

CONTRACT NO. CF2014/2015
UPLIFTING WORKS TO CAMPUS OF
LOGOS ACADEMY AT TSEUNG KWAN O

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NOTES TO TENDERERS

(THESE NOTES TO TENDERERS ARE FOR THE TENDERER'S INFORMATION AND GUIDANCE ONLY AND SHALL NOT FORM PART OF THE CONTRACT)

NTT 1 Location of Tender Box

The tender box is located in the School Office on the Ground Floor of the Hong Kong Chinese Christian Churches Union Logos Academy at 1 Kan Hok Lane, Tseung Kwan O, N.T. Hong Kong.

NTT 2 NOT USED

NTT 3 Clarifications from the Supervising Officer Designate

Should the tenderer for any reason whatsoever be in doubt about the precise meaning of any item or figure contained in the documents he shall seek clarification from the Supervising Officer designate: COLEM GROUP LTD. for the attention of Mr. Xylem Leung. The details are:

COLEM GROUP LTD.
8/F, Lucky Plaza, Lockhart Rd., Wanchai, HK
Telephone no. : (852) 9221-6327
Fax no. : (852) 3425-9631

NTT 4 Check List

- (a) Before the tender is sealed and delivered to the Tender Box, please check the following:
 - (i) The tender has been properly signed and the signature witnessed.
 - (ii) All the documents issued with or requested in the tender such as acknowledgements of receipt of corrigenda or addenda, letter of indemnity for copyright etc., are properly completed and attached to the tender.
 - (iii) Copies of the Form of Tender, the Pricing Part and the Technical Part of the Contractor's Proposals are attached to the tender. The Central Tender Board will make copies of the Form of Tender, Pricing Schedules and Schedule of Proportions on behalf of tenderers who have failed to submit copies of such documents and a charge of \$6.5, or such amount as advised by the school will be levied for each page so copied.

- (iv) The envelope or cover holding the tender does not bear the name of the tenderer but the tender reference or contract number and the closing date should be shown on the cover.
- (b) Tenderers should also note the following:
 - (i) Unless otherwise indicated, plans and drawings issued in hard copies with the tender documents shall not be returned and deposited in the Tender Box. Such hard copies of plans and drawings are to be returned to the issuing office after submission of the tender.
 - (ii) Samples, if called for, should be submitted separately to the issuing office inviting the tenders with the tender reference or contract number indicated clearly on the cover, and should not be deposited in the Tender Box.
 - (iii) Tenders that are bulky should be wrapped properly with strong paper which is unlikely to break when the tender is being deposited in the Tender Box. Tenders with a size exceeding 0.1 m² and a thickness of more than 30 cm should be separated into smaller parcels, each parcel to be properly labelled.
- (c) Please allow adequate time for your tender to be delivered to the Tender Box. The Tender Box is closed on the tender closing day of 31st December 2014, which will be on Wednesday, as soon as the 12:00 noon time signal is broadcast by a local radio channel and the staffs of the client are under strict instruction not to accept tenders that are delivered after the closing time. However, if a rainstorm black warning or, typhoon signal No. 8 or above is hoisted between 9:00 a.m. and 12:00 noon on the tender closing day, the tender closing time will be extended to 12:00 noon on the first working day afterwards. An announcement of the extension of the tender closing time will be made through the radio immediately after 9:00 a.m. or immediately after the signal/warning has been hoisted. In order to ensure that your tender is deposited in the Tender Box well before the closing time, you should as far as possible arrange for the tender to be deposited before the closing date.

Tenderers may rest assured that no person is allowed access to the tenders that have been deposited in the Tender Box until after the closing time when they will be removed by authorized personnel.

NTT 5 Destruction of Documents

Documents of unsuccessful tenderers may be destroyed three years after the date the Contract has been awarded.

NTT 6 Changes in Status of Qualifications

Tenderers should inform the school in their tender submission of any factor which might affect their status of qualifications. The school reserves the right to review

the tenderers' qualified status in the light of any new information relevant to their qualification.

