



**DRAINAGE SERVICES DEPARTMENT  
 CONTRACT NO. DC/2011/06**

**REPROVISIONING OF BOUNDARY PATROL ROAD AND  
 ASSOCIATED SECURITY FACILITIES BETWEEN  
 PING YUEN RIVER AND PAK FU SHAN AND  
 DRAINAGE WORKS IN NORTH DISTRICT**

**NINTH QUARTERLY EM&A SUMMARY REPORT FOR  
 ADVANCED WORKS UNDER EP-430/2011  
 (SEPTEMBER 2014 – NOVEMBER 2014)**

**PREPARED FOR  
 SANG HING CIVIL CONSTRUCTORS CO., LTD.**

**Quality Index**

| Date           | Reference No.           | Prepared By   | Approval By  |
|----------------|-------------------------|---|--|
| 2 January 2015 | TCS00599/12/600/R0342v0 | <br>Ben Tam<br>Environmental Consultant | <br>T. W. Tam<br>Environmental Team<br>Leader |

| Version | Date           | Description       |
|---------|----------------|-------------------|
| 0       | 2 January 2015 | First submission. |

This report has been prepared by Action-United Environmental Services & Consulting with all reasonable skill, care and diligence within the terms of the Agreement with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

Ref.: DSDBPRNDEM00\_0\_0353L.15

5 January 2015

By Post and Fax (2959 6079)

Action-United Environmental Services & Consulting  
Unit A, 20/F,  
Gold King Industrial Building,  
New Territories, Hong Kong

Attention: Mr. TW Tam

Dear Sir,

**Re: Contract No. DC/2011/06  
Reprovisioning of Boundary Patrol Road and Associated Security Facilities  
between Ping Yuen River and Pak Fu Shan and Drainage Works in North  
District  
Ninth Quarterly EM&A Summary Report for Drainage Works under EP-  
430/2011 (September 2014 – November 2014)**

Reference is made to the Environmental Team's submission of the captioned report (Version 0) dated 2 January 2015 received through E-mail on 2 January 2015 for our review and comment.

Please be informed that we have no adverse comment on the captioned submission.

Should you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely,



Roger Leung  
Independent Environmental Checker

|      |        |                      |                   |
|------|--------|----------------------|-------------------|
| c.c. | DSD    | Mr. Eric Cheng       | by fax: 2827 8700 |
|      | SHCCCL | Mr. Raymond W.M. Yau | by fax: 2403 1162 |

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## **EXECUTIVE SUMMARY**

### **REPORTING OF THE CONTRACT**

- ES01. In order to ease reporting of the Contract, it has been agreed among the Engineer, IEC, Contractor and ET that the EM&A reports for the Contract are split into three stand-alone reports, namely EM&A Report for Advanced Works under EP-430/2011, EM&A Report for Drainage Works under EP-277/2007/A and EM&A Report for Drainage Works at Ma Wat Wai.
- ES02. This is the ninth quarterly EM&A summary report for Advanced Works under EP-430/2011, covering the construction period of the Works from 1 September 2014 to 30 November 2014.
- ES03. The structure of this Report is as follows:

### *EXECUTIVE SUMMARY*

- 1 *Introduction*
- 2 *Requirements for Construction Impact monitoring*
- 3 *Environmental monitoring Results*
- 4 *Solid and liquid Waste Management*
- 5 *Complaints, Notification of Summons and Successful Prosecution*
- 6 *Conclusions and Recommendations*

### Annex

- Annex A Location plan for the Works*
- Annex B Environmental Management Organization and Communication Lines*
- Annex C Implementation Schedule for Environmental Mitigation Measures*
- Annex D Construction Program*
- Annex E Monthly Summary Waste Flow Table and Summary Table for Work Processes or Activities Requiring Timber for Temporary Works*

### **NON-CONFORMANCE WITH ENVIRONMENTAL REGULATIONS / STANDARDS**

- ES04. No environmental monitoring was performed for the Advanced Works.
- ES05. No non-conformance with environmental regulations/standards was identified during the site inspection in the Reporting Period.

### **COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS**

- ES06. No environmental complaints, notifications of summons and successful prosecutions were registered during the Reporting Period.

### **CONCLUSIONS**

- ES07. Neither non-conformance with environmental regulations/standards nor written or verbal environmental complaints, notification of summons and successful prosecutions were recorded during the Reporting Period, indicating the implemented environmental mitigation measures were effective and efficient to alleviate adverse environmental impacts generated from the construction activities of the Works.

### **RECOMMENDATIONS**

- ES08. Nevertheless, fully implementation of the required environmental mitigation measures is reminded, in particular construction dust suppression measures during dusty construction activities under dry and windy conditions, as well as water quality mitigation measures during rainy conditions.
- ES09. In addition, attention should also be paid to implementation of the construction noise mitigation measures during noisy construction works.

## 1 BACKGROUND INFORMATION

### 1.1 REGULATION OF SHENZHEN RIVER STAGE 4

1.1.1 Changjiang Water Resources Protection Institute (長江水資源保護科學研究所) in association with ERM-Hong Kong Ltd was jointly commissioned by Shenzhen River Regulation Office of Shenzhen Municipal Government (深圳市治理深圳河辦公室) and Drainage Services Department of the HKSAR Government (hereinafter “DSD” or “the Engineer”) to undertake an environmental impact assessment study (hereinafter “the EIA”) for a construction project *Regulation of Shenzhen River Stage 4*. Layout Plan for the Project is shown in *Annex A*.

1.1.2 The *Regulation of Shenzhen River Stage 4* will be constructed under two separate contracts, Advanced Works within the HKSAR and River Modification Works within both the HKSAR and the Shenzhen Municipality, comprising:

- 1) Improvement of an approximately 4.5 km long section of Shenzhen River;
- 2) Re-provision of the boundary patrol road and about 4.5km of boundary fence affected by the Project;
- 3) Dry weather flow interception of the sewage discharging from Shenzhen side into the Project area; and
- 4) The associated landscaping works.

1.1.3 The construction programme proposed in the EIA is summarized in *Table 1-1* as follow

**Table 1.1 Summary of Construction Programme for the Project**

| Item | Phase             | Period                        | Duration  | Works Description   |
|------|-------------------|-------------------------------|-----------|---|
| 1    | Advanced Works    | February 2012 to January 2015 | 36 months | Construction of boundary fence and boundary patrol road on HK side  |
| 2    | Preparation       | March to July 2013            | 5 months  | Tendering; land resumption  |
| 3    | Reconstruction    | August to September 2013      | 2 months  | Construction of site access roads and site office, site clearance, site preparation works etc.  |
| 4    | Construction      | October 2013 to December 2016 | 39 months | Main construction works of the Project such as dredging of river sediment and soil excavation, construction of flood retardation pond, boundary fence and boundary patrol road on Shenzhen side, river modification works, dry weather flow interception works etc. |
| 5    | Post-construction | January to March 2017         | 3 months  | Demolition of temporary structures, landscaping works etc.  |

### 1.2 DSD CONTRACT NO. DC/2011/06

1.2.1 Sang Hing Civil Contractors Company Limited (hereinafter “SHCCCL” or “the Contractor”) has been awarded by Drainage Services Department of the HKSAR Government (hereinafter “DSD” or “the Engineer”) since 31 March 2012 DSD Contract No. DC/2011/06 – Re-provisioning of Boundary Patrol Road and Associated Security Facilities between Ping Yuen River and Pak Fu Shan and Drainage Works in North District (hereafter “the Contract”).

1.2.2 The Contract comprises:

**A. Re-provisioning of Boundary Patrol Road and Associated Security Facilities between Ping Yuen River and Pak Fu Shan**, which is one of the two parts of Regulation of Shenzhen River Stage 4, i.e. the Advanced Works within the HKSAR to be implemented under Environmental Permit No. EP-430/2011 (hereinafter “EP-430/2011”) (hereinafter “the Advanced Works under EP-430/2011” or “the Works”). The Works include:

- 1) Re-provisioning of approximately 4.3 kilometres (km) long and 3.5 metres (m) wide boundary patrol road between Ping Yuen River and Pak Fu Shan;

- 2) Reprovisioning of approximately 4.3 km long primary boundary fence with associated lighting and Fence Protection System between Ping Yuen River and Pak Fu Shan;
- 3) Reprovisioning of the Hong Kong Police Force Lo Fong Bridge Post; and
- 4) Construction of about 3.3 km long secondary boundary fence.

**B. Drainage Works in North District to be implemented under Environmental Permit No. EP-277/2007/A**, which has been commenced in May 2012 and is scheduled to be completed by May 2013, including

- 1) Construction of about 400m of drainage channel at Man Uk Pin under Environmental Permit No. EP-277/2007/A (hereinafter “EP-277/2007/A”);
- 2) The associated ancillary works including drainage and landscaping works.

**C. Drainage Works in North District**, which is a non-designated project of drainage works at Ma Wat Wai in North District for construction of about 110 m of drainage channel at Ma Wat Wai.

1.2.3 Drawing of the area within the Works showing is shown in Annex A, whereas project organization, environmental management structure and communication lines, including contacts of key personnel under the Contract as well as the 3-monthly rolling program covering the Reporting Period are shown in *Annex B*.

1.2.4 Construction of the Advanced Works under EP-430/2011 has been commenced on 21 August 2012, and scheduled to be completed in August 2014 within 29 months.

#### **CONCURRENT PROJECTS IN THE VICINITY OF THE WORKS**

1.3 The following projects are anticipated to be carried out concurrently in the vicinity of the Works:

- 1) The River Modification Works within HKSAR, which is part of the Regulation of Shenzhen River Stage 4 and to be implemented under EP-430/2011, is scheduled for commencement in mid-2013.
- 2) The development of the proposed Liantang/Heung Yuen Wai Boundary Control Point (hereinafter “the LT/HYW BCP”) and the associated works. It is anticipated that the construction of the LT/HYW BCP and connecting roads will commence at the end of 2013 and be completed in end 2018. The planned construction period for the resite of Chuk Yuen Village is from late 2010 to early 2012 for population intake by early 2013.
- 3) Construction of a Secondary Boundary Fence and New Sections of Primary Boundary fence and Patrol Road. Based on the advice from ArchSD, the latest tentative construction programme shall be from end 2011 to early 2013 (section from Ng Tung River to Ping Yuen River) and from end 2011 to end 2013 (section from Pak Fu Shan to Lin Ma Hang Road).
- 4) Drainage Improvement in Northern New Territories, Package C (Remaining Works). The construction work is scheduled to commence in late 2012 and completed by 2016.

#### **CUMULATIVE ENVIRONMENTAL IMPACTS**

1.4 As concluded in the EIA report for Regulation of Shenzhen River Stage 4, adverse environmental impacts generated from the River Modification Works within HKSAR are predicted to be minimal provided the required environmental mitigation measures are fully implemented.

1.5 There is a potential of cumulative environmental impacts during construction phase, including construction dust, noise, water quality, waste, ecology and landscape and visual, to be generated from the concurrent works LT/HYW BCP and the associated works as well as construction of a secondary boundary fence and new sections of primary boundary fence and patrol road.

1.6 However, as the schedules and programs of those concurrent projects are subject to private initiatives and market-driven factors, it is not possible to assess the cumulative impact at this stage.

- 1.7 On the other hand, the Drainage Improvement in Northern New Territories, Package C (Remaining Works) project is subject to another future detailed EIA Study and detailed construction program is not available to date. The cumulative impact cannot be assessed at this stage. However, since the drainage improvement works is located at about 500 m from the Site and given its nature and scale of works, adverse cumulative environmental impacts are not anticipated.

## **2 SUMMARY OF EM&A REQUIREMENTS FOR THE WORKS**

### **2.1 CONSTRUCTION ACTIVITIES UNDER THE WORKS**

#### **2.1.1 Construction activities under the Works comprise:**

- 1) Approximately 4,300 m of 3.5 m wide Boundary Patrol Road on filled embankment along the Shenzhen River from Ping Yuen River estuary and Pak Fu Shan, Ta Kwu Ling;
- 2) Approximately 4,300 m of Primary Boundary Fence with XPM mesh;
- 3) Approximately 3,300 m of Secondary Boundary Fence with XPM mesh;
- 4) Approximately 4,300 m of border security lighting system including the associated electrical and mechanical works;
- 5) 4 box culverts and 12 drainage pipes under the proposed Boundary Patrol Road, and the associated inlets and outlets;
- 6) Reconstruction of Lo Fong Bridge Post for Hong Kong Police Force;
- 7) Peripheral drainage system associated with the above items;
- 8) Irrigation systems including associated electrical and mechanical works;
- 9) Landscaping works and environmental mitigation works; and
- 10) Other ancillary works associated with the above items;

#### **2.1.2 The construction areas under the Works are divided into the following three portions:**

- 1) Portion A – Area between CH\_R 0+000 and 2+050 for reprovisioning of Boundary Patrol Road and the associated security facilities;
- 2) Portion B – Area between CH\_R 2+050 and 2+840 for reprovisioning of Boundary Patrol Road and the associated security facilities;
- 3) Portion C – Area between CH\_R 2+840 and 4+300 approximately for reprovisioning of Boundary Patrol Road and the associated security facilities;

### **2.2 EM&A REQUIREMENTS FOR THE WORKS**

#### **CONSTRUCTION PHASE**

- 2.2.1 The EIA report has concluded that, with full implementation of the recommended environmental mitigation measures, adverse environmental impacts are not envisaged during construction and operation of the Works. No environmental monitoring is therefore required for air quality, noise, water quality, ecology, cultural heritage as well as landscape and visual throughout the whole construction phase of the Works.

#### **OPERATIONAL PHASE**

- 2.2.2 No environmental monitoring and audit is required during operational phase of the Works.

#### **BASELINE ENVIRONMENTAL MONITORING**

- 2.2.3 Baseline monitoring is required for establishment of the environmental quality criteria, i.e. Action/ limit Levels, for the River Modification Works under EP-430/2010. The baseline monitoring was conducted upon confirmation of the acquirement of all access to the monitoring locations for air quality including

1-Hr and 24-Hr TSP and construction noise.

**ENVIRONMENTAL QUALITY PERFORMANCE CRITERIA**

- 2.2.4 The Action and Limit Levels have been established and presented in the *Baseline Environmental Monitoring Report* submitted to EPD after completion and upon certification by the ET and verification by the IEC, using the data obtained in the baseline environmental monitoring.

**EVENT & ACTION PLAN**

- 2.2.5 The Event and Action Plan (EAP) recommended in the EIA and summarized in the EM&A Manual will be used as a monitoring and response mechanism for handling exceedances of environmental standards during the construction phase of the River Modification Works in collaboration with relevant parties of other concurrent projects in the vicinity during construction of River Modification Works.

**SITE INSPECTION**

- 2.2.6 The ET will undertake site inspection of on-site practices and procedures each month. Joint site inspection is required to be conducted by related parties of the environmental management to verify the implementation status and evaluate the effectiveness and stability of the environmental mitigation measures, in collaboration with relevant parties of other concurrent projects in the vicinity.
- 2.2.7 Details of the scope and range of issues to be designed and addressed in the site inspection are presented in *Section 6* of this Report.

**ENVIRONMENTAL REPORTING OF THE WORKS**

- 2.3 In order to ease environmental reporting of the Contract, it has been agreed among the Engineer, IEC, Contractor and ET that the environmental reporting for the Contract is split into three stand-alone reports, namely Environmental Report for Advanced Works under EP-430/2011, EM&A Report for Drainage Works under EP-277/2007/A and EM&A Report for Drainage Works at Ma Wat Wai. They will be prepared and submitted separately.
- 2.4 This is the ninth Quarterly EM&A Summary Report for the Works (herein after “this Report”), covering construction period from 1 September 2014 to 30 November 2014 (hereinafter “the Reporting Period”).

**3 DATA MANAGEMENT AND DATA QA/QC CONTROL**

- 3.1 The impact monitoring data is handled by the ET’s systematic data recording and management, which complies with an in-house certified (ISO 9001:2000) Quality Management System. Standard Field Data Sheets (FDS) are used in the EM&A program.
- 3.2 The monitoring data recorded in the equipment e.g. 1-Hour TSP meters and noise meters are downloaded directly at the end of each monitoring day. The downloaded monitoring data are input into a computerized database properly maintained by the ET. The laboratory results are input directly into the computerized database and QA/QC checked by personnel other than those who input the data.
- 3.3 For monitoring activities which require laboratory analysis, the responsible laboratory, ALS, follows the QA/QC requirements as set out under their HOKLAS scheme for all laboratory testing.

