sprinkler system for the stabling tracks of the stabling siding at Hung Hom, and automatic sprinkler and fume extracting systems for the sector tracks of the stabling siding.

(c) Additional emergency access and egress to meet the latest fire safety requirements (cost to be increased by $600 million)

After the MTRCL submitted the detailed design of the emergency access in early 2010, the FSD, in view of the incident in Tai Lam Tunnel of the West Rail on 14 February 2007, has requested for enhancement of the ventilation system for longer railway tunnels and protection for firemen entering the scene of incidents and means of escape for the public. Hence, the following additional facilities will be incorporated in the SCL –

- an additional ventilation building and emergency access at the Ma Chai Hang Playground;

- an additional emergency access at Tam Kung Road;

- an additional emergency access at the open space next to the Wong Tai Sin Temple; and

- additional ventilation ducts for the SCL Lion Rock Tunnel and cross harbour tunnel, hence an increase in the cross-sectional area of both tunnels.

(d) Additional ground strengthening works near the Ma Tau Wai Station (cost to be increased by about $300 million)

To further safeguard the smooth construction of the station and the railway tunnel along Ma Tau Wai Road, ground treatment works will be carried out in the vicinity of Ma Tau Wai Road and Chatham Road North to strengthen the soil. The MTRCL has also proposed the setting up of a monitoring system to ensure no excessive ground water loss along Ma Tau Wai Road. This would enhance construction safety.

(e) Optimisation of alignment to avoid land acquisition for private buildings and reduce disruption to the operation of the East Rail Line (cost to be increased by about $800 million)

In the course of design, the MTRCL has adopted the following measures to optimise the alignment of the SCL –

- The configuration of the tunnels at both ends of the Exhibition Station has been revised to allow cross platform interchange with the future North Island Line at the Exhibition Station, leading to an increase in the depth of the Exhibition Station and the SCL tunnel;

- The new alignment of the North South Corridor that bifurcates from the existing East Rail Line north of Hung Hom has been revised and it will not be necessary to build a tunnel under the tracks of the existing East Rail Line, reducing the construction risk and the threat to train safety substantially. However, the section of the existing slope at the East Rail Line has to be upgraded and the affected facilities of the East Rail Line re-provisioned;

- After optimization of the alignment at Ma Tau Wai Road, the alignment will run close to the buildings only, avoiding resuming the land and buildings concerned..

(f) Implementation of traffic diversions at Lung Cheung Road, Ma Tau Wai Road and Chatham Road (cost to be increased by about $600 million)

In the course of design, the MTRCL has confirmed that the following large-scale traffic diversion measures would need to be implemented during the construction of the SCL –

- Traffic diversions will be implemented in phases at Nam Kok Road, Kowloon City Interchange, Olympic Garden Roundabout, Olympic Avenue, Sung Wong Toi Road and Pak Tai Street in Kowloon City to facilitate the construction of two pedestrian subways connecting the To Kwa Wan Station

to Nam Kok Road and Pak Tai Street. The two subways are provided to tie in with the revised To Kwa Wan Station;

- Temporary traffic diversions will be implemented at Ma Tau Wai Road to facilitate the construction of the Ma Tau Wai Station. Variable message traffic sign and closed circuit televisions will be used to help support the sophisticated temporary traffic control scheme;

- The Cheong Wan Road Flyover will be modified permanently for the construction of the railway tunnel connecting the SCL to the Hung Hom Station; and

- Temporary flyovers will be constructed at Chatham Road North to divert traffic on its existing seven lanes in phases for the construction of the cut-and-cover tunnels of the North South Corridor and the East West Corridor. The existing flyover and pedestrian subways will be demolished and re-provisioned to suit the works.

- Traffic diversion along Lung Cheung Road will be implemented in phases for the construction of the interchange passenger corrider between the SCL Diamond Hill Station and the existing Diamond Hill Station of Kwun Tong Line located underneath Lung Cheung Road.

Enclosure 10 to PWSC(2012-13)xx

61TR – Shatin to Central Link

Breakdown of the Estimated Land Resumption and Clearance Costs [See Note 1 below]

			$ million
(I)	**Estimated Resumption Cost**		0.50 (nominal)
(II)	**Estimated Clearance Cost**		1.41
(a)	Ex-gratia allowance for crop and fruit trees compensation	0.36	
(b)	Ex-gratia allowance for farm structures and miscellaneous permanent improvements to farms	0.03	
(c)	Ex-gratia allowances for miscellaneous indigenous villager matters (e.g. Tun Fun ceremonies)	0.10	
(d)	Ex-gratia allowance for fishery undertakings	0.92	
(III)	**Compensation for Creation of Rights of Temporary Occupation of Land** [See Note 2 below]		5.74
(IV)	**Contingency**		1.39
		Total	9.04
		Say	9.00

Notes

1. This is a provisional estimate based on current information available and subject to valid statutory claims being received.

2. Rights of temporary occupation will be created for about 8,774 m^2 of private land.

[Draft]

For discussion
on 18 April 2012

PWSC(2012-13)XX

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS
Transport – Railways
62TR – Shatin to Central Link – construction of non-railway works – remaining works

Members are invited to recommend to the Finance Committee the upgrading of the remaining part of 62TR to Category A at an estimated cost of $5,983.1 million in money-of-the-day prices for carrying out the remaining non-railway works of the Shatin to Central Link.

PROBLEM

To tie in the construction of the remaining railway works of the Shatin to Central Link (SCL), we need to implement the remaining non-railway works of the SCL concurrently.

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade the remaining part of **62TR** to Category A at an estimated cost of $5,983.1 million in money-of-the-day (MOD) prices for carrying out the remaining non-railway works of the SCL.

PROJECT SCOPE AND NATURE

3. The SCL, with a total length of 17 kilometres (km), consists of the following two sections –

(a) Tai Wai to Hung Hom section: this is an extension of the Ma On Shan Line from Tai Wai via Southeast Kowloon to Hung Hom where it will join the West Rail Line; and

(b) Hung Hom to Admiralty section: this is an extension of the East Rail Line from Hung Hom across the Victoria Harbour to Wan Chai North and Admiralty.

4. The SCL comprises ten stations. Apart from improvements to the existing Tai Wai Station, construction of new stations at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, Ho Man Tin, Hung Hom, Exhibition Centre (the Exhibition) and Admiralty will be carried out. The construction of the Ho Man Tin Station and Admiralty Station have been included in the advance works of the SCL project and funding were approved by the Finance Committee (FC) in February 2011. These advance works are being implemented in conjunction with the Kwun Tong Line Extension (KTE) and South Island Line (East) (SIL(E) projects respectively. A plan showing the proposed alignment of the SCL is at **Enclosure 1**.

5. The scope of **62TR** comprises –

(a) construction of essential public infrastructure works (EPIW), including –

(I) Fung Tak pedestrian walkway system;

(II) pedestrian walkway system at Yuk Wah Street;

(III) pedestrian walkway system near Tsz Wan Shan Estate Central Playground;

(IV) covered walkway between To Kwa Wan Station and the Kai Tak Development Area;

(b) construction of reprovisioning, remedial and improvement works (RRIW), including –

(I) roads and related facilities;

(II) government facilities –

(i) sports facilities;

(ii) recreational facilities;

(iii) preservation works;

(iv) other government facilities;

(III) other facilities; and

(c) construction of enabling works.

The lists of EPIW and RRIW under the non-railway works of the SCL as well as their corresponding location plans and other relevant plans are at **Enclosures 2 and 3** respectively.

6. We have substantially completed the detailed design of the non-railway works. Subject to the approval of the FC, we expect that the non-railway works mentioned above will commence in mid-2012 to enable completion of the non-railway works in tandem with the completion of the railway works of the Tai Wai to Hung Hom section in 2018 and that of the Hung Hom to Admiralty section in 2020. Among the above, the pedestrian walkway systems at Tsz Wan Shan area will be included in the first batch of works to be implemented for early completion between 2014 and 2016 by phases, to enable the use of such systems by the local community as soon as possible. We will separately submit funding application for the construction of the remaining railway works of SCL (PWSC(2012-13)XX).

JUSTIFICATION

7. The 17-kilometre SCL is a territory-wide strategic railway project with ten stations. The SCL will be linked with a number of existing rail lines, forming two strategic railway corridors, namely the "East West Corridor" and the "North South Corridor".

(a) The "East West Corridor" connects Tai Wai Station of the Ma On Shan Line with Hung Hom Station of the West Rail Line. Passengers may travel directly from Wu Kai Sha Station to East Kowloon, Hung Hom, West New Territories and Tuen Mun without interchanging, providing a more direct and convenient railway service for passengers commuting between East New Territories and West New Territories.

(b) The "North South Corridor" extends the East Rail Line from Hung Hom Station across the Victoria Harbour to Admiralty Station. Passengers from Lo Wu (using the East Rail Line) and Huanggang (using the Lok Ma Chau Spur Line) may reach the heart of Hong Kong Island directly.

The alignments of the two corridors are at **Enclosure 4**.

8. Upon completion, the SCL will expand the coverage of the railway network in Hong Kong and serve a wide catchment of 380 000 residential and 260 000 employment population. The SCL will –

(a) reduce significantly the journey time for passengers commuting among East Kowloon, East New Territories and Hong Kong Island;

(b) provide railway service for various districts currently not provided with railway network connection, such as Hin Keng, Kai Tak, To Kwa Wan and Ma Tau Wai, and increase the capacity of the railway section from Shatin to Kowloon and that across the Harbour to help facilitate railway passenger flow and relieve the existing burden on the rail lines in urban Kowloon and the Hong Kong side;

(c) reduce the reliance on road-based public transport in existing developed areas, and alleviate the traffic congestion and environmental nuisance on existing road networks, including the demand on the Hung Hom Cross Harbour Tunnel;

(d) become an important component of the Kai Tak Development by providing public transport service not only to the proposed new commercial and residential developments in the area, but also to the government facilities at Kai Tak; and

(e) stimulate the rejuvenation of To Kwa Wan and Kowloon City.

Essential Public Infrastructure Works

9. To tie in with the service of the SCL, we have to implement the proposed EPIW to facilitate the use of the SCL by the public. The local community has all along expressed a strong wish to see its early completion. Without the proposed pedestrian walkway systems, we are unable to provide the residents and visitors of Tsz Wan Shan and Kai Tak Development Area convenient, safe and barrier-free pedestrian facilities to the railway stations of the SCL and vice versa. The list and the location plans of the EPIW are attached as Sheets 1 and 2 of **Enclosure 2** respectively.

(I) Proposed pedestrian walkway systems at Fung Tak, Yuk Wah Street and near Tsz Wan Shan Estate Central Playground

10. Located uphill of the Wong Tai Sin district, Tsz Wan Shan is a densely-populated area clustered with a number of public housing estates including Tsz Ching Estate, Tsz Man Estate and Tsz Hong Estate. Given the geographical characteristics, the existing footbridge system connecting Tsz Wan Shan and Diamond Hill MTR Station is a steep, zigzag link comprising many crossings, making it very inconvenient to nearby residents. As the local population is ageing with an increasing demand for barrier-free access, we plan to construct pedestrian walkway systems at Fung Tak, Yuk Wah Street, near Tsz Wan Shan Estate Central Playground to combine with the existing footbridge system in the area for an enhanced connection between Tsz Wan Shan and Diamond Hill Station of the SCL to facilitate the use of the railway by local residents.

11. The proposed pedestrian walkway systems include the construction of facilities such as additional footbridges and lifts for connection with the existing footbridge and lift system in the area. Pedestrian facilities currently provided in Tsz Wan Shan will be retrofitted with lifts to meet the demand for barrier-free access. The proposed footbridge system and covered walkway will provide grade-separated pedestrian crossings for enhanced

connectivity of various housing estates with the existing and new pedestrian facilities on the one hand, and greatly improve the linkage between Tsz Wan Shan and Diamond Hill Station on the other. Having discussed with the district council concerned and local stakeholders on a number of occasions, we have reached consensus on the alignments. We anticipate that the pedestrian flow of three pedestrian walkway systems will be about 2 000 per hour during peak period. The relevant works plans are attached as Sheets 3 and 4 of **Enclosure 2**.

(II) Proposed covered walkway linking To Kwa Wan Station and Kai Tak Development Area

12. We propose to construct a covered walkway between To Kwa Wan Station and the Kai Tak Development Area to facilitate passengers of the SCL and residents and visitors of the Kai Tak Development Area. We anticipate that the hourly pedestrian flow of the covered walkway will be about 5 000 during weekday peak period. The works plan is attached as Sheet 5 of **Enclosure 2**.

Reprovisioning, Remedial and Improvement Works

13. The RRIW mentioned in paragraph 5(b) above involve the temporary closure or permanent relocation of some existing facilities to tie in with the construction and operation of the SCL. Therefore, we have to re-provision these facilities during the construction of the SCL or carry out remedial and improvement works. The RRIW list and the location plans are attached as Sheets 1 to 8 and Sheets 9 to 13 of **Enclosure 3**.

(I) Roads and related facilities

14. The SCL will affect some roads and related facilities, such as public transport interchanges (PTIs), footbridges, flyovers, subways and culverts. We will carry out the relevant RRIW, including the reprovisioning of flyovers and PTIs or foundation underpinnings for flyovers, to ensure that the services provided by these facilities will not be affected. Major works on roads and related facilities include the following:

(i) PTIs

15. The proposed Exhibition Station will be located beneath the existing Wan Chai North PTI. As the station will be constructed by cut-and-cover method, the PTI has to be temporarily relocated to the new reclamation site of the Wan Chai Development Phase II Project. The PTI will be re-provisioned in-situ upon completion of the Exhibition Station of the SCL. The relevant works plan is attached as Sheet 14 of **Enclosure 3**.

16. To facilitate commuters interchanging to the railways, we propose to construct a two-storey PTI near Shatin Pass Road. The lower storey will accommodate the PTI with public light bus (PLB) stands, taxi stands and pick up/drop-off lay-bys for private cars. The upper storey is a coach park that provides tourists with a convenient access to the Wong Tai Sin Temple. The relevant works plan is attached as Sheet 15 of **Enclosure 3**.

(ii) Reprovisioning and underpinning of pedestrian facilities and flyovers

17. The piers of the existing Cheong Wan Road Flyover conflict with the SCL alignment. As such, a section of the flyover leading to the podium of Hung Hom Station needs to be moved to the west slightly. A permanent alternative access will be built to replace the section of the flyover in clash with the alignment. The affected section of the flyover will not be demolished until the completion of the new access.

18. In addition, two flyovers at Chatham Road North and two pedestrian subways connecting with the amenity area at Winslow Street are also affected by the railway works of the SCL and need to be diverted and demolished temporarily during construction. Also, the traffic along Chatham Road North and its vicinity has to be diverted temporarily. Both the affected flyovers and pedestrian subways will be re-provisioned in-situ upon completion of the railway works.

19. A pedestrian subway linking To Kwa Wan Station and Nam Kok Road of Kowloon City will be built to enhance pedestrian connectivity between the station and Kowloon City. To make sufficient room for the construction of the pedestrian subway, the existing foundations for the four piers of the flyover at the Prince Edward Road Interchange in the Olympic Garden need to be altered. Foundation underpinnings for the piers are therefore required for the alternation works. As the subway will be constructed by cut-and-cover method, temporary roads will have to be provided in and around Kowloon City to maintain the traffic at the Prince Edward Road Interchange. The interchange and the roads nearby will be re-provisioned in-situ upon completion of the works.

20. An underground access will be provided at the Diamond Hill Station Extension for connecting with the existing Diamond Hill Station to facilitate commuters interchanging with the Kwun Tong Line. As the underground access will be constructed by cut-and-cover method, temporary roads will have to be provided at Lung Cheung Road to maintain the traffic along. This section of Lung Cheung Road will be re-provisioned in-situ upon completion of the works.

21. The above-mentioned diversion will be carried out in phases. The MTR Corporation Limited (MTRCL) will implement appropriate mitigation measures to alleviate the impact of the works on nearby residents and road users. The relevant works plans of the pedestrian facilities and flyovers affected by the works are attached as Sheets 16 to 28 of **Enclosure 3**.

(iii) Reprovisioning of culverts and slope stabilisation

22. Three culverts along Canal Road, Lung King Street and Fleming Road and part of their foundations are in conflict with the tunnel works of the SCL and need to be temporarily removed, diverted and reprovisioned. The MTRCL will carry out temporary diversion of the culverts depending on the actual circumstances and practical needs, and re-provision such culverts upon completion of the tunnel works. These culverts are not situated under the busy trunk roads (for example, the Canal Road Culvert is within the rest garden at the Hong Kong Island Entrance of the Hung Hom Cross Harbour Tunnel; the affected portion of the Lung King Street Culvert and Fleming Road Road Culvert are situated at the harbour front of Wai Chai North.), therefore the traffic impacts due to the works will not be significant. Furthermore, sewers and mains of the cooling system at the north of Hung Hom Station clash with the SCL alignment and need to be diverted. These sewers are situated in the Hung Hom

freight yard which has ceased operation. The works will not impact the traffic nearby. In addition to culvert diversion, some slope works will have to be carried out in the SCL. The alignment of the Hung Hom to Admiralty section will branch off from the East Rail Line near Oi Sen Path in Ho Man Tin. Given the proximity of Oi Sen Path with the East Rail Line, the slope off Oi Sen Path has to be cut partially to accommodate the railway works of the SCL. Oi Sen Path has to be closed during construction and will be re-provisioned upon completion of the works. The MTRCL will consult the district councils and the local communities on the details of the works (including the temporary traffic arrangement proposals). The relevant works plans are attached as Sheets 29 to 34 of **Enclosure 3**.

(II) Government facilities

23. Running through a number of developed areas, the SCL will inevitably affect some existing government facilities. To maintain the services provided by these facilities and alleviate the impacts on their users, we will carry out essential RRIW for these facilities.

(i) Sports facilities

24. The proposed Exhibition Station will be built underneath the existing Wan Chai Sports Ground, Wan Chai Swimming Pool, Harbour Road Sports Centre and Wan Chai North PTI. During the construction of the SCL, a small number of seats in Wan Chai Sports Ground will be demolished and relocated temporarily elsewhere inside the sports ground to make room for the construction of the station. The sports ground will remain open to the public and provide services during construction, with the total number of seats in the spectator grandstand unchanged. Affected facilities will be re-provisioned in-situ upon completion of the works. The relevant works plan is attached as Sheet 35 of **Enclosure 3**.

25. The Exhibition Station will be constructed by cut-and-cover method. As such, the existing Wan Chai Swimming Pool and Harbour Road Sports Centre will be permanently re-provisioned at the car park south of their present sites for demolition of the existing facilities to make room for the construction of the station. Facilities to be re-provisioned include the swimming pool, indoor game hall, gymnasium, multi-purpose rooms, squash courts, table tennis saloons, changing rooms, store rooms, first aid room, electrical and mechanical plant rooms and filtering facility for the swimming pool. The new building will have a floor area of about 16 500 square metres (m^2) and the re-provisioned Wan Chai Swimming Pool and Harbour Road Sports Centre will meet the latest standards. In particular, the Wan Chai Swimming Pool will adopt an indoor design and be upgraded to a 50m × 25m pool meeting international standards for the training of athletes. According to the current programme, we expect that the new facilities will be open for use in 2017. The existing facilities will remain open to the public during the reprovisioning works and will not be demolished until the completion of the works and opening of new facilities, such that users of these facilities will not be affected by the works. The relevant works plan is attached as Sheet 36 of **Enclosure 3**.

26. On the Kowloon side, the base columns supporting the podium of the Hong Kong Coliseum will be affected by the SCL works. Foundation underpinnings and alteration are required. Given the change of the supporting configuration, stabilisation of the podium itself will be required. The operation of the Hong Kong Coliseum will not be affected during the works. The relevant works plan is attached as Sheet 37 of **Enclosure 3**.

(ii) Recreational facilities

27. As the areas along the SCL alignment are mostly developed districts, space available for use as works areas is very limited. Therefore, we have to occupy some recreation playgrounds and gardens managed by the Leisure and Cultural Services Department as temporary works sites or for the construction of permanent railway facilities. We have to re-provision the affected playgrounds and gardens for public use during construction or upon completion of the SCL works.

28. A shaft and a temporary works site will be provided at the Ma Chai Hang Recreation Ground to facilitate the tunnel works of the SCL. We will maintain the existing recreational and sports facilities in the recreational ground as far as possible and relocate affected facilities temporarily. The recreational ground will be re-provisioned upon completion of the SCL. As part of the recreational ground will be occupied permanently for the provision of ventilation facilities of the SCL, we plan to build an indoor games hall at the recreational ground to compensate for the permanent loss of recreational and sports facilities.

29. A pedestrian subway will be built between the proposed To Kwa Wan Station and Nam Kok Road of Kowloon City and its vicinity, via Song Wong Toi Playground and Olympic Garden. As the subway will be constructed by cut-and-cover method, the playground and garden have to be used as temporary works sites and will later be re-provisioned for public use.

30. Regarding Shatin, some recreational and sports facilities at Hin Tin Playground have to be permanently or temporarily closed for the construction of the proposed Hin Keng Station and related railway works. Some affected recreational facilities will be relocated to On Muk Street in Shek Mun, Shatin and Hin Kwai Lane at the early stage of the works, while the remaining affected facilities will be re-provisioned at Hin Tin Playground upon completion of the works. Other smaller leisure and recreational facilities affected by the SCL will also be re-provisioned upon completion of the works.

31. Other smaller recreational sites affected are set out in the RRIW list at **Enclosure 3**. They will be re-provisioned upon completion of the SCL works. The works plans for the reprovisioning of recreational facilities affected by the SCL are attached as Sheets 38 to 47 of **Enclosure 3**.

(iii) Preservation Works

32. The Diamond Hill Station extension of the SCL will affect two historical structures in the former Tai Hom Village, namely the Old Pillbox and the former Royal Airforce Hangar (RAF Hangar). The RAF Hangar is not in favourable conditions as its structure has partly collapsed due to the lack of maintenance and its construction material contains asbestos. On the contrary, the Old Pillbox can be preserved in whole for its better shape. We understand the public's aspiration for preserving these two historical structures. The MTRCL will submit a detailed construction stage conservation scheme of these structures to the Antiquities and Monuments Office (AMO). The Planning Department is currently reviewing the development schemes for the vacant site at the former Tai Hom Village in the light of the views of the local community and other planning criteria, including the reprovisioning locations and conservation of these two historical structures. The

Government will consult the local community once preliminary development plan is available. The MTRCL will carefully consider the views and recommendations of the AMO and the local community in carrying out preservation works. The works plans for the preservation of the two historical structures affected by the SCL works are attached as Sheet 48 of **Enclosure 3**.

(iv) Other government facilities

33. The proposed Hin Keng Station will be built at the existing New Territories South Animal Management Centre of the Agriculture, Fisheries and Conservation Department, Sha Tin Plant Quarantine Station and Hin Tin Playground. The management centre and quarantine station need to be demolished and relocated to facilitate the construction of the new station and related railway works. Such affected facilities will be re-provisioned in a new building in Shatin. The works plan is attached as Sheet 49 of **Enclosure 3**.

34. The SCL project involves the excavation of a temporary construction shaft and building of a plant room and ventilation facilities at the existing site of the police facilities near Causeway Bay Typhoon Shelter. As such, the existing police facilities need to be demolished in 2015 and will be re-built in-situ upon completion of the works for the railway tunnel facilities in 2020. Owing to the lack of suitable reprovisioning sites and on the grounds of optimum use of the existing land and resources, we will not re-provision these facilities on a temporary basis during the SCL works. To minimise the impact of the works, however, we will carry out improvement to the Police Sports and Recreation Club at Boundary Street, Kowloon to make up partly for the services and training facilities provided by the demolished facilities. The relevant works plans are attached as Sheets 50 and 51 of **Enclosure 3**.

35. The SCL project also affects the Wanchai Ferry Concourse Public Toilet, which will therefore be relocated and re-provisioned. The relevant works plan is attached as Sheet 52 of **Enclosure 3**.

(III) Other facilities

36. Apart from the facilities mentioned in paragraphs 13 to 35 above, a small number of other facilities will also be affected by the SCL project. Examples are the Hin Keng Estate Refuse Collection Point, Fleet Arcade at Fenwick Pier Street in Wan Chai, and staircases and grease trap for the Hong Kong Convention and Exhibition Centre. We will include the reprovisioning of these facilities in our works programme, and they will be returned to their respective property owners for operation upon completion of the SCL works. The relevant works plans are attached as Sheets 53 to 55 of **Enclosure 3**.

Enabling Works

37. To facilitate the future development along the SCL, we need to carry out enabling works at some work sites (including To Kwa Wan Station and Wai Chai North Works Site), to provide adequate supporting capacity. It also avoids the operating tunnel of the SCL imposing constraints to the future development. The enabling works include enhancement of

the foundation and structure of the stations, installation of necessary piles along the tunnels and stations, so as to enhance the development potential of the sites concerned.

CONSTRUCTION COST OF THE ENTIRE SCL PROJECT

38. In March 2008, based on the merger proposal jointly submitted by the MTRCL and the Kowloon-Canton Railway Corporation in 2005, we estimated that the total project cost of the SCL (including railway and non-railway works) would be $38.17 billion in April 2007 prices. At that time, the SCL project was at a conceptual stage, with the design and site investigation yet to commence, and no pre-feasibility study had been conducted. Therefore, the estimated cost was only a crude preliminary estimate.

39. When we sought funding approval from the FC for the advance works of the SCL (including the construction of the Ho Man Tin Station and Admiralty Station) in February 2011, we estimated in the paper submitted to the FC that the construction cost of the SCL would be over $60 billion (in September 2009 prices). Following the substantial completion of the detailed design of the SCL by the MTRCL, we appointed an independent consultant (IC) to scrutinize the estimated construction cost of the SCL based on the detailed design to ensure that it was a reasonable estimation. The IC has now completed the independent assessment. After careful cost control, including the effort to strive for enhancing and streamlining the railway design at the design stage, the funding we apply via PWSC (2012-13)XX for the construction of the main body of the railway works is about $52.4 billion (in September 2011 prices) and that via this paper for the construction of the non-railway works is about $4.9 billion (in September 2011 prices). Taking into account the various protection and advance works items, the funding of which were approved by the FC in 2010 and 2011, the total construction cost of the entire SCL project is estimated to be about $64.9 billion[1] (in September 2011 prices). A breakdown is shown in **Table 1** below -

Table 1 - Estimated construction cost for the entire SCL project

	Description	Estimate ($ million) (in Sep 2011 prices)	Estimate ($ million) (in MOD prices)
(1)	Protection works with funding already approved[2]	640	695

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[1] In May 2008, we received separately FC's funding approval at a sum of $2,407.5 million (in MOD prices) for the design and site investigation works for the projects.

[2] Between June 2010 and June 2011, the FC approved the following estimated costs at the respective price level –

Protection works

(a) The estimated cost of **59TR** at the sum of $146.1 million in September 2009 prices;

(b) The estimated cost of **58TR** at the sum of $478.5 million in September 2010 prices;

Advance works

(c) The estimated cost of **63TR** at the sum of $5,517.9 million in September 2010 prices; and

(d) The estimated cost of **64TR** at the sum of $1,305.8 million in September 2010 prices.

	Description	Estimate ($ million) (in Sep 2011 prices)	Estimate ($ million) (in MOD prices)
(2)	Advance works with funding already approved[2] - **63TR** Construction of railway works – advance works - **64TR** Construction of non-railway works – advance works	6,969	7,703
(3)	**61TR** Construction of railway works – main works (separate funding application via PWSC(2012-13)xx)	52,396	65,433
(4)	**62TR** Construction of non-railway works – main works (funding application via this paper)	4,904	5,983
	Total construction cost	64,909	79,814

As compared with the crude estimate for the SCL in 2007, the reasons for the increase in construction cost are as follows:

(a) Construction prices surged rapidly over the preceding period of more than four years. The construction cost of the SCL is no exception. The latest estimate on the construction cost of the SCL reflects an overall escalation of the project cost of some 47% (around $17.9 billion) between 2007 and 2011, a magnitude in line with the increase of over 50% for general building works over the same period.

(b) When our funding application for the advance works of the SCL was submitted in February 2011, we estimated an increase of $5 billion for incorporating suggestions and requests put forward by stakeholders. Having further considered the needs of the public, the construction cost is revised upwards to reach $5.2 billion for acceding to stakeholders' suggestions and requests. The relevant details are at **Enclosure 5**.

(c) When the funding application for the advance works of the SCL was submitted in February 2011, we estimated an increase of $7 billion for the design changes in response to the actual circumstances and technical requirements. With stringent cost control and design enhancement and after a detailed assessment of the data obtained from field survey and ground investigation, we have reduced the additional cost incurred by the design changes for meeting the technical requirements to $3.6 billion. The relevant details are at **Enclosure 5**.

40. The IC has studied carefully the detailed design of the SCL and reviewed the quantities and the cost accordingly. The IC has also checked the latest construction price trends and scope of the proposed works. Subsequent to the review, the IC considers the current estimated construction cost reasonable. Under the established project entrustment arrangement, the Government will pay for the actual cost of the construction works based on the prices established from appropriate tendering processes. During the construction period, the Government will engage an independent engineering consultant to scrutinise the works undertaken by the MTRCL, including the expenditure on individual items, so as to closely monitor the payment procedures.

WORKS TO BE ENTRUSTED TO THE MTRCL

41. Under the concession approach, the SCL project will be funded by the Government. We plan to entrust the construction of the railway works under **61TR** (funding application via PWSC(2012-13)XX) to the MTRCL. To ensure smooth interface of works and facilitate works arrangement for concurrent implementation at the same sites, we will also entrust the construction of the non-railway works of the SCL under **62TR** (funding application via this paper) to the MTRCL. As mentioned in paragraph 40 above, the Government will, in accordance with established project entrustment arrangement, pay for the actual cost of the construction works based on the prices established from appropriate tendering processes. The MTRCL, as the entrustee, will charge an on-cost as its project management cost[3] for the services it has provided for the management and supervision of the project.

42. Regarding the funding applications for the advance works of the SCL under items (2) in Table 1 above (namely **63TR** and **64TR**), the project management cost is assumed to be 16.5% of the construction cost. As pointed out in the funding applications for **63TR** and **64TR** (via PWSC(2010-2011)34 and PWSC(2010-11)35), the estimate for project management cost represents only a provisional figure. A specific funding proposal for the project management cost of the SCL can only be prepared after the IC has come up with a concrete estimate for the construction cost and project management cost based on the detailed design of the SCL. By then, we may also adjust the provisional management cost for the advance works concerned in the funding applications for the SCL main works.

43. According to the completed detailed design of the SCL, the IC has conducted an in-depth study of the nature, scope, complexity and duration of the construction works of the project and assessed accordingly the risk management approach, technical requirements as well as professionals and manpower resources of the MTRCL necessary for the supervision and management of the entire project. The IC has also made reference to the relevant information of other railway works to perform a detailed analysis and assessment on the project management cost for the SCL. After a comprehensive assessment by the IC, the project management cost for the entire SCL project (including the advance works and the main works) is adjusted downwards from the provisional assumption of 16.5% as depicted in

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[3] The project management cost is payable to the MTRCL for undertaking technical studies, design implementation, construction supervision and contract management during construction.

paragraph 42 above to 10.5% of the total construction cost estimate including contingencies for all the works entrusted to the MTRCL. The sum concerned is estimated to be $6,097.2 million (in September 2011 prices) which includes the sum already approved by the FC for the advanced works under **63TR** and **64TR** as per items (2) in Table 1 above as well as the sum for the main works under items (3) and item (4) in Table 1 above of which the funding approval is being sought[4]. Such sum comprises $5,478.6 million (in September 2011 prices) for the railway works and $618.6 million (in September 2011 prices) for the non-railway works. The IC estimates that the project management cost actually required for **61TR** will be $4,984.5 million (in September 2011 prices). After deducting the relevant part of the project management cost earmarked for the advance works of the SCL under **63TR**, the funding applied via PWSC (2012-13)XX) for the project management cost for the railway works under **61TR** becomes $4,755 million (in September 2011 prices). Under the same arrangement, the project management cost actually required for the non-railway works under **62TR** is $466.5 million (in September 2011 prices). After deducting the project management cost earmarked for the advance non-railway works of the SCL under **64TR**, the project management cost being sought via this paper becomes $445 million (in September 2011 prices). For other recent railway projects including the KTE, SIL(E), Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link and West Island Line, their rates of the project management cost range from 7.4% to 12.4%. Comparing against these projects, the SCL is a 17 km railway line with ten stations. The scale of project is very substantial. In terms of construction, the SCL will build stations railway tunnel in densely populated old districts. Coupled with the need to connect to a number of existing railway lines, operation of which must not be compromised during construction, the SCL works are very complicated. Furthermore, construction of the SCL will involve closure of a number of main roads, as well as tens of reprovisioning and improvement items for the facilities affected by the works. The project management and supervision work under the SCL project is therefore more complicated in comparison with that of other railway projects mentioned above. As such the IC considers the rate of 10.5% for the SCL reasonable.

FINANCIAL IMPLICATIONS

44. We estimate the cost of the remaining part of **62TR** to be $5,983.1 million in MOD prices (please see paragraph 47 below), broken down as follows –

			$ million
(a)	Construction of EPIW		503.4
	(I) Proposed Fung Tak pedestrian walkway system	42.6	
	(II) Proposed pedestrian walkway system at	204.3	

[4] The protection works under item (1) in Table 1 have been separately undertaken by the Civil Engineering and Development Department and the Highways Department. No project management cost is payable to the MTRCL for such works. Separately, the project management cost for the design and site investigation works is $341 million.

	Yuk Wah Street			
	(II) Proposed pedestrian walkway system near Tsz Wan Shan Estate Central Playground		234.0	
	(IV) Proposed covered walkway connecting To Kwa Wan Station and Kai Tak Development Area		22.5	
(b)	Construction of RRIW			3,146.6
	(I) Roads and related facilities		1,326.1	
	(i) PTIs	129.2		
	(ii) Reprovisioning and enhancement of pedestrian facilities and flyovers	936.6		
	(iii) Reprovisioning of culverts and slope stabilisation	260.3		
	(II) Government facilities		1,767.7	
	(i) Sports facilities	682.6		
	(ii) Recreational facilities	425.7		
	(iii) Preservation works	89.7		
	(iv) Other government facilities	569.7		
	(III) Other facilities		52.8	
(c)	Enabling works			346.0
(d)	Project management costs payable to the MTRCL for planning, management and supervision of the project			445.0[5]
(e)	Fees for independent consultants appointed by the Government for monitoring and vetting MTRCL's work including cost of the project			17.1
(f)	Contingencies			445.8
	Sub-total			4,903.9 (in

[5] The IC estimates that the project management cost actually required for 62TR will be $466.5 million (in September 2011 prices). After deducting the relevant part of the project management cost earmarked for the advance non-railway works of the SCL under 64TR, the funding applied via this paper for the project management cost becomes $445 million (in September 2011 prices).