NTT 7 Lump Sum Contracts

This is a lump sum design and build contract. The General Conditions of Contract to be used are shown in this document ,

- (a) Tenderers should note that the school is not bound to accept the tender with the highest overall mark or any tender and may cancel the tender exercise on the school interest ground. In considering the acceptance of a tender, the school will take account of all relevant circumstances including the following:-
 - (i) The overall technical submission submitted;
 - (ii) The effect of exceptionally high or low priced items; and
 - (iii) The tenderer's capability (financially, commercially and technically) in undertaking the Contract. For the avoidance of doubt, matters such as bankruptcy, false declaration, lack of integrity, and acts of dishonesty, the latest available information and reports reflecting serious shortfall in performance and the latest available information and reports relating to serious safety or environmental incident may be taken into account in determining whether a tenderer is fully capable of undertaking the Contract.
- (b) Tenderers are welcomed to submit Contractor's Proposals which will be taken into account in the tender evaluation. The submissions on technical resources and technical proposals shall form part of the Contract. The tender price submitted in the Tender is deemed to be inclusive of the execution of the Works in accordance with the submissions on technical resources and technical proposals. Tenderers shall ensure that it is legally and physically possible to execute the Works in accordance with the submitted technical proposals. Should the Contractor for any reason be unable to adhere to the submissions on technical resources and technical proposals, any cost savings to the Contractor arising therefrom shall be determined by the School and deducted from the Contract Sum. For the avoidance of doubt, the Contractor shall not be entitled to any additional payment or extension of time for completion for the execution of the Works in a manner which differs from the technical submission on technical resources and technical proposals.

NTT 9 Procedure for Opening Tenders

Tenders will be opened by the tender opening team after closing time on the date set for the close of tender or, if this has been extended, the extended date at the client's office.

NTT 10 NOT USED

NTT 11 NOT USED

NTT 12 NOT USED

NTT 13 NOT USED

NTT 14 NOT USED

NTT 15 NOT USED

NTT 16 NOT USED

NTT 17 NOT USED

NTT 18 NOT USED

NTT 19 NOT USED

NTT 20 NOT USED

NTT 21 NOT USED

NTT 22 NOT USED

NTT 23 Request for Additional Copies of Tender Drawings in Electronic Format

Tenderers may request additional copies of tender documents in electronic format to be supplied for the purpose of preparing the tender. The following charges shall apply to the supply of electronic drawings:

(a) Handling Charge

\$50 per request

(b) Material Charge

<u>Material</u>	<u>Unit Charge (HK\$)</u>
(i) 1.44MB Floppy Disc	\$0.8
(ii) additional CD-ROM	\$1.1

NTT 24 NOT USED

NTT 25 Waste Disposal (Charges for Disposal of Construction Waste) Regulation

Tenderers should note that the Waste Disposal (Charges for Disposal of Construction Waste) Regulation made under the Waste Disposal Ordinance Cap

354 has come into operation on 1 December 2005. Pursuant to Regulation 9, the Contractor who is awarded this Contract should make an application to the Director of the Environmental Protection to establish a billing account within 21 days after being awarded the Contract. The Contractor shall ensure that the billing account is used for paying any prescribed charge in respect of construction waste generated from the construction works under the Contract. Non-compliance of these provisions is offences under the Regulation.

NTT 26 NOT USED

NTT 27 Tree Preservation

Tenderers should note that the Employer's Requirements require the Contractor to assign a competent member of the site supervisory staff to oversee under the Contract, and that such a person should have attended relevant training courses as required under the Employer's Requirements.

NTT 28 Professional Indemnity Insurance

Tenderers' attention is drawn to Conditions of Contract regarding the professional indemnity insurance requirement under the design and build contract. Please also refer to for details of the above.

NTT 29 NOT USED

NTT 30 NOT USED

NTT 31 NOT USED

NTT 32 NOT USED

NTT 33 NOT USED

NTT 34 Limiting the Tiers of Sub-contracting

The Tenderers' attention is drawn to the unauthorized sub-letting which impose certain restrictions on sub-contracting.

NTT 35 NOT USED

NTT 36 General Specification for Building Works 2012 Edition

Tenderers should note that the Government of Hong Kong Special Administrative Region General Specification for Building Works, 2012 Edition is used as part of the Specification for this tender invitation.

NTT 37 NOT USED

NTT 38 Existing Facilities and Reserves for Facilities

The Tenderers' attention is drawn to that part of the Works are to be constructed in close proximity to existing facilities and reserves for facilities and the relevant requirements are specified as the Employer's Requirements.

NTT 39 Minimum Qualifications of Key Staff

The Tenderers' attention is drawn to the qualification of the key staff of the Contractor's Project Management Team and Design Management Team should be competent to carry out respective duties.