**4 ENVIRONMENTAL LICENSES AND PERMITS**

4.1 Status of environmental licenses and permit is summarized in the following *Table 4-1*.

**Table 4-1 Status of Environmental Licenses and Permit**

| Permit Type  | Licenses / Permit No. | Date Issued by EPD | Expiry Date     | Concerned Location   | Status |
|--|-----------------------|--------------------|-----------------|--|--------|
| Environmental Permit   | EP-430/2011           | 09 July 2007       | N.A.            | Ping Yuen River  | Valid  |
| Notification pursuant to Section 3(1) of the Air Pollution Control Ordinance (APCO) (Construction Dust) Regulation | N.A.                  | N.A.               | N.A.            | Contract Area: Man Uk Pin, Ma Wat Wai & Ping Yuen River      | Valid  |
| Account for Disposal of Construction Waste   | 7015003               | 07 May 2012        | N.A.            | Contract Area: Man Uk Pin, Ma Wat Wai & Ping Yuen River      | Valid  |
| Application for Wastewater Discharge License under Water Pollution Control Ordinance (WPCO)                        | W5/1G41/1             | 3 October 2012     | 31 October 2017 | Portions A, B and C near Lin Ma Hang Road, Ta Kwu Ling, N.T. | Valid  |
| Register as a Chemical Waste Producer under Waste Disposal Ordinance   | 5123-642-S3565-03     | 3 October 2012     | N.A.            | Portions A, B and C near Lin Ma Hang Road, Ta Kwu Ling, N.T. | Valid  |

**SUBMISSION OF LAYOUT PLANS**

4.2 Pursuant to *Clause 2.7* of EP-430/2011, 3 sets of the Layout Plans of scale 1:1000 with an explanatory statement detailing the works schedule, works boundary and the works areas have been submitted since 21 July 2012 to the Director of Environmental Protection of the HKSAR Government (hereinafter “DEP”) upon certification by the ET Leader and verification by the Independent Environmental Checker (hereinafter “the IEC”) as confirming to the information and recommendations contained in the EIA report.

**SUBMISSION OF LANDSCAPE PLAN**

4.3 Pursuant to *Clause 2.8* of EP-430/2011, 3 sets of the Landscape Plan have been submitted to the Director of Environmental Protection of the HKSAR Government (hereinafter “DEP”) since 21 July 2012 upon certification by the ET Leader and verification by the IEC as confirming to the information and recommendations contained in the approved EIA report.

**SUBMISSION OF UPDATED ENVIRONMENTAL MONITORING AND AUDIT MANUAL**

4.4 Pursuant to *Clause 2.10* of EP-430/2011, an updated environmental monitoring and audit manual for the Project, namely Updated EM&A Manual for Advanced Works under EP-430/2011 (hereinafter “the Updated EM&A Manual”), has been submitted since 21 May 2012 to the DEP upon certification by the ET Leader and verification by the Independent Environmental Checker (hereinafter “the IEC”) as confirming to the information and recommendations contained in the approved EIA report.

**CONSTRUCTION ACTIVITIES**

*CONSTRUCTION ACTIVITIES DURING THE REPORTING PERIOD*

4.5 Major construction activities are detailed in the construction program enclosed in *Annex D*, including:

- 1) Setting out of structure / fence / gate
- 2) Pruning, felling and transplanting of existing tree
- 3) Underground Utilities Detection



- 4) Liaise with various utility undertakers and villagers
- 5) Erection of permanent security fence
- 6) Backfilling along constructed boundary patrol road
- 7) Construction of road kerb, traffic bollard
- 8) Laying of sub-base material and bituminous material
- 9) Construction of Pillar Box and Switch Room
- 10) E&M works for the Lo Fong Bridge Post Guard House
- 11) Construction of Staircase for Irrigation system
- 12) Construction of U-channel and Catch pit
- 13) Laying of CLP (11kV) Cable [By CLP]
- 14) Installation of settlement plate, piezometer and inclinometer
- 15) Underground Utilities Detection
- 16) Construction of blinding layer for 2 & 11 Bay
- 17) Construction of base slab for 6, 11 & 20 Bay
- 18) Construction of wall stem for 5 & 8 Bay
- 19) Erection of permanent security fence
- 20) Backfilling along constructed boundary patrol road
- 21) Site formation at retaining wall bay 1-22
- 22) Installation of Lamp Pole
- 23) Installation of underground utility ducting and drawpit

#### **EM&A ACTIVITIES**

##### *BASELINE MONITORING AND ESTABLISHMENT OF ENVIRONMENTAL QUALITY CRITERIA*

- 4.6 The baseline environmental monitoring of air quality and construction noise for the River Modification Works within the HKSAR was completed and the associated environmental quality criteria, i.e. A/L Levels of the monitored parameters, has been proposed in the baseline monitoring report, which was submitted to EPD upon verification by the IEC.

##### *IMPACT MONITORING*

- 4.7 No environmental monitoring was conducted during the Reporting Period.

#### **5 WASTE MANAGEMENT**

- 5.1 Pursuant to the Updated EM&A Manual, the waste management during the Reporting Period was carried out in close accordance with the Waste Management Plan, which has been submitted since 20 August 2012 to the Engineer for approval prior to commencement of the Works upon certification by the ET Leader and verification by the IEC.
- 5.2 The quantity of waste for disposal or reuse during the Reporting Period was summarized in Monthly Summary of Waste Flow Table and Disposal Records of Construction Waste in *Annex K*.
- 5.3 To ensure satisfactory performance of the waste management, the Contractor is reminded to comply with all relevant regulatory waste management requirements, including as appropriate those stipulated in the effluent discharge licenses and chemical waste producer registration, etc. The Contractor is also required to fully implement all the waste management mitigation measures recommended in the

Updated EM&A Manual.

- 5.4 Where possible, construction materials should be reused on-site as far as practicable to reduce the construction waste, which should then be sorted or classified on site for proper recycling and disposal as recommended in the Environmental Management Plan and the associated Waste Management Plan.

## 6 SITE INSPECTION

- 6.1 Monthly site inspection was jointly conducted by representatives of the Engineer, IEC, ET and Contractor. During the Reporting Period, three occasions of the site inspection and audit were conducted on *10 September 2014*, *22 October 2014* and *12 November 2014* respectively.

### FINDINGS/DEFICIENCIES OF THE SITE INSPECTION AND ENVIRONMENTAL AUDIT

- 6.2 For the monthly site inspection, no adverse environmental impact observed. However, minor deficiencies was found during inspection and summarized in *Table 6-1*.

**Table 6-1 Observations of Site Inspection during the Reporting Period**

| Date              | Findings / Deficiencies   | Follow-Up                           |
|-------------------|---|-------------------------------------|
| 10 September 2014 | • No adverse environmental impacts were observed during the site inspection. As reminder, water spraying on dry haul road is reminded and housekeeping should be maintained in regular basis. Moreover, full implementation of the required environmental mitigation measures is reminded.  | Not required for general reminders. |
| 22 October 2014   | • No adverse environmental impacts were observed during the site inspection. As reminder, water spraying on dry haul road is reminded and attention to the mitigation measure to prevent surface runoff into public area should be paid. Moreover, full implementation of the required environmental mitigation measures is reminded. | Not required for general reminders. |
| 12 November 2014  | • No adverse environmental impacts were observed during the site inspection. As reminder, water spraying on dry haul road is reminded and any stockpile and construction materials should be covered with imperious sheet. Moreover, full implementation of the required environmental mitigation measures is reminded.               | Not required for general reminders. |

- 6.3 Site inspection checklists completed and endorsed by all related parties are kept by the ET and are available for inspection upon request.

### DISCUSSION AND CONCLUSION

- 6.4 No deficiencies and non-compliance with the relevant regulatory requirements were identified during the regular site inspection and environmental audit, indicating no adverse environmental impacts were generated from the construction of the Works.

### RECOMMENDATION

- 6.5 Although no adverse environmental impacts were identified during the regular site inspection and environmental audit conducted by representatives of the Engineer, IEC, ET and Contractor, full implementation of the recommended environmental mitigation measures, particularly construction dust

suppression measures e.g. watering during dusty activities under dry and windy conditions, as well as sedimentation of the site run off during rainy conditions, are reminded.

**7 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION**

7.1 No environmental complaint was received during the Reporting Period. Summary of environmental complaint is presented in *Table 7-1* below.

**Table 7-1 Summary of Environmental Complaints**

| Reporting Month                 | Environmental Complaint Statistics |            |                  |
|---------------------------------|------------------------------------|------------|------------------|
|                                 | Frequency                          | Cumulative | Complaint Nature |
| August 2012 to August 2014      | 0                                  | 0          | Not Applicable   |
| September 2014 to November 2014 | 0                                  | 0          | Not Applicable   |

7.2 No summons and prosecution was received during the Reporting Period. Summary of summon and prosecution is presented in *Table 7-2* and *Table 7-3* below.

**Table 7-2 Summary of Environmental Summons**

| Reporting Month                 | Environmental Summons Statistics |            |                |
|---------------------------------|----------------------------------|------------|----------------|
|                                 | Frequency                        | Cumulative | Nature         |
| August 2012 to August 2014      | 0                                | 0          | Not Applicable |
| September 2014 to November 2014 | 0                                | 0          | Not Applicable |

**Table 7-3 Summary of Environmental Prosecution**

| Reporting Month                 | Environmental Prosecution Statistics |            |                |
|---------------------------------|--------------------------------------|------------|----------------|
|                                 | Frequency                            | Cumulative | Nature         |
| August 2012 to August 2014      | 0                                    | 0          | Not Applicable |
| September 2014 to November 2014 | 0                                    | 0          | Not Applicable |

**8 IMPACT FORECAST**

**KEY ENVIRONMENTAL ISSUES**

8.1 Potential environmental issues to be considered in the coming month include:-

- Air quality                      In dry season under dry and windy conditions, dusty construction activities may generate potential construction dust impacts and dry/loose/exposure soil surface/stock piles of dusty material within the site may pose fugitive dust under dry and windy weather conditions;
- Water quality                    In wet season, surface runoff during heavy storm/rain may pollute the surrounding water bodies with high suspended solids or turbidity, and concrete washing may increase alkalinity or pH value of the water bodies;
- Chemical waste                   Oil & grease spillage or leakage from construction equipment and the associated oil containers within site areas may contaminate lands or other environment;
- Noise                                Construction noise impacts may be caused from noisy construction activities;

**ENVIRONMENTAL MITIGATION MEASURES FOR THE COMING MONTH**

8.2 Environmental Mitigation Measures to be considered in the coming months includes:-

- 1) Dust suppression measures, in particular proper watering during dusty construction activities under dry and dusty conditions, should be fully implemented;

- 2) Sedimentation or silt removal facilities of adequate capacity should be used, for proper treatment of any site effluent generated from stockpiles of construction materials/waste or dusty haul roads or excavated surfaces within the site during storm rain, prior to discharge to nearby water bodies in order to remove suspended solids or turbidity;
- 3) Good management of chemical wastes should be maintained;
- 4) Follow-up actions for any defects identified during regular site inspection should be promptly taken to rectify the situation; and
- 5) As high noise levels were sometimes recorded during the Reporting Period, special attention is drawn to implementation of the construction noise mitigation measures during noisy construction works.

## **9 CONCLUSIONS AND RECOMMENDATIONS**

### **CONCLUSIONS**

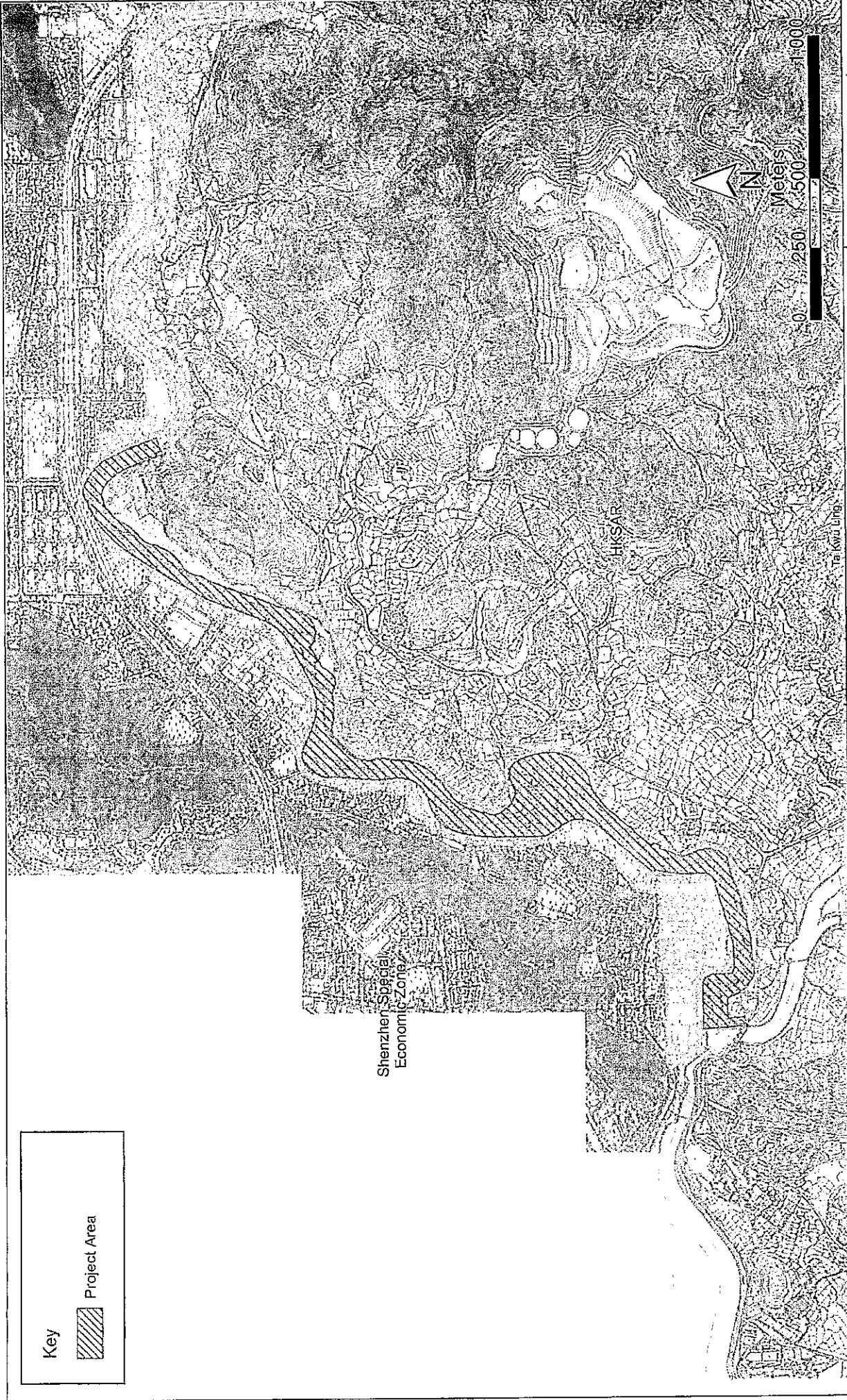
- 9.1 No environmental monitoring was conducted during the Reporting Period.
- 9.2 No non-compliance with the regulatory requirements was recorded in the IEC and ET regular site inspection jointly conducted by representatives of the Engineer, IEC, ET and Contractor during the Reporting Period, indicating no adverse environmental impacts were generated from construction activities under the Works during the Reporting Period.
- 9.3 Defects of minor environmental significance were sometimes observed. The identified defects were normally rectified on site or within the specified time prior to the next site inspection.
- 9.4 No environmental complaint, notification of summons or successful prosecution was registered during the Reporting Period.

### **RECOMMENDATION**

- 9.5 The Contractor is reminded to fully comply with all the relevant regulatory environmental requirements, including environmental mitigation measures stipulated in all the environmental ordinances, EM&A Manual, EMP and the associated WMP, effluent discharge license and the chemical waste producer registration, etc.
  - 9.5.1 During the dry and windy season, dust control measures to avoid fugitive dust in the construction site should be properly provided and maintained, as appropriate.
- 9.6 Attention is drawn to implementation of air quality mitigation measures, in particular wheel washing of the construction vehicles prior to exit the site. Addition, water spraying of the site temporary roads and public roads should be kept to prevent construction dust emission
- 9.7 In addition, full implementation of the required water quality mitigation measures is reminded to eliminate adverse water quality impacts generated from site water runoff, surfaces of haul roads, stock pile of excavated materials, etc.
- 9.8 Attention is also drawn to implementation of the construction noise mitigation measures during noisy construction works.