(g)	Provision for price adjustment	1,079.2	September 2011 prices)
	Total	5,983.1	(in MOD prices)

In respect of the items described in paragraph 44(a) to 44(c) above, the total estimated cost is $3,996 million (in September 2011 prices). Please refer to paragraphs 9 to 37 above for details.

45. In respect of the item described in paragraph 44(d) above, the estimated cost of $445.0 million (in September 2011 prices) is used for settling the project management cost. Please refer to paragraphs 41 to 43 above for details.

46. In respect of the item described in paragraph 44(e) above, the estimated cost of $17.1 million (in September 2011 prices) is used for engaging an independent engineering consultant to scrutinise the works conducted by the MTRCL during the construction stage of the project.

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

Year	$ million (Sept 2011)	Price Adjustment Factor	$ million (MOD)
2012-2013	380.7	1.05325	401.0
2013-2014	1174.5	1.11118	1305.1
2014-2015	1343.2	1.17229	1574.6
2015-2016	821.5	1.23677	1016.0
2016-2017	412.5	1.30479	538.2
2017-2018	201.4	1.37656	277.2
2018-2019	80.4	1.45227	116.8
2019-2020	444.8	1.53214	681.5
2020-2021	43.9	1.61641	71.0
2021-2022	1.0	1.70531	1.7
	4,903.9		5,983.1

48. We have derived the MOD estimates on the basis of the Government's latest set of assumption on the trend rate of change in the prices of public sector building and construction output for the period from 2012 to 2022. The MTRCL will tender the proposed works with price adjustments where appropriate. We will engage a consultant to undertake

the service described in paragraph 46 above on a lump sum basis with the provision for price adjustment.

49. We estimate that the remaining non-railway works will incur an additional annual recurrent expenditure of $74.7 million.

PUBLIC CONSULTATION

50. Since mid-2008, the Government and the MTRCL have conducted extensive public consultation on the SCL scheme. We consulted 11 district councils along the proposed railway alignment at more than 40 meetings by introducing the SCL project, reporting on the project progress and seeking their views on the railway scheme. We also made use of various channels, such as web pages, brochures, leaflets, digests and newsletters, to provide comprehensive information for the public. Community consultation activities, including site visits, roving exhibitions, public forums and school talks, were held to brief community groups and residents on the SCL scheme and collect their opinions that could help further improve the scheme.

51. The statutory consultation stage of the SCL project commenced when its railway scheme was gazetted on 26 November 2010 under the Railways Ordinance. During the statutory consultation period, we continued to collect valuable opinions from community stakeholders and residents, brief relevant stakeholders on the gazette content and amendments, and handle objections lodged by the public according to the statutory procedures. During the objection period, we received a total of 92 objection cases, which were mainly concerned with the overall planning of the SCL project; railway alignment; arrangements and locations of stations, entrances, pedestrian linkage facilities, ventilation facilities and stabling sidings; environmental impact; traffic and transport impact; impact on the existing buildings and structures; use of explosives; setting up of temporary works areas and works sites on Government land and facilities; resumption of underground strata; railway protection zone; and reprovisioning of public facilities and public areas.

52. Taking into consideration public concerns and views, we proceeded with two stages of scheme amendments gazetted on 15 July and 11 November 2011 respectively. The major amendments are shown as follows –

<u>First stage scheme amendments (15 July 2011)</u>

(a) to amend the proposed tunnel works near Harcourt Road; and
(b) to amend the temporary works area in Sha Tin.

<u>Second stage scheme amendments (11 November 2011)</u>

(a) to cancel the proposed stabling sidings in Diamond Hill;
(b) to amend the alignment of the railway tunnel to reduce resumption of underground strata of buildings;
(c) to amend the layout of the proposed pedestrian facilities in Tsz Wan Shan;
(d) to cancel the proposed temporary concrete batching plant in Kai Tak;
(e) to add emergency accesses between the proposed Kai Tak Station and To Kwa Wan Station;

(f) to modify the existing freight yard in Hung Hom and the associated facilities for the SCL operation and stabling of trains; and
(g) to construct noise barriers to the north of the existing Hung Hom freight yard.

53. Subsequent to our detailed explanations, responses to public concerns and two rounds of amendments to the railway scheme, 12 objectors have withdrawn their objections[6] to the SCL scheme. No new objection case was received during the two stages of scheme amendments. This indicates that the amendments have responded to the aspirations of the public. As regards those objections not withdrawn, a total of 12 panel hearings were held in accordance with the administrative procedures between December 2011 and February 2012 to allow the objectors who had not withdrawn their objections to reflect their concerns and opinions to the hearing panel which was formed by non-official, independent members. The hearing panel was satisfied with the fair, open and highly transparent manner by which the Government handled the objection cases. The hearing panel also agreed that the objectors had been given ample opportunities to express their opinions, and that the Government, in response to the objectors' views, had reasonably reviewed the railway scheme and explained to the objectors why their opinions were not accepted.

54. We consulted the Subcommittee on Matters Relating to Railways under the Panel on Transport of the LegCo (the Subcommittee) on 27 March 2008, 31 March 2009, 4 November and 6 December 2010, 7 January 2011 and 6 May 2011 respectively.

55. We updated the Subcommittee on the progress of the railway scheme and consulted it on the funding proposal of the SCL project on 2 and 23 March 2012 respectively. [Views and responses of the Subcommittee]

ENVIRONMENTAL IMPLICATIONS

56. The majority of the non-railway works including the RRIW on roads and government facilities, which will facilitate the convenient use of the SCL by local citizens, are not the designated works under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). The MTRCL will implement environmental control measures. It is expected that construction of the works will not have significant adverse impact on the environment. Nonetheless, we have carried out preliminary environmental review on some of the works items to ensure that the environmental impacts of the works during construction and operation will be controlled to within the criteria under the relevant environmental legislations and standards. These works items include the reprovisioning of the New Territories South Animal Management Centre of the Agriculture, Fisheries and Conservation Department and the proposed PTIs at Wan Chai North and Wong Tai Sin.

57. The reprovisioning works of Cheong Wan Road Flyover is a designed project under the EIAO. We have included the construction and operation of these reprovisioning

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[6] Under the Railways Ordinance, objections unconditionally withdrawn will be deemed to have never been submitted by the objectors. Objections not withdrawn or conditionally withdrawn will be deemed to be objections unresolved and they will subsequently be submitted to the Chief Executive in Council for consideration.

works in the Environmental Impact Assessment (EIA) for the SCL project. On 17 February 2012, the Director of Environmental Protection (DEP) approved the relevant EIA report, which concluded that the environmental impacts of the proposed works could be controlled to within the criteria under the EIAO and the Technical Memorandum on EIA Process. The MTRCL will implement the environmental mitigation measures recommended in the approved EIA report. The mitigation measures recommended for the construction phase mainly include the adoption of quieter equipment, movable noise barriers and noise insulating fabric to minimise construction noise impact; regular water spraying for dust control; and proper control of the sewage and waste. The MTRCL will also implement an environmental monitoring and audit (EM&A) programme complying with relevant conditions under the Environmental Permit and other statutory requirements for environmental protection to monitor the accumulated construction noise and dust generated by various concurrent works. We have included the cost, amounting to $50 million, of implementing the related environmental mitigation measures and EM&A programme in the overall project estimate.

58. At the planning and design stages of the remaining non-railway works, the MTRCL considered measures to reduce the generation of construction waste during construction where possible. The MTRCL will require the contractor to reuse inert construction waste (e.g. excavated rock and soil materials) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities[7]. The MTRCL will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise construction waste.

59. At the construction stage, the MTRCL will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. The MTRCL will ensure that day-to-day operations on site comply with the approved plan. The MTRCL will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The MTRCL will control the delivery of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

60. The MTRCL estimates that the remaining non-railway works will generate in total about 40 700 tonnes of construction waste. Due to the limited space in built-up areas for the temporary storage of such materials for reuse, the MTRCL will deliver about 39 900 tonnes (98.0%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, the MTRCL will dispose of the remaining 800 tonnes (2.0%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfills is estimated to be $1.2 million for the project

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[7] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

(based on a unit cost of $27 per tonne for disposal at public fill reception facilities and $125 per tonne at landfills[8]).

61. The project will adopt various forms of energy efficient features, including:

(a) T5 energy efficient fluorescent tubes with electronic ballast;
(b) light-emitting diode type exit signs;
(c) solar-powered road lamp systems;
(d) outdoor lighting control by daylight sensor;
(e) office lighting control by occupancy sensor;
(f) service-on-demand control for escalators;
(g) lift systems with variable speed drive;
(h) solar water heating;
(i) chillers and condensate pumps with variable speed drive;
(j) total heat recovery device;
(k) heat pump systems;
(l) demand control of fresh air supply with carbon dioxide sensor; and
(m) air conditioning systems with motion sensor.

62. The total estimated additional cost for adopting the above features is around $7 million, which has been incorporated into the cost estimate for the project. There will be 10% to 15% energy savings in the annual energy consumption. The payback period of individual systems is about 3 to 10 years.

HERITAGE IMPLICATIONS

63. The works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

64. The proposed non-railway works do not require land acquisition. Compensation cost for land clearance in respect of the SCL project is estimated to be $130,000, which will

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[8] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90 per m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

be charged to Head 701 - Land Acquisition of the Capital Works Reserve Fund. A breakdown of the land acquisition and clearance costs is at **Enclosure 6**.

BACKGROUND INFORMATION

65. In March 2008, the Executive Council decided to adopt the service concession approach to finance the SCL project. Under the service concession approach, the Government will provide for the railway facilities of the new railway projects. The MTRCL will be granted service concession to operate the new facilities. We upgraded **51TR "**Shatin to Central Link – design and site investigation" to Category A at an estimated cost of $2,407.5 million in MOD prices in May 2008 and commenced the preliminary design in November 2008.

66. We upgraded **58TR** to Category B in October 2009 and then part of **58TR** to Category A in July 2010 as **59TR** "Shatin to Central Link – construction of railway works – protection works in Wan Chai Development Phase II" at an estimated construction cost of $152.6 million in MOD prices for the protection works of the SCL tunnel in Wan Chai Development Phase II. The funding application was approved on 2 July 2010 and the works started in August 2010.

67. We upgraded **61TR** to Category B in September 2010 and then part of **61TR** to Category A in February 2011 as **63TR** "Shatin to Central Link – construction of railway works – advance works" at an estimated construction cost of $6,254.9 million in MOD prices for the expansion of part of Admiralty Station and Ho Man Tin Station to accommodate the SCL railway facilities. The funding application was approved on 18 February 2011 and the works started in May 2011.

68. We upgraded **62TR** to Category B in September 2010 and then part of **62TR** to Category A in February 2011 as **64TR** "Shatin to Central Link – construction of non-railway works – advance works" at an estimated construction cost of $1,448.2 million in MOD prices for the reprovisioning of the International Mail Centre in Hung Hom and reconstruction of the Harcourt Garden and Hong Kong Park. The funding application was approved on 18 February 2011 and the works started in May 2011.

69. We upgraded **58TR** "Shatin to Central Link – construction of railway works – protection works" to Category A in June 2011 at an estimated construction cost of $541.6 million in MOD prices for the protection works of the SCL tunnel in Causeway Bay Typhoon Shelter. The funding application was approved on 24 June 2011 and the works started in September 2011.

70. Of the 474 trees within the project boundary, 204 trees will be preserved. The proposed non-railway works will involve the removal of 270 common trees, including 250 trees to be felled and 20 trees to be transplanted. All trees to be removed are not important

trees[9]. We will incorporate planting proposals as part of the project, including estimated quantities of about 242 trees to be planted and around 301 m^2 of grassed area to be provided.

71. The MTRCL estimates that the construction of the **62TR** will create about 510 jobs (including 420 for labourers and another 90 for professional/technical staff), providing a total employment of 17 700 man-months.

Transport and Housing Bureau
April 2012

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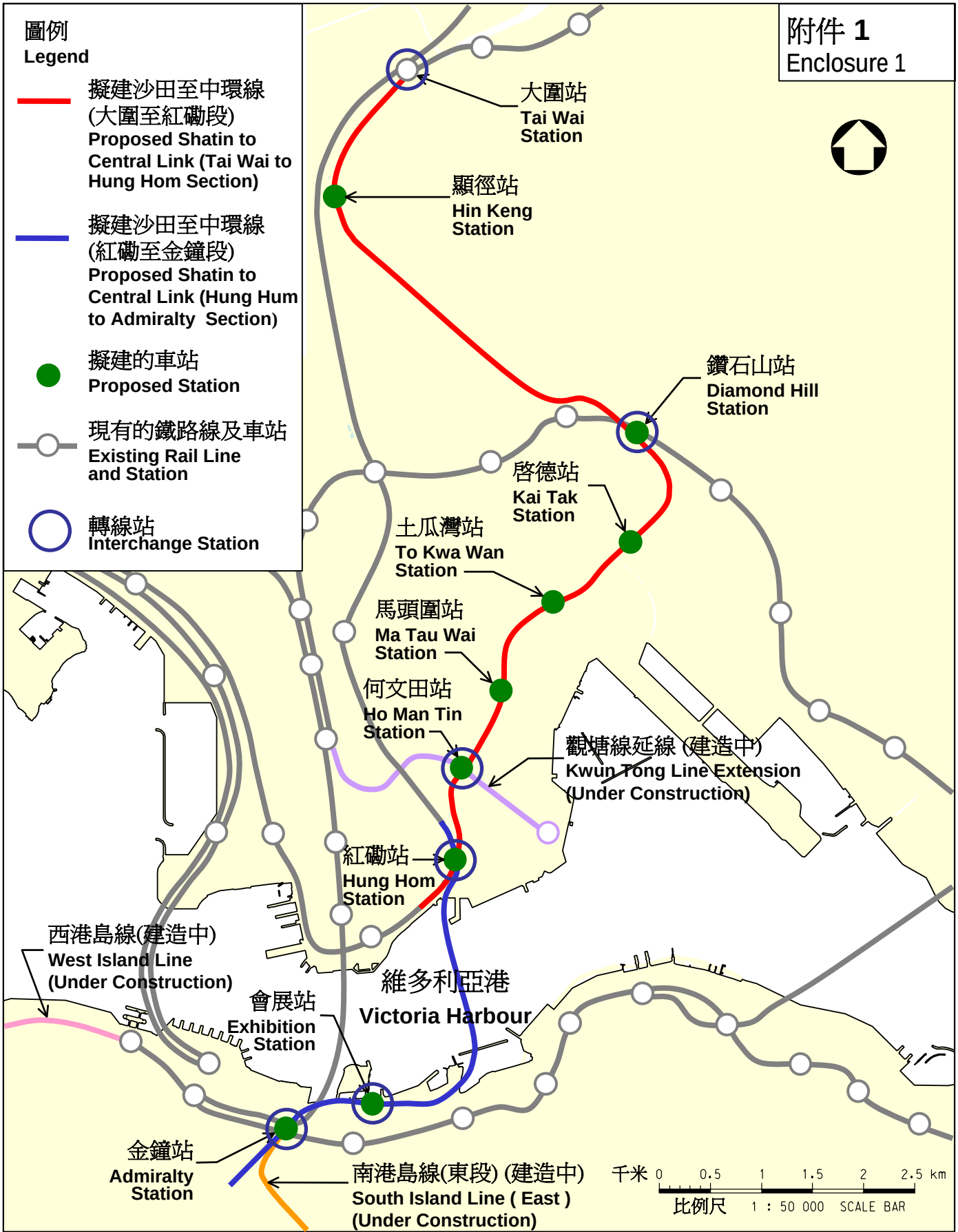
[9] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –
(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument and trees in memory of important persons or events;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree size, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.



圖則名稱 drawing title

工務計劃項目第62TR號 — 沙田至中環線 — 非鐵路建造工程 — 餘下工程
擬建沙田至中環線的走線

PWP Item No. 62TR – Shatin to Central Link – Construction of Non-railway Works - Remaining Works Proposed Alignment of the Shatin to Central Link

圖號 drawing no.
HRWSCL003-SK0375

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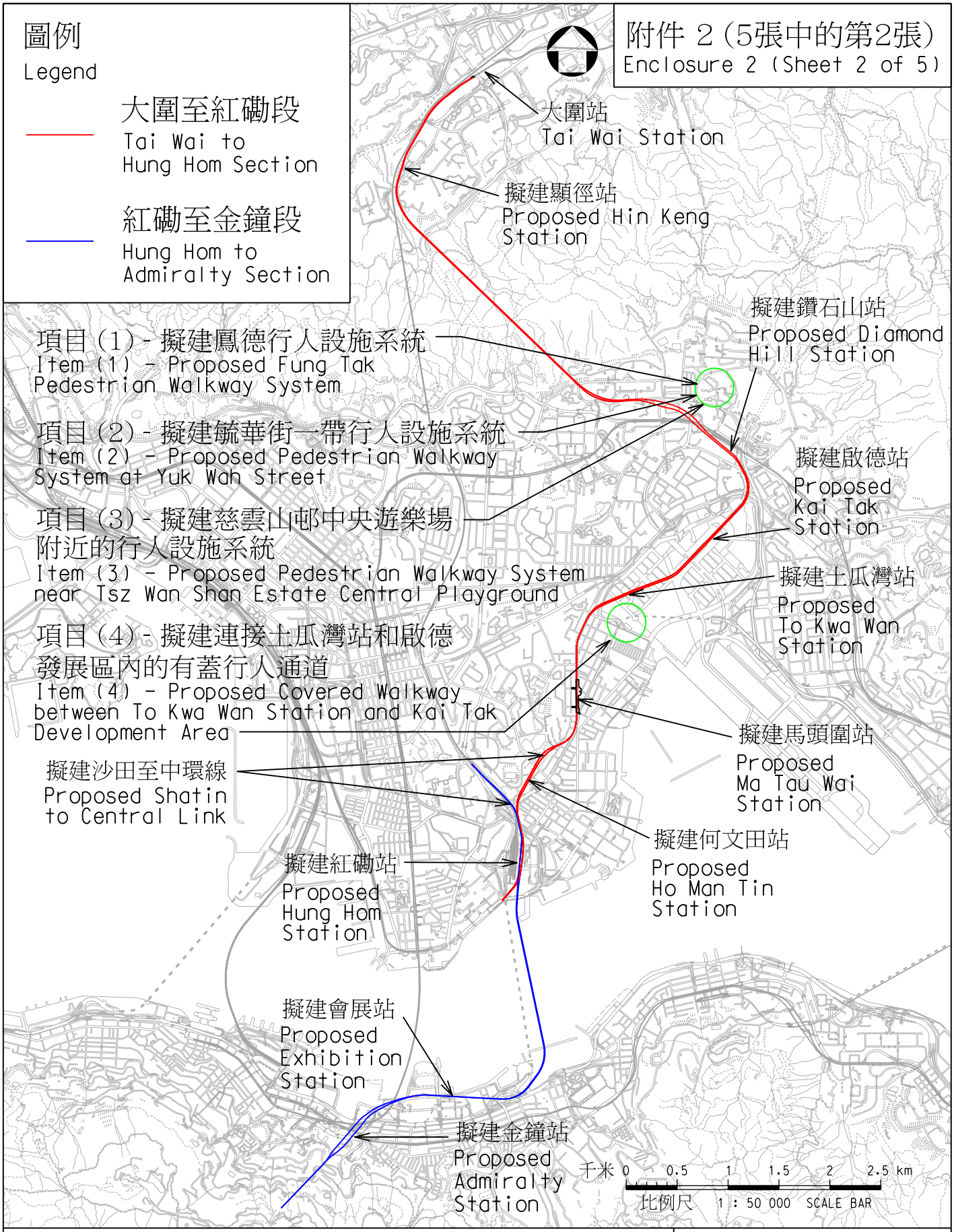
62TR – Shatin to Central Link – Construction of Non-railway Works – Remaining Works

List of Essential Public Infrastructure Works

No.	Item	Plan
1.	Fung Tak pedestrian walkway system	Enclosure 2 (Sheet 3 of 5)
2.	Pedestrian walkway system at Yuk Wah Street	Enclosure 2 (Sheet 4 of 5)
3.	Pedestrian walkway system near Tsz Wan Shan Estate Central Playground	Enclosure 2 (Sheet 4 of 5)
4.	Proposed Covered Walkway between To Kwa Wan Station and Kai Tak Development Area	Enclosure 2 (Sheet 5 of 5)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程
主要基建工程位置圖

PWP Item No.62TR - Shatin to Central Link - Construction of Non-railway Works
Essential Public Infrastructure Works (EPIW)
Location Plan

圖號 drawing no.

HRWSCL003-SK0264

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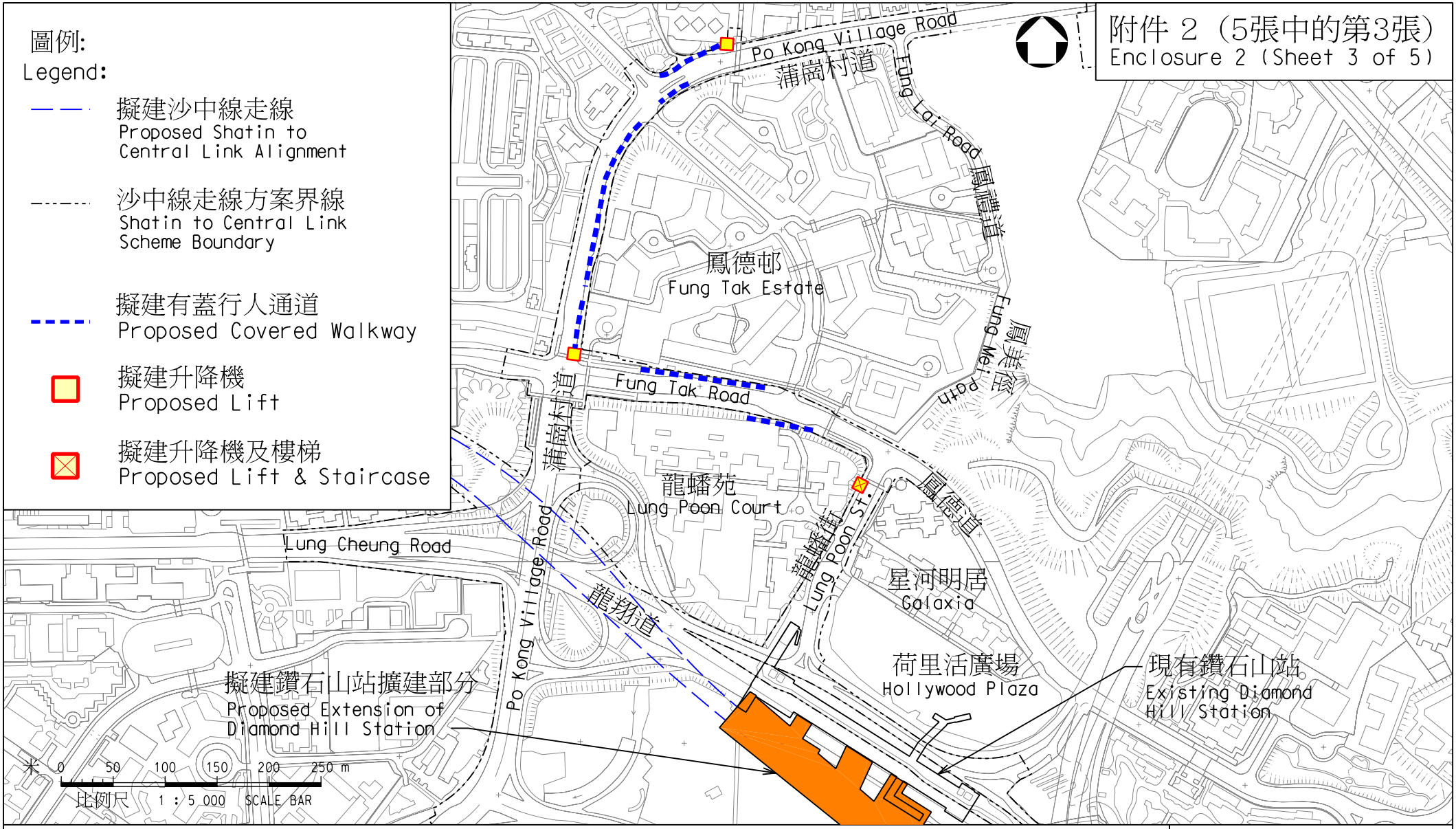

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (1) 擬建鳳德行人設施系統

Item (1) Proposed Fung Tak Pedestrian Walkway System

圖號 drawing no.
HRWSCL003-SK0276

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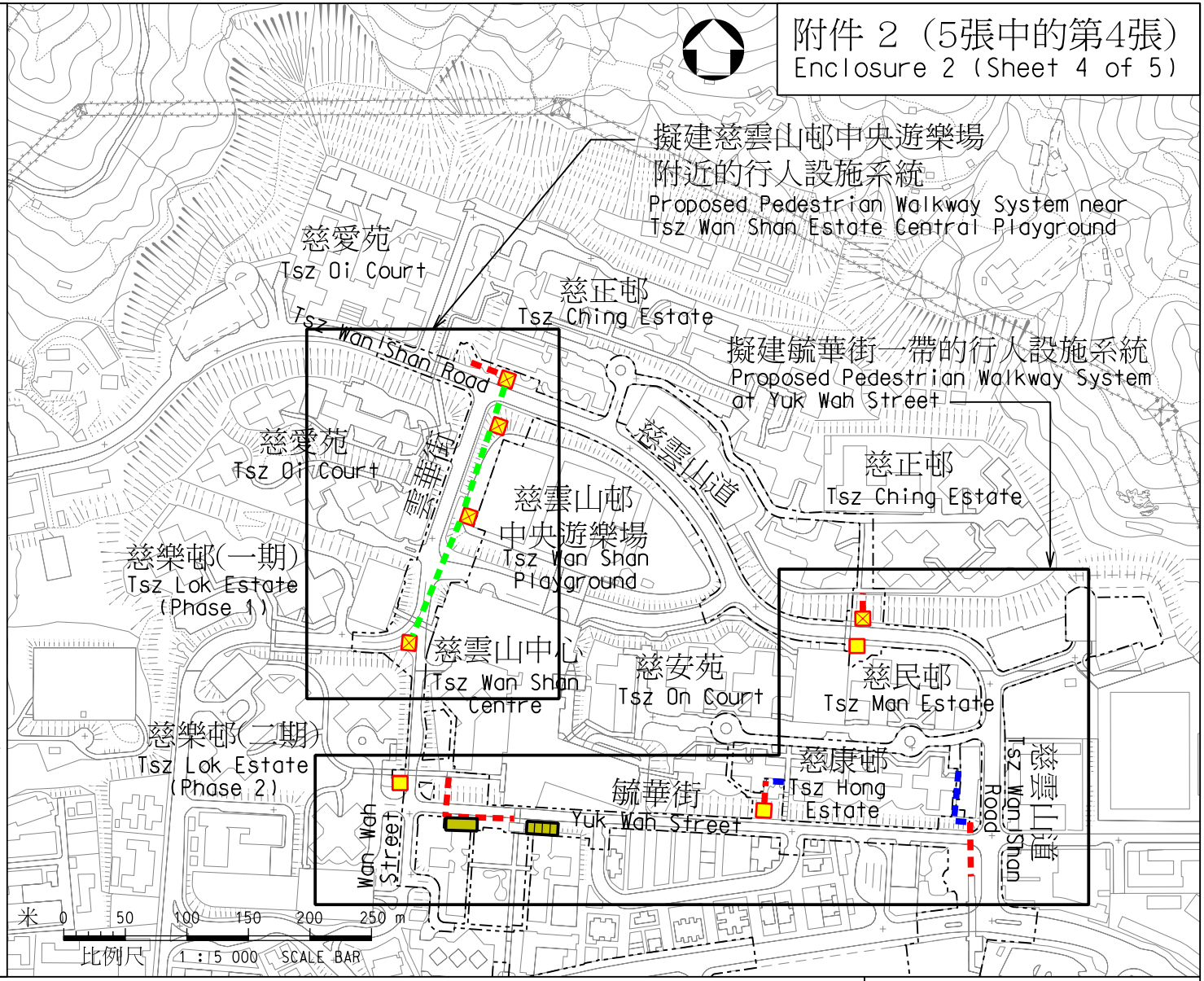
圖例:
Legend:

- 沙田至中環線方案界線 Shatin to Central Link Scheme Boundary
- 擬建行人天橋 Proposed Footbridge
- 擬建有蓋行人通道 Proposed Covered Walkway
- 擬建行人天橋（連自動行人道/扶手電梯） Proposed Footbridge (Including Moving Walkway / Escalator)
- 擬建升降機 Proposed Lift
- 擬建升降機及樓梯 Proposed Lift & Staircase
- 擬建扶手電梯 Proposed Escalator
- 擬建扶手電梯及樓梯 Proposed Escalator & Staircase



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(2) 擬建毓華街一帶的行人設施系統 項目(3) 擬建慈雲山邨中央遊樂場附近的行人設施系統

Item (2) Proposed Pedestrian Walkway System at Yuk Wah Street Item (3) Proposed Pedestrian Walkway System near Tsz Wan Shan Estate Central Playground

圖號 drawing no.
HRWSCL003-SK0275

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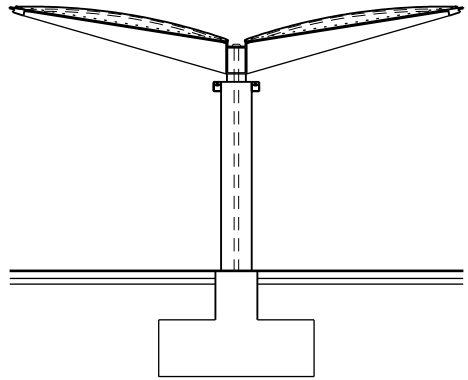
附件 2（5張中的第5張）
Enclosure 2 (Sheet 5 of 5)



擬建有蓋行人路典型切面圖
Typical Section of the Proposed Covered Walkway
（不按比例 N.T.S.）

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (4) 擬建連接土瓜灣站和啟德發展區內的有蓋行人通道

Item (4) Proposed Covered Walkway between To Kwa Wan Station and Kai Tak Development Area

圖號 drawing no.
HRWSCL003-SK0293

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62TR – Shatin to Central Link – Construction of Non-railway Works – Remaining Works

List of Reprovisioning, Remedial and Improvement Works

(I) Road and Related Facilities

(i) PTIs

No.	Item	Plan
1.	Reprovisioning of Public Transport Interchange at Wan Chai North	Enclosure 3 (Sheet 14 of 55)
2.	Proposed Public Transport Interchange at Fung Tak	Enclosure 3 (Sheet 15 of 55)

(iii) Reprovisioning and Enchancement of Pedestrian Facilities and Flyovers

No.	**Item**	**Plan**
3.	Reprovisioning of Portion of Cheong Wan Road Flyover	Enclosure 3 (Sheet 16 of 55)
4.	Reprovisioning of Road Facilities at Chatham Road North	Enclosure 3 (Sheet 17 of 55)
5.	Reprovisioning of Road Facilities around Kowloon City and Ma Tau Wai	Enclosure 3 (Sheet 18 and x of 55)
6.	Reprovisioning of Road Facilities at Lung Cheung Road near Diamond Hill Station	Enclosure 3 (Sheet 19 of 55)
7.	Reprovisioning of Portion of Wan Shing Street Footbridge	Enclosure 3 (Sheet 20 of 55)
8.	Reprovisioning of Portion of Percival Street Footbridge	Enclosure 3 (Sheet 21 of 55)
9.	Improvement to Subways at Olympic Garden	Enclosure 3 (Sheet 22 of 55)
10.	Reprovisioning of Wan Chai Ferry Pier Footbridge	Enclosure 3 (Sheet 23 of 55)
11.	Reprovisioning of Hong Wan Path	Enclosure 3 (Sheet 24 of 55)
12.	Reprovisioning of Fender Piles of Hung Hom Bypass	Enclosure 3 (Sheet 24 of 55)

No.	**Item**	**Plan**
13.	Underpinning Works of the Following Flyovers	
	(a) Kowloon North East Corridor Piers	Enclosure 3 (Sheet 25 of 55)
	(b) East Kowloon Corridor Piers	Enclosure 3 (Sheet 26 of 55)
	(c) Hung Hom Bypass Pier	Enclosure 3 (Sheet 27 of 55)
	(d) Canal Road Flyover	Enclosure 3 (Sheet 28 of 55)
	(e) Hung Hing Road Flyover	Enclosure 3 (Sheet 28 of 55)

(iv) Reprovisioning of Culverts and Slope Stabilisation

No.	**Item**	**Plan**
14.	Reprovisioning of the Following Culverts	
	(a) Culvert at Hung Hom Station and Proposed Hung Hom Stabling Sidings	Enclosure 3 (Sheet 29 of 55)
	(b) Culvert at North Fan Area of Hung Hom Station	Enclosure 3 (Sheet 29 of 55)
	(c) Culvert at Canal Road	Enclosure 3 (Sheet 30 of 55)
	(d) Culvert at Lung King Street	Enclosure 3 (Sheet 31 of 55)
	(e) Culvert at Fleming Road	Enclosure 3 (Sheet 32 of 55)
	(f) Sewers and Cooling Mains near Hung Hom Railway Station	Enclosure 3 (Sheet 33 of 55)
15.	Slope Improvement Works near Oi Sen Path	Enclosure 3 (Sheet 34 of 55)

(II) Government Facilities

(i) Sports Facilities

No.	Item	Plan
16.	Reprovisioning of Portion of Wan Chai Sports Ground	Enclosure 3 (Sheet 35 of 55)
17.	Reprovisioning of Wan Chai Swimming Pool and Harbour Road Sports Centre	Enclosure 3 (Sheet 36 of 55)
18.	Strengthening of Hong Kong Coliseum Podium	Enclosure 3 (Sheet 37 of 55)

(ii) Recreational Facilities

No.	Item	Plan
19.	Reprovisioning of Portion of Ma Chai Hang Recreation Ground and Proposed Indoor Games Hall	Enclosure 3 (Sheet 38 of 55)
20.	Reprovisioning and Improvement of Sung Wong Toi Playground	Enclosure 3 (Sheet 39 of 55)
21.	Reprovisioning and Improvement of Olympic Garden	Enclosure 3 (Sheet 39 of 55)
22.	Improvement to Hin Tin Playground and Proposed Hin Kwai Lane Sitting Out Area and Proposed Shek Mun Garden	Enclosure 3 (Sheet 40 and Sheet 41 of 55)
23.	Reprovisioning and Improvement of Ma Tau Wai Road/To Kwa Wan Road Garden	Enclosure 3 (Sheet 42 of 55)
24.	Reprovisioning and Improvement of Ma Tau Wai Road/Chi Kiang Street Amenity Area	Enclosure 3 (Sheet 42 of 55)
25.	Reprovisioning and Improvement of Ma Tau Wai Road/Chatham Road North Amenity Area	Enclosure 3 (Sheet 42 of 55)

No.	Item	Plan
26.	Reprovisioning and Improvement of Ma Tau Chung Road/Tam Kung Road Amenity Area	Enclosure 3 (Sheet 43 of 55)
27.	Reprovisioning and Improvement of Ma Tau Wai Road/Ma Hang Chung Road Rest Garden	Enclosure 3 (Sheet 43 of 55)
28.	Reprovisioning and Improvement of Lok Shan Road Playground and To Kwa Wan Complex Playground	Enclosure 3 (Sheet 43 of 55)
29.	Reprovisioning and Improvement of Tsz Wan Shan Estate Central Playground and Tsz Wan Shan Road Rest Garden	Enclosure 3 (Sheet 44 of 55)
30.	Reprovisioning and Improvement of Winslow Street Playground and Amenity Area	Enclosure 3 (Sheet 45 of 55)
31.	Reprovisioning and Improvement of Chatham Road Interchange Rest Garden	Enclosure 3 (Sheet 45 of 55)
32.	Reprovisioning and Improvement of Playground at Junction of Fenwick Pier Street and Convention Avenue	Enclosure 3 (Sheet 46 of 55)
33.	Reprovisioning and Improvement of Tunnel Approach Rest Garden	Enclosure 3 (Sheet 47 of 55)

We are also required to provide small scale local recreational facilities temporarily.