NTT 40 NOT USED

NTT 41 Convictions under the Factories and Industrial Undertakings Ordinance (Cap 59), the Occupational Safety and Health Ordinance (Cap 509), the Shipping and Port Control Ordinance (Cap 313), the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), the Air Pollution Control Ordinance (Cap 311), the Noise Control Ordinance (Cap 400), the Waste Disposal Ordinance (Cap 354), the Water Pollution Control Ordinance (Cap 358), the Dumping at Sea Ordinance (Cap 466), the Ozone Layer Protection Ordinance (Cap. 403), the Environmental Impact Assessment Ordinance (Cap. 499) and the Hazardous Chemicals Control Ordinance (Cap. 595)

Tenderers' attention is drawn to the Special Condition of Tender requiring a statement of "no conviction" or a statement of all convictions under the Factories and Industrial Undertakings Ordinance (Cap 59), the Occupational Safety and Health Ordinance (Cap 509), the Shipping and Port Control Ordinance (Cap 313), the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), the Air Pollution Control Ordinance (Cap 311), the Noise Control Ordinance (Cap 400), the Waste Disposal Ordinance (Cap 354), the Water Pollution Control Ordinance (Cap 358), the Dumping at Sea Ordinance (Cap 466), the Ozone Layer Protection Ordinance (Cap. 403), the Environmental Impact Assessment Ordinance (Cap. 499), and the Hazardous Chemicals Control Ordinance (Cap. 595). The statement need take no special form.

NTT 42 NOT USED

NTT 43 Mechanical Dump Truck Covers

- (a) Tenderers' attention is drawn to requirements on mechanical dump truck covers.
- (b) Tenderers should note that there are no separate items in the Pricing Schedule for measurement of use of mechanical dump truck covers and that, in line with the General Preambles to the Pricing Schedule, the rates in the Pricing Schedule shall cover, inter alia, provision of mechanical covers for dump trucks.

NTT 44 NOT USED

NTT 45 Provision of Uniform for Site Personnel

Tenderers should note that staff should be dressed tidily and in same uniform for ease of identification.

- END OF NOTES TO TENDERER -

GENERAL CONDITIONS OF TENDER

PREAMBLES

P1. The tender documents issued to the tenderer consist of:-

- (a)
 - (i) Notes to Tenderers
 - (ii) These Conditions of Tender comprising the General Conditions of Tender and the Special Conditions of Tender;
 - (iii) Conditions of Contract, and
 - (iv) Form of Tender.
- (b) The following Sections of Employer's Requirements:-
 - Section 1 – Introduction
 - Section 2 – General Site Data
 - Section 3 – Statutory Requirements
 - Section 4 – Design Brief
 - Section 5 – Programme Requirements and Progress Report
 - Section 6 – Quality Assurance
 - Section 7 – Safety Aspects
 - Section 8 – Environmental Protection Aspects
 - Section 9 – Design Checking Procedures
 - Section 10 – Employer's Construction and Site Safety Supervision
 - Section 11 – Facilities for the Supervising Officer
 - Section 12 – General Site Management
- (d) Particular Specification
- (e) One set of Drawings
- (f) General Conditions of Contract for Design and Build Works

P2. The following documents are not issued with the tender documents to tenderers:-

- (a) Standard documents, namely:
 - (i) Construction Site Safety Manual (Chapter 3);
 - (ii) Articles of Agreement;
 - (iii) General Specification for Building Works 2012 Edition published by The Government of the Hong Kong Special Administrative Region; and

- (c) As-Built Records.

CONDITIONS

Note: As a marking scheme shall be used in tender evaluation which shall involve a technical evaluation to be conducted separately from the tender sum comparison, a two envelope approach shall be adopted for tender submission, i.e. technical and price information shall be submitted in two separate envelopes.

- (i) Tender Price Document envelope with the contract title and number and "Tender Price Document" and
- (ii) "Technical Submission" envelope with the contract title and number and "Technical Submission"

If it is not practicable to place the Technical Submission documents in one envelope then they should be placed in sufficient sealed envelopes clearly marked with the words "Technical Submission – Part 1 of [No.]" etc.

- GCT 1** (1) The following documents shall be placed in two separate envelopes as specified below and the two envelopes shall then be enclosed in a sealed envelope addressed, endorsed and deposited as required by the Gazette Notification or Letter of Invitation to Tender or Tender Notice:

In an envelope clearly marked with the tender reference and the words "Tender Price Documents"

- (a) One set of documents referred with:
- (i) The Form of Tender in hard copy format duly fully completed and signed, witnessed and dated.
- (ii) The Pricing Schedule in hard copy format fully priced as to each item, extended, cast and totalled as appropriate.
- (iii) Grand Summary in hard copy format.
- (b) A copy of each of the documents submitted.