*ANNEX A*

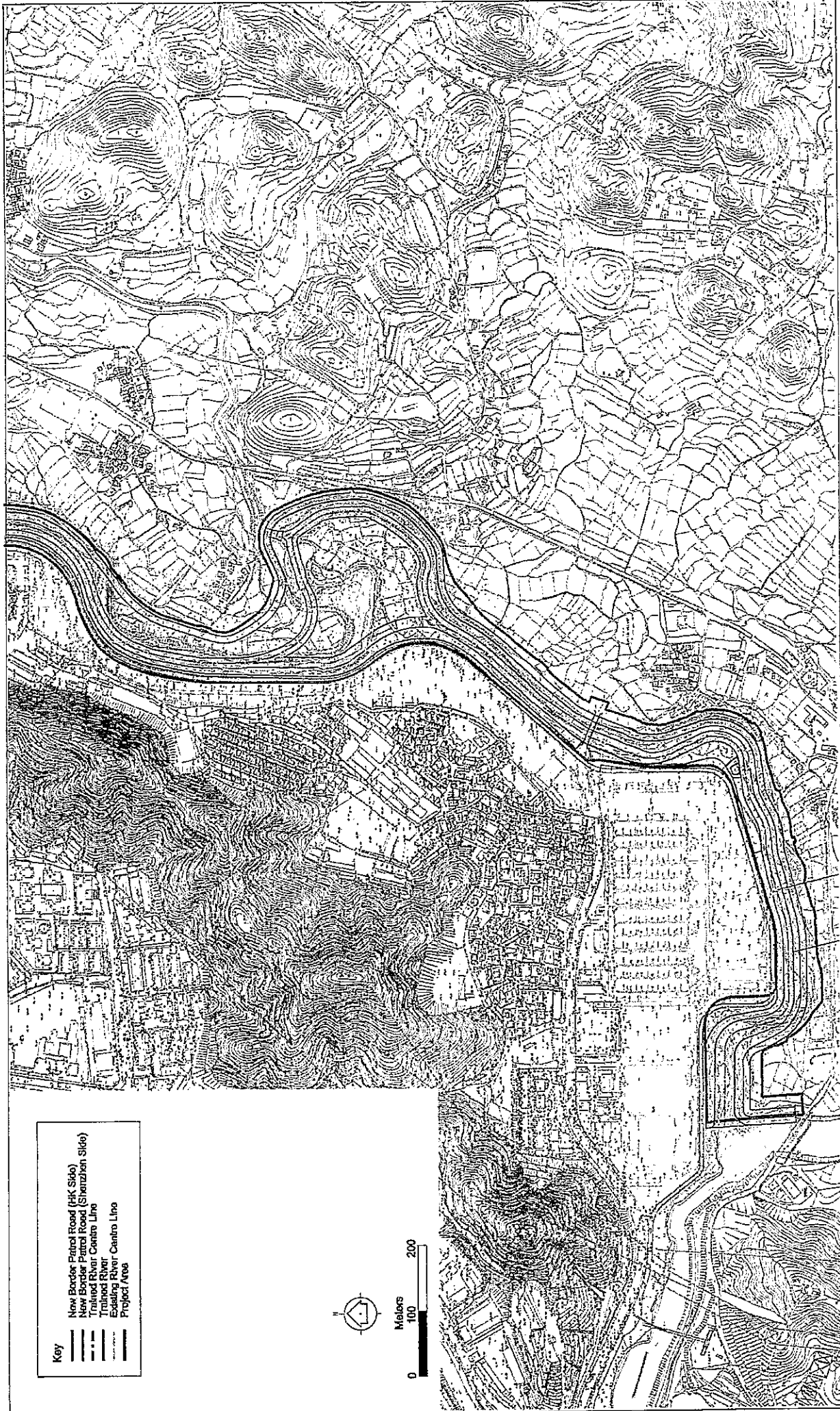
*LOCATION PLAN FOR THE WORKS*



Environmental Resources Management

Location of Project Site

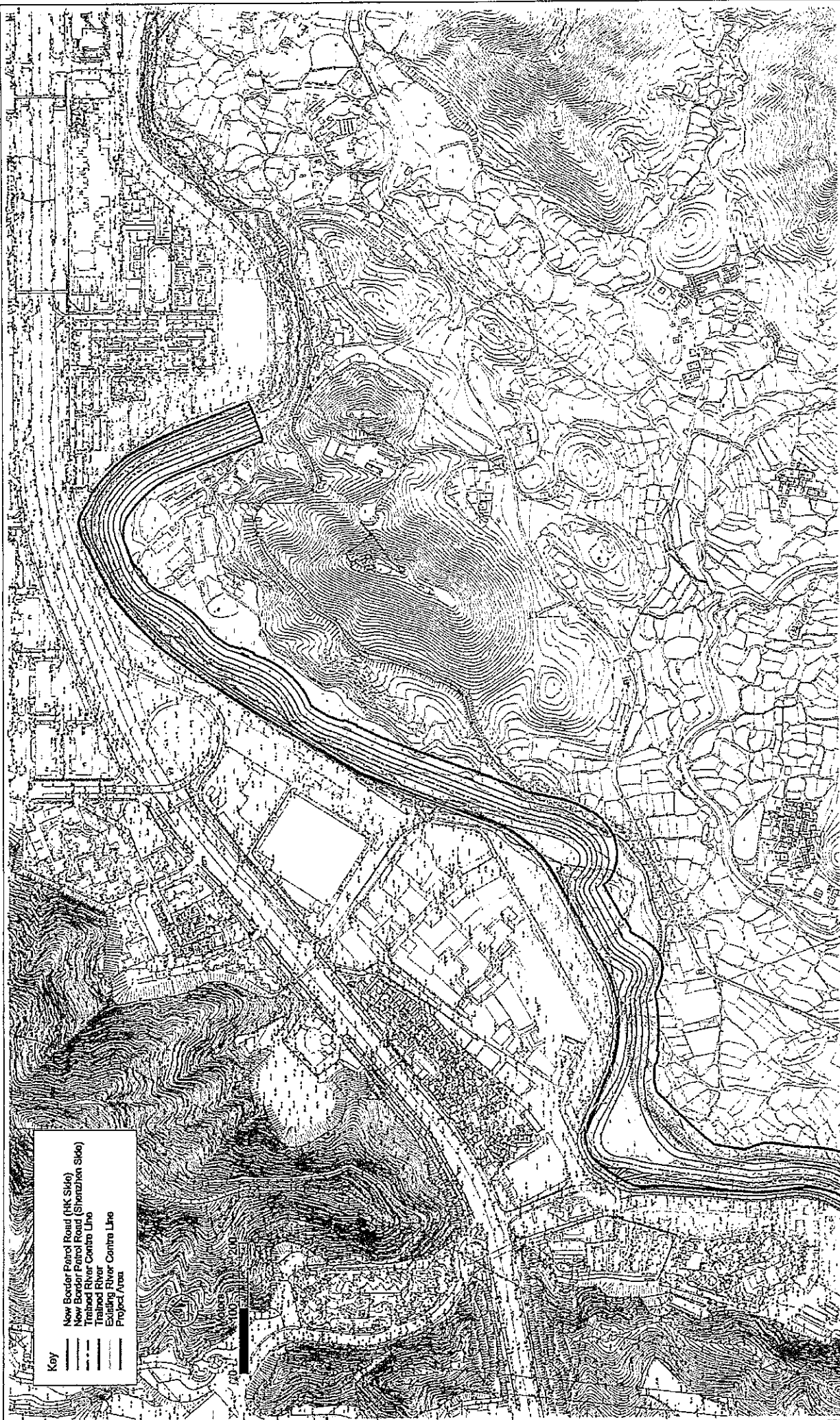
Figure A1-1



General Layout and Extent of the Trained River  
 (1 of 2)

**Figure A1-2**





General Layout and Extent of the Trained River  
(2 of 2)

Figure A1-2

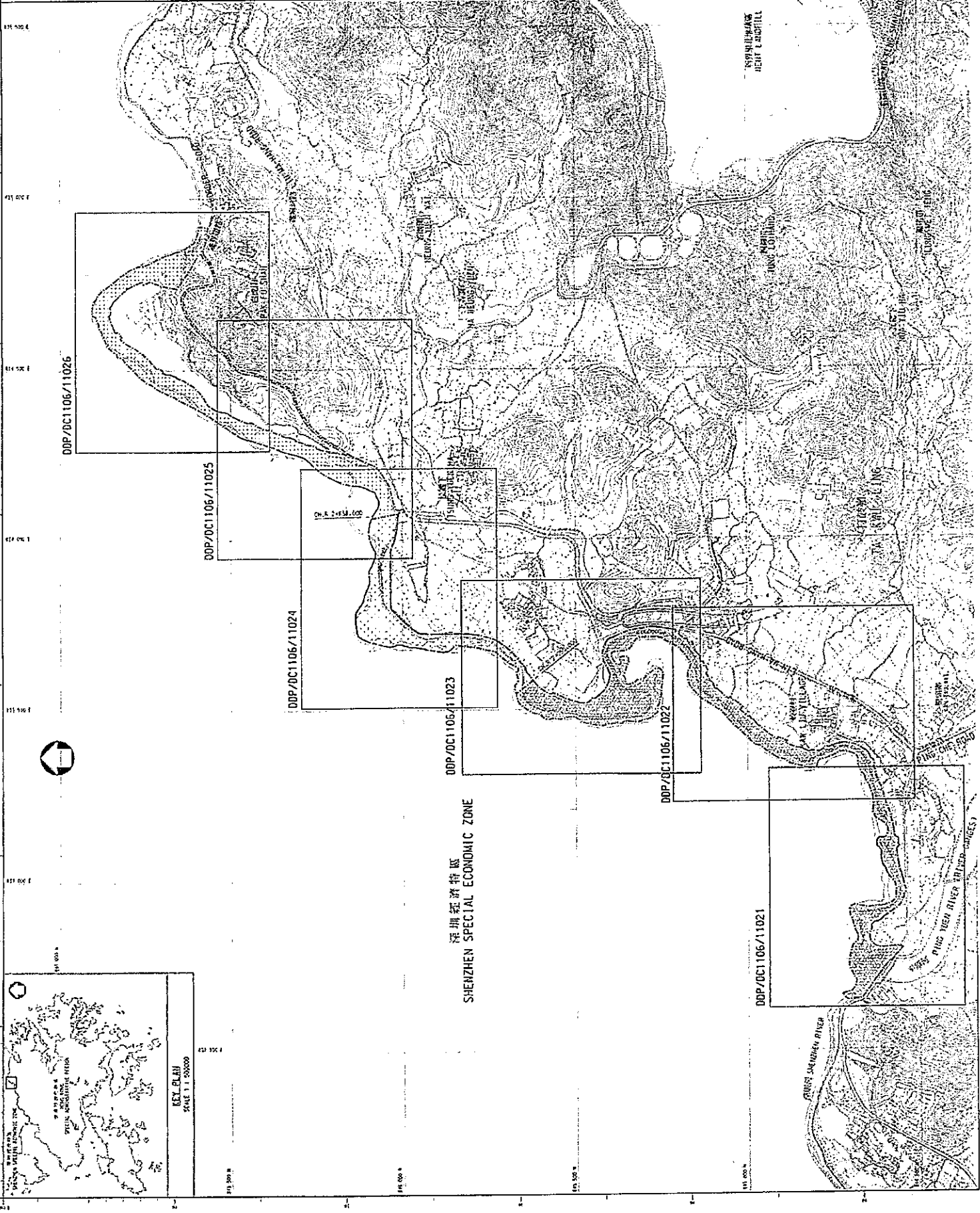


- NOTES:
1. GRID LINES ARE FROM HONG KONG GRID 1950.
  2. ALL LEVELS ARE IN METERS AND REFERRED TO M.S.L.
  3. FOR DETAILS AND DETAILS OF THIS SITE, REFER TO DRAWING NO. DDP/DC1106/11021 TO DDP/DC1106/11026.
  4. FOR DETAILS OF AREAS B1, B2 & B4, REFER TO DRAWING NO. DDP/DC1106/11027.

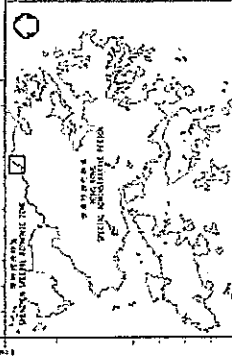
LEGEND:

|          |                  |
|----------|------------------|
| [Symbol] | LINE OF THE SITE |
| [Symbol] | PROVIDA 1        |
| [Symbol] | PROVIDA 2        |
| [Symbol] | PROVIDA 3        |
| [Symbol] | PROVIDA 4        |
| [Symbol] | PROVIDA 5        |
| [Symbol] | PROVIDA 6        |
| [Symbol] | PROVIDA 7        |
| [Symbol] | PROVIDA 8        |
| [Symbol] | PROVIDA 9        |
| [Symbol] | PROVIDA 10       |
| [Symbol] | PROVIDA 11       |
| [Symbol] | PROVIDA 12       |
| [Symbol] | PROVIDA 13       |
| [Symbol] | PROVIDA 14       |
| [Symbol] | PROVIDA 15       |
| [Symbol] | PROVIDA 16       |
| [Symbol] | PROVIDA 17       |
| [Symbol] | PROVIDA 18       |
| [Symbol] | PROVIDA 19       |
| [Symbol] | PROVIDA 20       |

FOR INFORMATION CHANGES FOR EXCEPT ROAD



深圳經濟特區  
SHENZHEN SPECIAL ECONOMIC ZONE



|     |          |             |             |
|-----|----------|-------------|-------------|
| NO. | DATE     | BY          | CHKD.       |
| 1   | 10/11/05 | [Signature] | [Signature] |
| 2   | 10/11/05 | [Signature] | [Signature] |
| 3   | 10/11/05 | [Signature] | [Signature] |
| 4   | 10/11/05 | [Signature] | [Signature] |
| 5   | 10/11/05 | [Signature] | [Signature] |
| 6   | 10/11/05 | [Signature] | [Signature] |
| 7   | 10/11/05 | [Signature] | [Signature] |
| 8   | 10/11/05 | [Signature] | [Signature] |
| 9   | 10/11/05 | [Signature] | [Signature] |
| 10  | 10/11/05 | [Signature] | [Signature] |

APPROVED BY: [Signature]  
DATE: 10/11/05  
PROJECT NO: 501803

REPUBLICAN OF HONGKONG PATROL ROAD  
AND ASSOCIATED SECURITY FACILITIES  
BETWEEN PING SHEK RIVER BRIDGE  
AND PAK FO SHAN AND DRAINAGE WORKS  
IN NORTH DISTRICT

SCOPE OF WORKS AT PORTION  
A, B AND C OF THE SITE

SHEET 1 OF 7  
DRAWING NO: DDP/DC1106/11011 1:1.5 000

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GOVERNMENT OF THE  
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SPECIAL ADMINISTRATIVE REGION



**NOTES:**

1. LIND LINES ARE WORKING OVER THIS.
2. ALL LINES ARE IN METERS AND REFERRED TO M.T.S.D.
3. FOR SETTING OUT DETAILS OF SITE LIMITS, CONTACT THE SURVEYOR.
4. FOR DETAILS OF WORKS AT A & B, REFER TO DRAWING NO. DDP/DC1106/11021.