(iii) Preservation Works

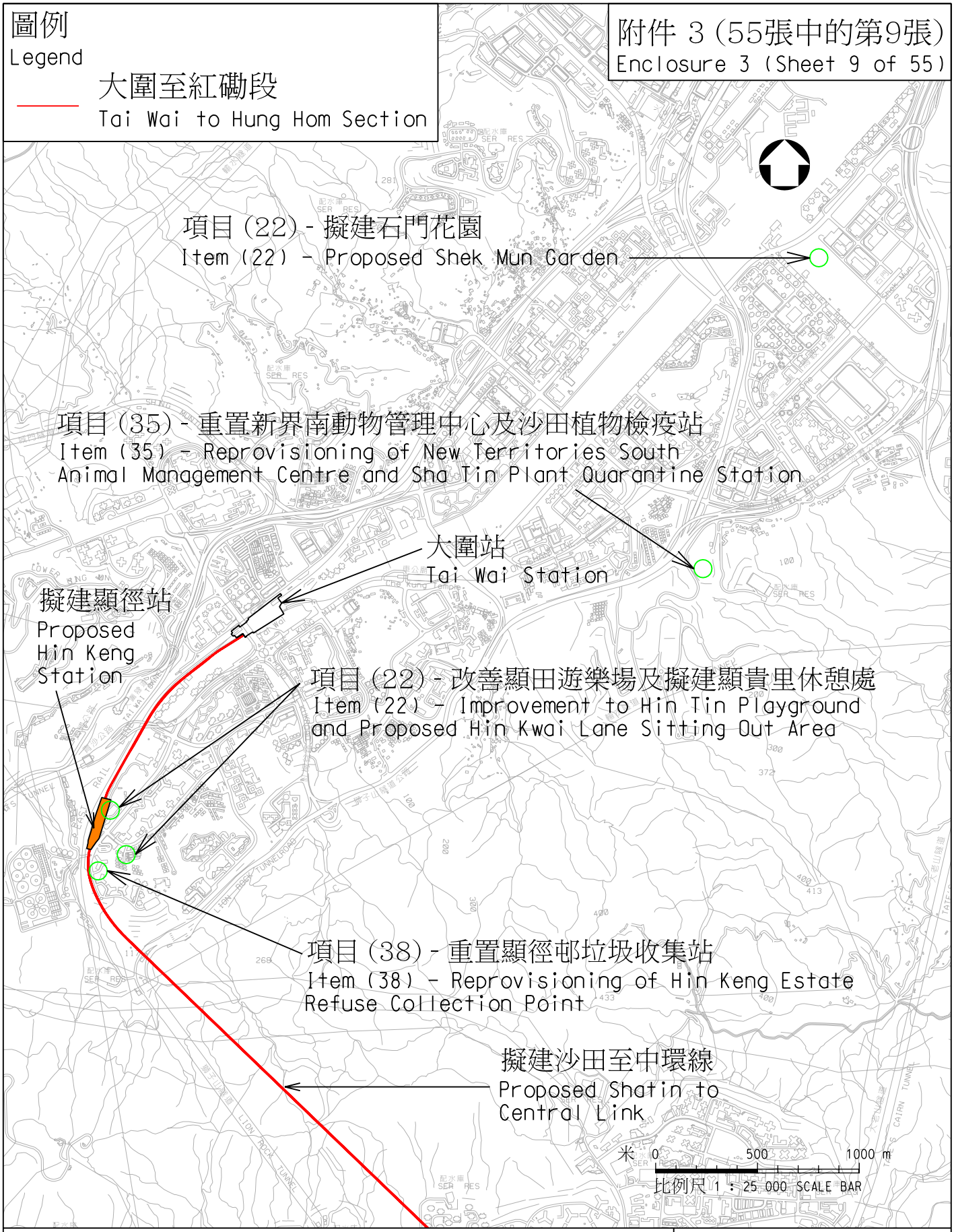
No.	**Item**	**Plan**
34.	Preservation of Old Pillbox and Former Royal Airforce Hangar at ex-Tai Hom Village	Enclosure 3 (Sheet 48 of 55)

(iv) Other Government Facilities

No.	**Item**	**Plan**
35.	Reprovisioning of New Territories South Animal Management Centre and Sha Tin Plant Quarantine Station	Enclosure 3 (Sheet 49 of 55)
36.	Reprovisioning of Police Facilities near Causeway Bay Typhoon Shelter and Improvement to Police Sports and Recreation Club at Boundary Street	Enclosure 3 (Sheet 50 and Sheet 51 of 55)
37.	Reprovisioning of Wan Chai Ferry Concourse Public Toilet	Enclosure 3 (Sheet 52 of 55)

(III) Other Facilities

No.	Item	Plan
38.	Reprovisioning of Hin Keng Estate Refuse Collection Point	Enclosure 3 (Sheet 53 of 55)
39.	Reprovisioning Works at Fleet Arcade at Fenwick Pier Street	Enclosure 3 (Sheet 54 of 55)
40.	Reprovisioning of Staircases and Grease Trap in Hong Kong Convention and Exhibition Centre	Enclosure 3 (Sheet 55 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號－沙田至中環線－非鐵路建造工程
重置、補救及改善工程位置圖

PWP Item No.62TR - Shatin to Central Link - Construction of Non-railway Works Reprovisioning, Remedial and Improvement Works (RRIW) Location Plan

圖號 drawing no.

HRWSCL003-SK0265

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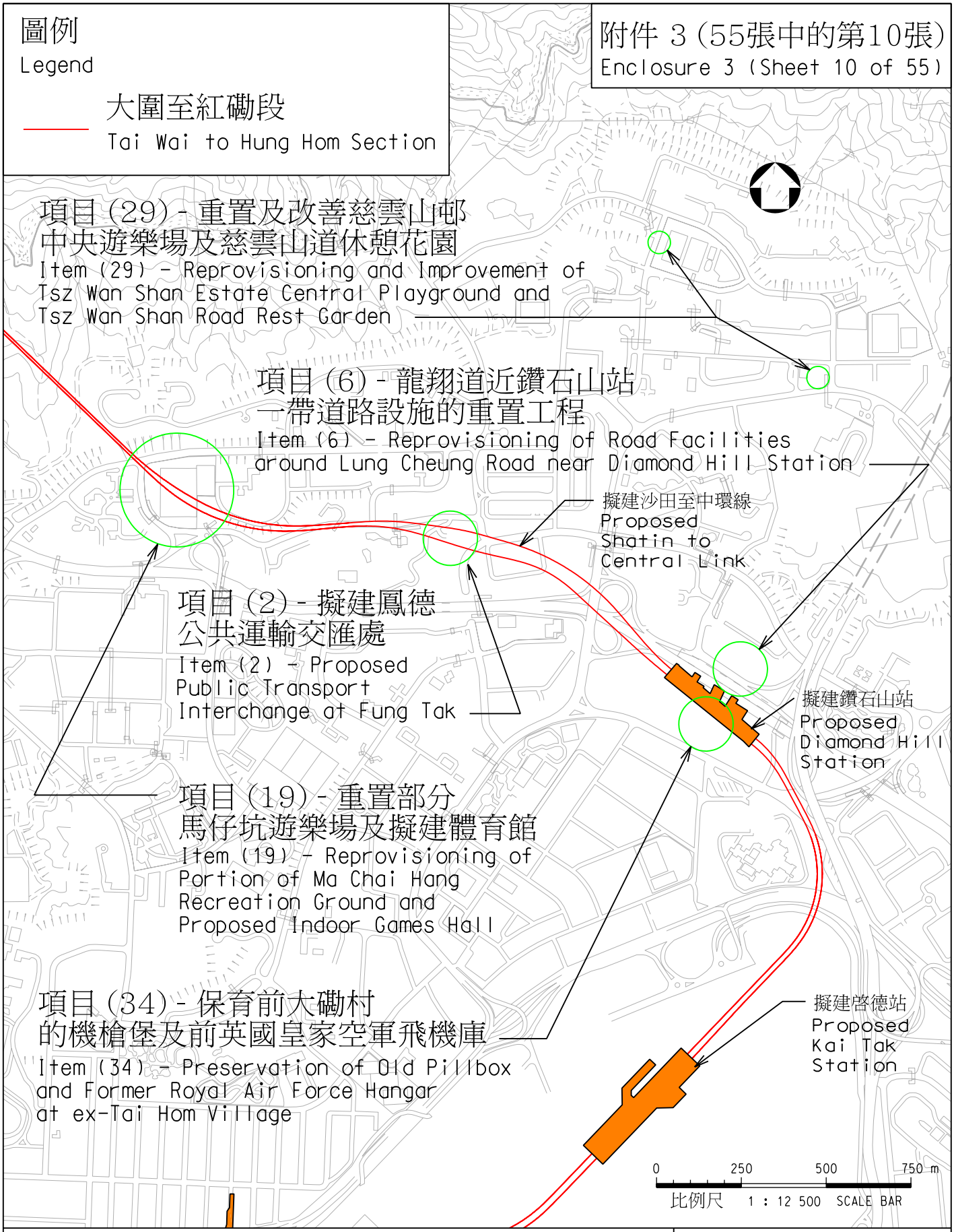
HIGHWAYS DEPARTMENT

A4 210X297

HRWSCL003-SK0265.dgn 15-03-2012

圖例
Legend

大圍至紅磡段
Tai Wai to Hung Hom Section



圖則名稱 drawing title

工務計劃項目第62TR號－沙田至中環線－非鐵路建造工程
重置、補救及改善工程位置圖
PWP Item No.62TR - Shatin to Central Link - Construction of Non-railway Works Reprovisioning, Remedial and Improvement Works (RRIW) Location Plan

圖號 drawing no.
HRWSCL003-SK0268

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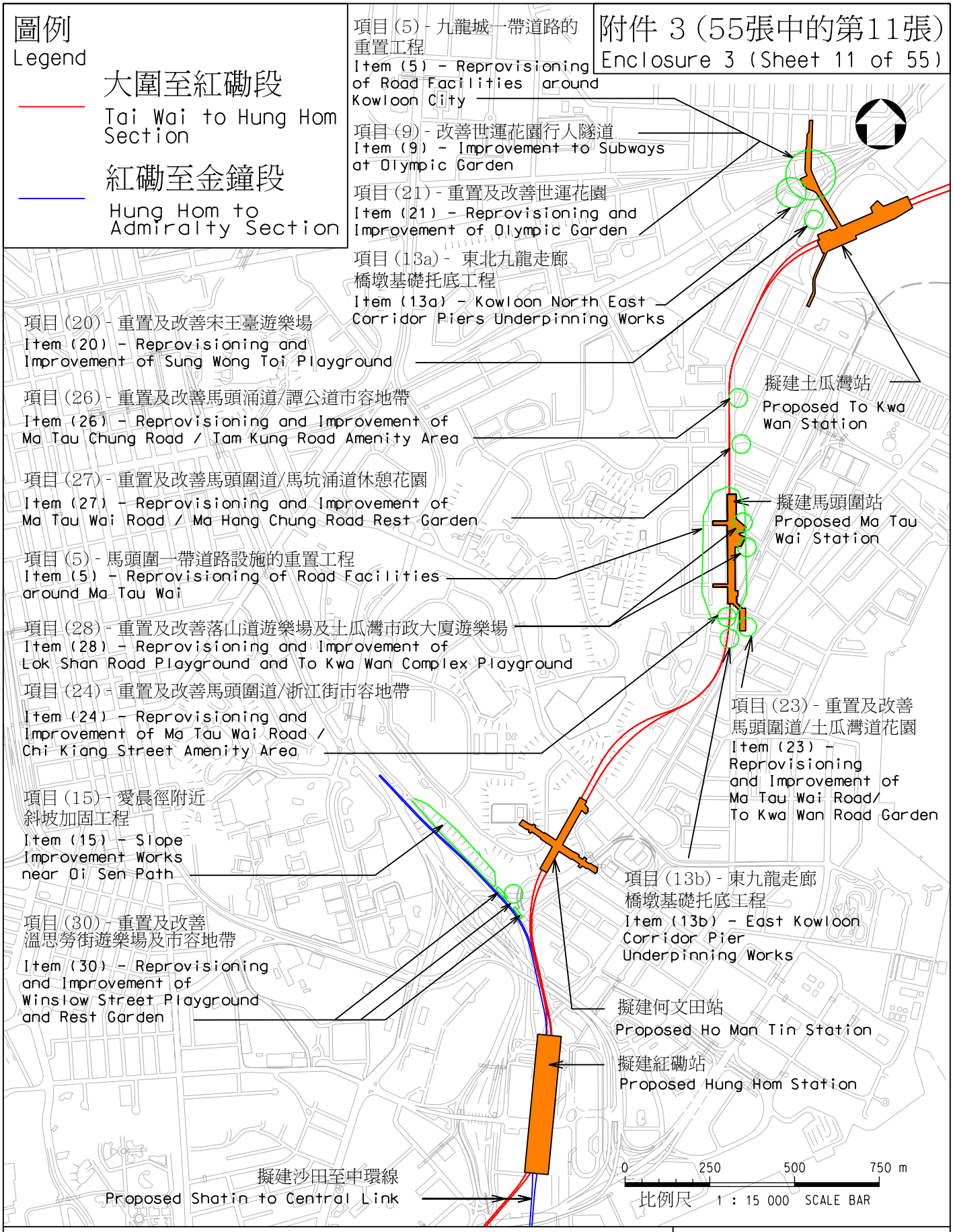

圖則名稱 drawing title

工務計劃項目第62TR號－沙田至中環線－非鐵路建造工程 重置、補救及改善工程位置圖

PWP Item No.62TR - Shatin to Central Link - Construction of Non-railway Works Reprovisioning, Remedial and Improvement Works (RRIW) Location Plan

圖號 drawing no.

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路政署 HIGHWAYS DEPARTMENT

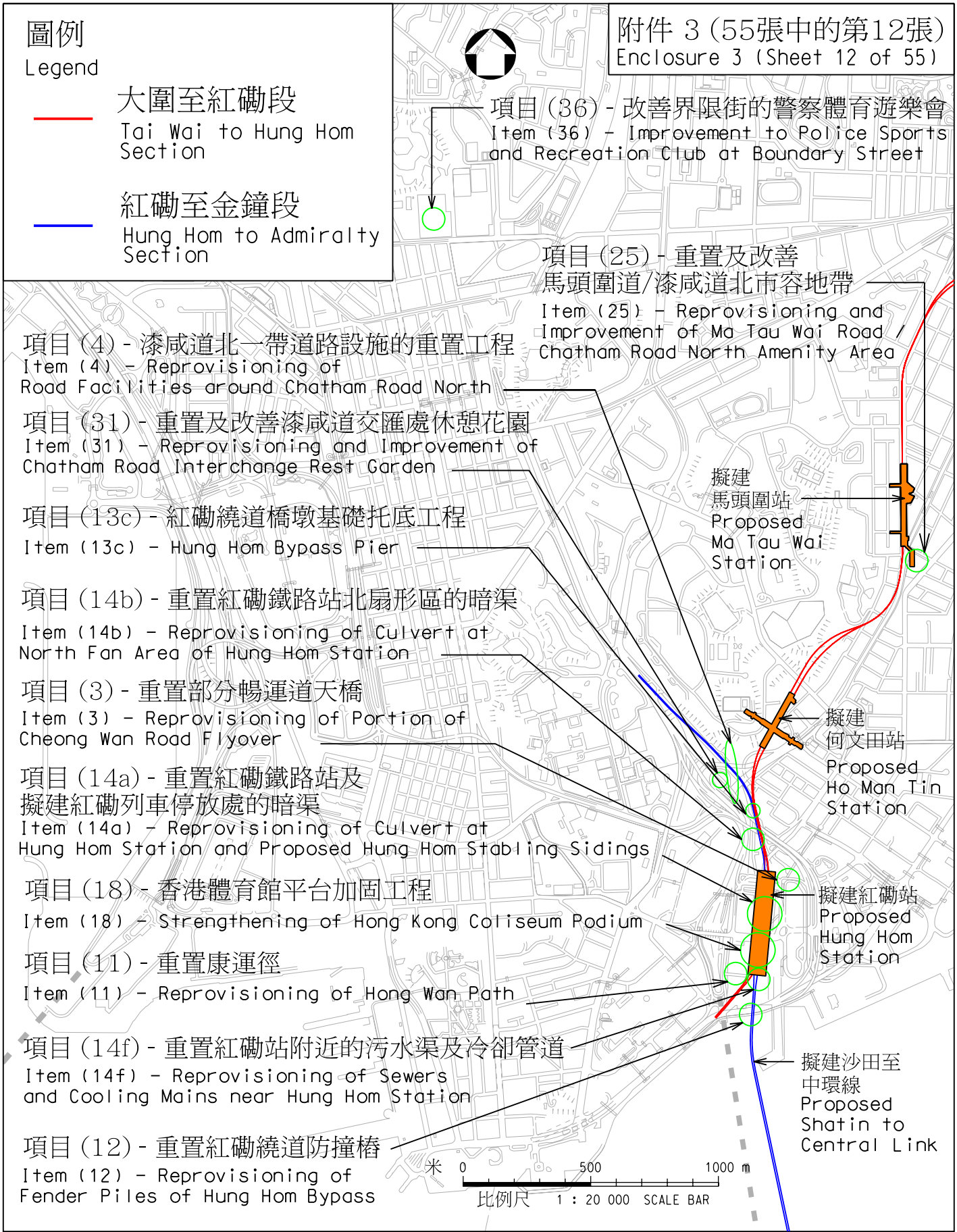
A4 210X297

HRWSCL003-SK0269.dgn 14-03-2012

圖例
Legend

大圍至紅磡段
Tai Wai to Hung Hom Section

紅磡至金鐘段
Hung Hom to Admiralty Section



圖則名稱 drawing title

工務計劃項目第62TR號－沙田至中環線－非鐵路建造工程
重置、補救及改善工程位置圖
PWP Item No.62TR - Shatin to Central Link - Construction of Non-railway Works Reprovisioning, Remedial and Improvement Works (RRIW) Location Plan

圖號 drawing no.
HRWSCL003-SK0267

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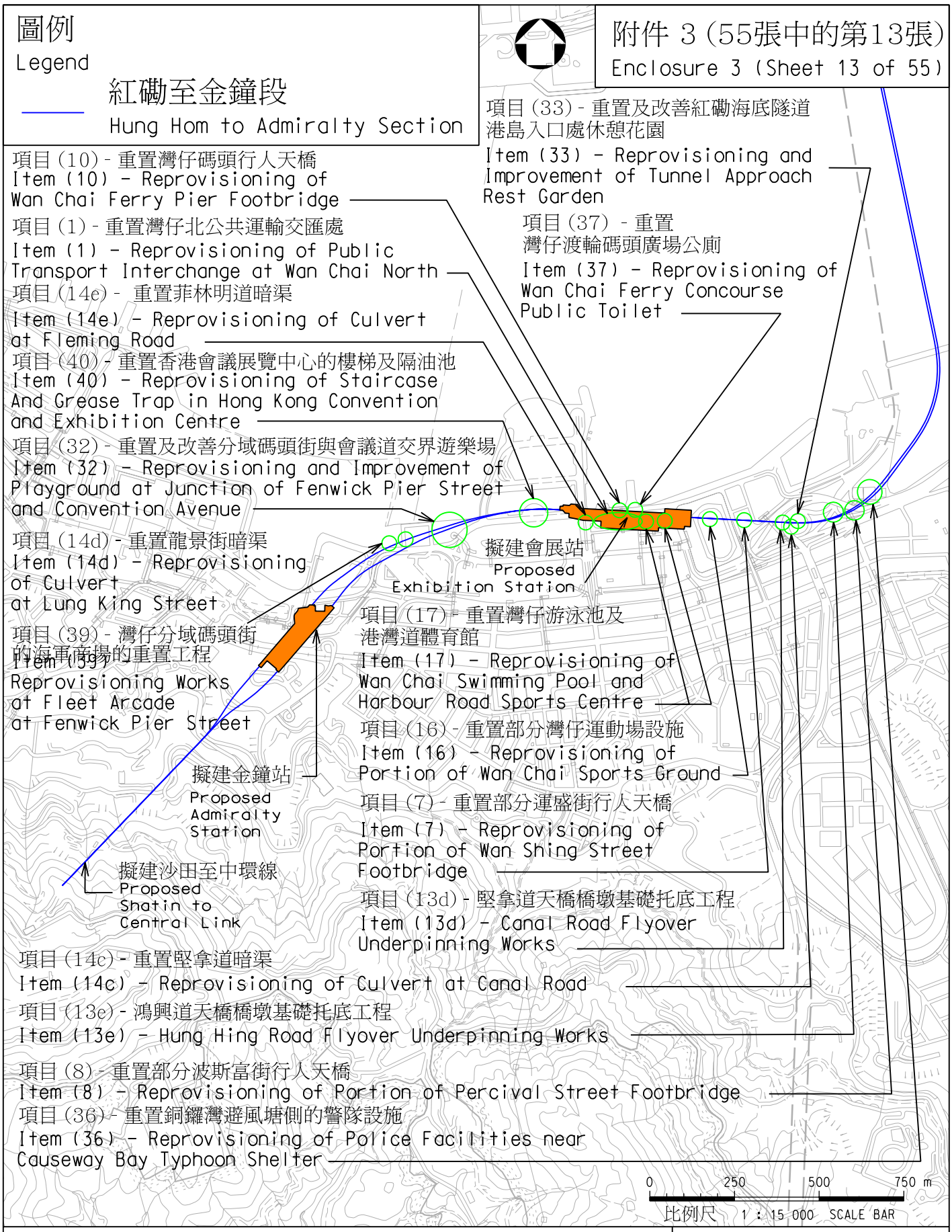
A4 210X297



圖則名稱 drawing title

工務計劃項目第62TR號－沙田至中環線－非鐵路建造工程
重置、補救及改善工程位置圖

PWP Item No.62TR - Shatin to Central Link - Construction of Non-railway Works Reprovisioning, Remedial and Improvement Works (RRIW) Location Plan

圖號 drawing no.

HRWSCL003-SK0266

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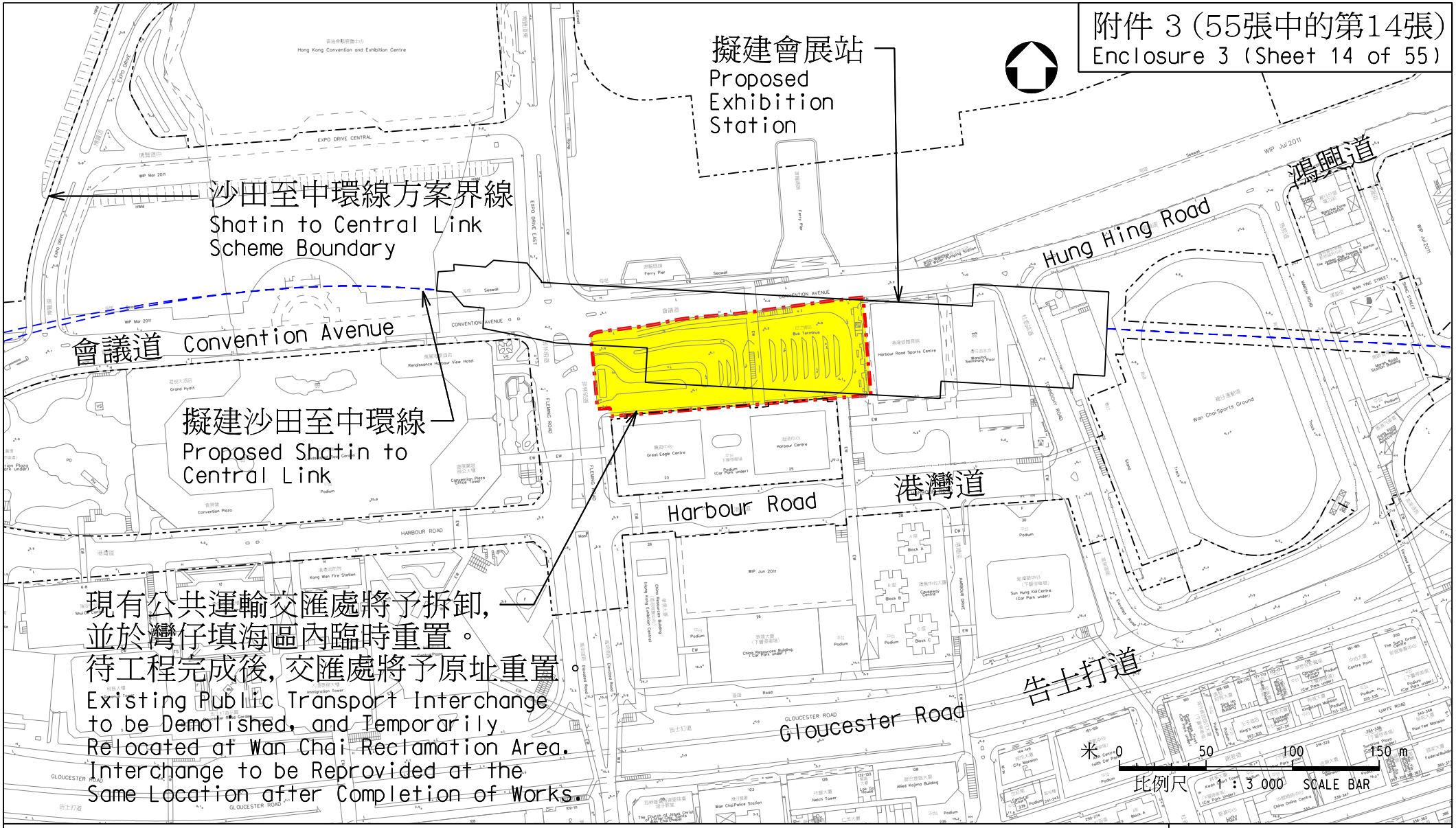

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (1) 重置灣仔北公共運輸交匯處

Item (1) Reprovisioning of Public Transport Interchange at Wan Chai North

圖號 drawing no.
HRWSCL003-SK0336

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A4 210X297

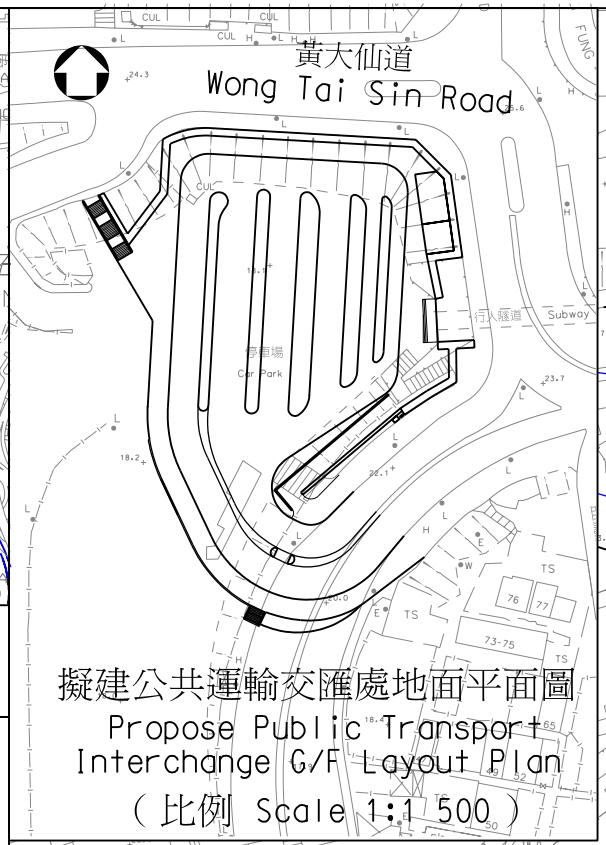
HRWSCL003-SK0336.dgn 15-03-2012

位置圖 Layout Plan
1:20 000

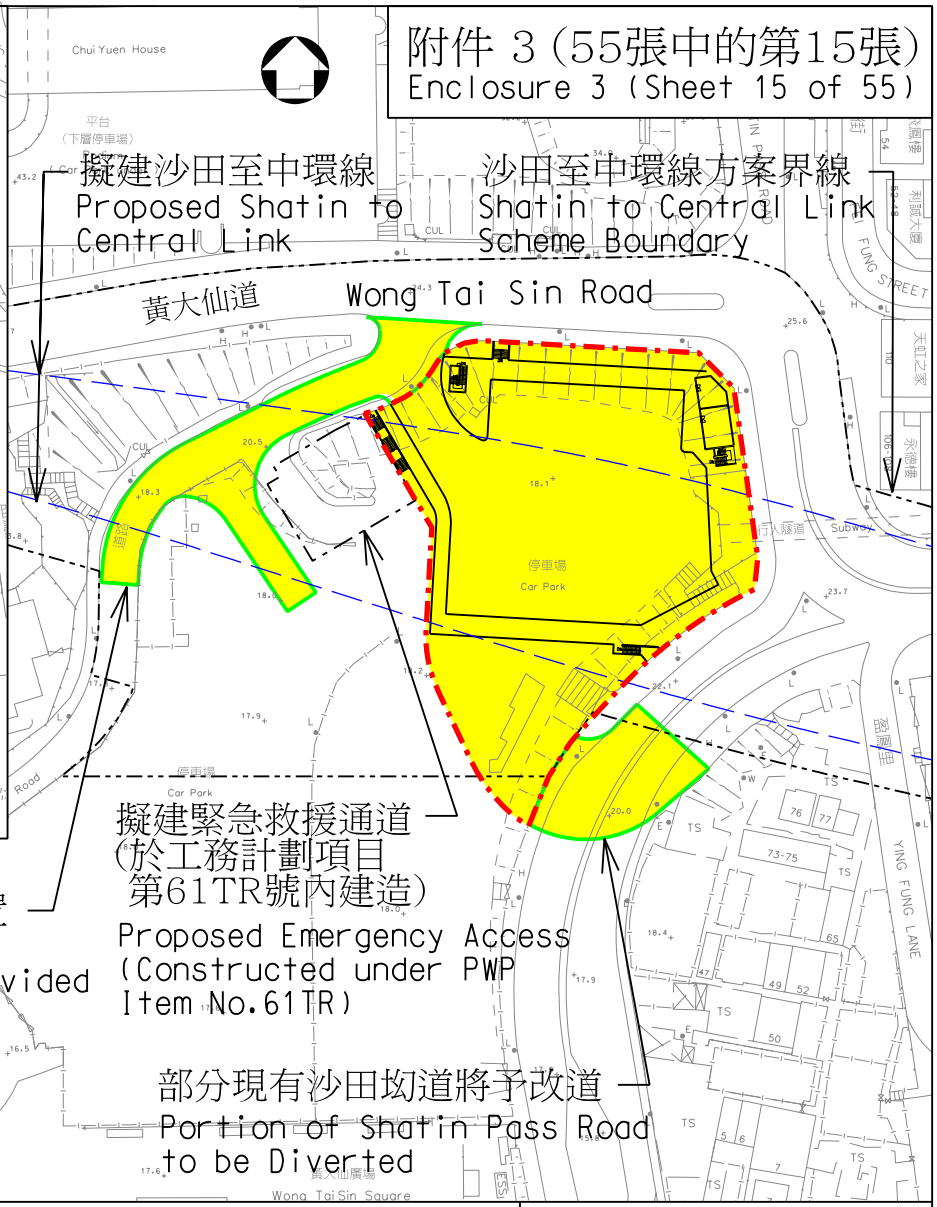
圖例:
Legend:

擬建鳳德公共運輸交匯處
Proposed Public Transport Interchange at Fung Tak

將予重建的道路
Roads to be Reconstructed



擬建公共運輸交匯處地面平面圖
Propose Public Transport Interchange G/F Layout Plan
（比例 Scale 1:1 500）



米 0 25 50 75 m
比例尺 1 : 1 500 SCALE BAR

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(2) 擬建鳳德公共運輸交匯處
Item (2) Proposed Public Transport Interchange at Fung Tak