In another envelope clearly marked with the tender reference and the words "Technical Submission"

- (e) Submission on technical resources and technical proposals which are the subject of evaluation hard copy format.
- (f) following submissions that are required by the General Conditions Tender The (GCT) and Special Conditions of Tender (SCT):
- (i) One original and two copies of the technical part of the Contractor's Proposals, if any.

(ii) One original and two copies of the documents referred to in the Special Conditions of Tender.

(iii) Acknowledgement of receipt of corrigenda or addenda.

GCT 2 NOT USED

GCT 3 Unless otherwise provided, the Tender shall be in Hong Kong dollars.

GCT 4 The Tender shall be completed in ink or typescript; tenders not so completed may be excluded from consideration.

GCT 5 Any unauthorised alteration or erasure to the text of the tender documents or any qualification to the Tender may cause the Tender to be disqualified.

GCT 6 The tenderer shall check the numbers of the pages of all tender documents against page numbers given in the summaries and should he find any missing, in duplicate or indistinct, the tenderer shall inform the Supervising Officer designate at once and have the same rectified or explained.

GCT 7 Should the tenderer for any reason whatsoever be in doubt about the precise meaning of any item or figure contained in the tender documents, he shall seek clarification from the Supervising Officer designate in order that the correct meaning may be decided before the date for submission of the Tender. The tenderer shall submit any such queries to the Supervising Officer designate no later than 14 days (inclusive of public holiday) before the date for submission of the Tender. The Supervising Officer designate shall provide written clarification to all the tenderers of any such queries within 7 days of their receipt.

GCT 8 No liability will be admitted, nor claim allowed, in respect of either errors in the Tender due to mistakes in the tender documents which should have been rectified in the manner described in GCT 6 above or any doubt about the precise meaning of any item or figure contained in the tender documents which should have been clarified in the manner described in GCT 7 above.

GCT 9 In the event of a tenderer discovering a genuine error in the Tender after it has been deposited, attention in writing may be drawn to the error and an amendment submitted which, provided that the amendment shall have been deposited before the time fixed for receipt of Tenders, shall be accepted and form part of the Tender.

GCT 10 Should it be found on examination of the Tender that the tenderer has made mistakes, such mistakes shall be corrected in accordance with the acceptable and agreed method which may be inspected by appointment with the Supervising Officer designate during normal office hours.

GCT 11 The Employer offers no comfort or assurance as to the accuracy or completeness of the information or reports provided to the tenderer by or on behalf of the Employer.

GCT 12 The tenderer's particular attention is drawn to the Employer's Requirements – Pricing Document containing, amongst others, the requirements for breakdown of Contractor's rates and prices regarding the adjustment of the Contractor's quantities.

GCT 13 The Employer shall not be responsible for any costs and expenses incurred by the tenderers in connection with the preparation and submission of the Tenders (including without limitation design fees).

GCT 14 The Employer does not bind itself to accept the lowest or any tender but every effort will be made to reach a decision on award of the contract within 90 days of the closing date for submission of the Tender. The Tender should therefore remain open for acceptance for a minimum of 90 days from the closing date for submission of the Tender.

GCT 15 NOT USED

GCT 16 In accordance with the tender condition, during tender assessment, the tenderer shall submit further information and details as may be required by the Employer to enable a proper appraisal of the Tender. If the tenderer fails, refuses or omits to do so, the Tender may not be considered further.

GCT 17 NOT USED

GCT 18 Without prejudice to other General Conditions of Tender or Special Conditions of Tender providing for invalidating a tender submitted by a tenderer, the failure of a tenderer to submit with his tender any of the following on or before the original date set for the close of tender or, if this has been extended, the extended date shall render his tender invalid:

- (i) the Form of Tender required;
- (ii) the Pricing Schedule required.

GCT 19 Should the Employer require any amendments, clarifications, or adjustments to be made to the tender documents for the purpose of tendering, the Supervising Officer designate will issue to every tenderer numbered addenda giving full details of such amendments, etc. and the tender documents shall be taken as having been amended, clarified or adjusted accordingly upon the issue of these addenda. The tenderer shall acknowledge receipts of these addenda.

GCT 20 The Employer will not consider any clarification or information submitted by a tenderer after close of tender irrespective of whether or not the clarification or information is submitted at the invitation of the Employer if such clarification or information would alter the tender in substance or give the tenderer an advantage over the other tenderers.

GCT 21 (1) For the purpose of these General Conditions of Tender and Special Conditions of Tender, words and expressions used throughout shall, except when the

context otherwise requires, have the same meaning assigned to them under Clause 1(1) of the General Conditions of Contract. In addition, the following words and expressions shall have the meaning hereby assigned to them:

(a) NOT USED

(b) "person" includes individual, corporation, partnership, firm and unincorporated body.