**LEGEND:**

- LIMIT OF THE SITE
- PROVISION A
- PROVISION B
- AREA 1A
- AREA 2A
- AREA 3A
- AREA 4A
- PROVISION C

SEE EXHIBIT DRAWING FOR MARKED ROAD

| NO. | DATE        | DESCRIPTION | BY          | CHECKED     |
|-----|-------------|-------------|-------------|-------------|
| 1   | 18 MAR 2011 | ISSUED      | [Signature] | [Signature] |
| 2   | 18 MAR 2011 | REVISED     | [Signature] | [Signature] |
| 3   | 18 MAR 2011 | REVISED     | [Signature] | [Signature] |
| 4   | 18 MAR 2011 | REVISED     | [Signature] | [Signature] |
| 5   | 18 MAR 2011 | REVISED     | [Signature] | [Signature] |

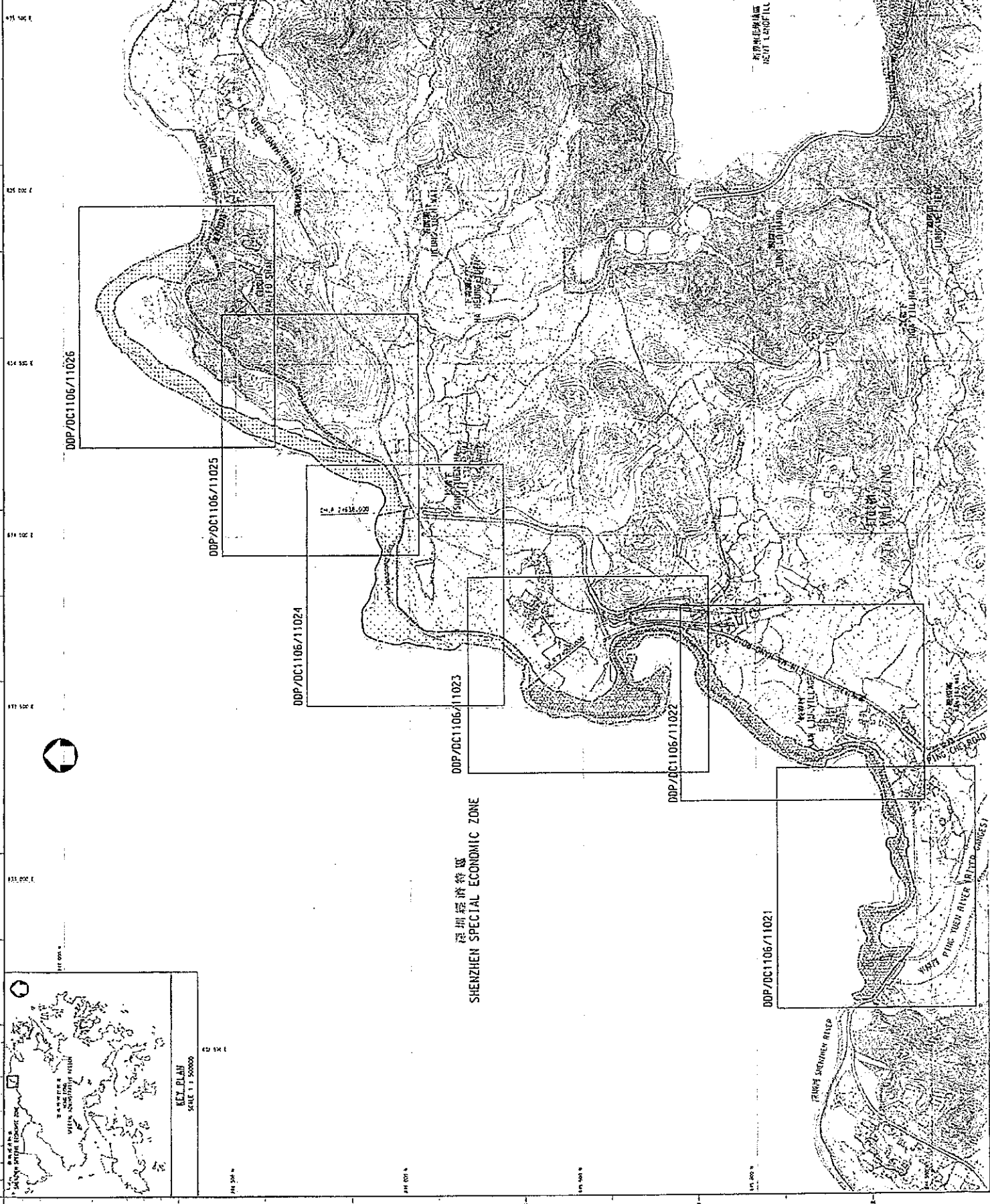
APPROVED: [Signature]  
 As Chief Engineer  
 DATE: 18 MAR 2011

CONTRACT NO: DP/8/501808  
 PROJECT NO: 501808  
 CONSULTANT: REPRESENTING OF BOUNDARY PATROL ROAD AND ASSOCIATED SECURITY FACILITIES BETWEEN PING RIVER AND CHANGHAI BRIDGE IN NORTH DISTRICT

DRAWING NO: DDP/DC1106/11011  
 SCALE: 1:5000  
 SHEET 1 OF 2

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深圳經濟特區  
 SHENZHEN SPECIAL ECONOMIC ZONE

KEY PLAN  
 SCALE 1:50000

DDP/DC1106/11021

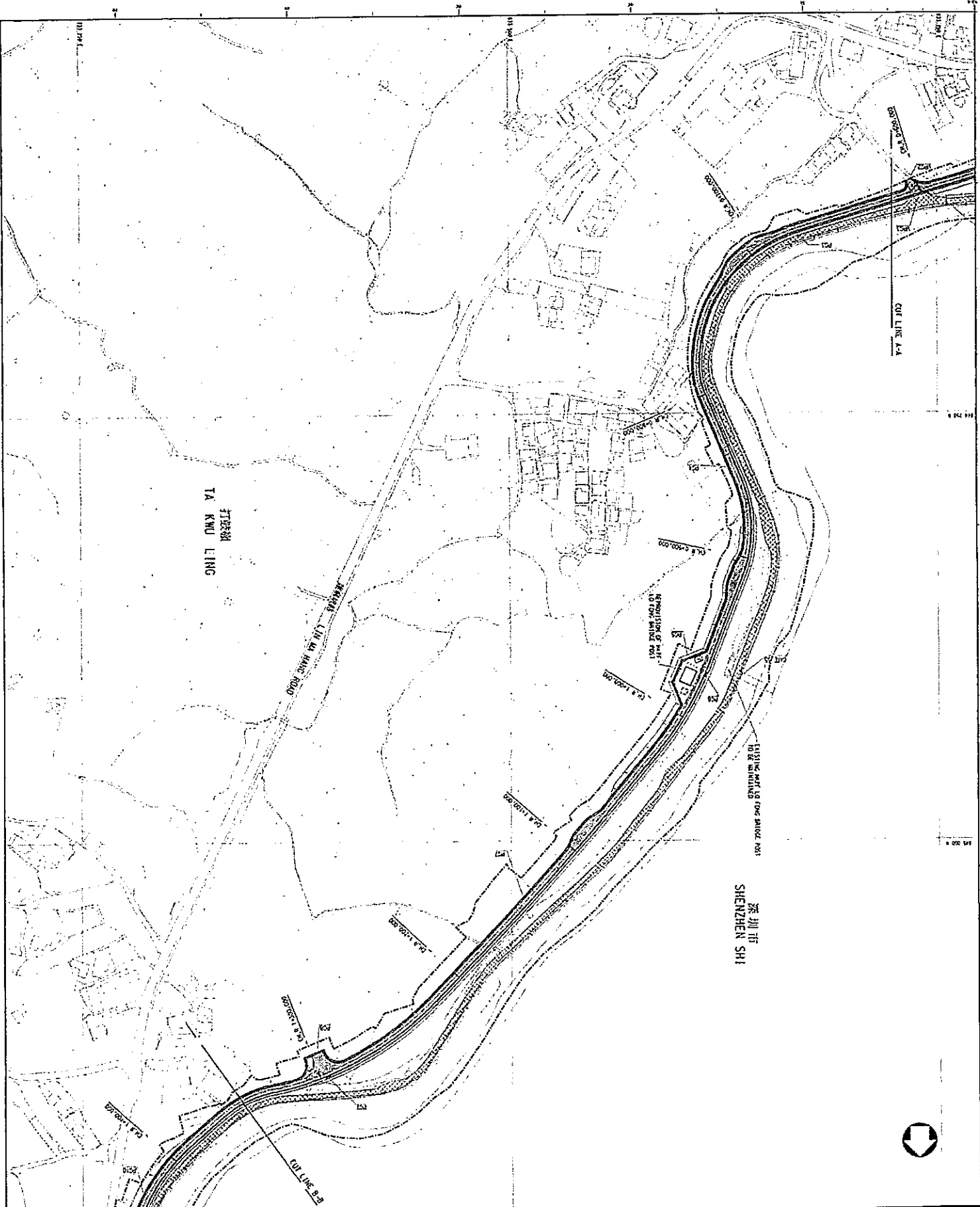
DDP/DC1106/11023

DDP/DC1106/11024

DDP/DC1106/11025

DDP/DC1106/11026





NOTES:  
 1. IN CHECK, NOTES & LEGEND, AFTER 10  
 D.M. NO. CORRECTION/AMENDMENT.

DDP/OC1106/11022 111000

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REPRODUCTION OF BOUNDARY PAVEMENT ROAD AND SPECIALIZED SECURITY FACILITIES BETWEEN PING TIEN RIVER AND PAK FU SHAN AND CHAIKONG WORKS IN NORTH DISTRICT

PROJECT NO: 5018CB

DATE: 07/25/18/03

CONTRACT NO: 02/2011/05

SCALE: 1:1000

GENERAL LAYOUT

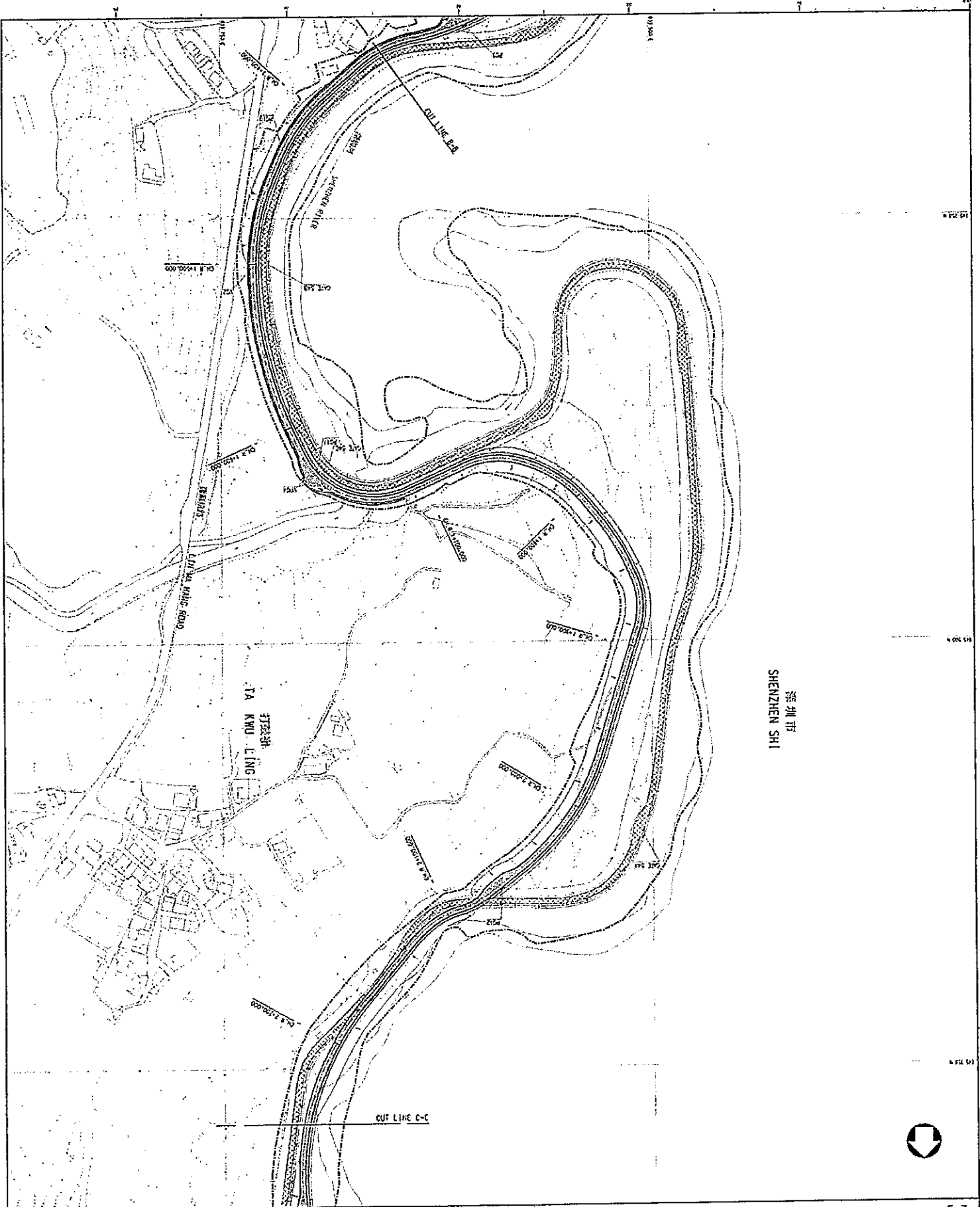
SHEET 1 OF 1

DRAWING TITLE

NOTES:  
1. FOR GENERAL NOTES, REFER TO  
SHP, No. 02/2011/015/11.



深圳市  
SHENZHEN SHI



| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| 1   | REVISION    |      |

DESIGNED BY: [Signature]  
CHECKED BY: [Signature]  
DATE: 28 NOV 2011

PROJECT NO: 501828  
CONTRACT NO: 02/2011/015

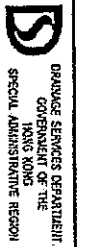
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GENERAL LAYOUT  
SCALE: 1:500

DDP/DC1106/11023  
1:1:000

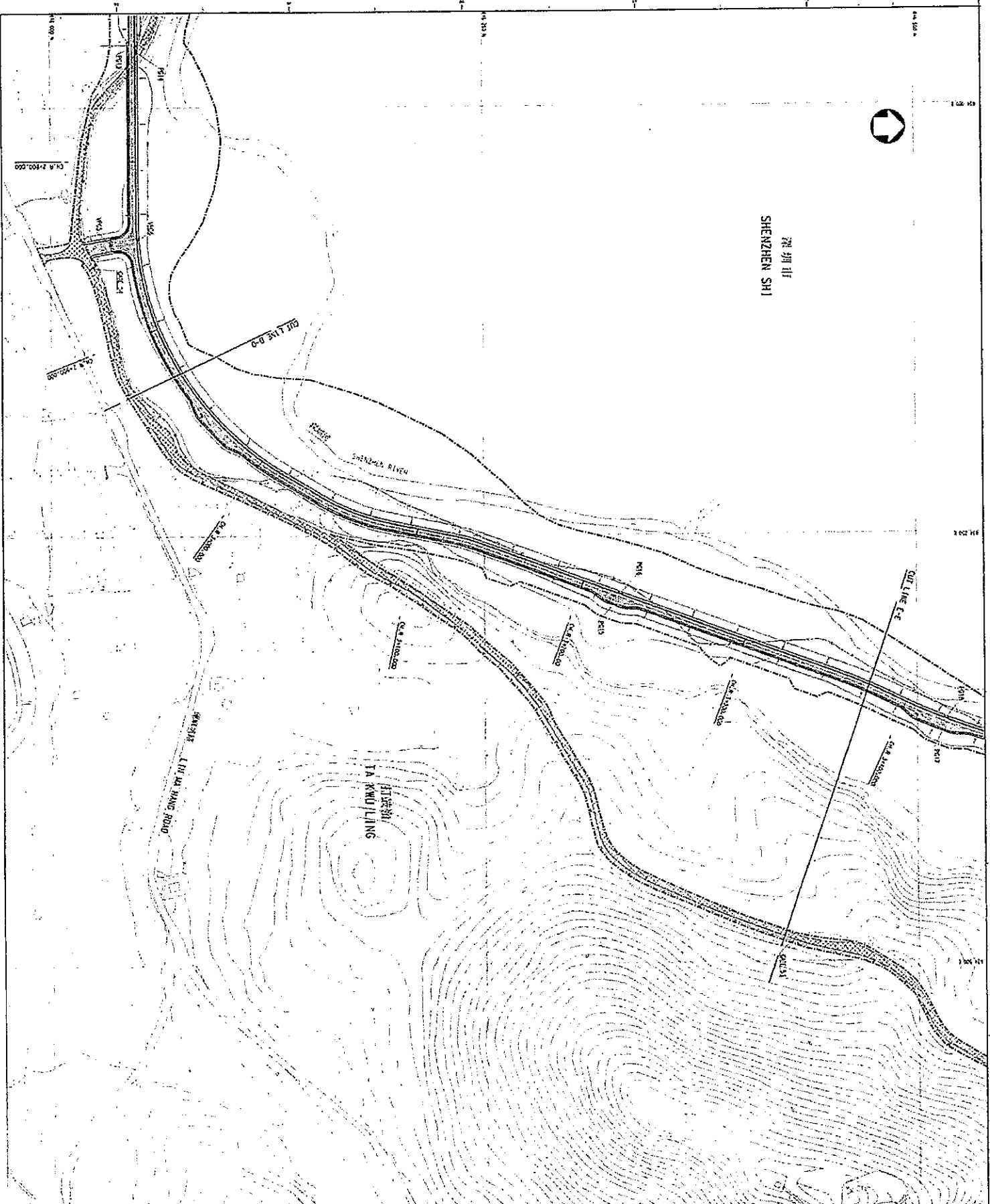
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 1. FOR CHECK, PRINT & SIGN. REFER TO  
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| NO. | DATE     | DESCRIPTION       | BY |
|-----|----------|-------------------|----|
| 1   | 11/11/06 | ISSUED FOR TENDER | AS |
| 2   | 11/11/06 | REVISED           | AS |
| 3   | 11/11/06 | REVISED           | AS |
| 4   | 11/11/06 | REVISED           | AS |
| 5   | 11/11/06 | REVISED           | AS |