圖號 drawing no.
HRWSCL003-SK0273

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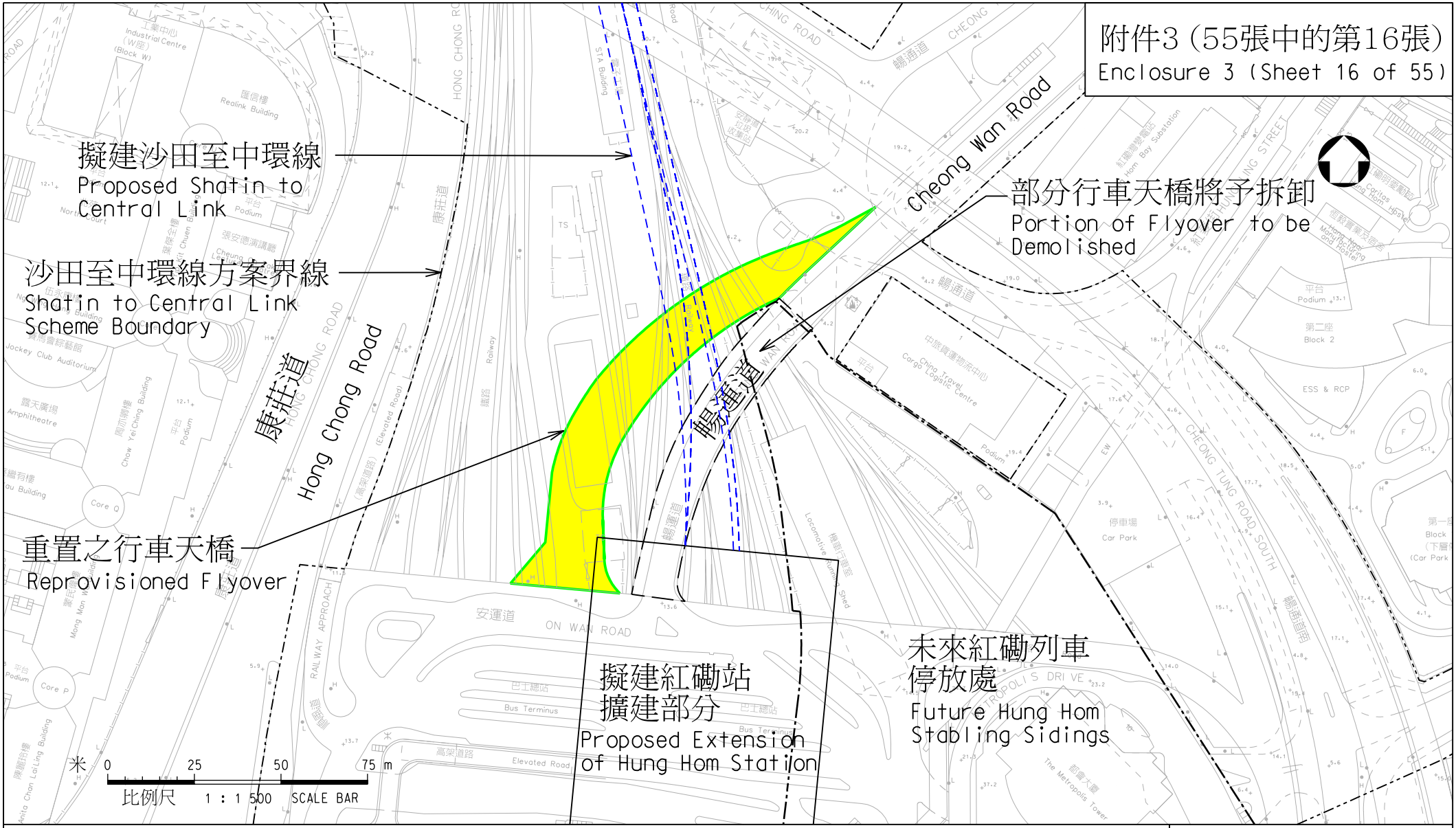
附件3（55張中的第16張）
Enclosure 3 (Sheet 16 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(3)重置部分暢運道天橋

Item (3) Reprovisioning of Portion of Cheong Wan Road Flyover

圖號 drawing no.
HRWSCL003-SK0310

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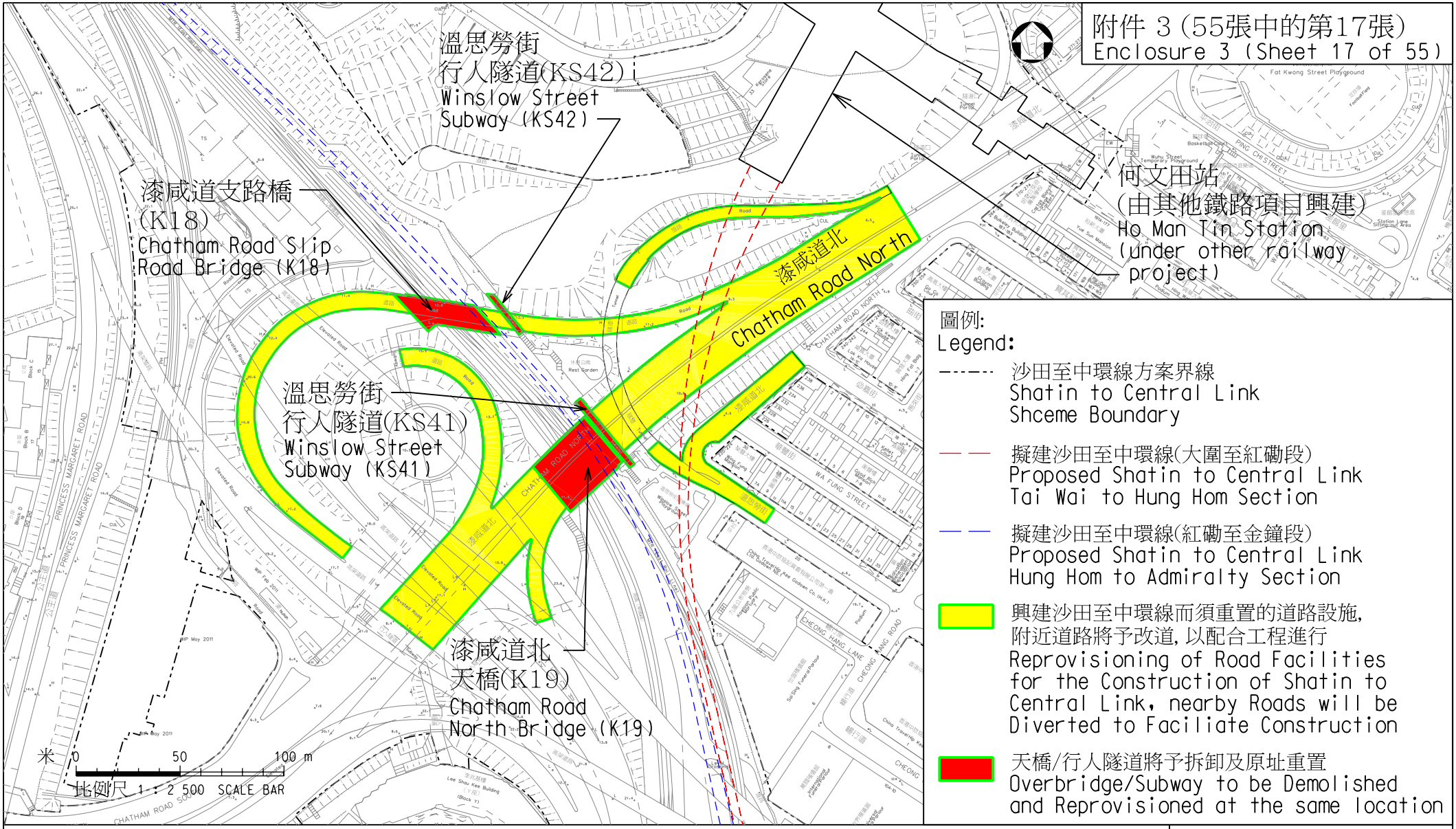

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (4) 漆咸道北一帶道路設施的重置工程

Item (4) Reprovisioning of Road Facilities at Chatham Road North

圖號 drawing no.
HRWSCL003-SK0360

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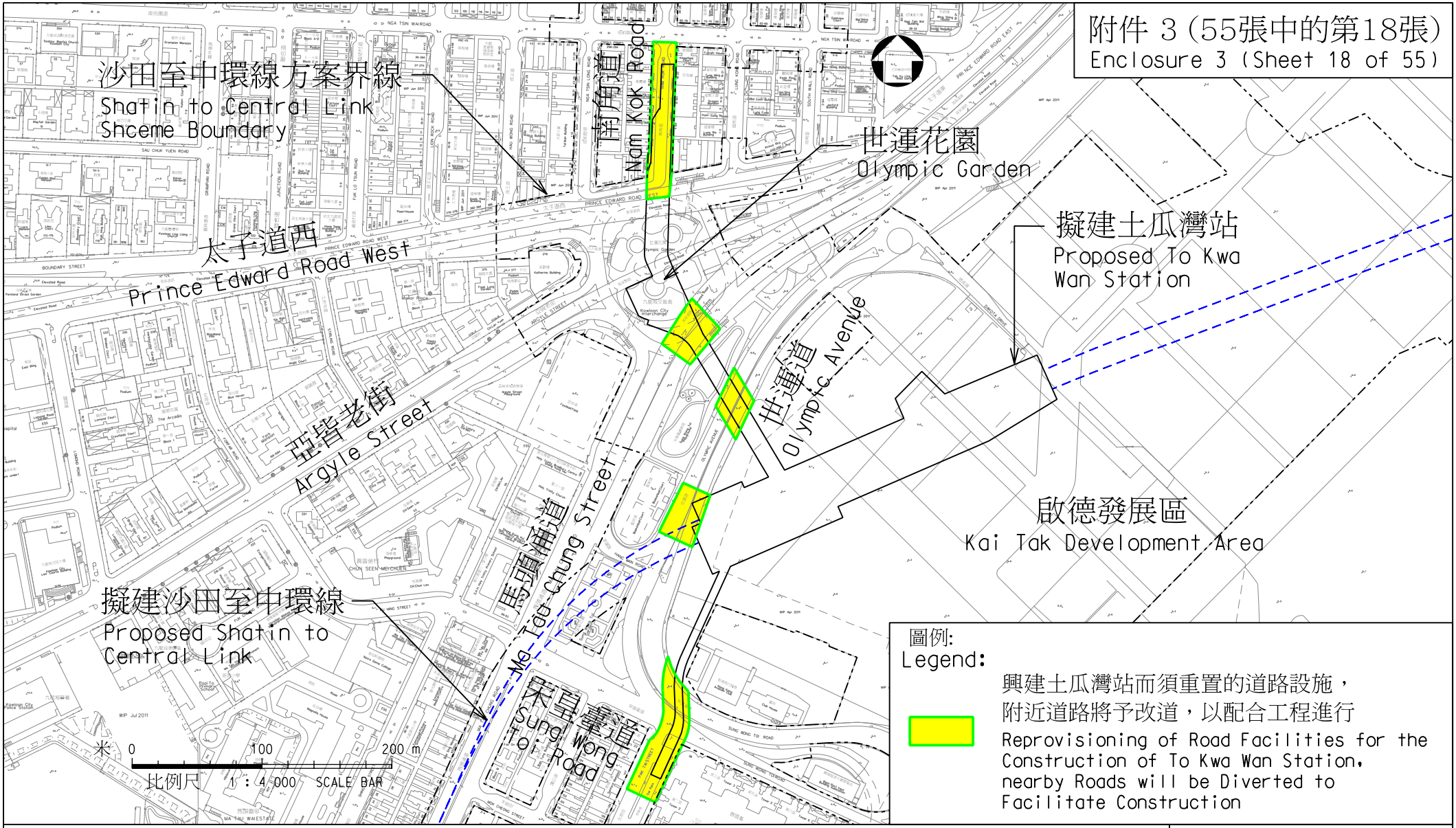

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(5) 九龍城一帶道路設施的重置工程

Item(5) Reprovisioning of Road Facilities around Kowloon City Area

圖號 drawing no.
HRWSCL003-SK0361

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HIGHWAYS DEPARTMENT

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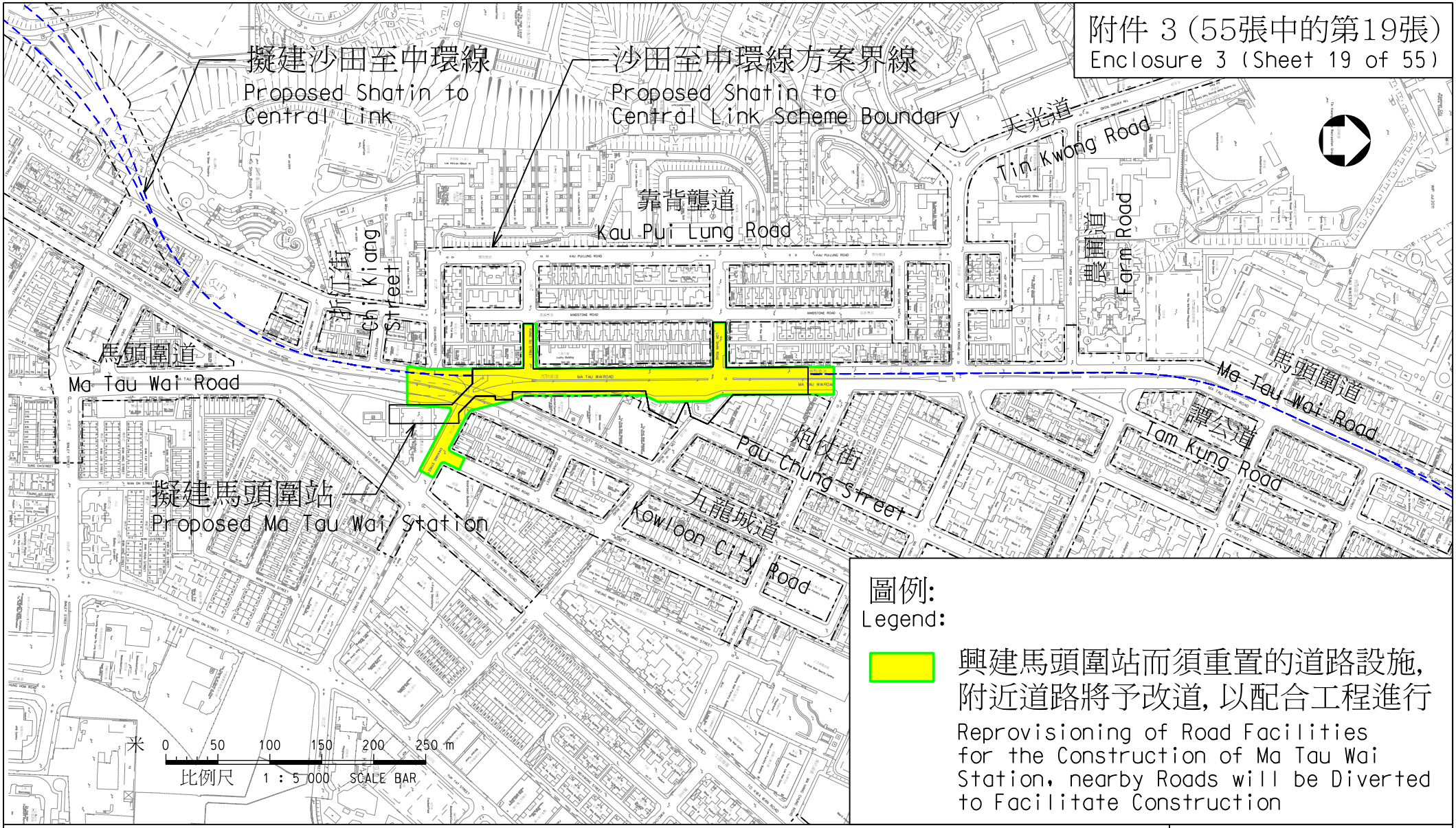

附件 3 (55張中的第19張)
Enclosure 3 (Sheet 19 of 55)

圖例:
Legend:

興建馬頭圍站而須重置的道路設施,附近道路將予改道,以配合工程進行

Reprovisioning of Road Facilities for the Construction of Ma Tau Wai Station, nearby Roads will be Diverted to Facilitate Construction

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(5) 馬頭圍一帶道路設施的重置工程

Item(5) Reprovisioning of Road Facilities around Ma Tau Wai

圖號 drawing no.
HRWSCL003-SK0362

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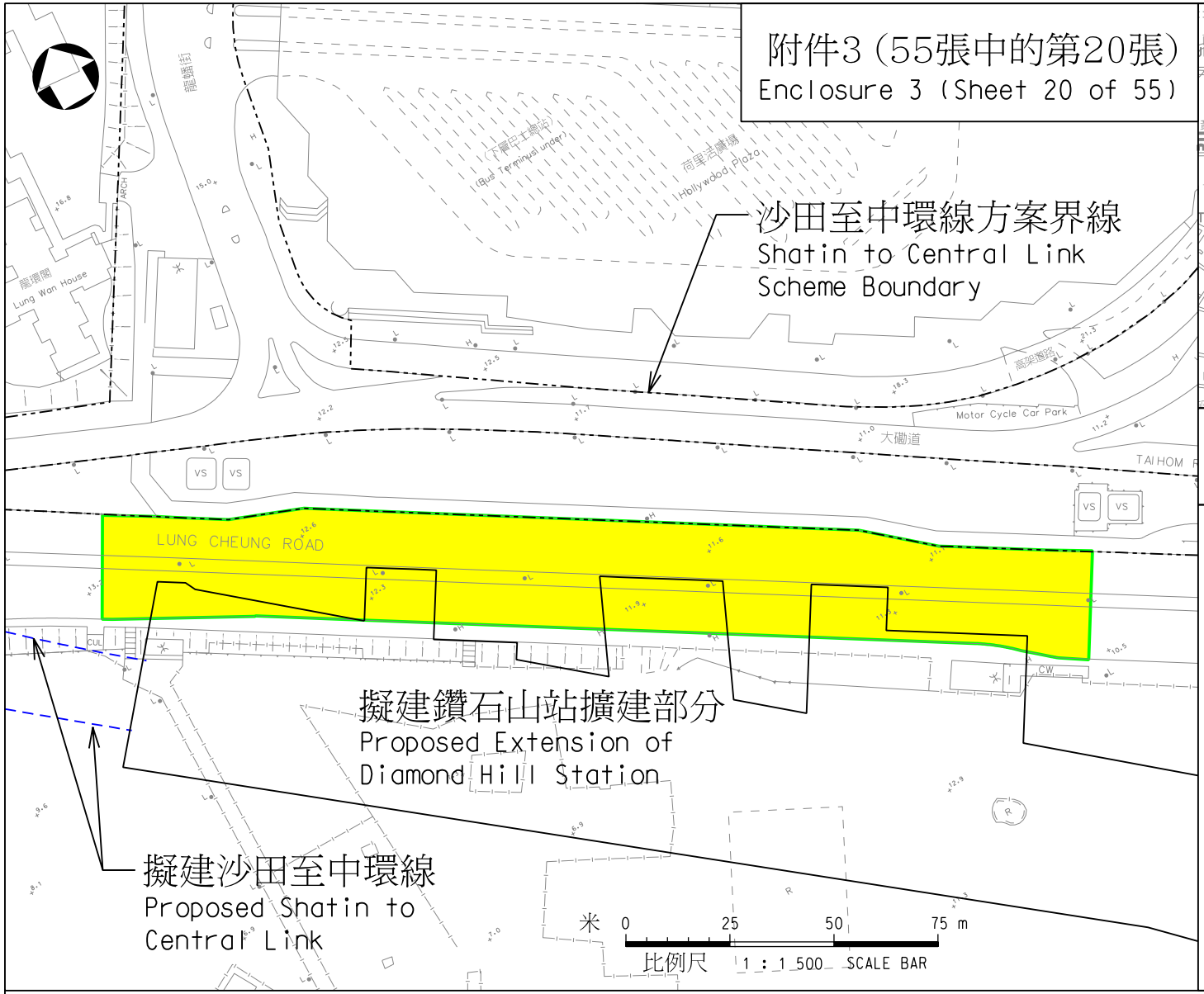
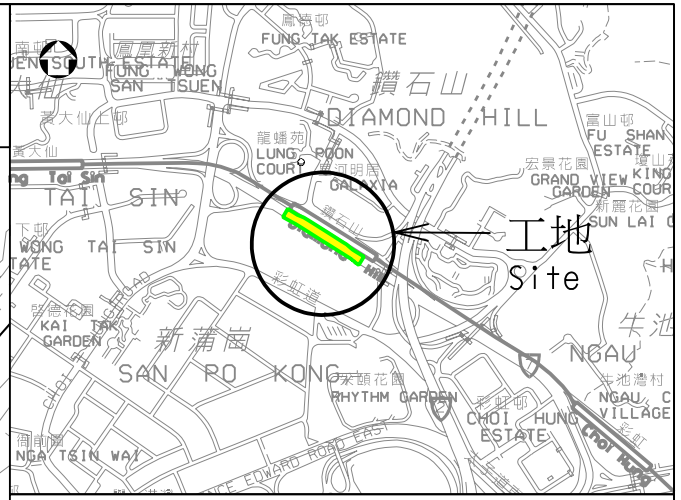
附件3（55張中的第20張）
Enclosure 3 (Sheet 20 of 55)





位置圖 Location Plan
1 : 20 000

圖例:
Legend:

興建鑽石山站而須重置的道路設施，附近道路將予改道，以配合工程進行

Reprovisioning of Road Facilities for the Construction of Diamond Hill Station, nearby Raods will be Diverted to Facilitate Construction

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(6) 龍翔道近鑽石山站一帶道路設施的重置工程
Item(6) Reprovisioning of Road Facilities at Lung Cheung Road near Diamond Hill Station

圖號 drawing no.
HRWSCL003-SK0359

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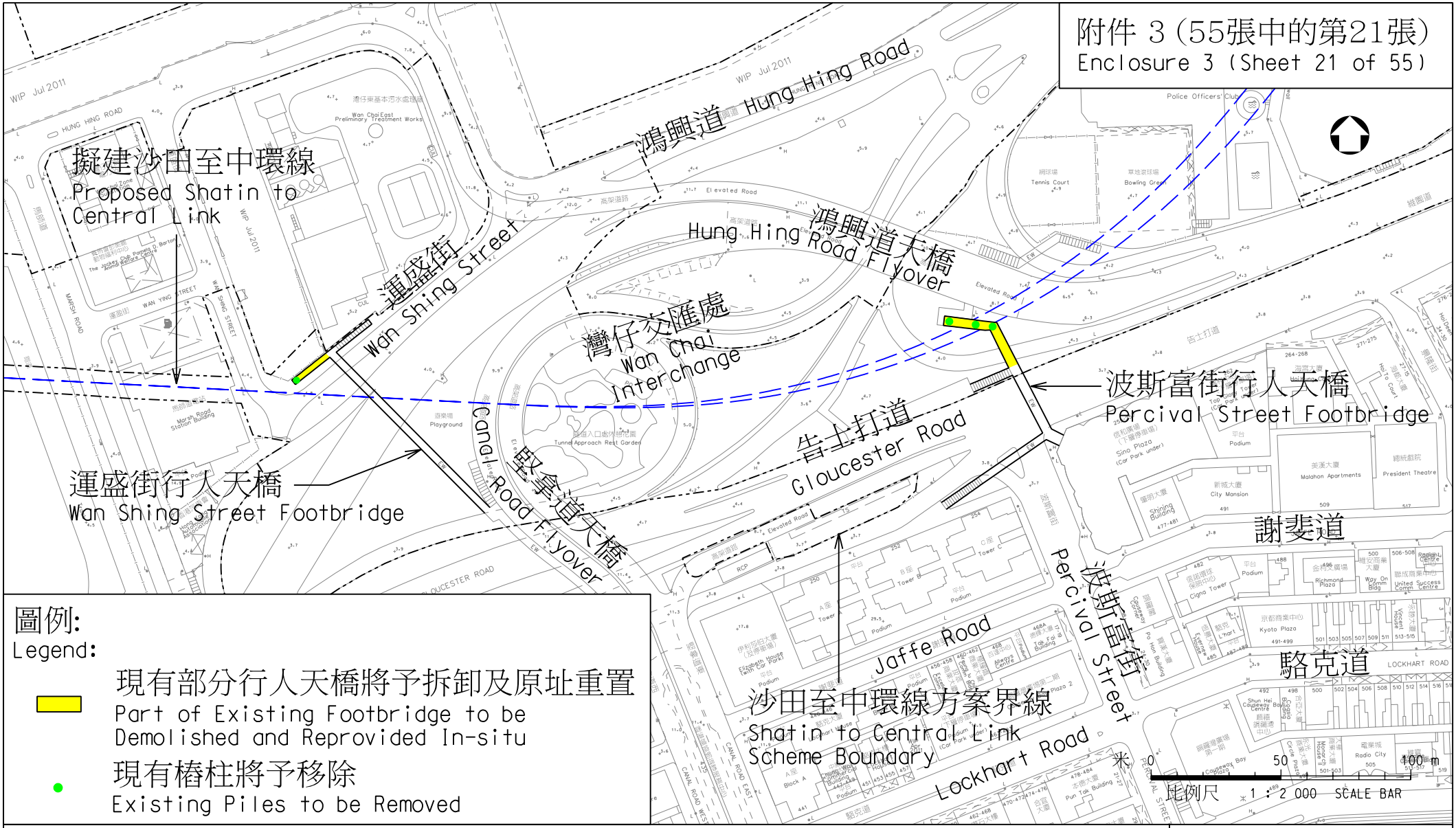
附件 3（55張中的第21張）
Enclosure 3 (Sheet 21 of 55)



圖例:
Legend:

現有部分行人天橋將予拆卸及原址重置
Part of Existing Footbridge to be Demolished and Reprovided In-situ

現有樁柱將予移除
Existing Piles to be Removed

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目(7)重置部分運盛街行人天橋　項目(8)重置部分波斯富街行人天橋
Item(7) Reprovisioning of Portion of Wan Shing Street Footbridge
Item(8) Reprovisioning of Portion of Percival Street Footbridge

圖號 drawing no.
HRWSCL003-SK0356

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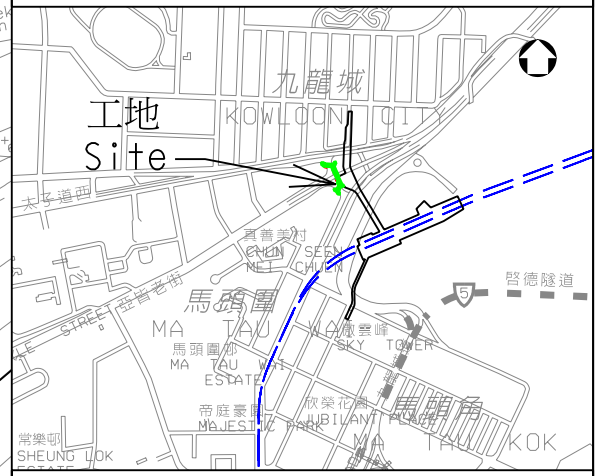
附件 3 (55張中的第22張)
Enclosure 3 (Sheet 22 of 55)



位置圖 Location Plan
1:20 000

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目 (9) 改善世運花園行人隧道
Item (9) Improvement to Subways at Olympic Garden

圖號 drawing no.
HRWSCL003-SK0295

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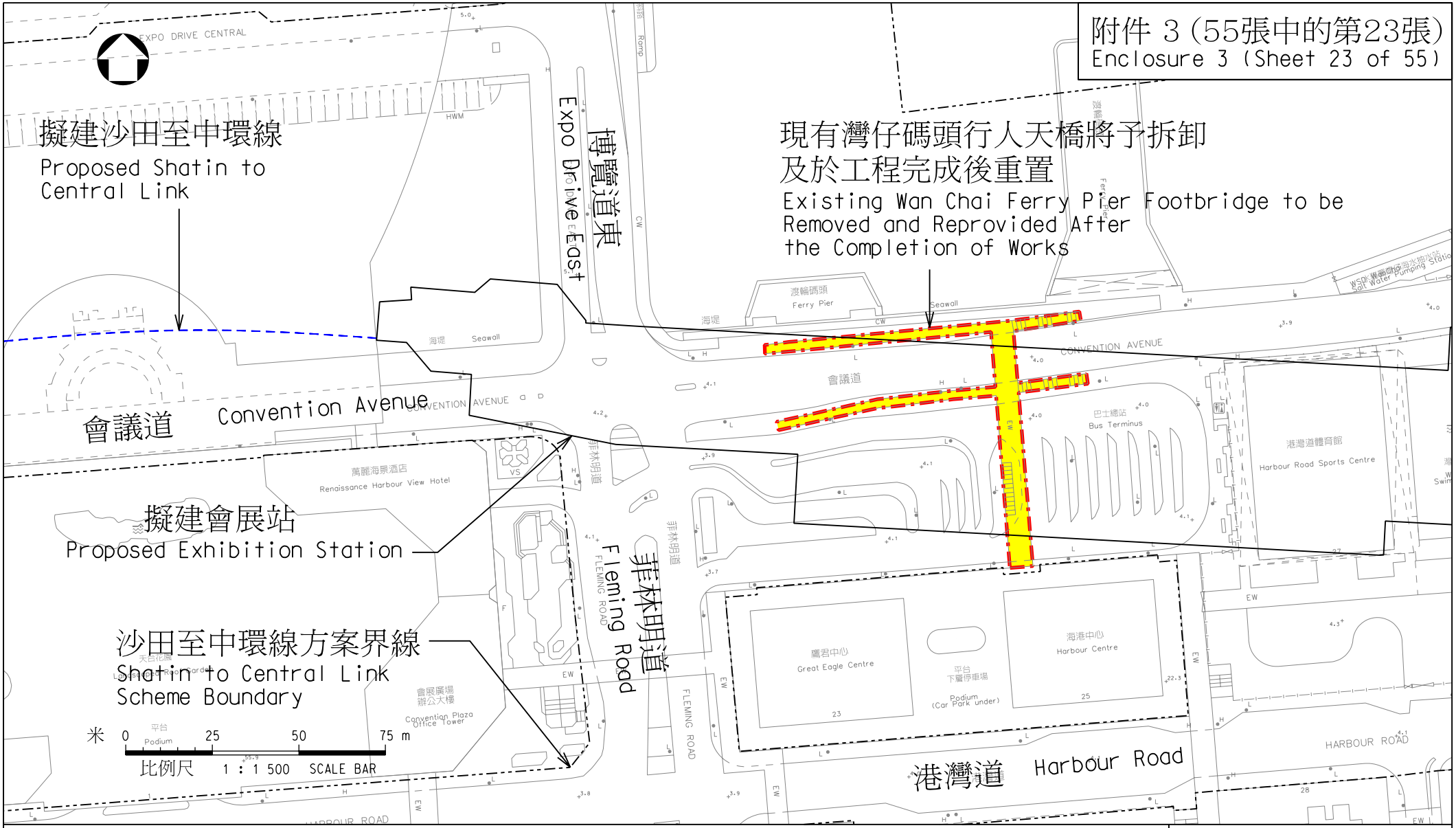
附件 3（55張中的第23張）
Enclosure 3 (Sheet 23 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(10) 重置灣仔碼頭行人天橋

Item(10) Reprovisioning of Wan Chai Ferry Pier Footbridge

圖號 drawing no.
HRWSCL003-SK0358

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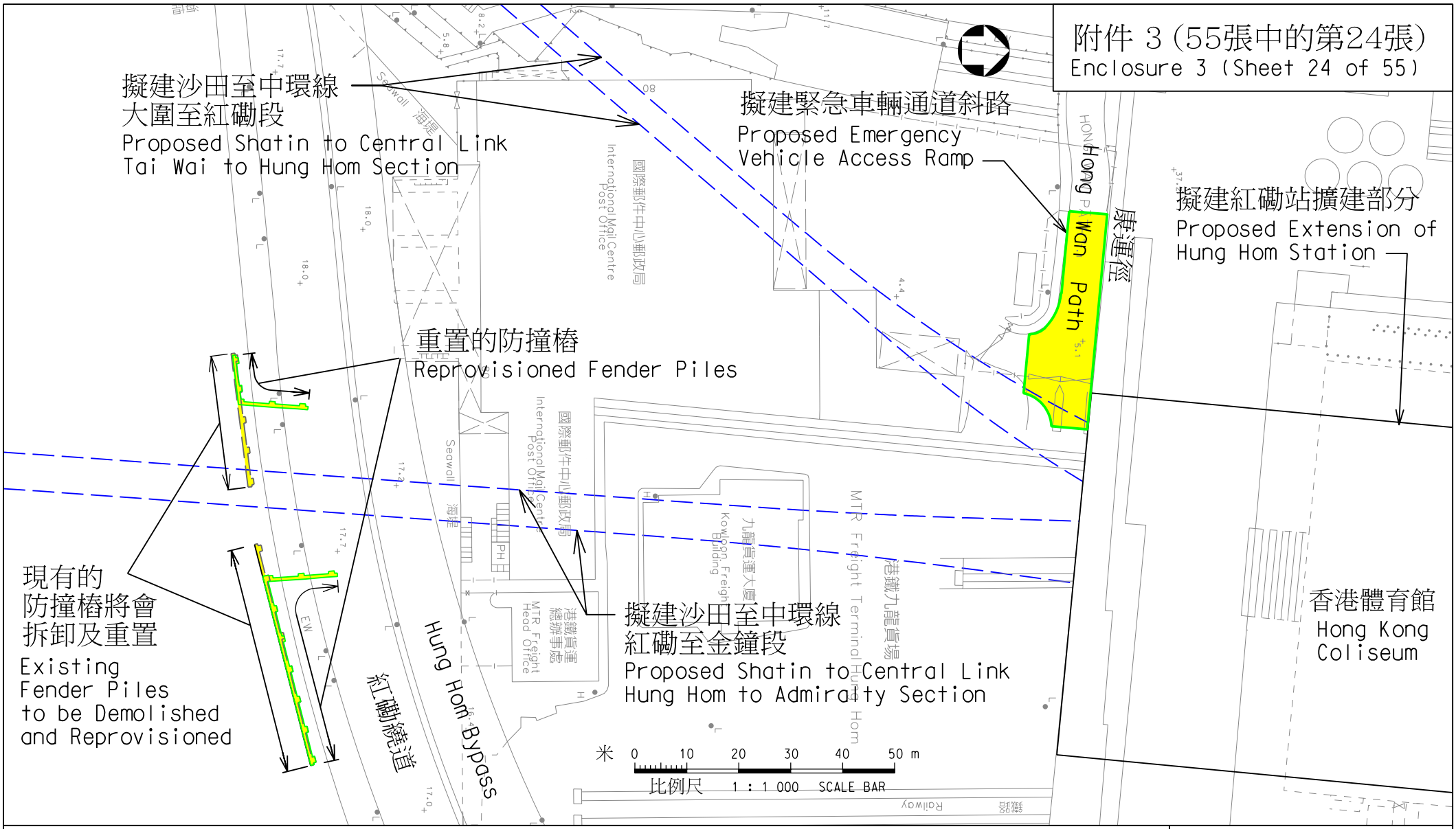

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(11) 重置康運徑 項目(12) 重置紅磡繞道防撞樁

Item (11) Reprovisioning of Hong Wan Path Item (12) Reprovisioning of Fender Piles of Hung Hom Bypass

圖號 drawing no.
HRWSCL003-SK0309

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HIGHWAYS DEPARTMENT

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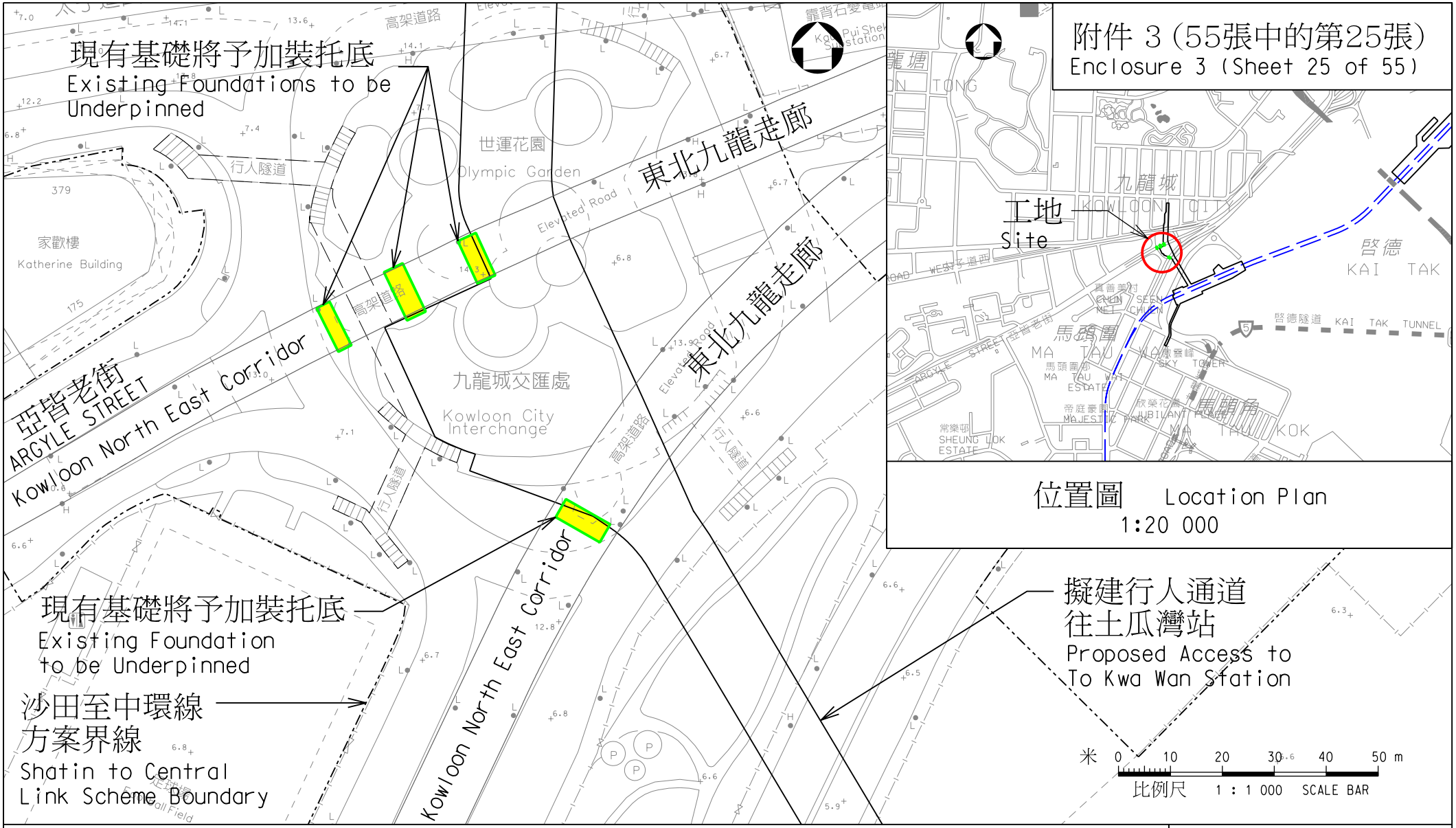

附件 3（55張中的第25張）
Enclosure 3 (Sheet 25 of 55)

位置圖 Location Plan
1:20 000

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (13a) 東北九龍走廊橋墩基礎托底工程

Item (13a) Kowloon North East Corridor Piers Underpinning Works

圖號 drawing no.
HRWSCL003-SK0296

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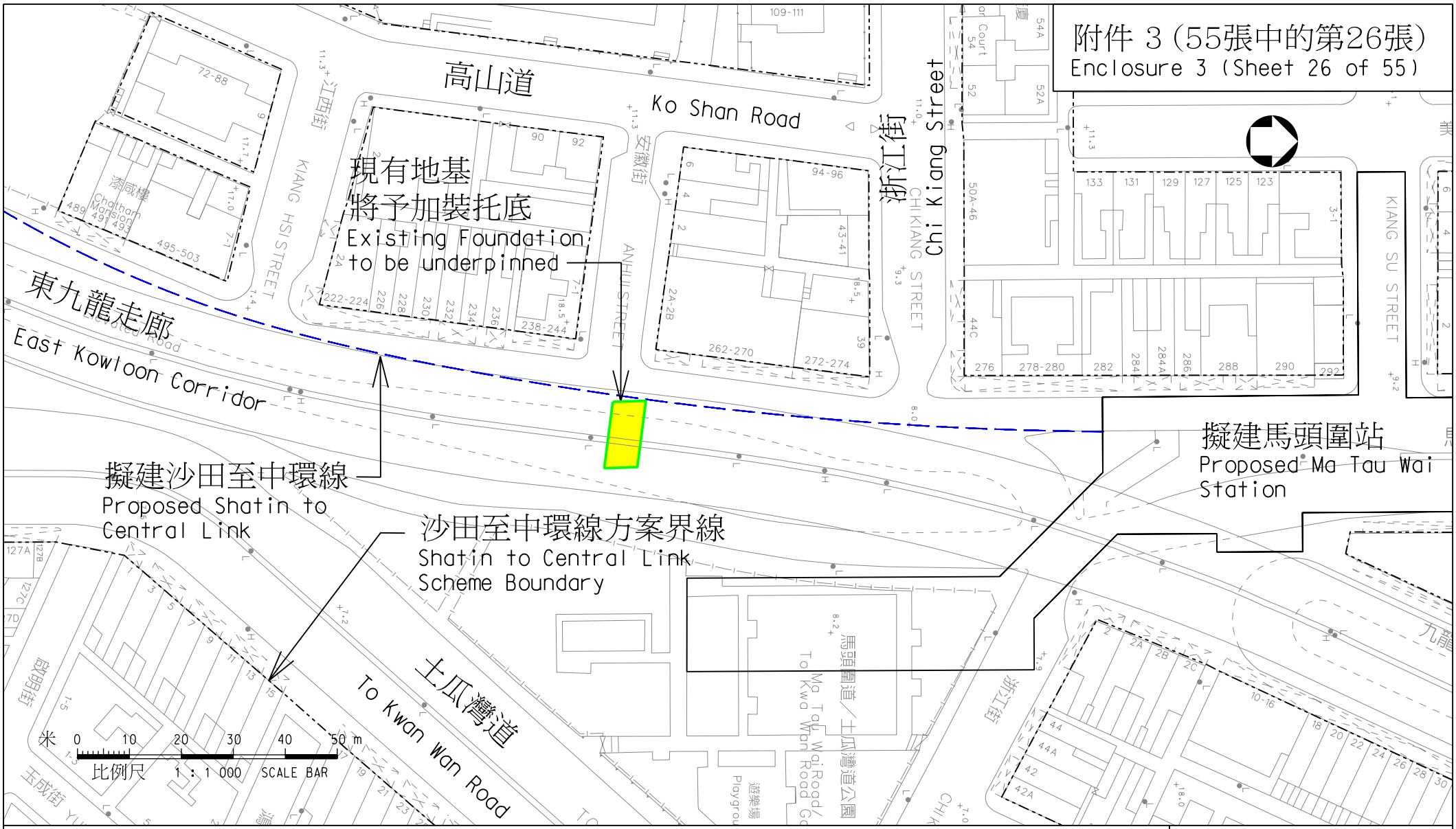
附件 3（55張中的第26張）
Enclosure 3 (Sheet 26 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(13b)東九龍走廊橋墩基礎托底工程

Item (13b) East Kowloon Corridor Piers Underpinning Works

圖號 drawing no.
HRWSCL003-SK0305

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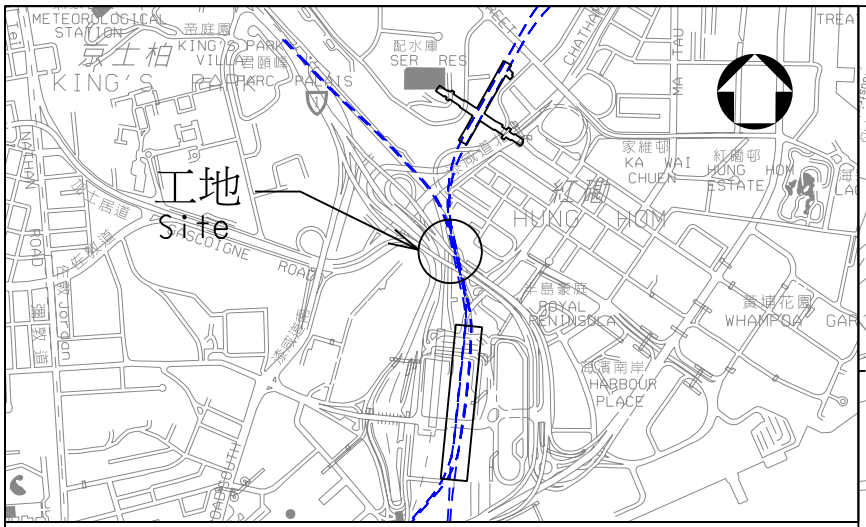
附件3（55張中的第27張）
Enclosure 3 (Sheet 27 of 55)



位置圖 Location Plan
1 : 20 000

擬建沙田至中環線
紅磡至金鐘段
Proposed Shatin to Central Link
Hung Hom to Admiralty Section

現有橋墩C2/5加裝托底
Existing Pier C2/5
to be underpinned

擬建沙田至中環線
大圍至紅磡段
Proposed Shatin to Central Link
Tai Wai to Hung Hom Section

沙田至中環線方案界線
Shatin to Central Link
Scheme Boundary

暢通道 Cheong Wan Road

紅磡繞道 Hung Hom Bypass

Chatham Road North 漆咸道北

米 0 25 50 75 m
比例尺 1 : 1 500 SCALE BAR

圖則名稱 drawing title
工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目(13c) 紅磡繞道橋墩基礎托底工程
Item (13c) Hung Hom Bypass Pier Underpinning Works

圖號 drawing no.
HRWSCL003-SK0308

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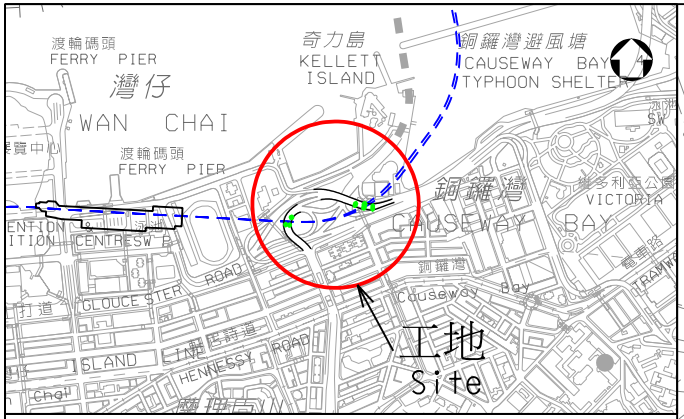
附件 3 (55張中的第28張)
Enclosure 3 (Sheet 28 of 55)



位置圖 Layout Plan
1:20 000

鴻興道
Hung Hing Road
鴻興道天橋
Hung Hing Road Flyover
灣仔交匯處
Wan Chai Interchange
告士打道
擬建沙田至中環線
Proposed Shatin to Central Link
堅拿道天橋
Canal Road Flyover
Gloucester Road
沙田至中環線方案界線
Shatin to Central Link Scheme Boundary

米 0 25 50 75 m
比例尺 1 : 1 500 SCALE BAR

圖例:
Legend:
現有天橋地基將予加裝托底
Existing Flyover Foundation to be Underpinned

圖則名稱 drawing title
工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目(13d) 堅拿道天橋橋墩基礎托底工程 項目(13e) 鴻興道天橋橋墩基礎托底工程
Item(13d) Canal Road Flyover Underpinning Works Item(13e) Hung Hing Road Flyover Underpinning Works

圖號 drawing no.
HRWSCL003-SK0291

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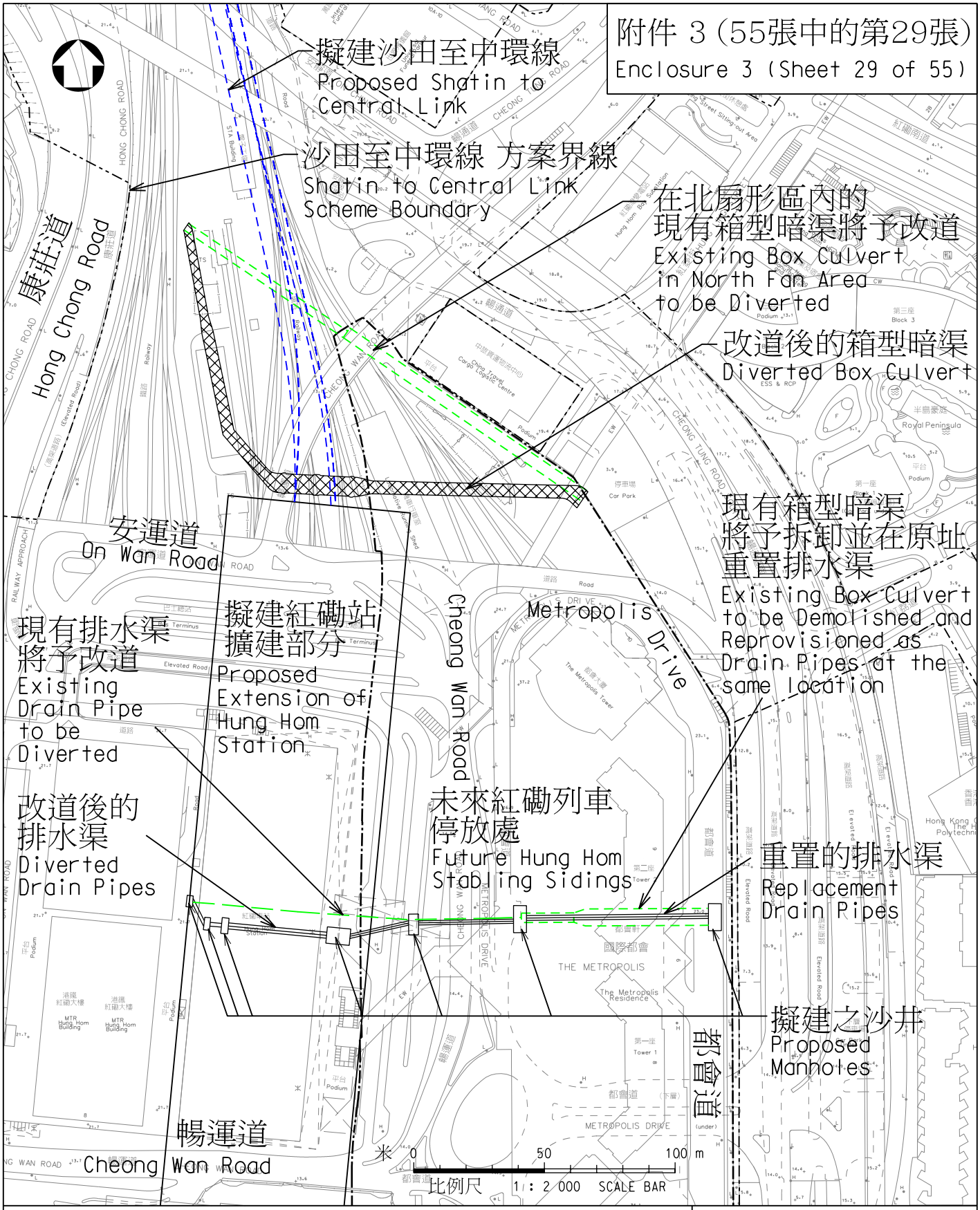

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link
-Construction of Non-railway Works-Remaining Works
項目(14a)重置紅磡鐵路站及擬建紅磡列車停放處的暗渠
項目(14b)重置紅磡鐵路站北扇形區的暗渠
Item (14a) Reprovisioning of Culvert at Hung Hom Station and Proposed Hung Hom Stabling Sidings
Item (14b) Reprovisioning of Culvert at North Fan Area of Hung Hom Station

圖號 drawing no.
HRWSCL003-SK0313

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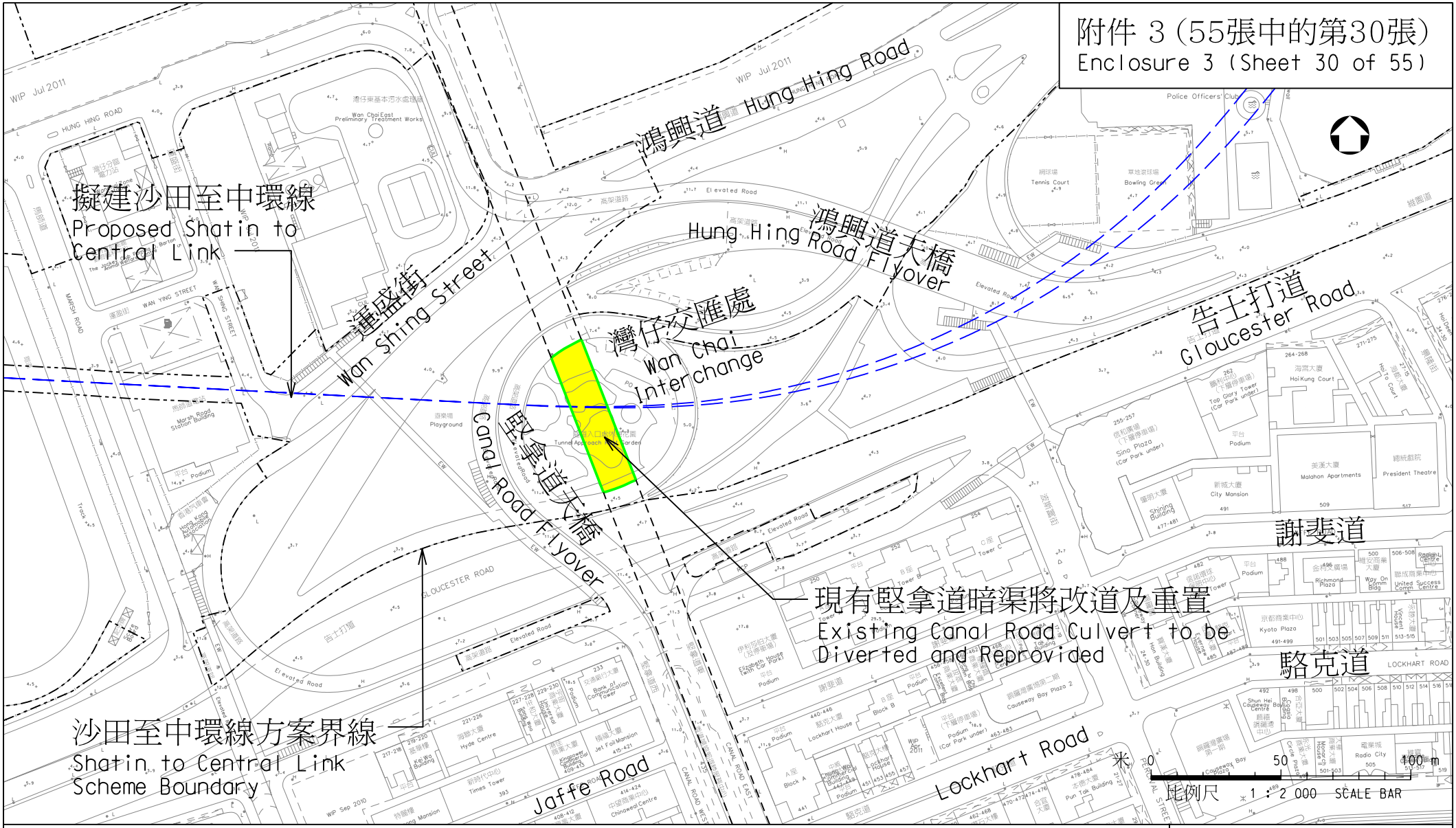
Enclosure 3 (Sheet 30 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (14c) 重置堅拿道暗渠

Item (14c) Reprovisioning of Culvert at Canal Road

圖號 drawing no.
HRWSCL003-SK0357

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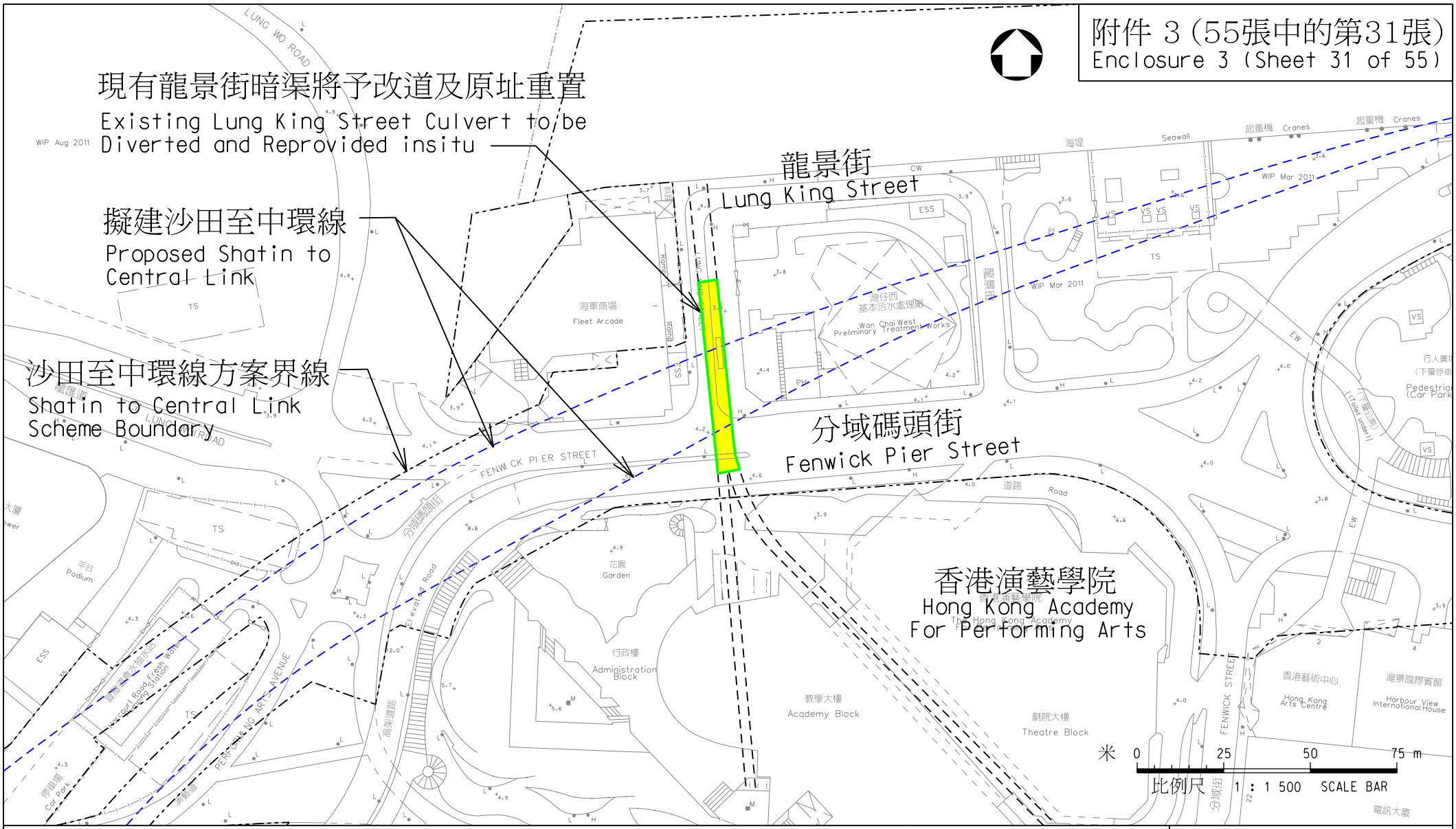
附件 3（55張中的第31張）
Enclosure 3 (Sheet 31 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (14d) 重置龍景街暗渠

Item (14d) Reprovisioning of Culvert at Lung King Street

圖號 drawing no.
HRWSCL003-SK0289

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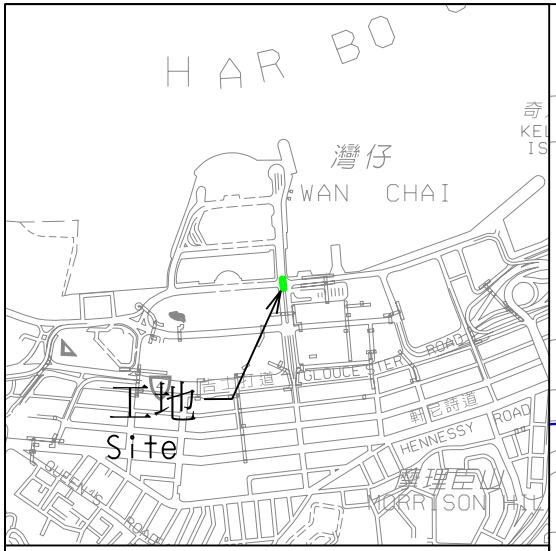
Enclosure 3 (Sheet 32 of 55)



位置圖 Location Plan
1:20 000

擬建沙田至中環線
Proposed Shatin to Central Link

博覽道東
Expo Drive East

擬建會展站
Proposed Exhibition Station

Convention Avenue

會議道

現有菲林明道暗渠將予臨時改道及原址重置
Existing Fleming Road Culvert to be temporarily Diverted and Reprovided at the same location

沙田至中環線方案界線
Proposed Shatin to Central Link Scheme Boundary

菲林明道
Fleming Road

港灣道 Harbour Road

HARBOUR ROAD

萬麗海景酒店
Renaissance Harbour View Hotel

君悅大酒店
Grand Hyatt

會展廣場辦公大樓
Convention Plaza Office Tower

鷹君中心
Great Eagle Centre

海港中心
Harbour Centre

渡輪碼頭
Ferry Pier

巴士總站
Bus Terminus

米 0 25 50 75 m
比例尺 1 : 1 500 SCALE BAR

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (14e) 重置菲林明道暗渠

Item (14e) Reprovisioning of Culvert at Fleming Road

圖號 drawing no.
HRWSCL003-SK0290

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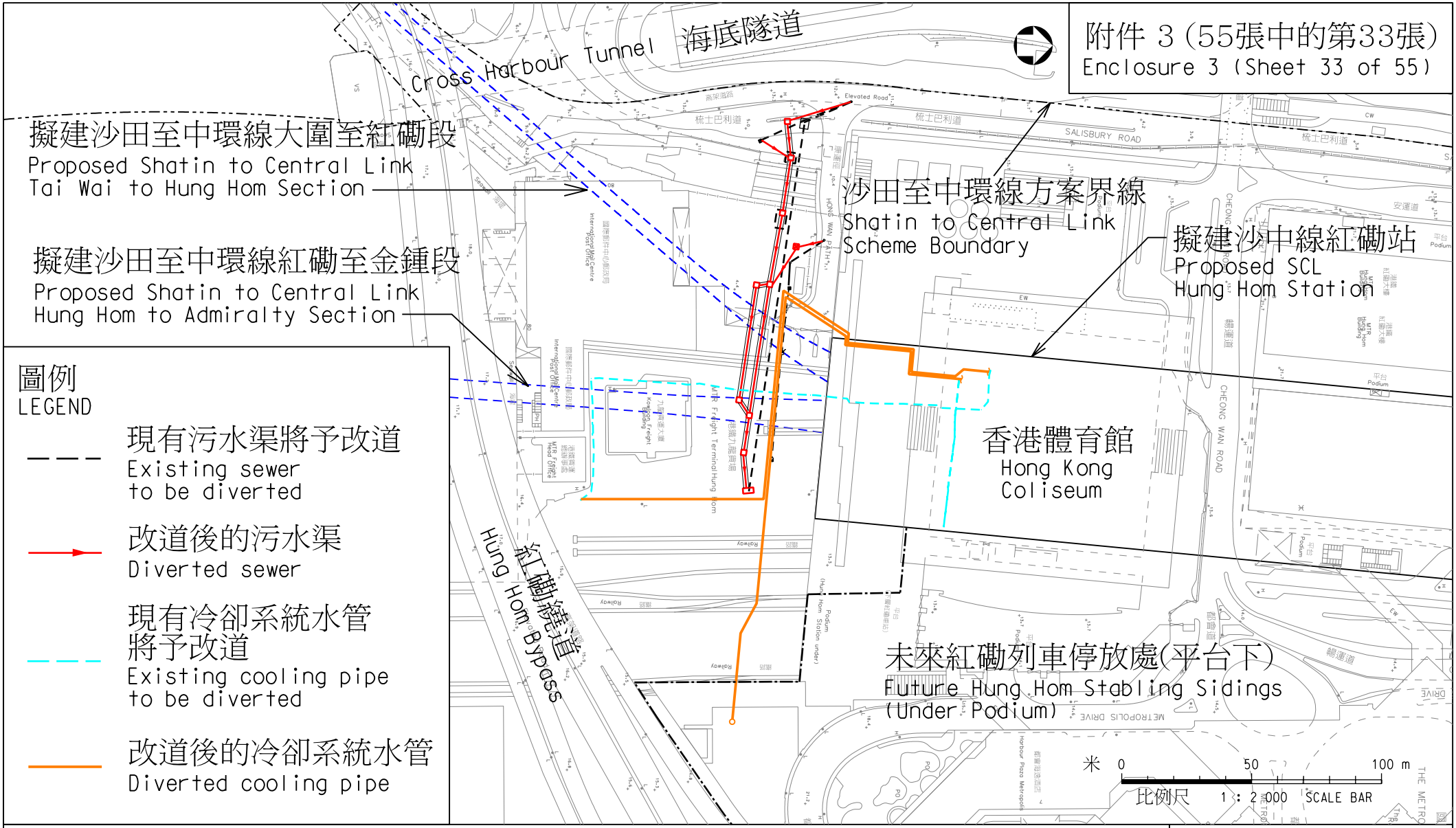

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Enclosure 3 (Sheet 33 of 55)

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(14f) 重置紅磡站附近的污水渠及冷卻管道

Item (14f) Reprovisioning of Sewers and Cooling Mains near Hung Hom Station

圖號 drawing no.
HRWSCL003-SK0354

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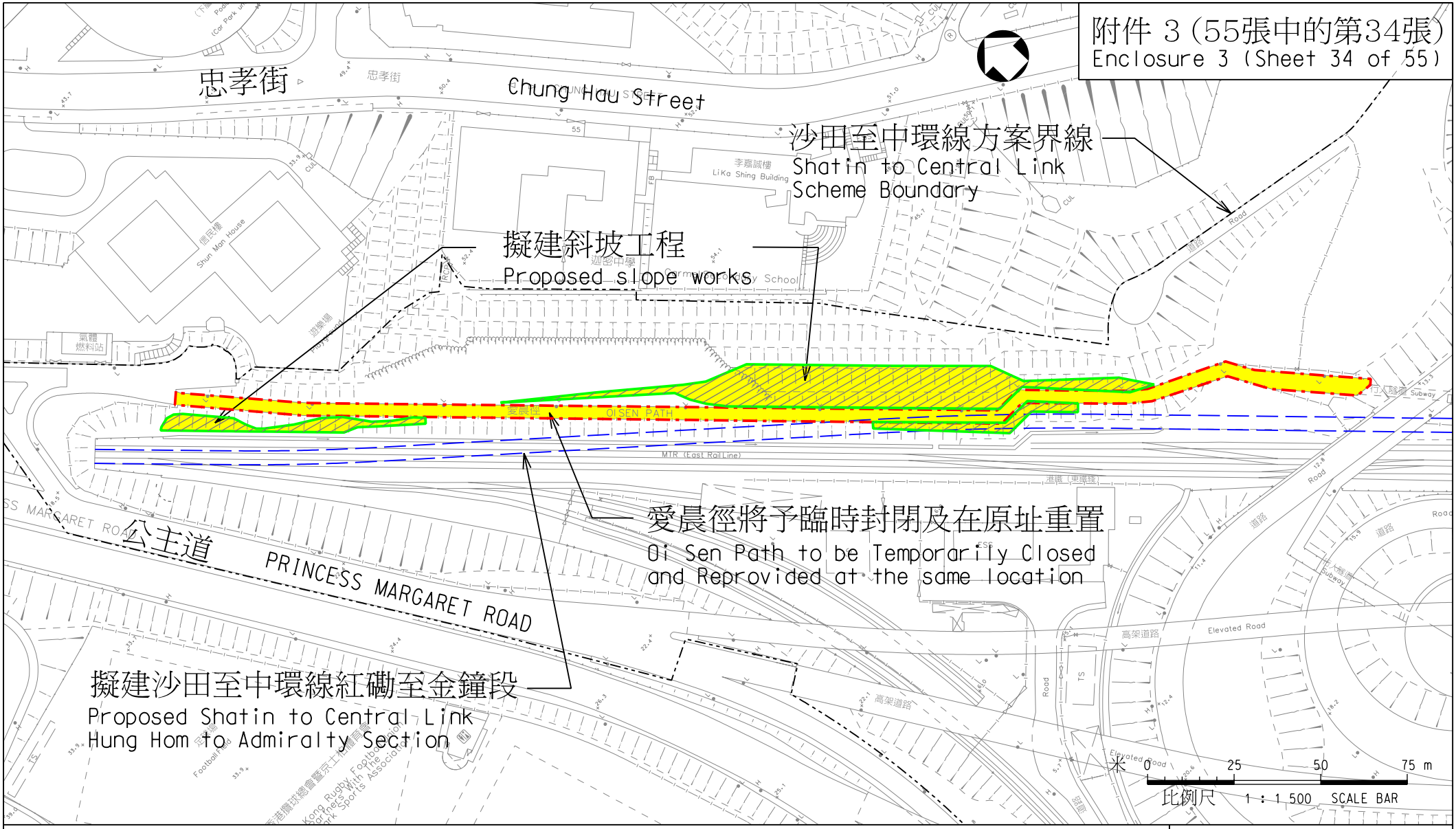