DESIGNED BY: *[Signature]*  
 CHECKED BY: *[Signature]*  
 DATE: 11/11/06

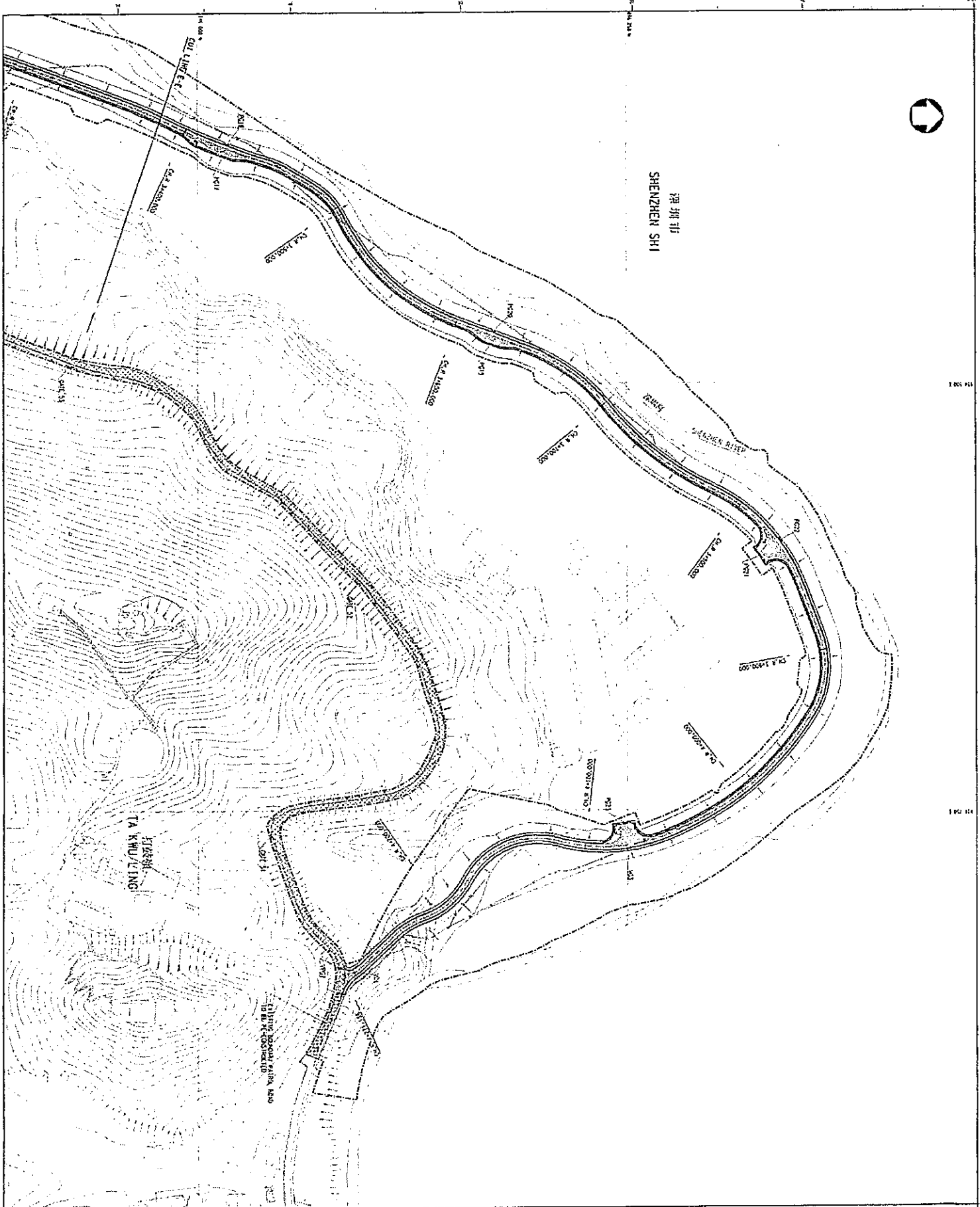
RENDERING OF ROADWAY PATTERNS, ROAD  
 MARKINGS, SECURITY FACILITIES,  
 UTILITIES, PILING, TRENCHES,  
 AND PAVEMENT AND DRAINAGE WORKS  
 IN URBAN DISTRICT

GENERAL LAYOUT  
 SHEET 3 OF 11  
 DRAWING NO. DDP/DCI106/11025  
 DATE 11/11/06  
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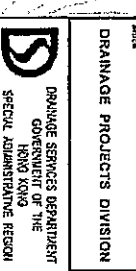
NOTES:  
1. FOR EXPLAN, NOTES & REVISION, REFER TO  
DRAWING NO. DRP/DC/11026/1026.

| NO. | DATE     | DESCRIPTION       | BY          | CHKD        |
|-----|----------|-------------------|-------------|-------------|
| 1   | 11/06/06 | ISSUED FOR TENDER | [Signature] | [Signature] |
| 2   | 11/06/06 | REVISION          | [Signature] | [Signature] |
| 3   | 11/06/06 | REVISION          | [Signature] | [Signature] |
| 4   | 11/06/06 | REVISION          | [Signature] | [Signature] |
| 5   | 11/06/06 | REVISION          | [Signature] | [Signature] |

CONTRACT NO. DC/2011/06  
 PROJECT NO. GP/8/501808  
 DRAWING NO. 501808  
 PROJECT TITLE: REPROVISIONING OF BOUNDARY FENCE, ROAD AND ASSOCIATED SECURITY FACILITIES BETWEEN FING YUEK RIVER AND PAK TO SHUI AND DRAINAGE WORKS IN WAI THO DISTRICT  
 DATE: 11/06/06  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]

GENERAL LAYOUT  
 SCALE: 1:1000  
 DATE: 11/06/06  
 PROJECT NO. 501808  
 DRAWING NO. 501808

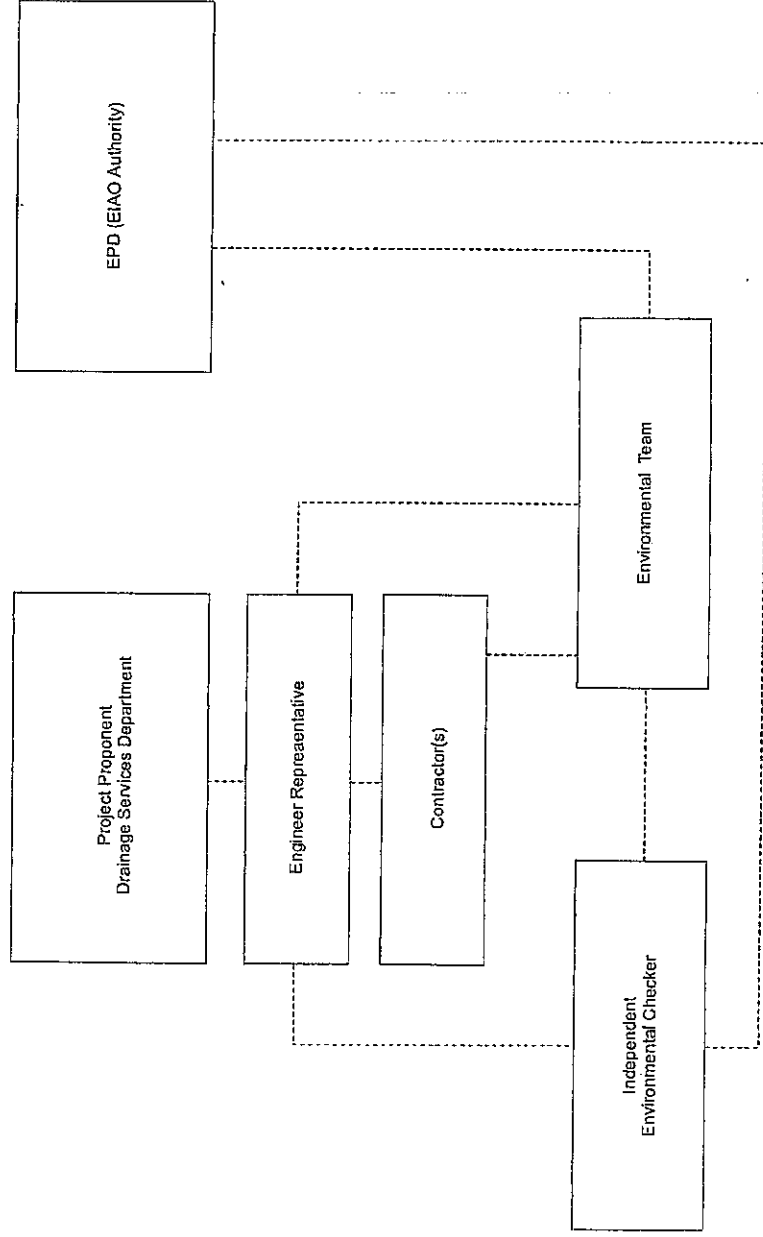
DRAINAGE PROJECTS DIVISION  
 DDP/DC/1106/11026  
 11/06/06





***ANNEX B***

***ENVIRONMENTAL MANAGEMENT ORGANIZATION  
AND COMMUNICATION LINES***



Key  
----- Line of Communication

EM&A Organisation Chart

**KEY CONTACT INFORMATION UNDER THE CONTRACT**

**Contact Details of Key Personnel**

| Organization | Project Role                      | Name of Key Staff     | Tel No.   | Fax No.   |
|--------------|-----------------------------------|-----------------------|-----------|-----------|
| DSD          | Project Proponent / Employer      | Mr. Eric Y. M. Cheng  | 2594-7341 | 2827-8700 |
| Environ      | Independent Environmental Checker | Mr. Roger W. K. Leung | 3465-2888 | 3548-6988 |
| SHCC         | Project Manager                   | Mr. Raymond Yau       | 2403 1165 | 2403 1165 |
| SHCC         | Site Agent                        | Mr. Elvin Lam         | 2640 9286 | 2640 9286 |
| AUES         | Environmental Team Leader         | Mr. T. W. Tam         | 2959-6059 | 2959-6079 |
| AUES         | Environmental Consultant          | Miss Nicola Hon       | 2959-6059 | 2959-6079 |
| AUES         | Environmental Team Supervisor     | Mr. Ben Tam           | 2959-6059 | 2959-6079 |

**Project Proponents' Contact Numbers**

| Project Proponent | The Engineer   | Telephone Number | Fax Number | 24-Hour Hotline |
|-------------------|----------------|------------------|------------|-----------------|
| DSD               | Mr. Poon W. H. | 2594 7450        | 2827 8700  | 6770 3827       |

**24-Hour Hotline Telephone Number for the Public to Make Enquiries**

|                 |
|-----------------|
| 24-Hour Hotline |
| 6770 3827       |

**Legends:**

*DSD (Project Proponent / Engineer) – Drainage Services Department*

*SHCC (Main Contractor) – Sang Hing Civil Constructors Co., Ltd*

*Environ (IEC) – Environ Hong Kong Limited*

*AUES (ET) – Action-United Environmental Services & Consulting*

*ANNEX C*

**IMPLEMENTATION SCHEDULE  
FOR ENVIRONMENTAL MITIGATION MEASURES**

## Annex D Implementation Schedule for Environmental Protection Measures

| EIA Ref.                     | Environmental Protection Measures   | Location/Duration of Measures/Timing of Completion of Measures | Implementati on Agent | Implementation Stage |   |   | Relevant Legislation & Guidelines                                    |
|------------------------------|---|--|-----------------------|----------------------|---|---|--|
|                              |   |  |                       | Des                  | C | O |  |
| <b>1. Air Quality</b>        |   |  |                       |                      |   |   |  |
| S4.8                         | <p>Dust control measures stipulated in the <i>Air Pollution Control (Construction Dust) Regulation</i> will be implemented during the construction phase to control the potential fugitive dust emissions. In particular:</p> <ol style="list-style-type: none"> <li>i. Water spraying on haul roads and dusty areas for every hour during construction;</li> <li>ii. Covering the stockpile areas of at least 70% area with tarpaulin sheet or impervious sheet;</li> <li>iii. Covering of dusty materials/spoils on trucks by impervious sheets;</li> <li>iv. Controlling the dropping height of fill materials;</li> <li>v. Covering or storing all debris and materials in a sheltered debris collection area;</li> <li>vi. Storing dredged sediment in a separate enclosed tank; and</li> <li>vii. Providing wheel washing facility at each exit of the works site.</li> </ol>   | Whole Site / During Construction                               | Contractor            |                      | ✓ |   | Air Pollution Control (Construction Dust) Regulation                 |
| S4.8                         | Site practices such as regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke emissions and to minimize gaseous emissions.  | Whole Site / During Construction                               | Contractor            |                      | ✓ |   |  |
| <b>2. Construction Noise</b> |   |  |                       |                      |   |   |  |
| S5.8                         | <p>The following site practices should be followed during the construction of the Project:</p> <ol style="list-style-type: none"> <li>i. Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction phase;</li> <li>ii. Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction phase;</li> <li>iii. Mobile plant, if any, should be sited as far from NSRs as possible;</li> <li>iv. Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>v. Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and</li> <li>vi. Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ol> | Whole Site / During Construction                               | Contractor            |                      | ✓ |   |  |
| S5.8                         | Use quiet PME as far as practicable to mitigate the construction noise impacts.   | Whole Site / During Construction                               | Contractor            |                      | ✓ |   |  |
| S5.8                         | Use temporary noise barriers to mitigate the noise impact arising from the construction works, particularly for low-rise NSRs. Movable noise barriers of 3 m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. With reference to A Practical Guide for the Reduction of Noise from Construction Works, the noise barrier material should have a superficial surface density of at least 7 kg m <sup>-2</sup> and have no openings or gaps.  | Works Area III and IV/ During Construction                     | Contractor            |                      | ✓ |   | A Practical Guide for the Reduction of Noise from Construction Works |