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(15) 愛晨徑附近斜坡加固工程

Item (15) Slope Improvement Works near Oi Sen Path

圖號 drawing no.
HRWSCL003-SK0312

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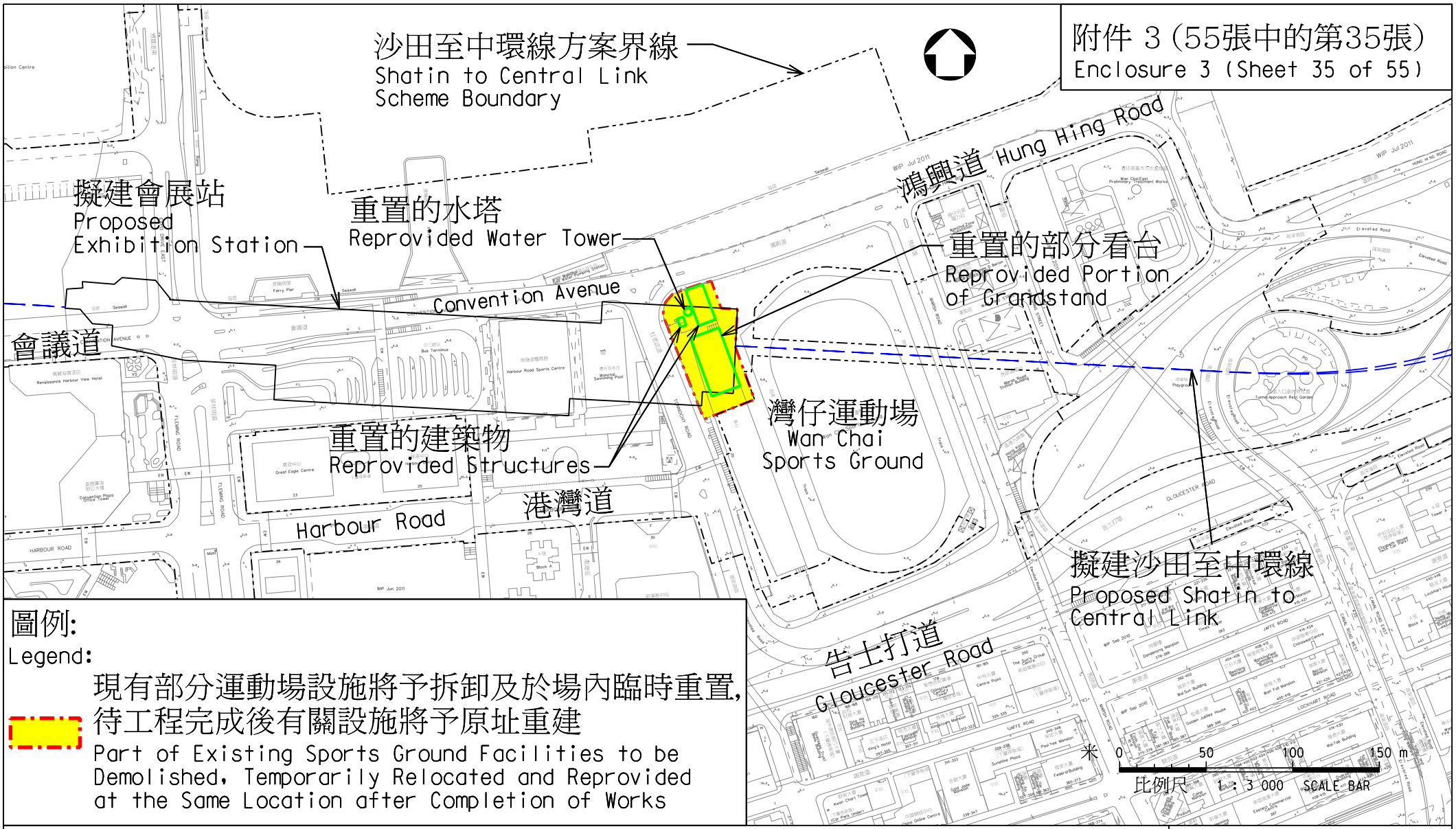

圖例:
Legend:

現有部分運動場設施將予拆卸及於場內臨時重置，待工程完成後有關設施將予原址重建
Part of Existing Sports Ground Facilities to be Demolished, Temporarily Relocated and Reprovided at the Same Location after Completion of Works

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (16) 重置部分灣仔運動場設施
Item (16) Reprovisioning of Portion of Wan Chai Sports Ground

圖號 drawing no.
HRWSCL003-SK0303

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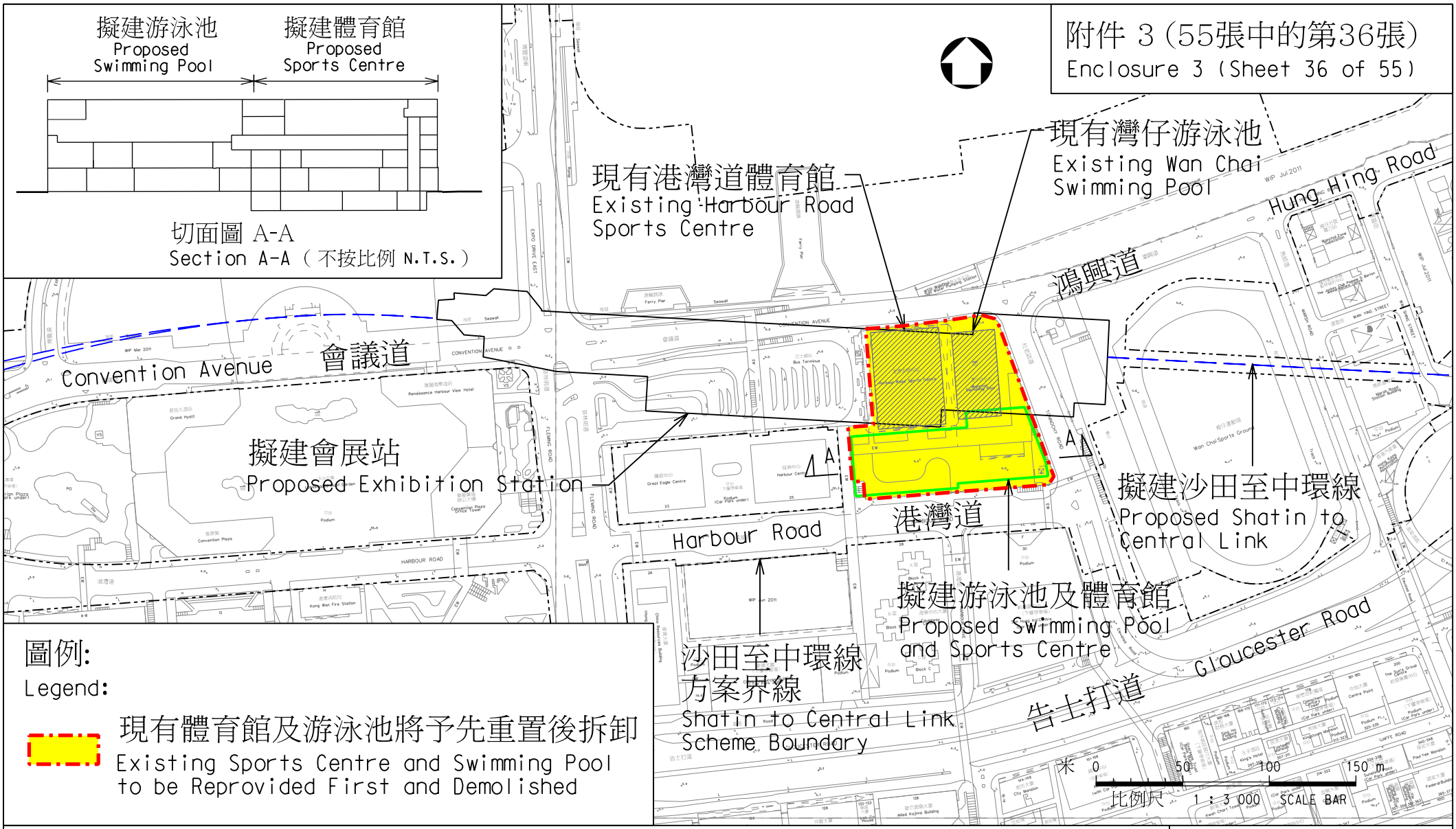

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(17) 重置灣仔游泳池及港灣道體育館

Item (17) Reprovisioning of Wan Chai Swimming Pool and Harbour Road Sports Centre

圖號 drawing no.
HRWSCL003-SK0302

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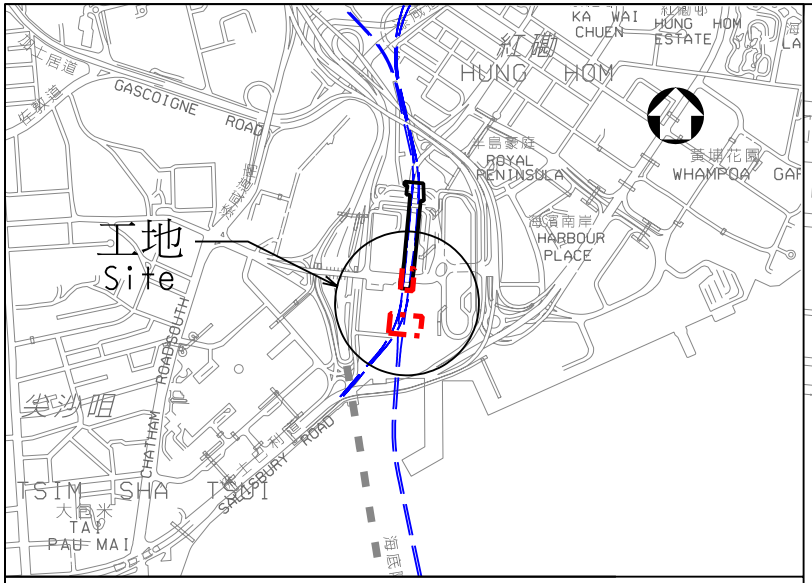
Enclosure 3 (Sheet 37 of 55)



位置圖 Location Plan
1:20 000

香港體育館
Hong Kong Coliseum

香港體育館平台的加固工程
(支柱結構僅供示意)
Strengthening Works at Hong Kong Coliseum Podium
(Pier Structure for indication only)

沙田至中環線方案界線
Shatin to Central Link
Scheme Boundary

康運徑 Hong Wan Path

擬建沙田至中環線
大圍至紅磡段
Proposed Shatin to Central Link
Tai Wai To Hung Hom Section

擬建沙田至中環線
紅磡至金鐘段
Proposed Shatin to Central Link
Hung Hom To Admiralty Section

CHEONG WAN ROAD 暢運道
都會道
METROPOLIS DRIVE
Podium 平台
(Hung Hom Station under)
MTR Freight Terminal Hung Hom 港鐵九龍貨場

米 0 25 50 75 m
比例尺 1 : 1 500 SCALE BAR

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(18) 香港體育館平台加固工程
Item (18) Strengthening of Hong Kong Coliseum Podium

圖號 drawing no.
HRWSCL003-SK0307

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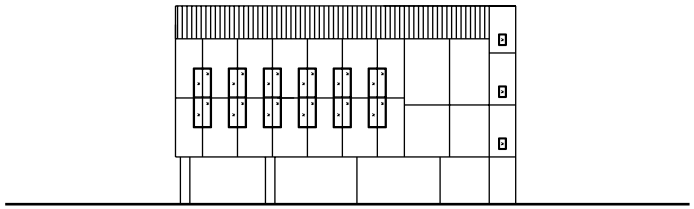
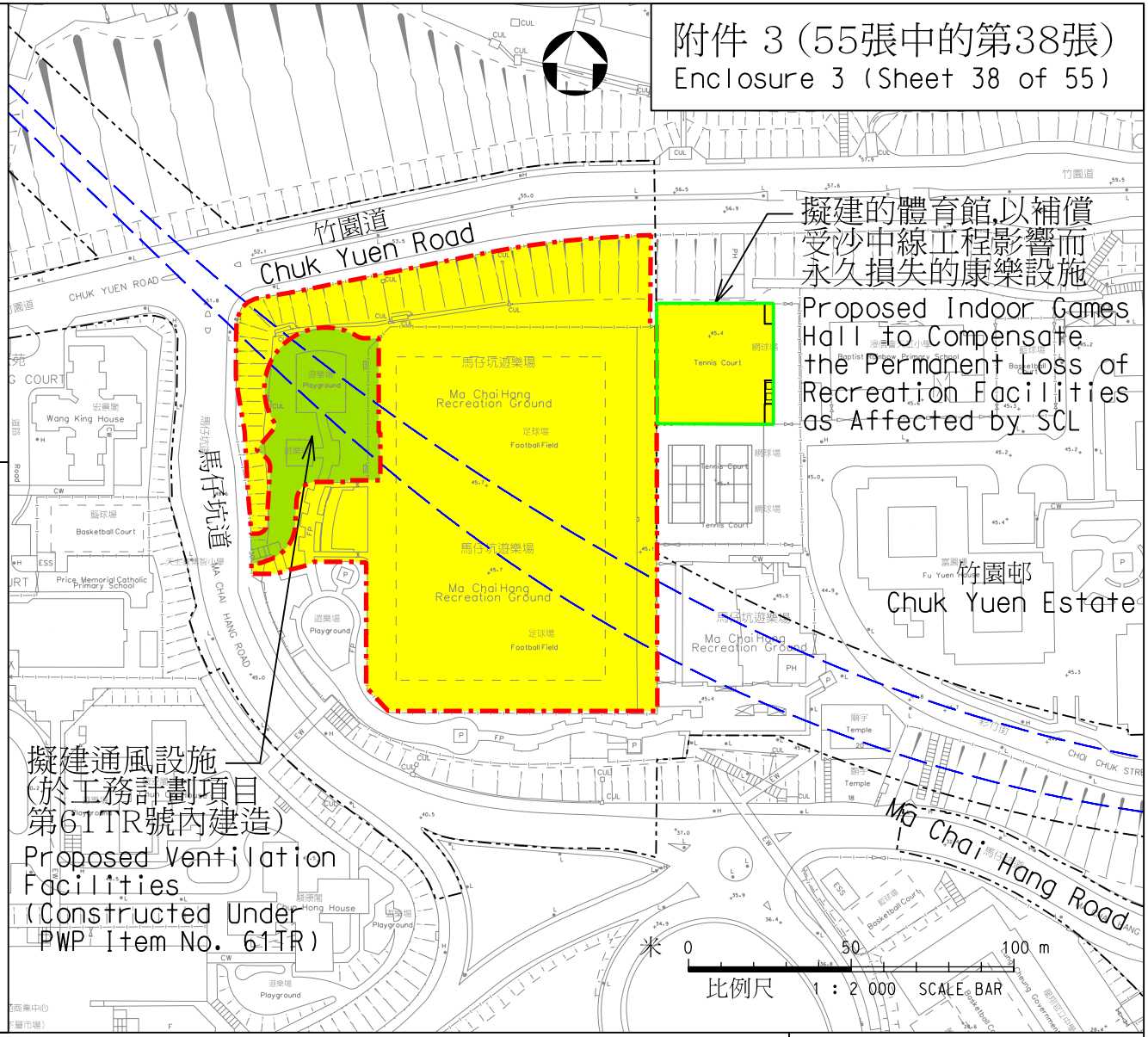


體育館立視圖
Indoor Games Hall Elevation
(不按比例 N.T.S.)

圖例:
Legends:

- 擬建沙田至中環線
  Proposed Shatin to Central Link
- 沙田至中環線方案界線
  Shatin to Central Link Scheme Boundary
- 馬仔坑遊樂場部分地方將作為臨時工地及於完工後原址重置
  Portion of Ma Chai Hang Recreation Ground to be Used as Temporary Works Site & Reprovided in-situ
- 擬建體育館
  Proposed Indoor Games Hall



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目 (19) 重置部分馬仔坑遊樂場及擬建體育館
Item(19) Reprovisioning of Portion of Ma Chai Hang Recreation Ground and Proposed Indoor Games Hall

圖號 drawing no.
HRWSCL003-SK0279

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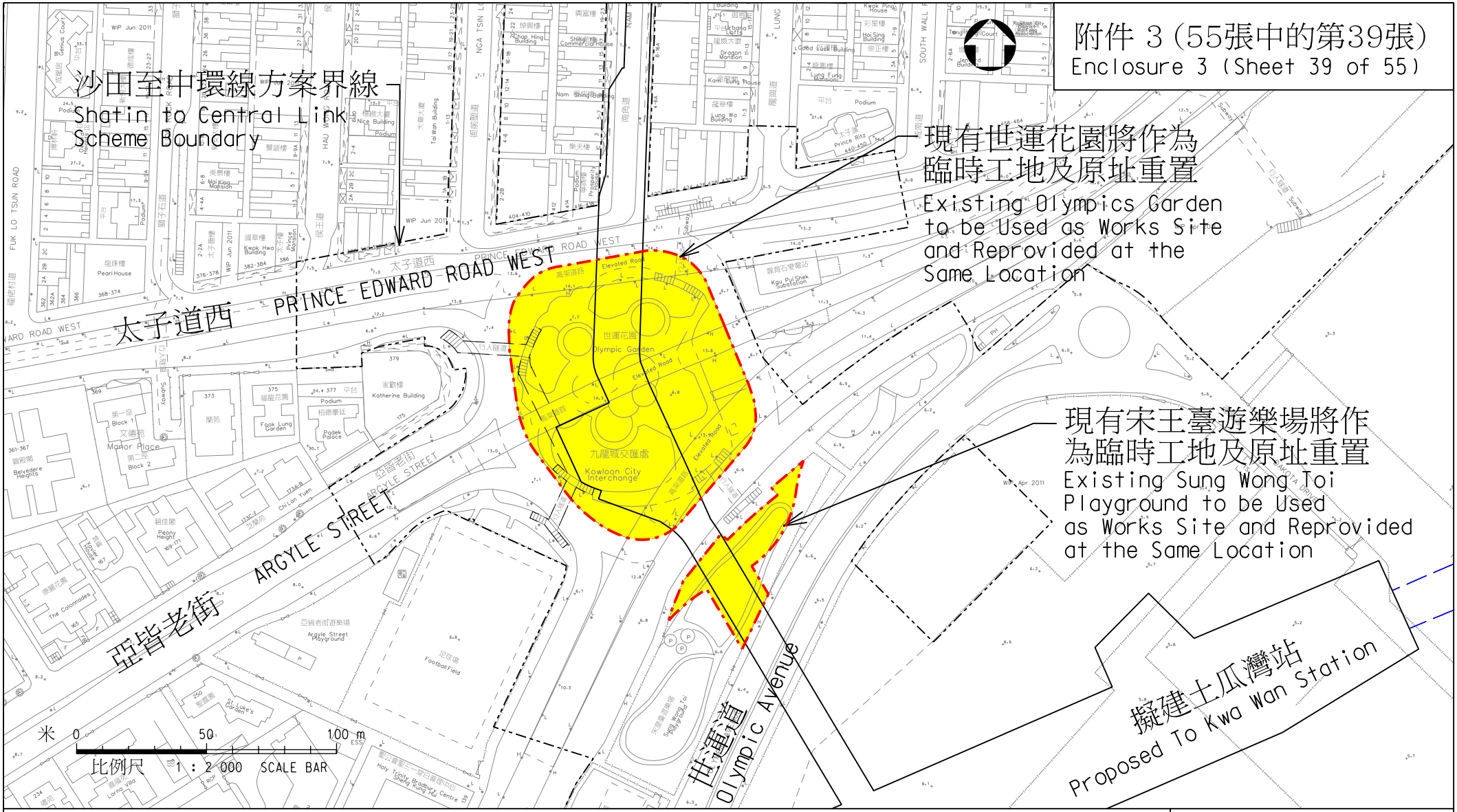

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Enclosure 3 (Sheet 39 of 55)

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (20) 重置及改善宋王臺遊樂場 項目 (21) 重置及改善世運花園

Item (20) Reprovisioning and Improvement of Sung Wong Toi Playground

Item (21) Reprovisioning and Improvement of Olympics Garden

圖號 drawing no.

HRWSCL003-SK0297

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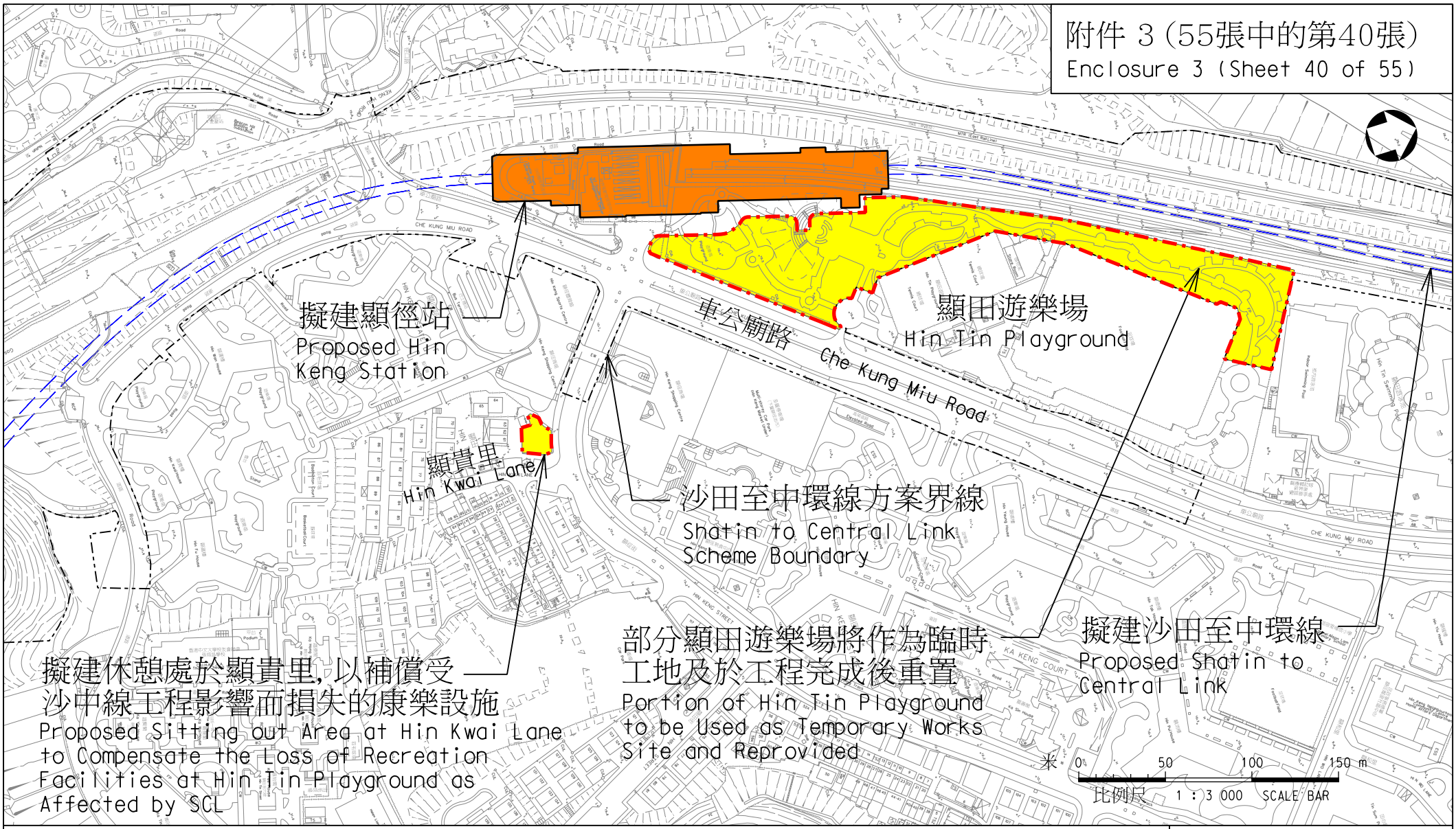

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(22)改善顯田遊樂場及擬建顯貴里休憩處

Item(22)Improvement to Hin Tin Playground and Proposed Hin Kwai Lane Sitting Out Area

圖號 drawing no.
HRWSCL003-SK0272

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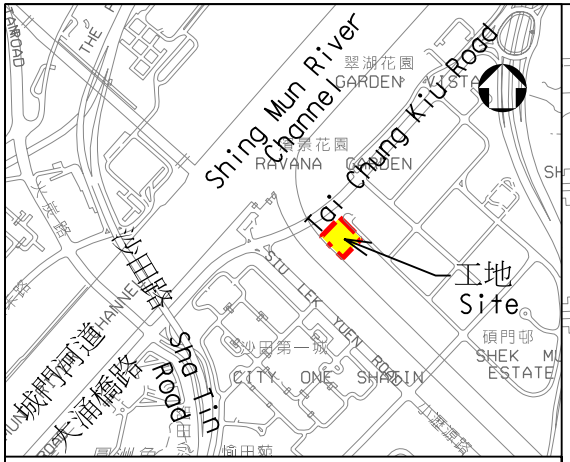
Enclosure 3 (Sheet 41 of 55)



位置圖 Location Plan
1:20 000

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(22) 擬建石門花園

Item (22) Proposed Shek Mun Garden

圖號 drawing no.
HRWSCL003-SK0278

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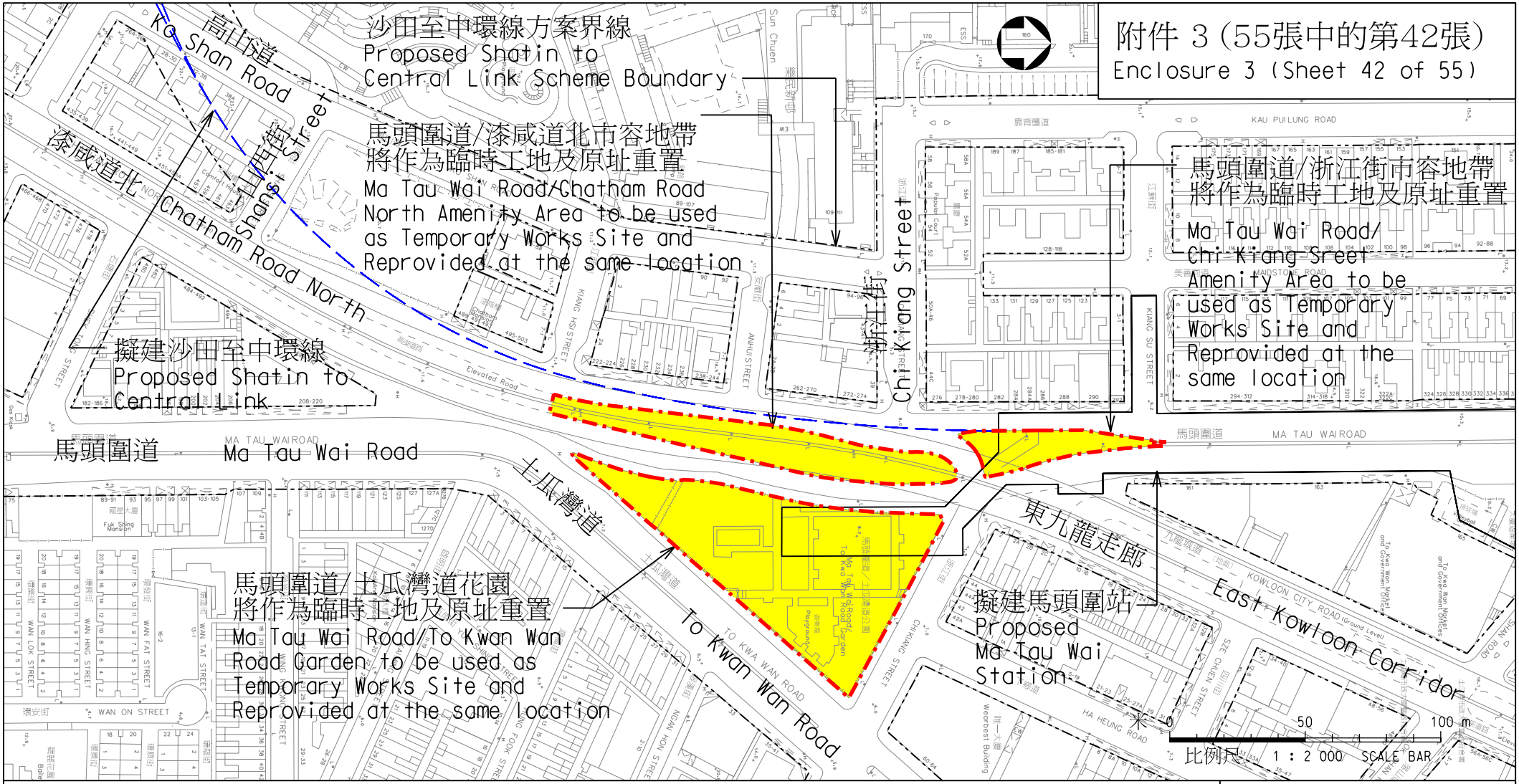

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(23)重置及改善馬頭圍道/土瓜灣道花園　項目(24)重置及改善馬頭圍道/浙江街市容地帶
項目(25)重置及改善馬頭圍道/漆咸道北市容地帶

Item(23)Reprovisioning and Improvement of Ma Tau Wai Road/To Kwa Wan Road Garden
Item(24)Reprovisioning and Improvement of Ma Tau Wai Road/Chi Kiang Street Amenity Area
Item(25)Reprovisioning and Improvement of Ma Tau Wai Road/Chatham Road North Amenity Area

圖號 drawing no.

HRWSCL003-SK0298

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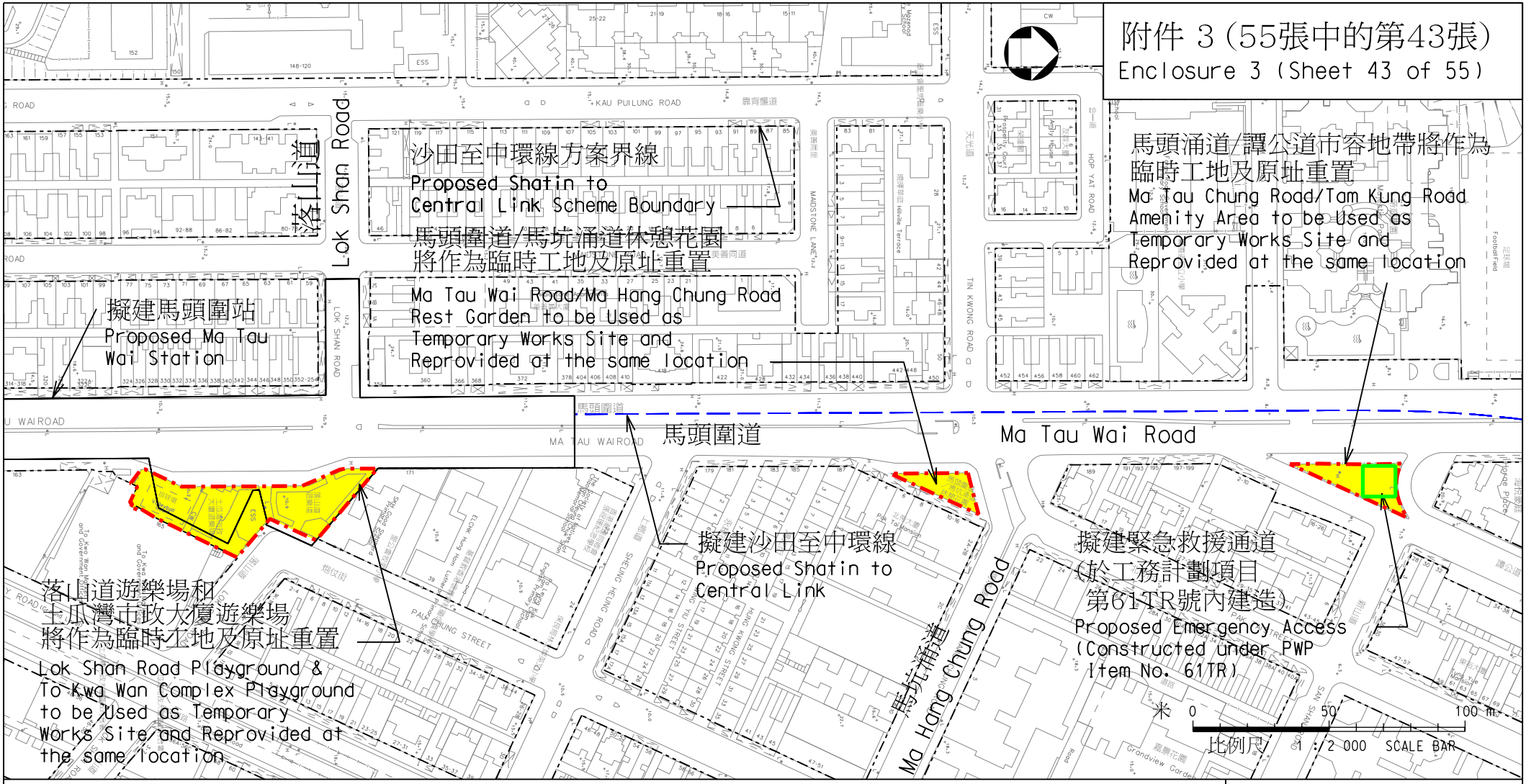

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(26)重置及改善馬頭涌道/譚公道市容地帶　項目(27)重置及改善馬頭圍道/馬坑涌道休憩花園
項目(28)重置及改善落山道遊樂場及土瓜灣市政大廈遊樂場

Item(26)Reprovisioning and Improvement of Ma Tau Chung Road/Tam Kung Road Amenity Area
Item(27)Reprovisioning and Improvement of Ma Tau Wai Road/Ma Hang Chung Road Rest Garden
Item(28)Reprovisioning and Improvement of Lok Shan Road Playground and To Kwa Wan Complex Playground

圖號 drawing no.