|                         | Scheduling of construction activities with identified grouping of PMEs.   | Works Area III / During Construction  | Contractor | ✓ |  |
|-------------------------|---|---------------------------------------|------------|---|--|
| S5.8                    | Monthly site inspection and audit of construction activities.   | Whole Site / During Construction      | ET & IEC   | ✓ | EIAO                                       |
| <b>3. Water Quality</b> |   |                                       |            |   |  |
| S6.8                    | Maximum loss rate during the wet excavation should be kept at or below the limits specified in the EIA Report.  | Excavation area / During Construction | Contractor | ✓ |  |
| S6.8                    | <i>Construction Site Runoff and Drainage</i><br>Channels, earth bunds or sand bag barriers will be provided on site to direct stormwater to silt removal facilities. The design of silt removal facilities will make reference to the guidelines in Appendix A1 of ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly. | Land Site / During Construction       | Contractor | ✓ | ProPECC PN 1/94 TM standard under the WPCO |
| S6.8                    | Non-active area along the river bank will be covered by impermeable sheets or hydroseeding completed sections immediately whenever possible to minimise erosion of soil by runoff particularly during heavy rainstorms  | River bank / During Construction      | Contractor | ✓ |  |
| S6.8                    | Earthworks to form the final surfaces will be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.   | Land Site / During Construction       | Contractor | ✓ |  |
| S6.8                    | Appropriate surface drainage will be designed and provided where necessary. In particular, surface runoff will be collected along the river bank and be diverted to sedimentation tank/pond before being discharged into the river.   | Land Site / During Construction       | Contractor | ✓ |  |
| S6.8                    | The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.  | Land Site / During Construction       | Contractor | ✓ | ProPECC PN 1/94 TM                         |
| S6.8                    | Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.  | Land Site / During Construction       | Contractor | ✓ |  |
| S6.8                    | Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge will be adequately designed for the controlled release of storm flows   | Land Site / During Construction       | Contractor | ✓ |  |
| S6.8                    | The temporary diverted drainage will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.   | Land Site / During Construction       | Contractor | ✓ |  |
| S6.8                    | An adequate number of portable toilets will be provided for the on-site construction workforce. Wastewater/sewage will be handled by registered collector in Hong Kong.   | Whole Site / During Construction      | Contractor | ✓ |  |
| S6.8                    | Debris and refuse generated on-site will be collected, handled and disposed of properly to avoid entering the nearby WSRs. Stockpiles of cement and other construction materials will be covered when not being used.   | Whole Site / During Construction      | Contractor | ✓ |  |
| S6.8                    | Oil leakage or spillage will be contained and clean up immediately. Waste oil will be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.  | Whole Site / During Construction      | Contractor | ✓ | Waste Disposal Ordinance                   |

| 4. Terrestrial Ecology |   |   |                               |   |   |  |  |  |  |
|------------------------|---|---|-------------------------------|---|---|--|--|--|--|
| S7.11                  | Avoid potential impacts on the trees whenever possible during the detailed design stage. The retained trees will be fenced off as protection from the construction works. If the trees cannot be avoided due to the engineering constraint, the affected individual(s) will be transplanted to compensatory woodland planting site near Pak Fu Shan or a similar habitat in the vicinity of the Project Site if considered suitable (subject to the detailed assessment of the feasibility of transplantation). | Whole Site / During Construction                                  | Contractor                    | ✓ | ✓ |  |  |  |  |
| S7.11                  | A detailed vegetation survey on the trees within the impacted area would be conducted by a suitably qualified botanist/ ecologist to identify and record the affected individuals prior to the commencement of site clearance works. Feasibility and suitability of transplanting the affected plant species of conservation interest would be carefully studied and suitable receptor sites would be identified during Tree Felling Application.   | Whole Site / During Construction                                  | Contractor                    | ✓ | ✓ |  |  |  |  |
| S7.11                  | Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.  | Whole Site / During Construction                                  | Contractor                    | ✓ |   |  |  |  |  |
| S7.11                  | Regularly check the Site boundaries to ensure that they are not breached and that no damage occurs to surrounding areas Whole Site / During   | Whole Site / During Construction                                  | Contractor                    | ✓ | ✓ |  |  |  |  |
| S7.11                  | Prohibit and prevent open burning within the site boundary during construction and provide temporary fire fighting equipment in the work areas.   | Whole Site / During Construction                                  | Contractor                    | ✓ | ✓ |  |  |  |  |
| S7.11                  | Reinstate temporary work sites/disturbed areas immediately after completion of the construction works   | Whole Site / During Construction                                  | Contractor                    | ✓ | ✓ |  |  |  |  |
| S7.11                  | Provide additional stream/river habitat with natural bottom (~2.1 ha) after the advanced works  | Whole Site / During Construction                                  | Contractor                    | ✓ | ✓ |  |  |  |  |
| S7.14                  | Adopt proper ecological design for the landscape works along the river banks, including the floodplain (the 1.9ha marshy low-lying grassland will be reinstated in the floodplains at Hong Kong side.   | Along river bank and water retardation pond / During Design Stage | Designer(s)                   | ✓ |   |  |  |  |  |
| S7.14                  | The implementation of landscape works (including compensatory planting) adopting ecological design at Hong Kong side shall be monitored.  | Whole Site / During Construction                                  | Designer(s)                   | ✓ |   |  |  |  |  |
| S7.14                  | One-year bird monitoring programme shall be conducted to monitor the effectiveness of the re-provisioned/reinstated habitats  | Operation   | Project Proponent/ Contractor |   |   |  |  |  | ✓  |
| 5. Waste Management    |   |   |                               |   |   |  |  |  |  |
| S9.6                   | <i>General</i><br>The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges  | Contract mobilisation / During construction                       | Contractor                    | ✓ |   |  |  |  | Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Storage of Chemical Wastes; WBTC No 5/99, Trip ticket System for Disposal of Construction and Demolition Material; Water Pollution Control Ordinance |

|      |  |   |            |   |  |  |
|------|--|---|------------|---|--|--|
| S9.6 | Nomination of approved personnel to be responsible for standard site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the Project Site  | Contract mobilisation / During construction | Contractor | ✓ |  |  |
| S9.6 | Training shall be provided to site personnel in proper waste management and chemical handling procedures, the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.  | Contract mobilisation / During construction | Contractor | ✓ |  |  |
| S9.6 | Provision of sufficient waste disposal points and regular collection for disposal.   | Whole Site / During Construction            | Contractor | ✓ | WBTC Nos. 6/2002 and 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, Works Bureau, Hong Kong SAR Government |  |
| S9.6 | Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers  | Whole Site / During Construction            | Contractor | ✓ |  |  |
| S9.6 | Separation of chemical wastes for special handling and appropriate Treatment Chemical Waste Treatment Centre at Tsing Yi.  | Whole Site / During Construction            | Contractor | ✓ | Waste Disposal (Chemical Waste) (General) Regulation   |  |
| S9.6 | Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors  | Whole Site / During Construction            | Contractor | ✓ |  |  |
| S9.6 | A recording system for the amount of wastes generated/recycled and disposal sites.   | Whole Site / During Construction            | Contractor | ✓ |  |  |
| S9.6 | <i>Waste Reduction Measures</i><br>i. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.<br>ii. Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce<br>iii. Any unused chemicals and those with remaining functional capacity will be recycled as far as possible | Whole Site / During Construction            | Contractor | ✓ | WBTC Nos. 6/2002 and 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness   |  |
| S9.6 | iv. Use of reusable non-timber formwork to reduce the amount of C&D materials  | Whole Site / During Construction            | Contractor | ✓ | Works Branch Technical Circular (WBTC) No.32/92, The Use of Tropical Hard Wood on Construction Site                            |  |
| S9.6 | v. Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill  | Whole Site / During Construction            | Contractor | ✓ |  |  |
| S9.6 | vi. Proper storage and site practices shall be adopted to reduce the potential for damage or contamination of construction materials   |   |            |   |  |  |
| S9.6 | vii. Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste   |   |            |   |  |  |



|      |   |   |            |   |   |  |
|------|---|---|------------|---|---|--|
| S9.6 | <p><b>Excavated Materials</b></p> <p>The contractor of the advanced work should open a billing account with EPD for the payment of disposal charges. A trip-ticket system will be established in accordance with ETWB TC(W) No. 31/2004 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at landfills, and to control fly-tipping</p>   | Contract mobilisation / During construction | Contractor | ✓ | ✓ | Waste Disposal (Charges for Disposal of Construction Waste) Regulation ETWB TC(W) No.31/2004 |
| S9.6 | <p>Ways to minimise generation of C&amp;D materials include:</p> <p>(i) The Contractor is required to submit the Waste Management Plan (WMP) for approval by the Engineer with appropriate mitigation measures to deal with and allow space for waste segregation. Different C&amp;D materials should be sorted into different categories for re-use/recycle. Day-to-day site operations of the Contractor should be closely monitored to ensure compliance with the approved WMP.</p> <p>(ii) The designer shall ensure that the design of levels and dimensions are reasonably accurate to avoid unnecessary demolition, excavation and fill.</p> <p>(iii) The Contractor shall be encouraged to use long lasting materials such as steel and poly-fibre for formwork on site.</p> <p>(iv) The RSS shall control the disposal of public fill and C&amp;D waste to the designated public filling facilities and landfills respectively through the implementation of a trip-ticket system according to ETWB TC(W) No. 31/2004.</p> | Whole Site / During Construction            | Contractor | ✓ |   |  |
|      | <p>Ways to maximize the use of inert C&amp;D material include:</p> <p>i. The Contractor shall review the WMP quarterly to improve the site practice and maximise the use of inert C&amp;D material</p> <p>ii. Different sections of works shall be programmed to ensure the C&amp;D materials generated could be re-used by the other sections of works or works contracts.</p> <p>iii. Temporary storage areas should be identified to resolve programming mismatch between excavation and filling works.</p> <p>iv. The excavated soft inert C&amp;D materials should be reused for backfilling the boundary patrol road, channel embankment, etc.whenever practicable.</p> <p>v. Good quality top soil should be reused for landscaping.</p>   | Whole Site / During Construction            | Contractor | ✓ |   |  |
|      | <p>Ways to maximise the re-use/recycle of C&amp;D material and/or rock on site include:</p> <p>i. Recyclable materials such as wood and metal should be salvaged for reuse and inert materials utilized as public fill.</p> <p>ii. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal. Prior to disposal of C&amp;D waste, it is recommended that wood, steel and other metals be separated for re-use and/or recycling and inert waste utilized as fill material to minimize the quantity of waste to be disposed of at landfills.</p>   | Whole Site / During Construction            | Contractor | ✓ |   |  |
| S9.6 | <p>Ways to maximise the use of recycled C&amp;D materials include:</p> <p>i. Relevant clauses would be incorporated in the Particular Specifications to facilitate the use of recycled aggregates as far as practicable, such as, temporary works, general fills and road sub-base.</p>   | Whole Site / During Construction            | Contractor | ✓ |   |  |
| S9.6 | <p>To reduce the potential dust impacts of the excavation works, the C&amp;D materials will be wetted as quickly as possible to the extent practice after filling.</p>  | Whole Site / During Construction            | Contractor | ✓ |   |  |

|      |   |  |            |   |  |
|------|---|--|------------|---|--|
| S9.6 | <p><b>Chemical Waste</b><br/>Containers used for storage of chemical waste shall be:</p> <ol style="list-style-type: none"> <li>Maintained in good condition and clearly labelled in both English and Chinese;</li> <li>Suitable for the substance they are holding, resistant to corrosion, and securely closed; and</li> <li>Capacity of less than 450 L, unless the specifications have been approved by the EPD.</li> </ol>   | All facilities / During construction                             | Contractor | ✓ | Waste Disposal (General Waste) Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes |
| S9.6 | <p>Storage areas for chemical waste shall:</p> <ol style="list-style-type: none"> <li>Be clearly labelled and used solely for the storage of chemical waste;</li> <li>Be enclosed on at least 3 sides;</li> <li>Have adequate ventilation;</li> <li>Be arranged so that incompatible materials are appropriately separated</li> <li>Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; and</li> <li>Be covered to prevent rainfall from entering</li> </ol> | All facilities / During construction                             | Contractor | ✓ |  |
| S9.6 | Any unused chemicals and those with remaining functional capacity shall be recycled to the extent practical.  | Land Site / During Construction                                  | Contractor | ✓ |  |
| S9.6 | A licensed contractor shall be employed to collect chemical waste for delivery to a licensed treatment facility.  | Chemical Waste Treatment Centre at Tsing Yi/ During construction | Contractor | ✓ | Waste Disposal (General Waste) Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes |
| S9.6 | <b>General Refuse</b><br>General refuse shall be timely cleared and shall be disposed of to the nearest licensed facility by reputable waste collector on regular basis to reduce odour, pest and litter impacts.   | All areas / During construction                                  | Contractor | ✓ | WBTC Nos. 6/2002 and 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness.                    |
| S9.6 | No waste shall be burnt on site. Wastes shall be collected by licensed waste haulier and be disposed of at licence sites.   | Land Site / During Construction                                  | Contractor | ✓ | Air Pollution Control Ordinance  |
| S9.6 | Training will be provided to workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the construction works.  | All areas / During construction                                  | Contractor | ✓ |  |
| S9.8 | EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site inspection and audit programme shall be undertaken.   | All facilities / During construction                             | ET and IEC | ✓ |  |
| S9.8 | Waste Management Plan (WMP) will be prepared and implemented in accordance with ETWB TC(W) No. 19/2005.   | All facilities / During construction                             | Contractor | ✓ | ETWB TC(W) No.19/2005  |

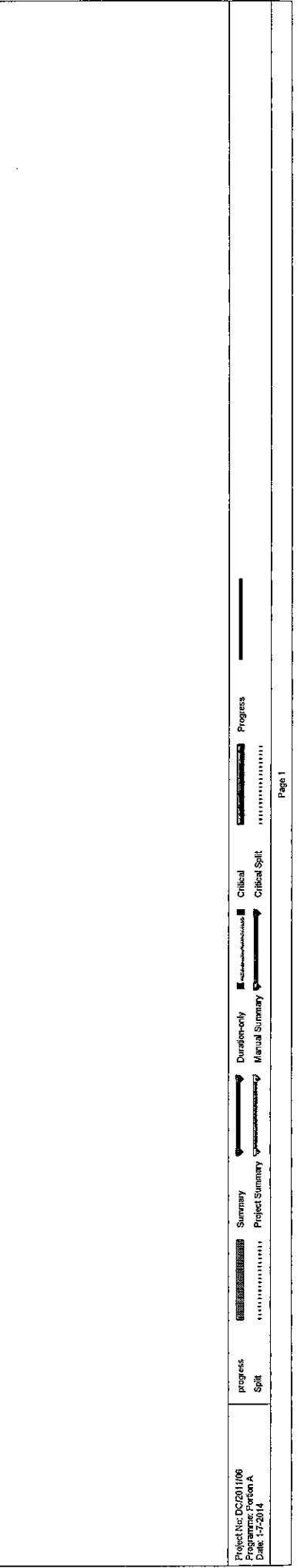
| 6. Cultural Heritage  |   |  |  |  |   |   |
|-----------------------|---|--|--|--|---|---|
|                       |   |  | Whole Site / During Construction                                   | Project Proponent                                | ✓ | Antiquities and Monuments Ordinance                               |
| S11.8.1               | Pursuant to the Antiquities and Monuments Ordinance, the project proponent should inform the AMO immediately in case of discovery of antiquities or supposed antiquities in the course of soil excavation works in construction stage.  |  | Additional works boundary not covered in EIA / During design stage | Design Team and the Project Proponent (i.e. DSD) |   | EIAO TM, Guidelines for CHIA, Antiquities and Monuments Ordinance |
| S11.8.1               | In case the works boundary of the Project changes during the detailed design stage to cover additional area not being assessed, the need for further archaeological survey and subsequent impact assessment should be reviewed and AMO should be consulted.   |  |  |  |   |   |
| 7. Landscape & Visual |   |  |  |  |   |   |
| S12.6.10              | MM1:<br>Tree Protection and Preservation - Trees/ woodland within the Project Site will be protected and preserved as far as possible in accordance with ETWB TCW No. 29/2004 and 3/2006.   |  | Land Site / During Construction                                    | Contractor                                       | ✓ |   |
| S12.6.10              | MM2:<br>Tree Transplantation -- Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled according to the Detailed Tree Survey and Tree Felling Application. Established trees of value are to be re-located where practically feasible.  |  | Land site / During Construction                                    | Contractor(s)                                    | ✓ |   |
| S12.6.10              | MM3:<br>Minimize Disturbance -- temporary structures and construction works should be planned with care to minimize disturbance to existing built structures as well as vegetation including riparian vegetation along the river.   |  | Land Site / During Construction                                    | Contractor                                       | ✓ |   |
| S12.6.10              | MM4:<br>Compensatory Tree Planting - Where loss of existing trees is unavoidable, compensatory planting of trees should be provided in accordance with ETWB TCW No. 03/2006 to compensate for those trees felled. Space is to be allowed within the Project Site (mainly planting in riverbank landscape areas of ~4.1 ha) for such planting. Plants will have 12 months to establish. Approximately 0.5 ha of compensatory woodland planting (in addition to the reinstatement of the woodland (LR4) if unavoidably affected) will be provided within the Project Site near Pak Fu Shan. The proposed compensatory woodland planting site will locate adjoining to the reinstated and existing (undisturbed by the Project) woodland on hillside. The selection of planting species shall be made with reference to the species identified in the Tree Survey and be native to Hong Kong or the South China region. The compensatory woodland planting should also adopt ecological design, ie provision of rare butterfly species larval food plant (Trema sp.), and further details refer to Section 7.1.3 of the EIA Report. The arrangement of the on-site compensatory planting, ie tree/ shrub mix and Trema sp., will be subject to detailed landscape design and planting plan, and recommended to be implemented prior to the construction activities as far as practical |  | Compensatory planting area / During Construction                   | Contractor                                       | ✓ |   |
| S12.6.10              | MM5:<br>Screening -- Stockpiles of materials should be covered or hoarding erected where possible to reduce undesirable views of the construction site (such as stockpile areas), having consideration of safety and security. It is proposed that screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Hoarding should be taken down at the end of the construction period.   |  | Land Site / During Construction                                    | Contractor                                       | ✓ |   |