HRWSCL003-SK0299

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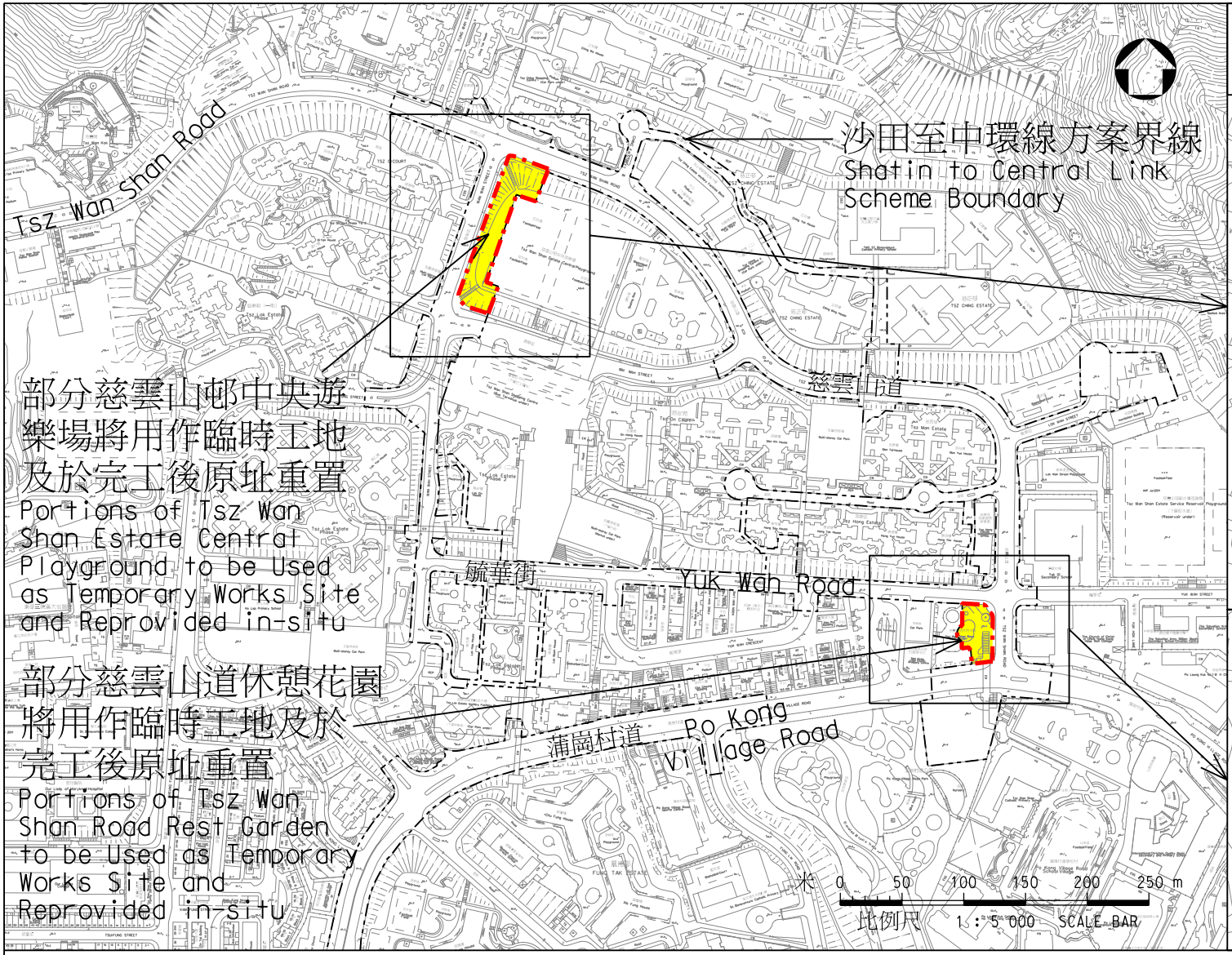
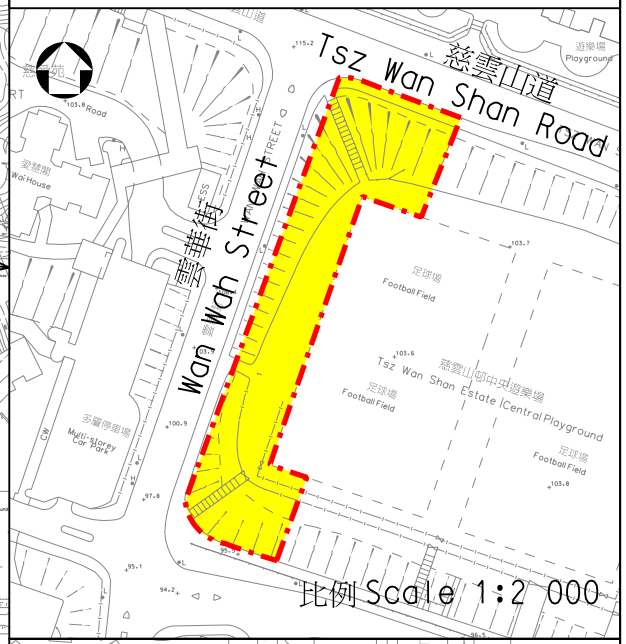
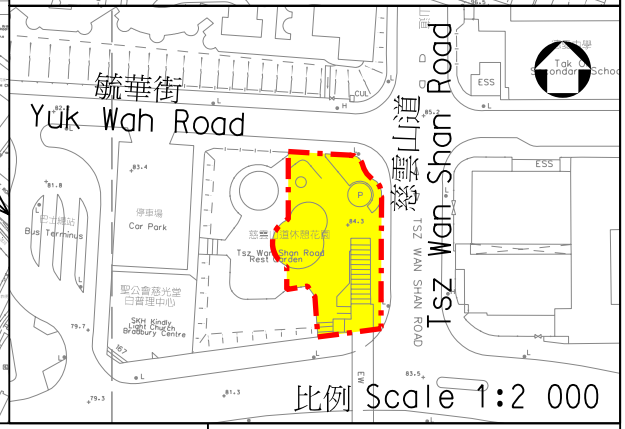
附件 3（55張中的第44張）
Enclosure 3 (Sheet 44 of 55)







圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(29) 重置及改善慈雲山邨中央遊樂場及慈雲山道休憩花園

Item (29) Reprovisioning and Improvement of Tsz Wan Shan Estate Central Playground and Tsz Wan Shan Road Rest Garden

圖號 drawing no.

HRWSCL003-SK0300

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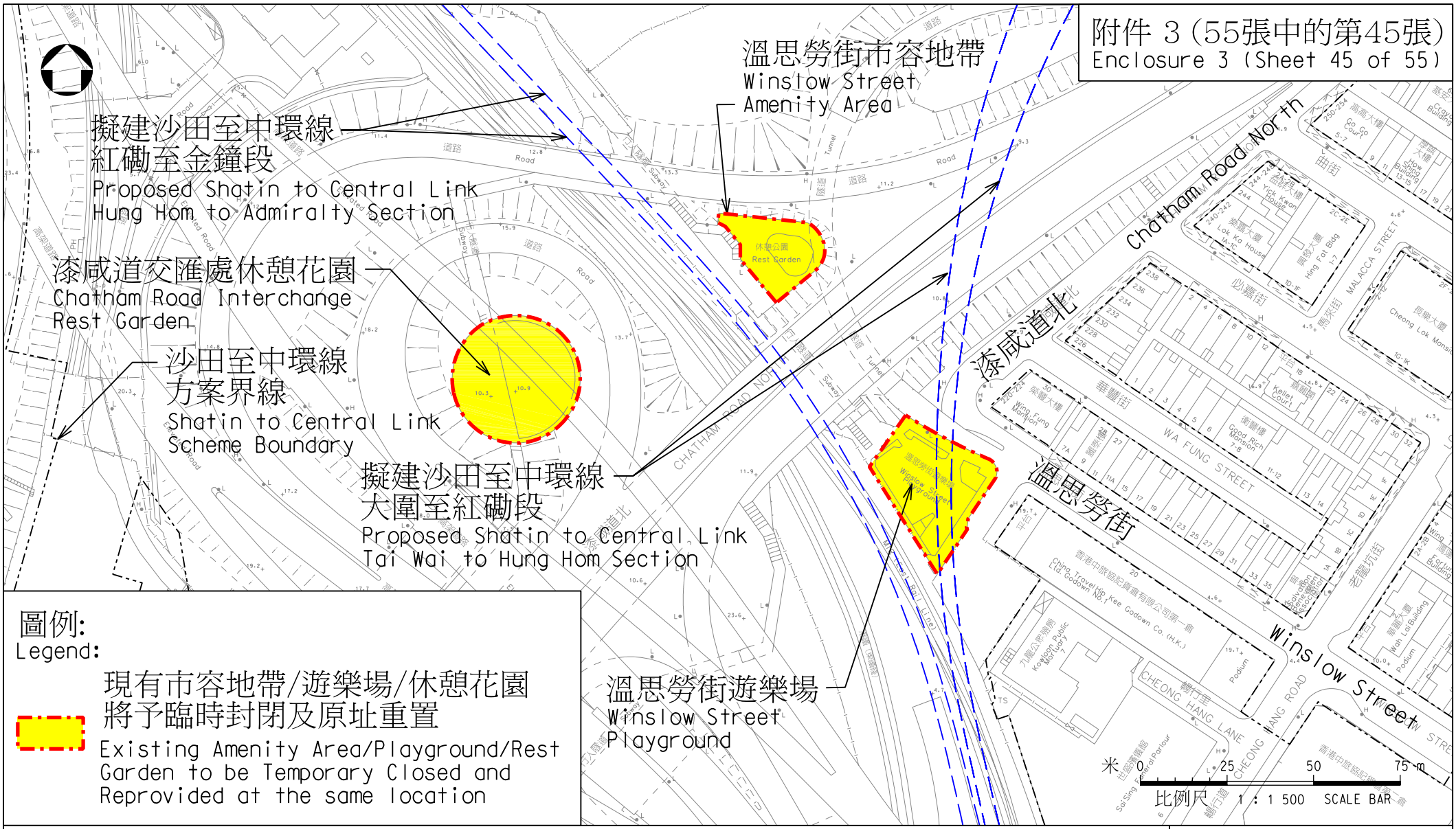

圖例:
Legend:

現有市容地帶/遊樂場/休憩花園
將予臨時封閉及原址重置
Existing Amenity Area/Playground/Rest Garden to be Temporary Closed and Reprovided at the same location

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目(30) 重置及改善溫思勞街遊樂場及市容地帶 項目(31) 重置及改善漆咸道交匯處休憩花園
Item (30) Reprovisioning and Improvement of Winslow Street Playground and Amenity Area
Item (31) Reprovisioning and Improvement of Chatham Road Interchange Rest Garden

圖號 drawing no.
HRWSCL003-SK0337

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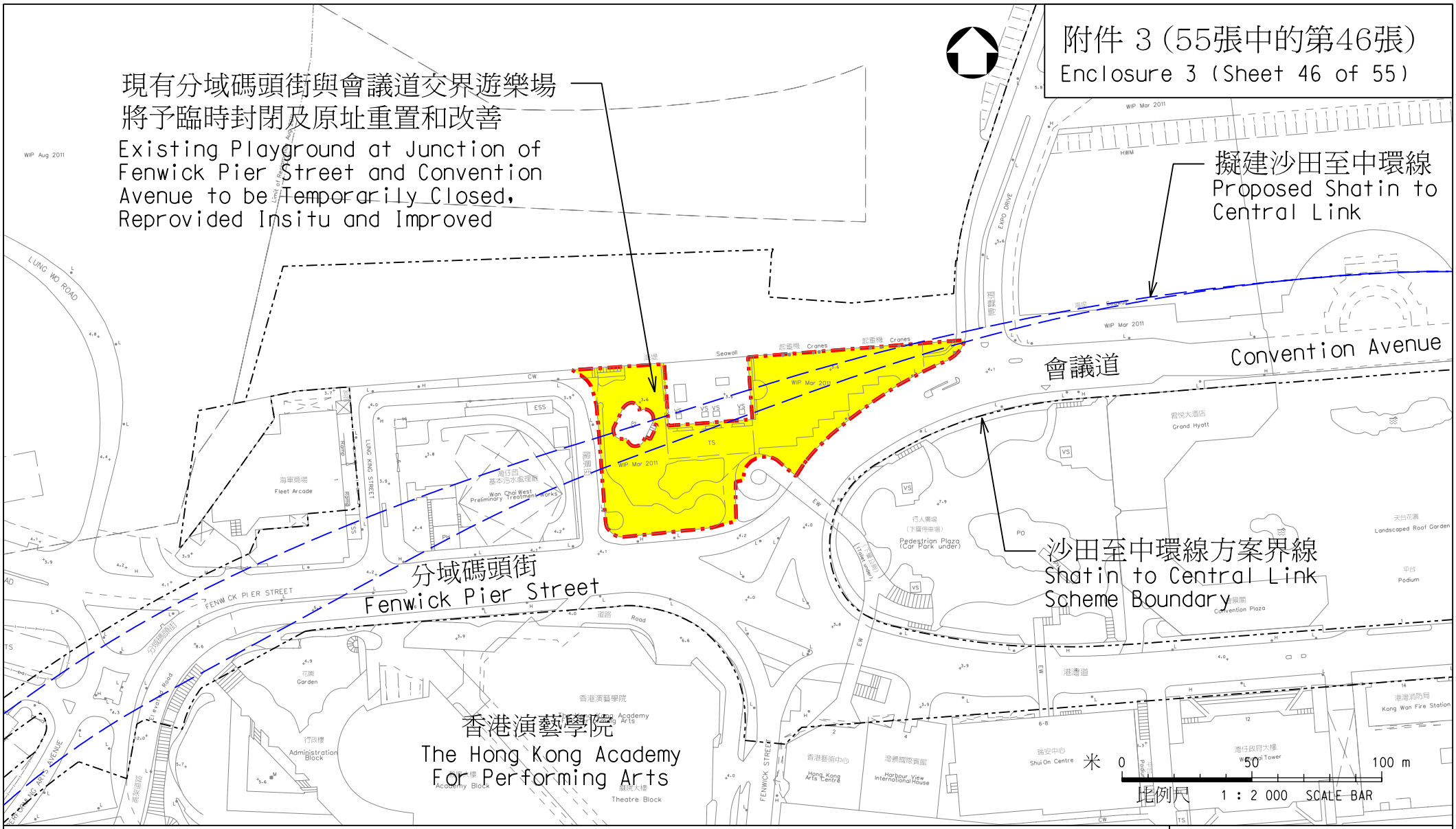
附件 3（55張中的第46張）
Enclosure 3 (Sheet 46 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(32) 重置及改善分域碼頭街與會議道交界遊樂場

Item (32) Reprovisioning and Improvement of Playground at Junction of Fenwick Pier Street and Convention Avenue

圖號 drawing no.
HRWSCL003-SK0280

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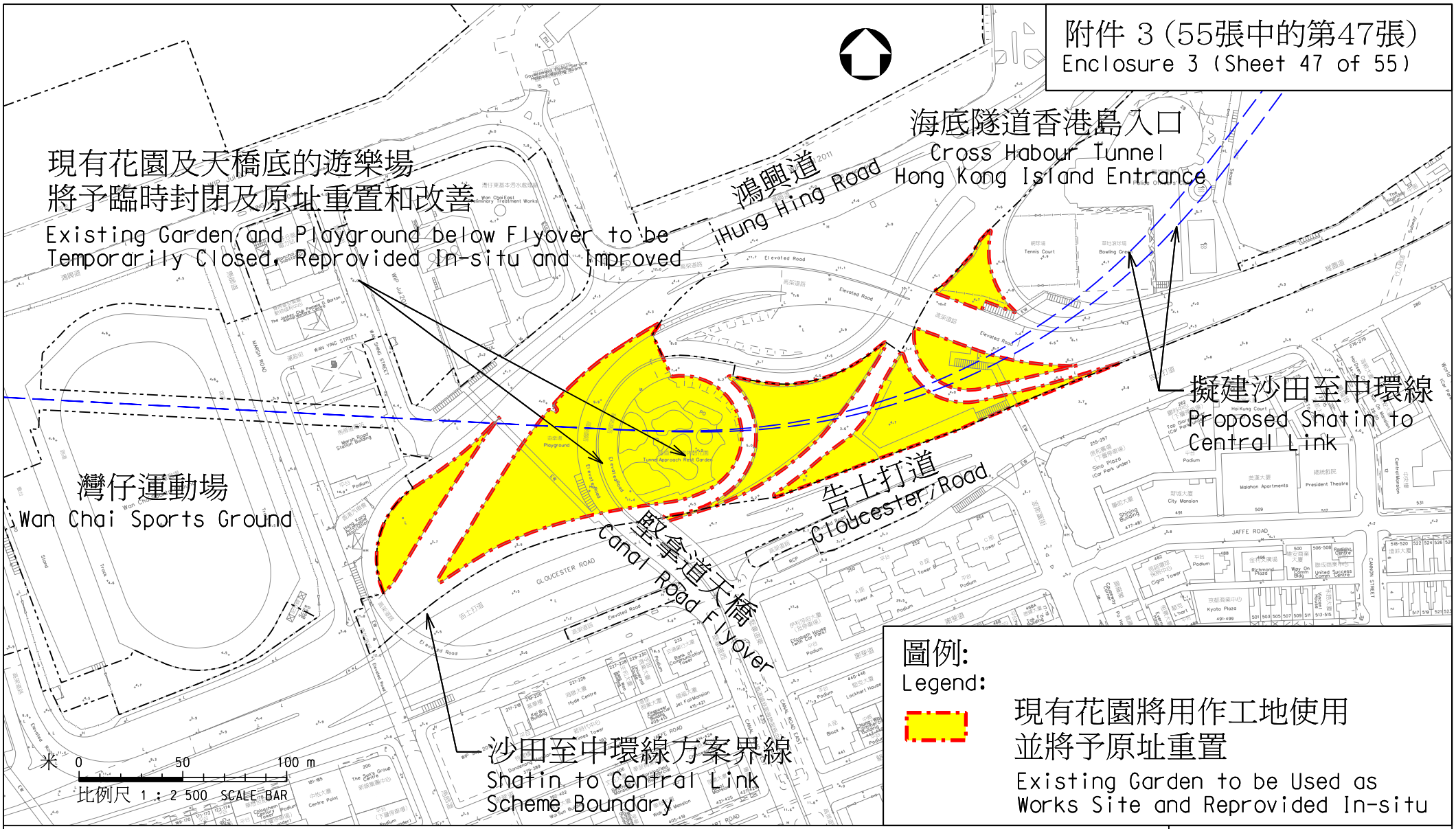

圖則名稱 drawing title

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PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(33) 重置及改善紅磡海底隧道港島入口處休憩花園

Item (33) Reprovisioning and Improvement of Tunnel Approach Rest Garden

圖號 drawing no.
HRWSCL003-SK0281

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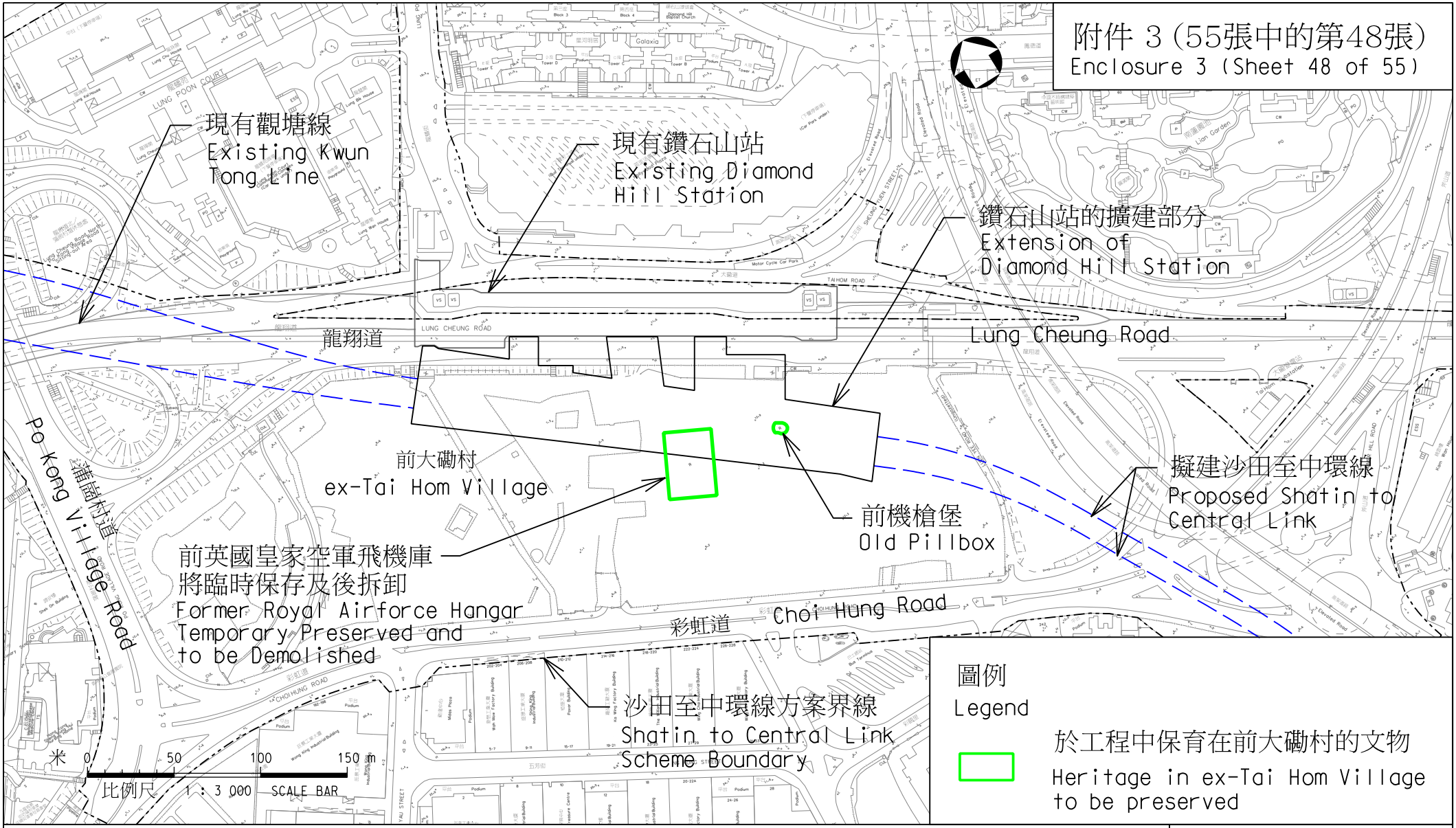

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(34) 保育前大磡村的機槍堡和前英國皇家空軍飛機庫

Item (34) Preservation of Old Pillbox and Former Royal Airforce Hangar at ex-Tai Hom Village

圖號 drawing no.
HRWSCL003-SK0314

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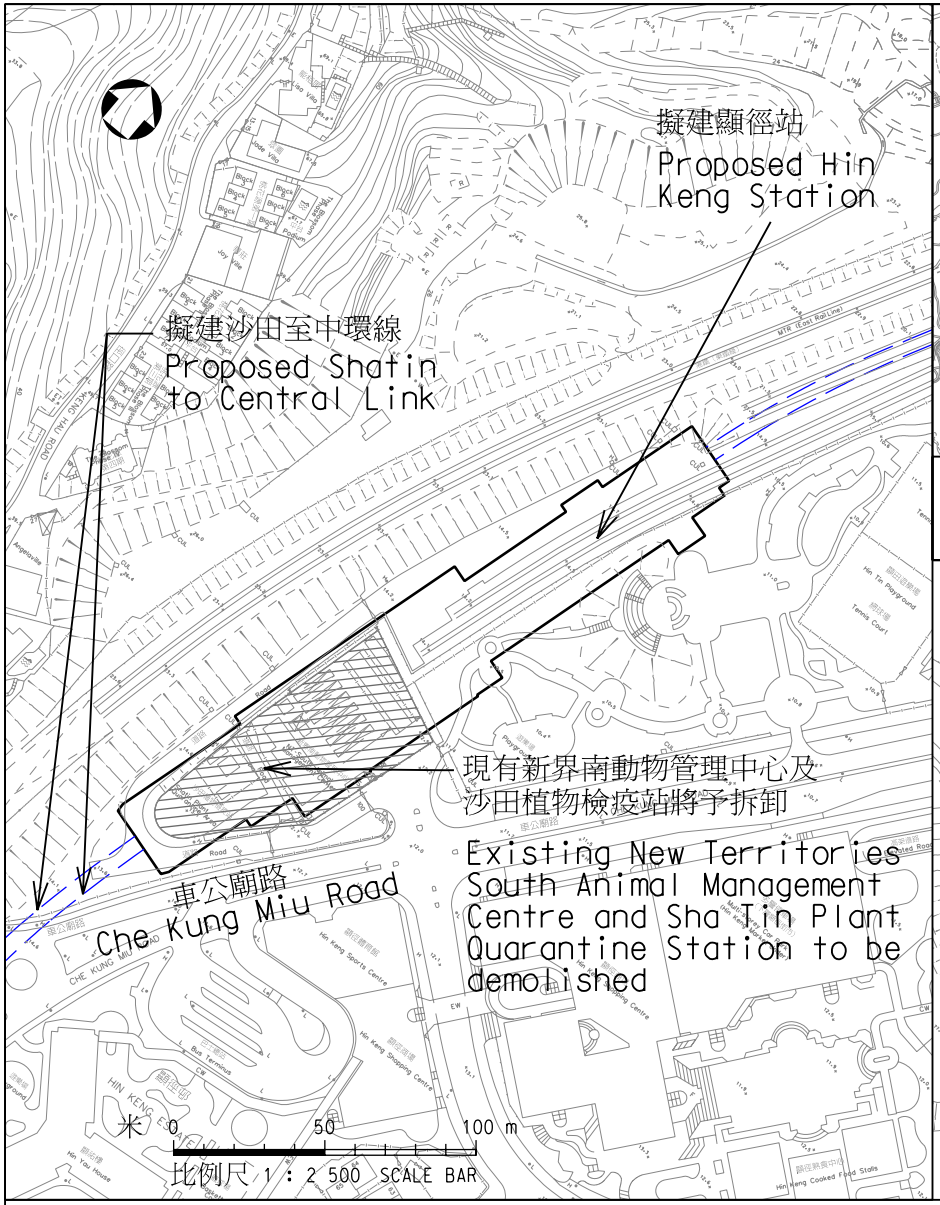
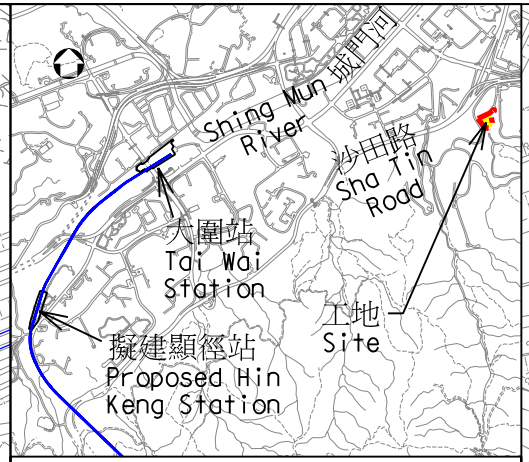
Enclosure 3 (Sheet 49 of 55)





位置圖 Location Plan
1:50 000

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目(35)重置新界南動物管理中心及沙田植物檢疫站
Item (35)Reprovisioning of New Territories South Animal Management Centre and Sha Tin Plant Quarantine Station

圖號 drawing no.
HRWSCL003-SK0277

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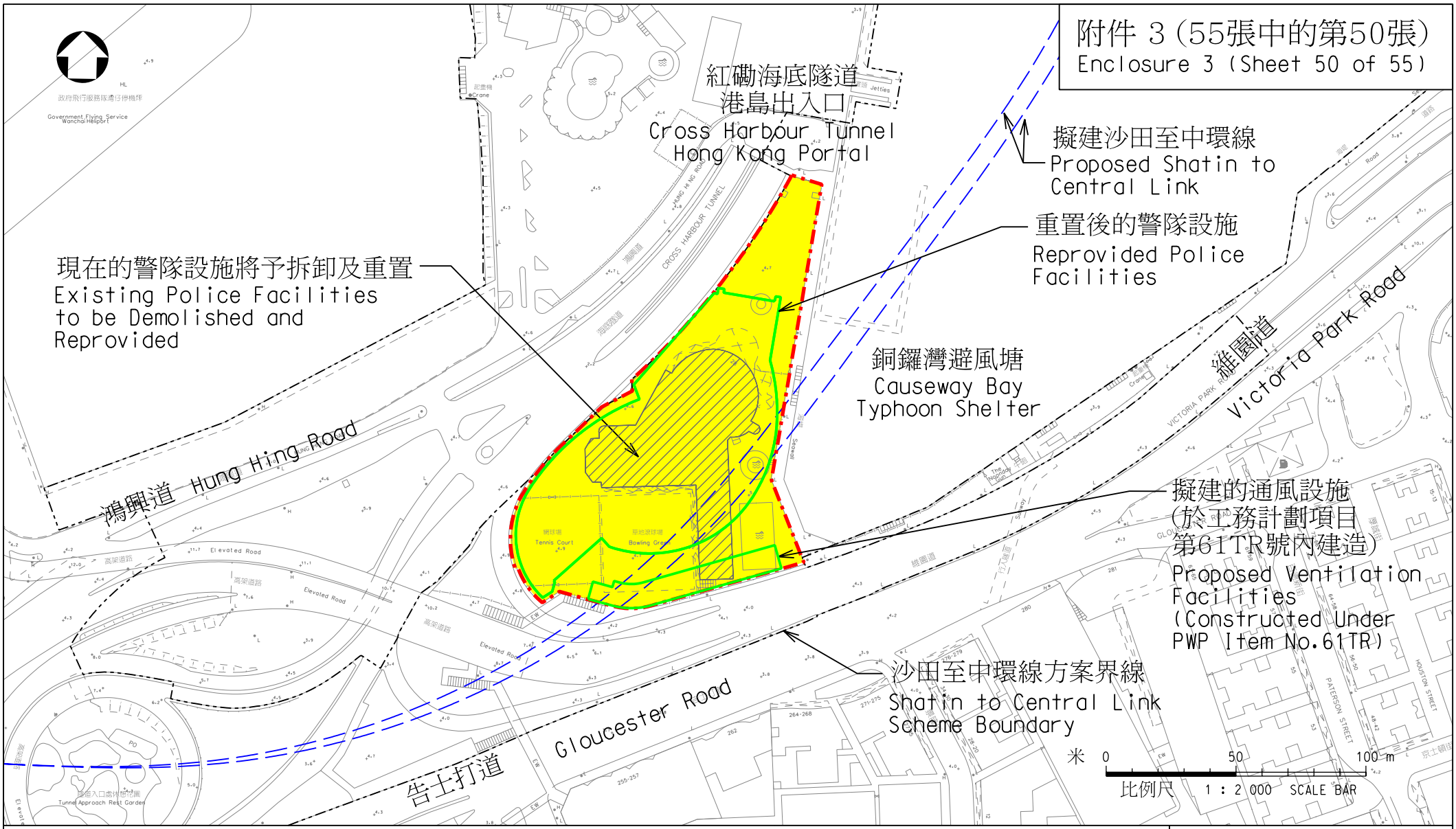
附件 3 (55張中的第50張)
Enclosure 3 (Sheet 50 of 55)



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works
項目(36) 重置銅鑼灣避風塘側的警隊設施
Item (36) Reprovisioning of Police Facilities near Causeway Bay Typhoon Shelter

圖號 drawing no.
HRWSCL003-SK0287

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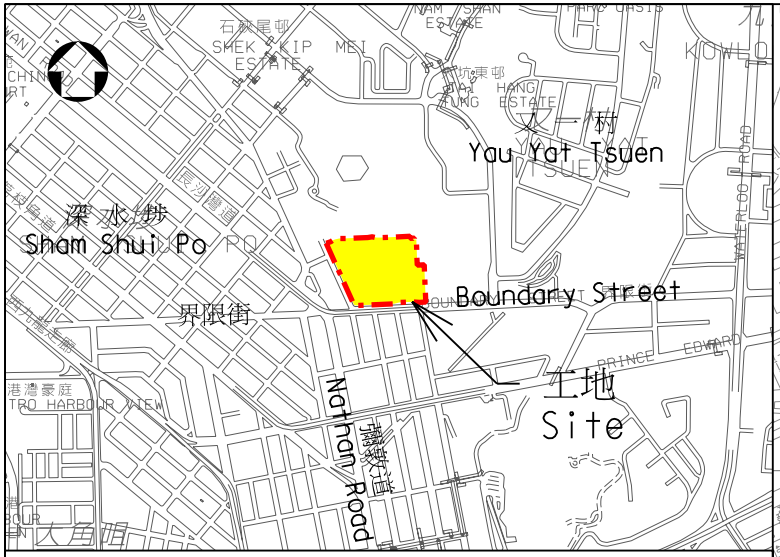
附件 3（55張中的第51張）
Enclosure 3 (Sheet 51 of 55)



位置圖 Location Plan
1: 20 000

現有的警察體育遊樂會的設施將予改善，以作沙中線工程期間的過渡安排
Existing Police Sports and Recreation Club to be Improved as Temporary Arrangement During Construction of SCL

大坑東遊樂場
Tai Hang Tung Recreation Ground

界限街 Boundary Street

Sai Yeung Choi Street North

西洋菜北街

0 50 100 m
米
比例尺 1 : 2 500 SCALE BAR

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目 (36) 改善界限街的警察體育遊樂會

Item (36) Improvement to Police Sports and Recreation Club at Boundary Street

圖號 drawing no.
HRWSCL003-SK0288

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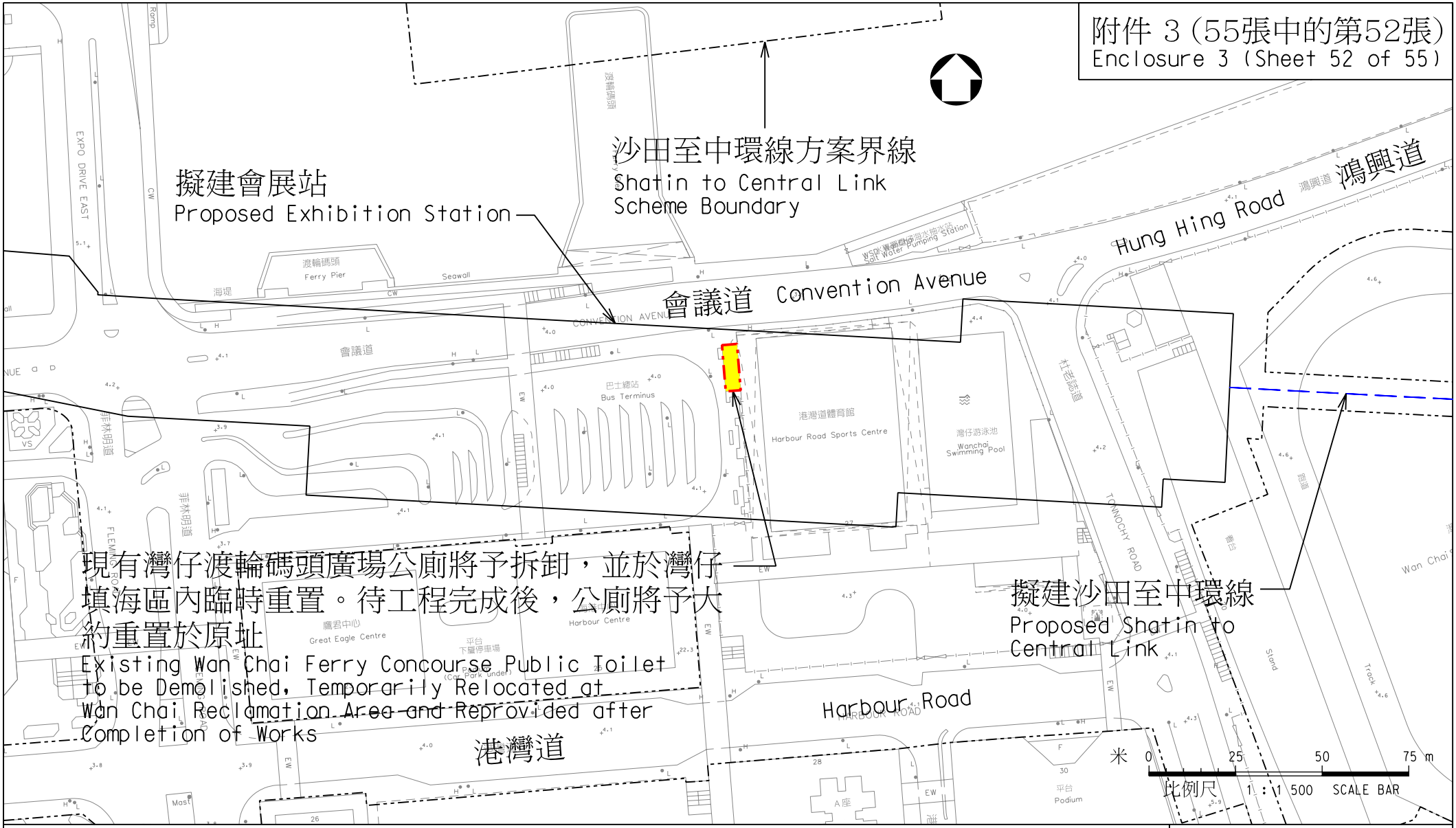

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(37) 重置灣仔渡輪碼頭廣場公廁

Item (37) Reprovisioning of Wan Chai Ferry Concourse Public Toilet

圖號 drawing no.
HRWSCL003-SK0335

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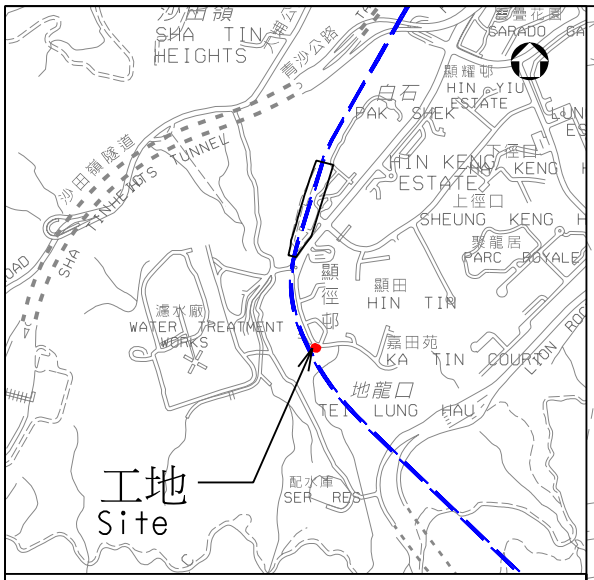
附件 3（55張中的第53張）
Enclosure 3 (Sheet 53 of 55)



位置圖 Location Plan
1:20 000

擬建沙田至中環線
Proposed Shatin to Central Link

沙田至中環線方案界線
Proposed Shatin to Central Link Scheme Boundary

現有顯徑邨垃圾收集站將予臨時拆卸及於工程完成後原址重置
Existing Hin Keng Estate Refuse Collection Point to be Temporarily Demolished and Reprovided in-situ

米 0 10 20 30 40 50 m
比例尺 1 : 1 000 SCALE BAR

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程
PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(38) 重置顯徑邨垃圾收集站
Item (38) Reprovisioning of Hin Keng Estate Refuse Collection Point

圖號 drawing no.
HRWSCL003-SK0292

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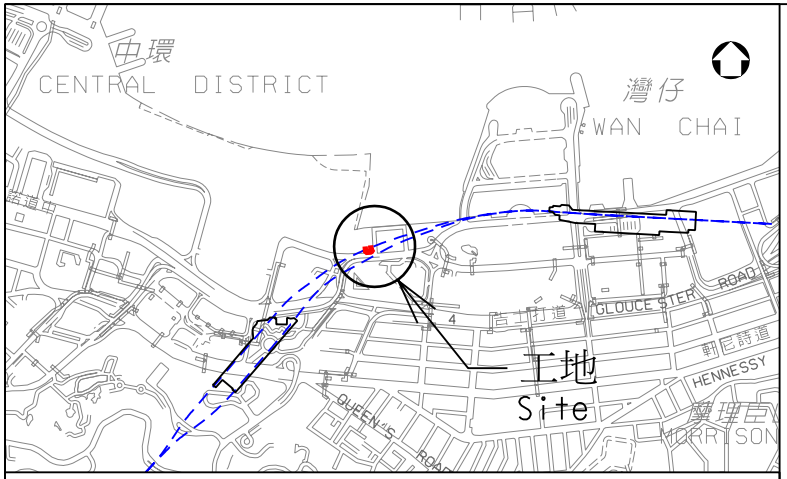
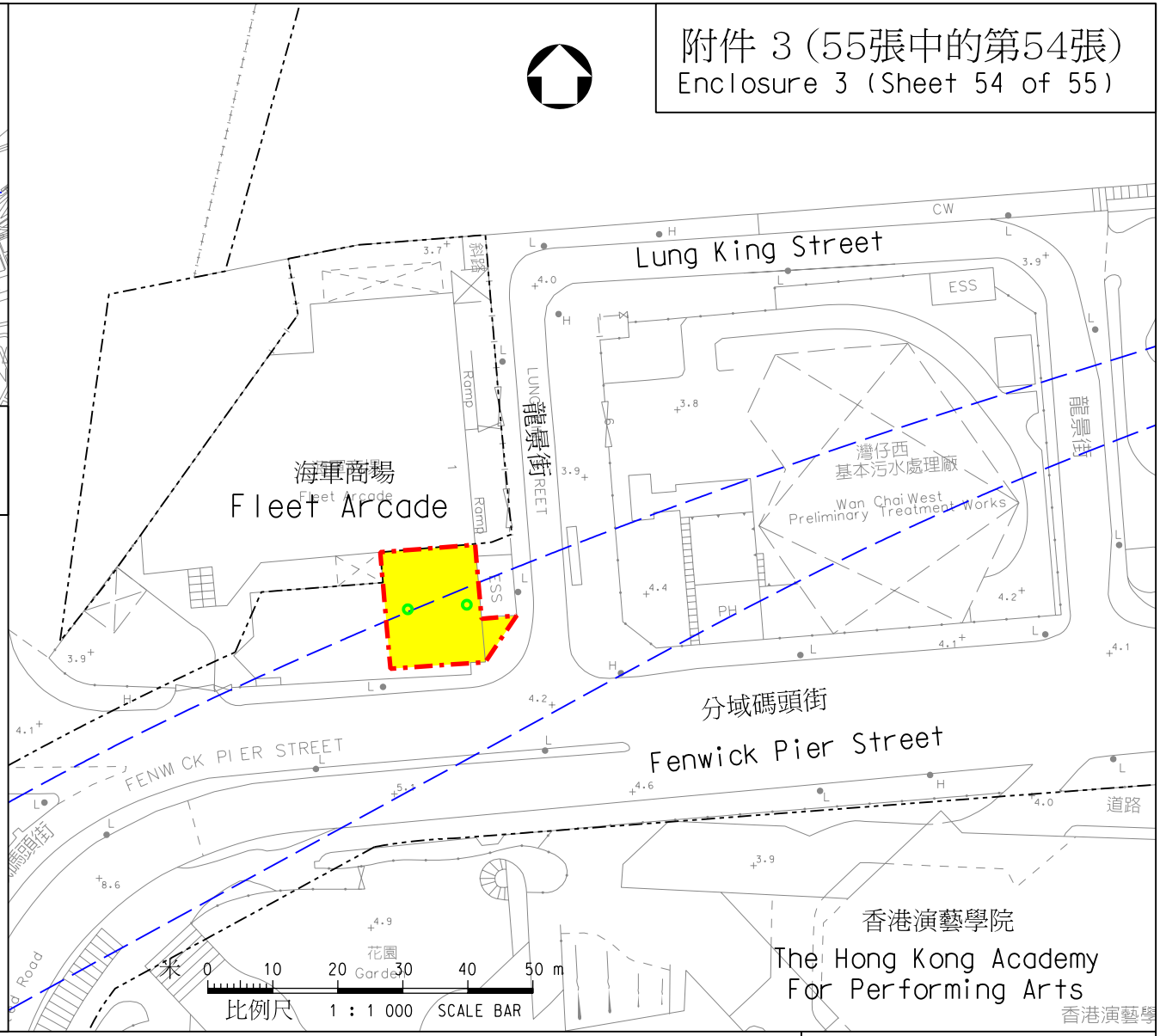


位置圖 Layout Plan
1: 20 000

圖例
Legend:

- 沙田至中環線方案界線 Shatin to Central Link Scheme Boundary
- 擬建沙田至中環線 Proposed Shatin to Central Link
- 現有樓宇將予拆卸 Existing Building to be Demolished
- 現有地基將予移除 Existing Foundation to be Removed



圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(39) 於灣仔分域碼頭街海軍商場的重置工程

Item (39) Reprovisioning Works at Fleet Arcade at Fenwick Pier Street

圖號 drawing no.
HRWSCL003-SK0285

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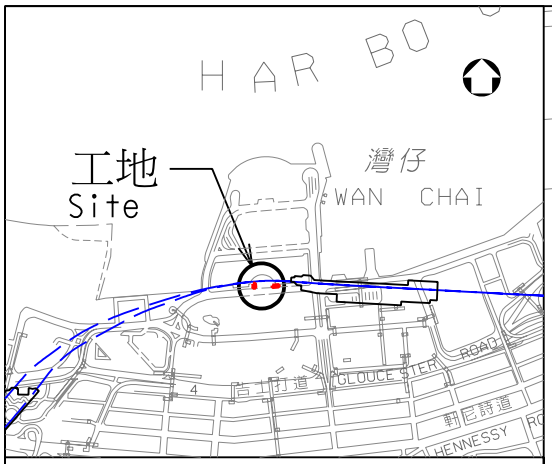
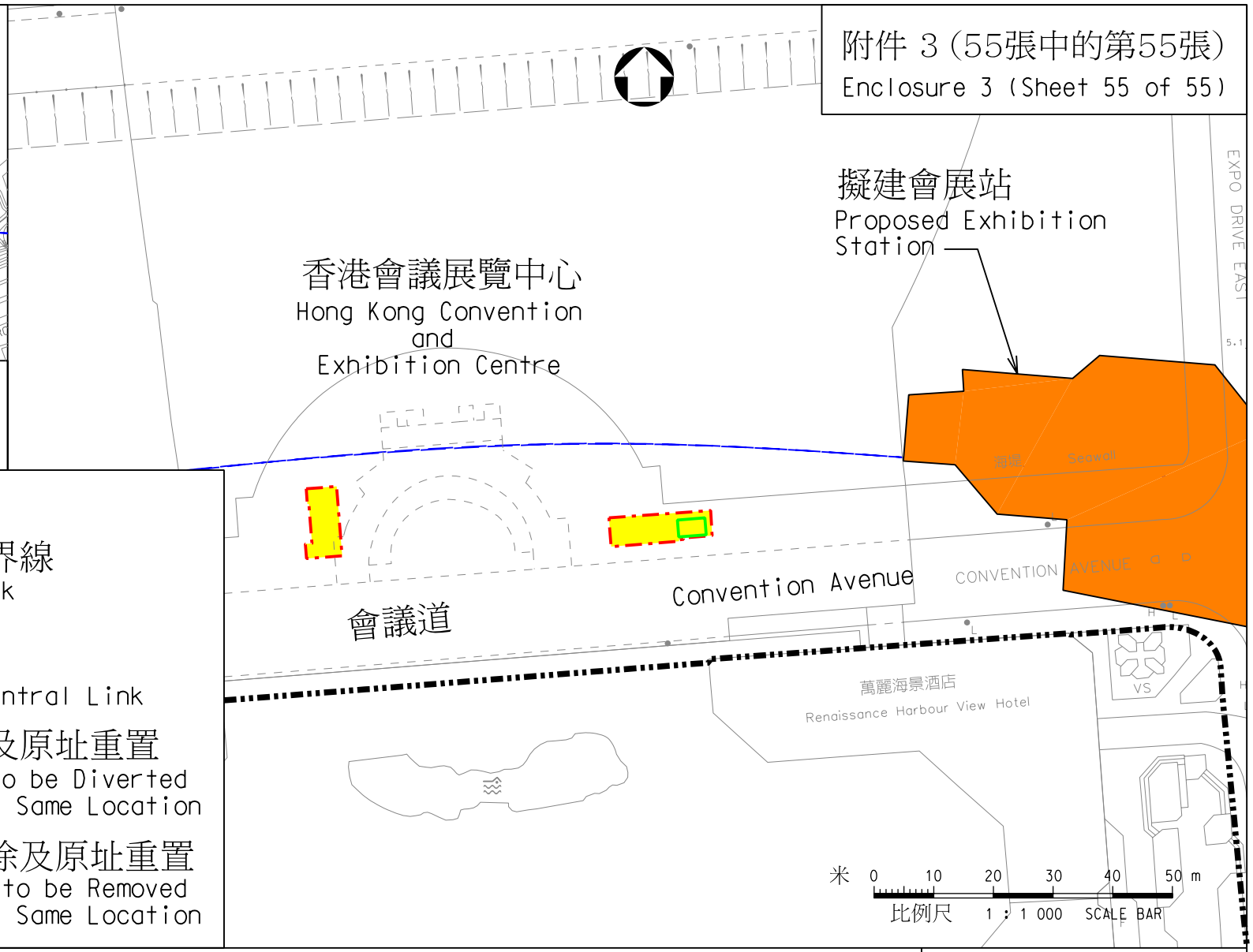
附件 3（55張中的第55張）
Enclosure 3 (Sheet 55 of 55)



位置圖 Location Plan
1:20 000



圖例
Legend:

- 沙田至中環線方案界線
  Shatin to Central Link Scheme Boundary
- 擬建沙田至中環線
  Proposed Shatin to Central Link
- 現有樓梯將予改道及原址重置
  Existing Staircases to be Diverted and Reprovided at the Same Location
- 現有隔油池將予移除及原址重置
  Existing Grease Trap to be Removed and Reprovided at the Same Location

圖則名稱 drawing title

工務計劃項目第62TR號 - 沙田至中環線 - 非鐵路建造工程 - 餘下工程

PWP Item No. 62TR-Shatin to Central Link-Construction of Non-railway Works-Remaining Works

項目(40) 重置香港會議展覽中心的樓梯及隔油池

Item (40) Reprovisioning of Staircases and Grease Trap in Hong Kong Convention and Exhibition Centre

圖號 drawing no.
HRWSCL003-SK0286

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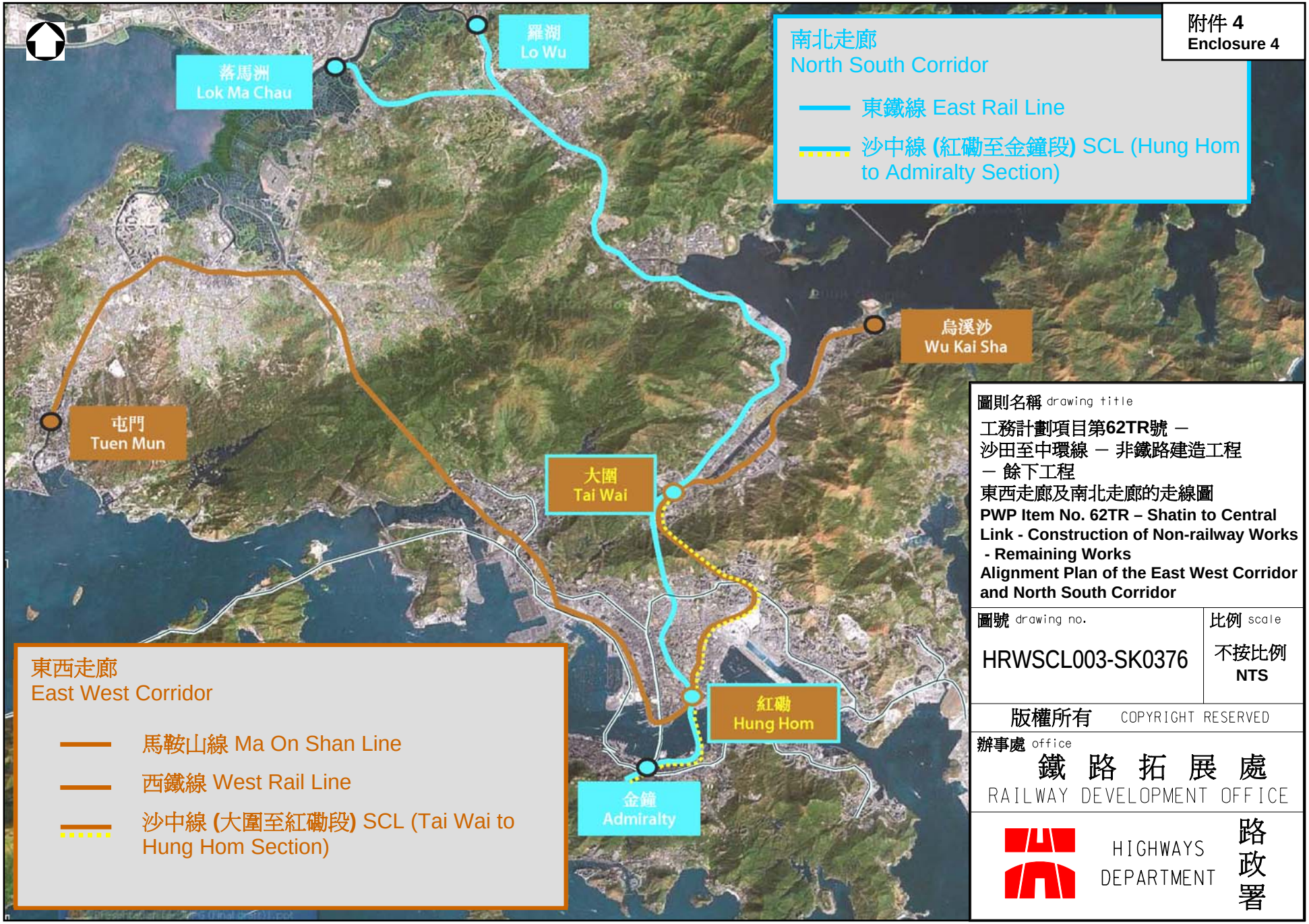

附件 4
Enclosure 4

圖則名稱 drawing title

工務計劃項目第62TR號 －
沙田至中環線 － 非鐵路建造工程
－ 餘下工程
東西走廊及南北走廊的走線圖
PWP Item No. 62TR – Shatin to Central Link - Construction of Non-railway Works - Remaining Works
Alignment Plan of the East West Corridor and North South Corridor

圖號 drawing no.	比例 scale
HRWSCL003-SK0376	不按比例 NTS

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HIGHWAYS DEPARTMENT 路政署

Factors and Information on Individual Items Leading to Increase in Cost Estimate of the SCL

Preliminary Estimate

1. In the paper[1] submitted to the Finance Committee (FC) of the Legislative Council in February 2011, we explained in detail to Members that, based on the proposal jointly submitted by the MTRCL and the KCRC in 2005, we had estimated that the total project cost of the Shatin to Central Link (SCL) was about $38.17 billion in April 2007 prices. At that time, the SCL project was at a conceptual stage, with its design and site investigation yet to commence, and no pre-feasibility study had been conducted. The estimated cost was thus only a crude preliminary estimate.

Latest Estimate

2. In the above FC's paper, we informed Members that the project cost of the SCL would be over $60 billion (in September 2009 prices). With the substantial completion of the detailed design of the SCL, our independent consultant has scrutinized the estimated construction cost in accordance with the detailed design. By exercising careful control over the cost, including optimizing and streamlining the design in the design process, the independent consultant estimates that the construction cost of the entire SCL project, including the advance works and protection works for which funding has been obtained, is about $64.9 billion (in September 2011 prices). The construction cost has increased mainly because over the four years and more from April 2007 to September 2011, the overall construction cost has increased by about 47% (about $17.9 billion) due to the upsurge in the cost of construction. In addition, to cater for the needs, we have incorporated some of the suggestions and requests made by stakeholders in respect of the design. The estimated cost for these engineering changes is about $5.2 billion[2]. Furthermore, the MTRCL has to revise the design to cope with actual site conditions and technical requirements. The estimated cost for these changes is about $3.6 billion.

Changes requested/proposed by stakeholders

3. Since 2008, we commenced design works and conducted an extensive public consultation exercise for the project. The design works are now substantially completed. Having regard to the actual situation or needs, we have incorporated changes to engineering works suggested or requested by some stakeholders. These engineering changes have increased the estimated cost by about $5.2 billion. The breakdown and detailed explanations are given below –

(a) Addition of Hin Keng Station (cost to be increased by about $1 billion)

At the strong request of the public, the Hin Keng Station will be added to the SCL to alleviate the congestion in the Tai Wai Station and facilitate access to

1 Paper reference PWSC(20110-11)34.
2 The additional cost includes project management cost and contingencies.

railway services by local residents, thereby enhancing the transport and social linkage of the district. The construction cost of this station will be slightly higher than that of a typical above-ground station in general as the station will be built adjacent to a slope at the East Rail Line. During the construction stage, additional support and protection works will need to be required to ensure that the operation of the East Rail Line will not be affected. Alterations to the turnaround tracks in the existing Tai Wai Depot will also be carried out to tie in with the works.

(b) Relocation of the International Mail Centre (IMC) from Hung Hom to Kowloon Bay (cost to be increased by about $1.2 billion) [3]

The relocation of the IMC from Hung Hom to Kowloon Bay was confirmed after the design works of the SCL commenced in late 2008. As the tunnel of the East West Corridor of the SCL will pass through the site of the existing IMC, it was confirmed after detailed investigation that the existing mail centre had to be demolished and re-provisioned. Through views collected during public consultation, we fully understand that the public expects that the services of the IMC should not be affected. Therefore, we must carefully plan the reprovisioning works, including the timetable. The new IMC at Wang Chin Street in Kowloon Bay will comprise six storeys with a usable floor area of about 20 000 m^2. The design and standards of the facilities for the IMC will have to meet the requirements of the Hongkong Post. In addition to adopting a number of greening and energy efficient features, automatic mail sorting and related equipment with a daily handling capacity of 4.5 million items will be provided in the new IMC. The existing IMC will be demolished after the reprovisioning works are completed.

(c) Relocation of the Harbour Road Indoor Games Hall and Wan Chai Swimming Pool (cost to be increased by about $650 million)

The need to relocate the recreational facilities at Harbour Road was confirmed after the design works for the SCL commenced in late 2008. As the Exhibition Station of the SCL will be located under the existing Harbour Road Indoor Games Hall and Wan Chai Swimming Pool, both facilities will have to be relocated to the car park area south of their present site. The facilities to be re-provisioned include a swimming pool, a games hall, a gymnasium, multi-purpose rooms, squash courts, table tennis saloons, changing rooms, store rooms, first aid room, electrical and mechanical plant rooms and filtering facility for the swimming pool. As we fully understand that the public expects that the services of the indoor games hall and training pool at Wan Chai should not be affected, we will carefully plan the reprovisioning works, including the reprovisioning timetable of the relevant facilities. The new building will have a floor area of about 16 500 m^2 and the re-provisioned facilities will meet the latest standards. In particular, the Wan Chai Swimming Pool will become an indoor pool and be upgraded to a 50 m x 25 m pool meeting international standards for the training of athletes.

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3 In February 2011, the Finance Committee of the Legislative Council has approved the funding application of $1.193 billion for the reprovisioning works of the IMC.

(d) Proposed walkway system near Tsz Wan Shan Estate Central Playground (cost to be increased by about $300 million)

We understand from the public consultation that there is a great demand for enhancement of the pedestrian links in Tsz Wan Shan for the residents of the district. Residential developments in Tsz Wan Shan are built on undulated terrain, and it is exhausting for pedestrians, particularly the mobility-handicapped or elderly, to traverse long steep gradients. The proposed pedestrian link aims to improve the pedestrian walkways among the residential developments in the Tsz Wan Shan district (for example Tsz Oi Court, Tsz Lok Estate), provide safe and barrier-free access linking up the Diamond Hill Station of the SCL with the neighbouring residential developments, and encourage the local community to make use of railway services which are environmental-friendly so as to improve the traffic condition in the Tsz Wan Shan district.

(e) Proposed walkway system at Yuk Wah Street (cost to be increased by about $250 million)

From the public consultation, there is a great demand for improving the pedestrian facilities between the residential developments at Yuk Wah Street, providing convenience access to the residents nearby to the SCL Diamond Hill Station. In view of a number of residential developments in the area and the busy traffic nearby, we propose to provide the pedestrian facilities (for example lifts and escalators) at suitable locations, encouraging the local residents to make use of the environmental-friendly railway services thus ultimately improving the traffic condition in the area.

(f) Proposed Fung Tak pedestrian walkway system (cost to be increased by about $50 million)

. To encourage residents near Fung Tak Estate using the SCL, we propose to provide convenient access in the area by installing additional pedestrian facilities (for example covered walkway and lifts) nearby.

(g) Reprovisioning and enhancement of the Harcourt Garden (cost to be increased by about $200 million)[4]

The design of the SCL in 2008 confirmed that the Admiralty Station would need to be expanded into an integrated station serving both the SCL and SIL(E). This proposal is more desirable than the original design of building two separate stations at Admiralty. To enable the construction of the integrated station, the MTRCL will need to make use of the Harcourt Garden as a works site. The garden will also be converted, elevated and re-provisioned to facilitate the construction of the underground station. The Harcourt Garden will be redesigned and the works will be carried out and completed in tandem with the

4 A total amount of $196 million was approved by the Finance Committee of the Legislative Council in February 2011 for reprovisioning and enhancement of the Harcourt Garden.

expansion works of the Admiralty Station. To tie in with the works of the underground station, the garden will be elevated by five to six metres to allow building of more open space and a landscape deck. The space enjoyed by the public will be increased from around 5 000 m^2 at present to around 9 000 m^2 afterwards. Lifts linking up the station concourse, ground level and the garden will be installed at the entrance to the garden to provide barrier-free access. The Harcourt Garden will be connected to the footbridges linking up the neighbouring commercial buildings to achieve pedestrian and vehicle segregation and provide comfortable and safe links for pedestrians to and from the station, the Harcourt Garden and neighbouring commercial buildings.

(h) Reprovisioning and enhancement of district open spaces (cost to be increased by about $ 150 million)

Given the large scale of the SCL project whose alignments traverse many districts, it is necessary to designate certain district open space as temporary works sites. After extensive discussions with the district councils concerned, we suggest to allocate additional project funding to carry out enhancements and improvements in the reprovisioning of affected open spaces where possible. Examples include open spaces in Ma Tau Wai, the rest garden at the Cross Harbour Tunnel Hong Kong entrance, Ma Chai Hang Recreation Playground and Hin Tin Playground.

(i) Reprovisioning of affected facilities of the Police Force (cost to be increased by about $300 million)

The tunnel of the North South Corridor of the SCL will pass through the Police facilities next to the Causeway Bay Typhoon Shelter. Having considered the public concern on harbour protection, we have to avoid unnecessary reclamation. It was confirmed after the preliminary design that the Police facilities will have to be entirely demolished to make way for the construction of this section of SCL tunnel and the ventilation facilities above the tunnel. Upon completion of the works, the area available for the reprovisioning of the Police facilities will be reduced thus increasing design complexity and construction difficulty. As a result, the construction cost increases.

(j) Additional disposal and import of fill materials due to proposed changes of stockpiling areas and barging point (to be increased by about $500 million)

From the extensive public consultation conducted, we were aware of the public's concern about the temporary storage of excavated materials at the Kai Tak area. We have therefore substantially reduced the storage area in the latest planning. As a result, one million cubic metres of excavated materials generated from the construction of the SCL tunnels and stations in Diamond Hill and Kowloon City could not be stored for the subsequent backfilling, leading to a considerable increase in transportation cost. As the barging point at Hoi Sham Park has been cancelled, the excavated materials generated in the vicinity will have to be transported to the barging point at Kai Tak, increasing the cost of transportation and handling of the excavated materials.

(k) Reduction of temporary works sites and cancellation of the temporary concrete batching plant in Kai Tak (cost to be increased by about $200 million)

In the extensive public consultation conducted, we were aware of the strong request of local people for reducing the temporary works sites and cancellation of the temporary concrete batching plant in Kai Tak for the SCL. After careful deliberation, we have reduced some temporary works sites in Sha Tin District and Kowloon City District and cancelled the temporary concrete batching plant in Kai Tak by making additional arrangements for working procedures and procurement of concrete. Such arrangement will increase the construction cost of the SCL.

(l) Construction of enabling works for the topside property developments above the stations and concrete block works for the future Sung Wong Toi Garden (cost to be increased by about $400 million)

To support the future development of the topside property developments above the stations, the foundation and structure frameworks of the stations have to be strengthened (for example the raft foundation of the To Kwa Wan Station has been changed to pile foundation). It is also necessary to provide additional supports for the concrete block works at the future Sung Wong Toi Garden.

Design Changes

4. In the course of design, the MTRCL has to revise the design to cope with actual site conditions and meet technical requirements. The estimated cost for these changes is about $3.6 billion, with breakdown and detailed explanations as shown below –

(a) Changes to the design of stations, e.g. revision of the design of stations to take into account the latest site investigation information (cost to be increased by about $600 million)

After conducting a series of site investigation along the alignment of the SCL, the MTRCL has confirmed that it is necessary to revise the design to take account of the information obtained, including –

- additional strengthening works for the external walls of the existing Diamond Hill Station to avoid implications on the safety of the station during the construction of the SCL;

- additional lateral diaphragm walls and related bracing structures to further reduce the impact on the neighbouring buildings during the construction of the Ma Tau Wai Station; the depth of the diaphragm walls has to increase because it has been found that the rock stratum in the vicinity of the Ma Tau Wai Station is deeper than expected.

- the large quantity of gravel found at the ex-Tai Hom Village site has to be crushed or removed before building the 600 m long diaphragm walls at the site; and

- the seawall and disused railway facility found at the old reclamation for the Hung Hom Station have to be removed before construction of the tunnel.

(b) Additional fire service provisions at stations to meet the latest fire safety requirements (cost to be increased by about $700 million)

Fire service equipment for railways is different from that of ordinary buildings, most of which cannot be finalised until the design stage and after deliberations with and analysis of risks by the Fire Services Department (FSD). As described in paragraph 1 above, the design for the SCL had not yet started when the preliminary cost estimate was submitted to the Legislative Council in March 2008. The rough estimated costs for stations, including fire safety facilities, were based on the typical design of previous stations. Since early 2010, the MTRCL and the FSD have been discussing the detailed design of most of the stations and the necessary fire safety facilities. Having received the detailed station design from the MTRCL and in view of the incidents in the past few years, the FSD has requested for enhancement of the protection for firemen entering the scene of incidents as well as means of escape for the public. Hence, the following additional facilities will be provided under the SCL to meet the prevailing fire services requirements –

- additional fire service lifts (nine in total) for the secondary fire service entrances at the stations;

- separate entrance for the underground CLP transformer room, hence an increase in the area of the stations;

- enhancement of stations backup fume extracting facilities, hence an increase in the area of the stations; and

- automatic sprinkler system for the stabling tracks of the stabling siding at Hung Hom, and automatic sprinkler and fume extracting systems for the sector tracks of the stabling siding.

(c) Additional emergency access and egress to meet the latest fire safety requirements (cost to be increased by $600 million)

After the MTRCL submitted the detailed design of the emergency access in early 2010, the FSD, in view of the incident in Tai Lam Tunnel of the West Rail on 14 February 2007, has requested for enhancement of the ventilation system for longer railway tunnels and protection for firemen entering the scene of incidents and means of escape for the public. Hence, the following additional facilities will be incorporated in the SCL –

- an additional ventilation building and emergency access at the Ma Chai Hang Playground;

- an additional emergency access at Tam Kung Road;

- an additional emergency access at the open space next to the Wong Tai Sin Temple; and

- additional ventilation ducts for the SCL Lion Rock Tunnel and cross harbour tunnel, hence an increase in the cross-sectional area of both tunnels.

(d) Additional ground strengthening works near the Ma Tau Wai Station (cost to be increased by about $300 million)

To further safeguard the smooth construction of the station and the railway tunnel along Ma Tau Wai Road, ground treatment works will be carried out in the vicinity of Ma Tau Wai Road and Chatham Road North to strengthen the soil. The MTRCL has also proposed the setting up of a monitoring system to ensure no excessive ground water loss along Ma Tau Wai Road. This would enhance construction safety.

(e) Optimisation of alignment to avoid land acquisition for private buildings and reduce disruption to the operation of the East Rail Line (cost to be increased by about $800 million)

In the course of design, the MTRCL has adopted the following measures to optimise the alignment of the SCL –

- The configuration of the tunnels at both ends of the Exhibition Station has been revised to allow cross platform interchange with the future North Island Line at the Exhibition Station, leading to an increase in the depth of the Exhibition Station and the SCL tunnel;

- The new alignment of the North South Corridor that bifurcates from the existing East Rail Line north of Hung Hom has been revised and it will not be necessary to build a tunnel under the tracks of the existing East Rail Line, reducing the construction risk and the threat to train safety substantially. However, the section of the existing slope at the East Rail Line has to be upgraded and the affected facilities of the East Rail Line re-provisioned;

- After optimization of the alignment at Ma Tau Wai Road, the alignment will run close to the buildings only, avoiding resuming the land and buildings concerned..

(f) Implementation of traffic diversions at Lung Cheung Road, Ma Tau Wai Road and Chatham Road (cost to be increased by about $600 million)

In the course of design, the MTRCL has confirmed that the following large-scale traffic diversion measures would need to be implemented during the construction of the SCL –

- Traffic diversions will be implemented in phases at Nam Kok Road, Kowloon City Interchange, Olympic Garden Roundabout, Olympic Avenue, Sung Wong Toi Road and Pak Tai Street in Kowloon City to facilitate the construction of two pedestrian subways connecting the To Kwa Wan Station

to Nam Kok Road and Pak Tai Street. The two subways are provided to tie in with the revised To Kwa Wan Station;

- Temporary traffic diversions will be implemented at Ma Tau Wai Road to facilitate the construction of the Ma Tau Wai Station. Variable message traffic sign and closed circuit televisions will be used to help support the sophisticated temporary traffic control scheme;

- The Cheong Wan Road Flyover will be modified permanently for the construction of the railway tunnel connecting the SCL to the Hung Hom Station; and

- Temporary flyovers will be constructed at Chatham Road North to divert traffic on its existing seven lanes in phases for the construction of the cut-and-cover tunnels of the North South Corridor and the East West Corridor. The existing flyover and pedestrian subways will be demolished and re-provisioned to suit the works.

- Traffic diversion along Long Cheung Road will be implemented in phases for the construction of the interchange passenger corrider between the SCL Diamond Hill Station and the existing Diamond Hill Station of Kwun Tung Line located underneath Lung Cheung Road.

Enclosure 6 to PWSC(2012-13)xx

62TR – Shatin to Central Link – Construction of Non-railway Works

– Remaining Works

Breakdown of the Estimated Land Resumption and Clearance Costs

			$ million
(I)	**Estimated Resumption Cost**		0.0
(II)	**Estimated Clearance Cost**		0.12
(a)	Ex-gratia allowance for crop and fruit trees compensation	0.11	
(b)	Ex-gratia allowance for farm structures and miscellaneous permanent improvements to farms	0.01	
(III)	**Contingency**		0.01
		Total	0.13