|          |   |   |                      |   |   |  |
|----------|---|---|----------------------|---|---|--|
| S12.6.10 | MM6:<br>Light Control – Control of night time lighting glare shall be implemented to minimize glare impact to adjacent VSKs.  | Whole Site / During Construction                | Contractor           | ✓ |   |  |
| S12.6.10 | MM7:<br>Reinstatement – Terrestrial areas temporarily disturbed by the Project during construction, should be re-vegetated with shrubs, ground cover or grass in order to restore the green ambience or LR as existed before the commencement of the Project to blend with the new environment, eg the earth embankment underneath the boundary patrol road near Pak Fu Shan should be planted to ensure the embankment structure blends in with the new environment.   | Whole Site / During Construction                | Contractor           | ✓ |   |  |
| S12.6.10 | MM8:<br>Buffer Planting – Tree and Shrub planting shall be provided for screening the natural watercourse, woodland and shrubby grassland on lowland, proposed boundary control road and fencing, where needed and taking into account security and boundary control limitations.   | Appropriate location / During Construction      | Contractor           | ✓ |   |  |
| S12.6.10 | MM9:<br>River Area Enhancement Landscaping – The river bed should be nonconcreted as far as practical. The River bank and margins of approximately 4.1 ha should be enhanced with vegetation to compensate for the loss of existing vegetation and to enhance the visual and landscape value of the river where slope gradient allows. The typical design of riverbank landscaping areas for the Project is presented in Section 7.11.3 and Figure 7.11 of the EIA Report. The overall objectives for the landscaping works will be mainly concerned with ecological enhancement but also include landscape enhancement. For the sloping banks of the river, in order to guarantee safety of flood prevention, ecologically and environmentally friendly materials will be used as far as possible. The preliminary proposed landscape treatment along the sloping river banks can be classified into three types: natural vegetation, semi-natural and artificial. Further details of the river area enhancement plans can be found in Section 3 of the EIA Report, including protection of river bed with armour rock only where necessary and provision of grassed, cellular, reinforced concrete eco-friendly slope protection. Eco-bags are made of UV-resistant Polyethylene gas filled with fiber soil. Final details of the landscaping will be prepared during the detailed design stage of the Project. | Appropriate location / During Construction      | Contractor           | ✓ | ✓ |  |
| S12.6.10 | MM11:<br>Floodplain Areas - The areas bound by sharp turns in the natural meander of the river should be made into floodplain areas to retain some of the riparian landscape at the river margins. The overall objectives for the landscaping works will be mainly concerned with ecological enhancement but also include landscape enhancement (also refer to Section 7.11.3 of the EIA Report). Further details will be developed during Detailed Design Stage.   | Floodplain areas / During Construction          | Contractor           | ✓ |   |  |
| S12.6.10 | MM12:<br>Colours of Structures - Colours for the structures eg fences should be chosen to complement the surrounding area. Lighter colours such as shades of light grey, off-white and light brown may be utilised where technically feasible to reduce the visibility of the structures.   | Whole Site / During Construction                | Contractor           | ✓ |   |  |
| S12.6.10 | MM13:<br>Topsoil Reuse - Excavated topsoil should be conserved for re-use by the Project or other projects.   | Whole Site / During Construction                | Contractor           | ✓ |   |  |
| S12.9    | The completed landscape works adopting ecological design on the Hong Kong side will be monitored during the one year establishment period.  | Whole site / During 1 year Establishment period | Landscape Contractor | ✓ |   |  |

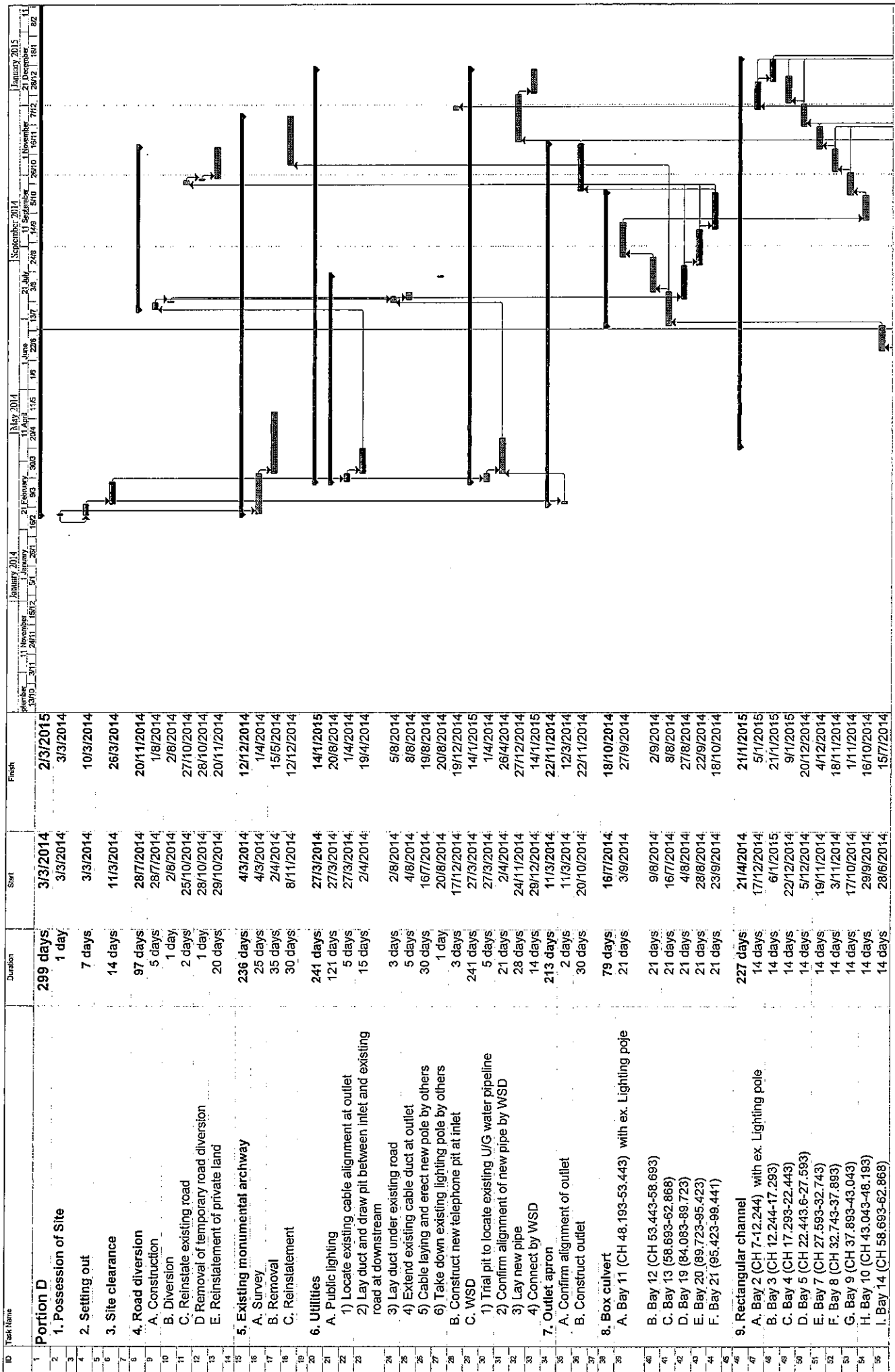
*ANNEX D*

*CONSTRUCTION PROGRAM*

| ID  | Task Name  | Duration | Start      | Finish     |
|-----|--|----------|------------|------------|
| 1   | Portion A  | 280 days | 9/1/2013   | 17/10/2014 |
| 2   | A. CLP take down existing power supply to wells (4 nos)                | 16 days  | 9/12/2013  | 28/12/2013 |
| 16  | B. Construction of BC#2  | 25 days  | 17/1/2014  | 18/2/2014  |
| 19  | C. Construction of BC#1  | 24 days  | 28/1/2013  | 27/12/2013 |
| 24  | D. Gate #56  | 15 days  | 9/12/2013  | 27/12/2013 |
| 25  | E. Existing access near Gate #54B                                      | 15 days  | 9/12/2013  | 27/12/2013 |
| 28  | F. PBF footing   | 201 days | 15/1/2013  | 19/7/2014  |
| 32  | G. SBF footing   | 101 days | 9/1/2013   | 13/3/2014  |
| 53  | H. Erect PB Fence  | 91 days  | 9/12/2013  | 31/3/2014  |
| 61  | I. Backfill between PBF and SBF footing to 300mm below formation (95%) | 77 days  | 2/1/2014   | 4/4/2014   |
| 67  | J. Lay duct, draw pit and lighting pole                                | 106 days | 10/2/2014  | 17/6/2014  |
| 88  | K. Backfill to road formation level                                    | 50 days  | 12/6/2014  | 9/8/2014   |
| 98  | L. Road sub-base   | 20 days  | 25/7/2014  | 16/8/2014  |
| 109 | M. Bollard and Kerb  | 33 days  | 2/8/2014   | 10/9/2014  |
| 116 | N. Verge backfill, sub-base and pavement                               | 32 days  | 16/8/2014  | 23/9/2014  |
| 124 | O. Bitumen pavement  | 27 days  | 29/8/2014  | 30/9/2014  |
| 130 | P. Raise drawpit cover   | 32 days  | 4/9/2014   | 14/10/2014 |
| 138 | Q. Wearing course  | 28 days  | 13/9/2014  | 17/10/2014 |
| 146 | a. P1-P96  | 3 days   | 23/9/2014  | 25/9/2014  |
| 148 | b. P97-P190  | 3 days   | 6/10/2014  | 8/10/2014  |
| 150 | c. P191-P277   | 2 days   | 15/10/2014 | 16/10/2014 |
| 151 | R. Road marking  | 1 day    | 17/10/2014 | 17/10/2014 |
| 153 | S. Traffic signs Type B  | 16 days  | 13/9/2014  | 3/10/2014  |
| 154 | T. Erect SB Fence  | 62 days  | 24/4/2014  | 9/7/2014   |
| 155 | U. EMSD install, testing and commissioning                             | 80 days  | 24/4/2014  | 30/7/2014  |
| 156 | V. CLP 11KV  | 83 days  | 16/1/2014  | 26/4/2014  |
| 161 | W. Lo Fong Bridge Police Post  | 199 days | 16/12/2013 | 16/8/2014  |



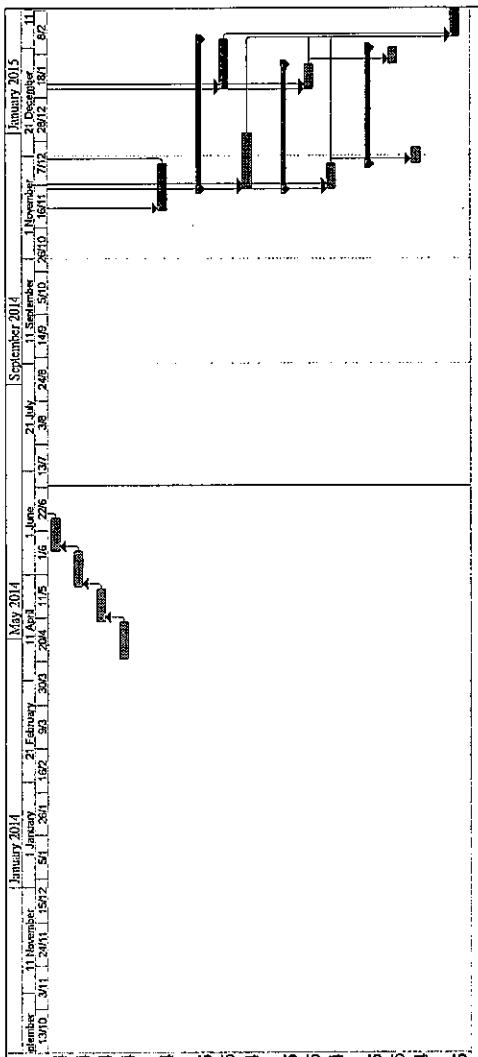
| ID  | Task Name                                    | Duration | Start      | Finish     | September 2014 | October 2014 | November 2014 | December 2014 | January 2015 | February 2015 | March 2015 | April 2015 | May 2015 | June 2015 | July 2015 | August 2015 | September 2015 | October 2015 | November 2015 | December 2015 |  |
|-----|--|----------|------------|------------|----------------|--------------|---------------|---------------|--------------|---------------|------------|------------|----------|-----------|-----------|-------------|----------------|--------------|---------------|---------------|--|
| 1   | Portion C                                    | 333 days | 18/12/2013 | 29/12/2015 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 2   | 1. PBF footing                               | 208 days | 18/12/2013 | 29/8/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 9   | 2. SBF footing                               | 195 days | 18/12/2013 | 14/8/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 17  | 3. Filling between PBF footing & SBF footing | 211 days | 27/12/2013 | 10/9/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 18  | 4. Erect Primary Fence                       | 213 days | 21/12/2014 | 17/9/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 31  | 5. Fill to 95%                               | 216 days | 21/12/2014 | 20/9/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 45  | 6. Lay cable ducts & lighting poles          | 194 days | 7/2/2014   | 27/9/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 60  | 7. C.I.P 11Kv cable                          | 184 days | 26/3/2014  | 4/11/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 118 | 8. Fill to 98% road formation                | 161 days | 2/5/2014   | 12/11/2014 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 123 | 9. Subbase                                   | 157 days | 12/5/2014  | 15/11/2014 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 124 | 10. Kerb & bollard footing                   | 174 days | 15/5/2014  | 9/12/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 146 | 11. Bitumen paving                           | 158 days | 9/6/2014   | 13/12/2014 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 157 | 12. Raise drainpit cover                     | 160 days | 14/6/2014  | 22/12/2014 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 164 | 13. Wearing course                           | 153 days | 25/6/2014  | 24/12/2014 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 170 | 14. Road marking                             | 2 days   | 27/12/2014 | 29/12/2014 |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 176 | 15. Traffic signs                            | 14 days  | 27/12/2014 | 13/1/2015  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 177 | 16. EMSD                                     | 138 days | 14/8/2014  | 28/1/2015  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 178 | 17. Vergé filling, subbase & conc paving     | 157 days | 27/6/2014  | 3/1/2015   |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 179 | 18. Erect Secondary Fence                    | 171 days | 8/7/2014   | 29/1/2015  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 180 | 19. Fill & trim slope                        | 177 days | 1/4/2014   | 1/11/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 181 | 20. U channel                                | 227 days | 14/4/2014  | 14/1/2015  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |
| 184 | 21. Retaining wall                           | 155 days | 18/12/2013 | 27/6/2014  |                |              |               |               |              |               |            |            |          |           |           |             |                |              |               |               |  |

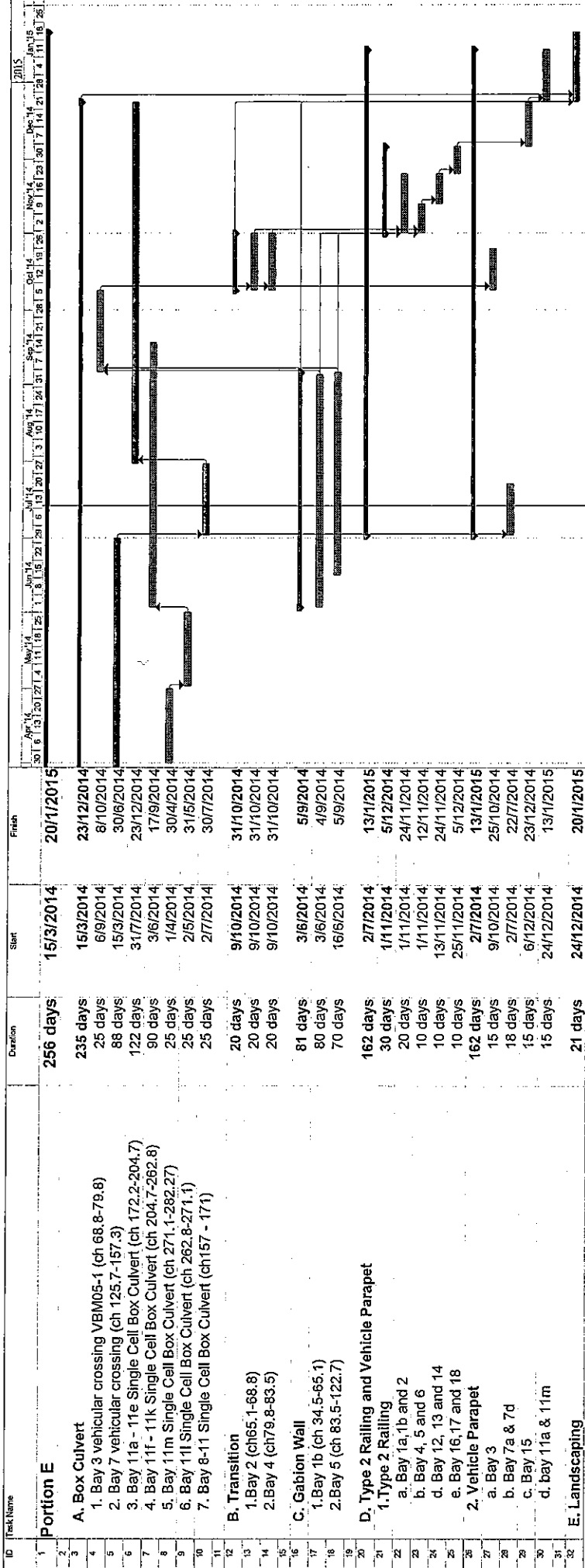


| ID | Task Name  | Duration        | Start           | Finish          |
|----|--|-----------------|-----------------|-----------------|
| 1  | <b>Portion D</b>   | <b>299 days</b> | <b>3/3/2014</b> | <b>2/3/2015</b> |
| 2  | 1. Possession of Site  | 1 day           | 3/3/2014        | 3/3/2014        |
| 3  | 2. Setting out   | 7 days          | 3/3/2014        | 10/3/2014       |
| 4  | 3. Site clearance  | 14 days         | 11/3/2014       | 26/3/2014       |
| 5  | 4. Road diversion  | 97 days         | 28/7/2014       | 20/11/2014      |
| 6  | A. Construction  | 5 days          | 28/7/2014       | 1/8/2014        |
| 7  | B. Diversion   | 1 day           | 2/8/2014        | 2/8/2014        |
| 8  | C. Reinstate existing road   | 2 days          | 25/10/2014      | 27/10/2014      |
| 9  | D Removal of temporary road diversion                                  | 1 day           | 28/10/2014      | 28/10/2014      |
| 10 | E. Reinstatement of private land                                       | 20 days         | 29/10/2014      | 20/11/2014      |
| 11 | 5. Existing monumental archway   | 236 days        | 4/3/2014        | 12/12/2014      |
| 12 | A. Survey  | 25 days         | 4/3/2014        | 14/4/2014       |
| 13 | B. Removal   | 35 days         | 2/4/2014        | 15/5/2014       |
| 14 | C. Reinstatement   | 30 days         | 8/11/2014       | 12/12/2014      |
| 15 | 6. Utilities   | 241 days        | 27/3/2014       | 14/1/2015       |
| 16 | A. Public lighting   | 121 days        | 27/3/2014       | 20/8/2014       |
| 17 | 1) Locate existing cable alignment at outlet                           | 5 days          | 27/3/2014       | 1/4/2014        |
| 18 | 2) Lay duct and draw pit between inlet and existing road at downstream | 15 days         | 2/4/2014        | 19/4/2014       |
| 19 | 3) Lay duct under existing road  | 3 days          | 2/8/2014        | 5/8/2014        |
| 20 | 4) Extend existing cable duct at outlet                                | 5 days          | 4/8/2014        | 8/8/2014        |
| 21 | 5) Cable laying and erect new pole by others                           | 30 days         | 16/7/2014       | 19/8/2014       |
| 22 | 6) Take down existing lighting pole by others                          | 1 day           | 20/8/2014       | 20/8/2014       |
| 23 | B. Construct new telephone pit at inlet                                | 3 days          | 17/12/2014      | 19/12/2014      |
| 24 | C. WSD   | 241 days        | 27/3/2014       | 14/1/2015       |
| 25 | 1) Trial pit to locate existing U/G water pipeline                     | 5 days          | 27/3/2014       | 1/4/2014        |
| 26 | 2) Confirm alignment of new pipe by WSD                                | 21 days         | 2/4/2014        | 26/4/2014       |
| 27 | 3) Lay new pipe  | 28 days         | 24/11/2014      | 27/12/2014      |
| 28 | 4) Connect by WSD  | 14 days         | 29/12/2014      | 14/1/2015       |
| 29 | 7. Outlet apron  | 213 days        | 11/3/2014       | 22/11/2014      |
| 30 | A. Confirm alignment of outlet   | 2 days          | 11/3/2014       | 12/3/2014       |
| 31 | B. Construct outlet  | 30 days         | 20/10/2014      | 22/11/2014      |
| 32 | 8. Box culvert   | 79 days         | 16/7/2014       | 18/10/2014      |
| 33 | A. Bay 11 (CH 48.193-53.443) with ex. Lighting poje                    | 21 days         | 3/9/2014        | 27/9/2014       |
| 34 | B. Bay 12 (CH 53.443-58.693)   | 21 days         | 9/8/2014        | 2/9/2014        |
| 35 | C. Bay 13 (58.693-62.868)  | 21 days         | 16/7/2014       | 8/8/2014        |
| 36 | D. Bay 19 (84.083-89.723)  | 21 days         | 4/8/2014        | 27/8/2014       |
| 37 | E. Bay 20 (89.723-95.423)  | 21 days         | 28/8/2014       | 22/9/2014       |
| 38 | F. Bay 21 (95.423-99.441)  | 21 days         | 23/9/2014       | 18/10/2014      |
| 39 | 9. Rectangular channel   | 227 days        | 21/4/2014       | 21/1/2015       |
| 40 | A. Bay 2 (CH 7-12.244) with ex. Lighting poje                          | 14 days         | 17/12/2014      | 5/1/2015        |
| 41 | B. Bay 3 (CH 12.244-17.293)  | 14 days         | 6/1/2015        | 21/1/2015       |
| 42 | C. Bay 4 (CH 17.293-22.443)  | 14 days         | 22/12/2014      | 9/1/2015        |
| 43 | D. Bay 5 (CH 22.443.6-27.593)  | 14 days         | 5/12/2014       | 20/12/2014      |
| 44 | E. Bay 7 (CH 27.593-32.743)  | 14 days         | 19/11/2014      | 4/12/2014       |
| 45 | F. Bay 8 (CH 32.743-37.893)  | 14 days         | 3/11/2014       | 18/11/2014      |
| 46 | G. Bay 9 (CH 37.893-43.043)  | 14 days         | 17/10/2014      | 1/11/2014       |
| 47 | H. Bay 10 (CH 43.043-48.193)   | 14 days         | 29/9/2014       | 16/10/2014      |
| 48 | I. Bay 14 (CH 58.693-62.868)   | 14 days         | 28/6/2014       | 15/7/2014       |



| ID | Task Name                       | Duration | Start      | Finish     |
|----|---------------------------------|----------|------------|------------|
| 56 | J. Bay 15 (CH 62.868-67.043)    | 14 days  | 12/6/2014  | 27/6/2014  |
| 57 | K. Bay 16 (CH 67.043-72.743)    | 14 days  | 26/5/2014  | 11/6/2014  |
| 58 | L. Bay 17 (CH 72.743-78.443)    | 14 days  | 9/5/2014   | 24/5/2014  |
| 59 | M. Bay 18 (CH 78.443-84.083)    | 14 days  | 21/4/2014  | 8/5/2014   |
| 60 | 10. Intake apron Bay 1 (CH 0-7) | 20 days  | 24/11/2014 | 16/12/2014 |
| 61 |                                 |          |            |            |
| 62 | 11. U-channel                   | 59 days  | 5/12/2014  | 14/2/2015  |
| 63 | A. Bay 14 - Bay 18              | 21 days  | 22/1/2015  | 14/2/2015  |
| 64 | B. Bay 2 - Bay 10               | 21 days  | 5/12/2014  | 31/12/2014 |
| 65 |                                 |          |            |            |
| 66 | 12. Kerb                        | 48 days  | 5/12/2014  | 2/2/2015   |
| 67 | A. Bay 14 - Bay 18              | 10 days  | 22/1/2015  | 2/2/2015   |
| 68 | B. Bay 2 - Bay 10               | 10 days  | 5/12/2014  | 16/12/2014 |
| 69 |                                 |          |            |            |
| 70 |                                 |          |            |            |
| 71 | 13. Type 2 railing              | 45 days  | 17/12/2014 | 10/2/2015  |
| 72 | A. Bay 14 - Bay 18              | 7 days   | 3/2/2015   | 10/2/2015  |
| 73 | B. Bay 2 - Bay 10               | 7 days   | 17/12/2014 | 24/12/2014 |
| 74 |                                 |          |            |            |
| 75 | 14. Landscaping                 | 10 days  | 16/2/2015  | 2/3/2015   |





Project No. DC201/06     Progress     Summary     Split     Manual Summary     Critical     Critical Split     Progress

Page 1

**ANNEX E**

**MONTHLY SUMMARY WASTE FLOW TABLE  
AND  
SUMMARY TABLE FOR WORK PROCESSES  
OR ACTIVITIES REQUIRING TIMBER FOR TEMPORARY WORKS**

Monthly Summary Waste Flow Table

Name of Department: DSD

Contract No.: DC/2011/06

Monthly Summary Waste Flow Table for 2014

| Month        | Actual Quantities of Inert C&D Materials Generated Monthly |   |   |   |  | Actual Quantities of Non C&D Wastes Generated Monthly |                       |  |   |                               |
|--------------|--|---|---|---|--|---|-----------------------|--|---|-------------------------------|
|              | Total Quantity Generated<br>(in '000m <sup>3</sup> )       | Hard Rock and<br>Large Broken<br>Concrete<br>(in '000m <sup>3</sup> ) | Reused in the<br>Contract<br>(in '000m <sup>3</sup> ) | Reused in other<br>Projects<br>(in '000m <sup>3</sup> ) | Disposed as<br>Public Fill<br>(in '000m <sup>3</sup> ) | Imported Fill<br>(in '000m <sup>3</sup> )             | Metals<br>(in '000kg) | Paper/ cardboard<br>packaging<br>(in '000kg) | Plastics<br>(see Note 3)<br>(in '000kg) | Chemical Waste<br>(in '000kg) |
| Jan-14       | 14.248   | 0.000   | 0.000   | 14.248  | 0.000  | 0.568   | 0.244                 | 0.003  | 0.000                                   | 0.000                         |
| Feb-14       | 12.912   | 0.000   | 0.000   | 12.912  | 0.000  | 0.656   | 0.103                 | 0.002  | 0.000                                   | 0.005                         |
| Mar-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.744   | 0.200                 | 0.005  | 0.000                                   | 0.065                         |
| Apr-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.352   | 0.000                 | 0.000  | 0.000                                   | 0.030                         |
| May-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.240   | 0.000                 | 0.000  | 0.000                                   | 0.175                         |
| Jun-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000   | 0.000                 | 0.000  | 0.000                                   | 0.050                         |
| Jul-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000   | 0.002                 | 0.072  | 0.000                                   | 0.030                         |
| Aug-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000   | 0.001                 | 0.066  | 0.000                                   | 0.045                         |
| Sep-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000   | 0.000                 | 0.000  | 0.000                                   | 0.025                         |
| Oct-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000   | 0.000                 | 0.000  | 0.000                                   | 0.030                         |
| Nov-14       | 0.000  | 0.000   | 0.000   | 0.000   | 0.000  | 0.000   | 0.000                 | 0.000  | 0.000                                   | 0.000                         |
| Dec-14       |  |   |   |   |  |   |                       |  |   |                               |
| <b>Total</b> | <b>27.160</b>  | <b>0.000</b>  | <b>0.000</b>  | <b>27.160</b>   | <b>0.000</b>   | <b>2.560</b>  | <b>0.550</b>          | <b>0.148</b>                                 | <b>0.000</b>                            | <b>0.455</b>                  |

Notes :

- (1) Note Used.
- (2) The waste flow table shall include C&D materials that are specified in the Contract to be imported for use at the Sites.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
- (4) The summary table shall be submitted to the Engineer's Representative monthly together with the Waste Flow Table for review and monitoring.

## Summary Table for Work Processes or Activities Requiring Timber for Temporary Works

**Contract No.:** DC/2011/06

**Contract Title:** *Reprovisioning of Boundary Patrol Road and Associated Security Facilities between Ping Yuen River and Pak Fu Shan and Drainage Works in North District*

**Report Period:** Sep-14

| Item No | Description of Works Process or Activity<br>[see note (a) below] | Justifications for Using Timber in Temporary Construction Works | Est. Quantities of Timber Used (m <sup>3</sup> ) | Actual Quantities used (m <sup>3</sup> ) | Remarks |
|---------|--|---|--|--|---------|
| 1       | Transition formwork & falsework<br>(Portion A,B,E)               | Temporary formwork & falsework design                           | 10   | 9  |         |
| 2       | Transition formwork & falsework<br>(Portion A,B,C)               | Temporary formwork & falsework design                           | 25   | 18                                       |         |
| 3       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 52   | 40                                       |         |
| 4       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 77   | 72                                       |         |
| 5       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 102  | 86                                       |         |
| 6       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 115  | 103                                      |         |
| 7       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 121  | 112                                      |         |
| 8       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 145  | 139                                      |         |

**Notes**

- (a) The Contractor shall list out all the work items requiring timber for use in temporary construction works. Several minor work items may be grouped into one for ease of updating.
- (b) The summary table shall be submitted to the Engineer's Representative monthly together with the Waste Flow Table for review and monitoring

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|---------|--|---|--|--|---------|
| 9       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 154  | 151                                      |         |
| 10      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 156  | 155                                      |         |
| 11      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 157  | 156                                      |         |
| 12      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 160  | 157                                      |         |
| 13      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 160  | 157                                      |         |
| 14      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 171  | 166                                      |         |
| 15      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 178  | 173                                      |         |
| 16      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 191  | 186                                      |         |

**Notes**

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|---------|--|---|--|--|---------|
| 17      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 200  | 194                                      |         |
| 18      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 205  | 201                                      |         |
| 19      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 215  | 212                                      |         |
| 20      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 225  | 222                                      |         |
| 21      | Transition formwork & falsework<br>(Portion A,B,C,D,E)           | Temporery formwork & falsework design                           | 226  | 223                                      |         |
| 22      | Transition formwork & falsework<br>(Portion A,B,C,D,E)           | Temporery formwork & falsework design                           | 230  | 229                                      |         |
|         |  |   |  |  |         |
|         |  |   |  |  |         |

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- (a) The Contractor shall list out all the work items requiring timber for use in temporary construction works. Several minor work items may be grouped into one for ease of updating.
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|---------|--|---|--|--|---------|
| 1       | Transition formwork & falsework<br>(Portion A,B,E)               | Temporary formwork & falsework design                           | 10   | 9  |         |
| 2       | Transition formwork & falsework<br>(Portion A,B,C)               | Temporary formwork & falsework design                           | 25   | 18                                       |         |
| 3       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 52   | 40                                       |         |
| 4       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 77   | 72                                       |         |
| 5       | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 102  | 86                                       |         |
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| 10      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 156  | 155                                      |         |
| 11      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 157  | 156                                      |         |
| 12      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 160  | 157                                      |         |
| 13      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 160  | 157                                      |         |
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| 16      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporery formwork & falsework design                           | 191  | 186                                      |         |

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| 18      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 205  | 201                                      |         |
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| 20      | Transition formwork & falsework<br>(Portion A,B,C,E)             | Temporary formwork & falsework design                           | 225  | 222                                      |         |
| 21      | Transition formwork & falsework<br>(Portion A,B,C,D,E)           | Temporary formwork & falsework design                           | 226  | 223                                      |         |
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