(2) In these General Conditions of Tender and Special Conditions of Tender, except where the context otherwise requires, the singular shall include the plural and vice versa and any gender shall include all genders.

GCT 22 Any qualification of the tender may cause the tender to be disqualified.

GCT 23 (a) Unless otherwise provided in the Special Conditions of Tender, no tenderer is permitted to submit more than one tender for each contract.

(b) Failure to observe the above condition shall render all related tenders null and void and any such tenders shall not be considered.

GCT 24 NOT USED

- END OF GENERAL CONDITIONS OF TENDER -

SPECIAL CONDITIONS OF TENDER

Clause No.

SCT 1	-
SCT 1(a)	NOT USED
SCT 1(b)	NOT USED
SCT 1(c)	Programme and Progress Reports
SCT 1(d)	Statement of Current Workload
SCT 1(e)	Statement of Convictions under Immigration Ordinance (CAP.115)
SCT 1(f)	Statement of Convictions under the Factories and Industrial Undertakings Ordinance (Cap. 59), the Occupational Safety and Health Ordinance (Cap. 509), the Shipping and Port Control Ordinance (Cap. 313), the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), the Air Pollution Control Ordinance (Cap. 311), the Noise Control Ordinance (Cap. 400), the Waste Disposal Ordinance (Cap. 354), the Water Pollution Control Ordinance (Cap. 358), the Dumping at Sea Ordinance (Cap. 466), the Ozone Layer Protection Ordinance (Cap. 403), the Environmental Impact Assessment Ordinance (Cap. 499) and the Hazardous Chemicals Control Ordinance (Cap. 595)
SCT 1(g)	Statement of Convictions under the Employment Ordinance (Cap.57)
SCT 1(h)	NOT USED
SCT 1(i)	NOT USED
SCT 1(j)	Safety Plan
SCT 1(k)	Documents List
SCT 1(l)	Format of Documents
SCT 1(m)	Statement of Convictions under Section 27 of the Public Health and Municipal Services Ordinance (Cap.132)
SCT 1(n)	Management of Sub-contractors
SCT 1(o)	NOT USED
SCT 1(p)	NOT USED
SCT 1(q)	NOT USED

SCT 1(r)	Financial Information
SCT 1(s)	Anti-collusion
SCT 1(t)	Outline Environmental Management Plan
SCT 1(u)	NOT USED
SCT 2	Contractor's Joint Venture
SCT 3	NOT USED
SCT 4	Quality Assurance for Structural Concrete
SCT 5	NOT USED
SCT 6	NOT USED
SCT 7	ISO 9000
SCT 8	NOT USED
SCT 9	Contractors under Suspension
SCT 10	Copyright
SCT 11	Addendum to Tender Documents
SCT 12	Amendments to Employer's Requirements
SCT 13	NOT USED (Alternative Tenders)
SCT 14	Standard Constraints on the Supervising Officer's Power
SCT 15	Contractor's Designer
SCT 16	NOT USED
SCT 17	Pricing Document
SCT 18	Erratic Pricing
SCT 19	Unreasonably Low Bids
SCT 20	Tender Negotiation
SCT 21	NOT USED
SCT 22	Ethical Commitment
SCT 23	Offering Gratuities
SCT 24	Disclosure of Information
SCT 25	NOT USED
SCT 26	Requirements of Contractor's Proposal
SCT 27	Documents and Records Available for Inspection

SCT 28 Return of Tender Documents

Appendix A to Special Conditions of Tender

Appendix B to Special Conditions of Tender

Appendix C to Special Conditions of Tender

Appendix D to Special Conditions of Tender

Appendix E to Special Conditions of Tender

Appendix F to Special Conditions of Tender

Appendix G to Special Conditions of Tender

Appendix H to Special Conditions of Tender

Appendix I to Special Conditions of Tender

Appendix J to Special Conditions of Tender

Appendix K to Special Conditions of Tender

Appendix L to Special Conditions of Tender

Appendix M to Special Conditions of Tender

Appendix N to Special Conditions of Tender

SPECIAL CONDITIONS OF TENDER

- SCT1 Further to Condition 1 of the General Conditions of Tender, the tenderer shall submit with the Tender the following information to be used for tender assessment only and which shall not form part of the Contract:-
- (a) NOT USED
 - (b) NOT USED
 - (c) Programme and Progress Reports
 - (i) "Tender Programme" means the programme submitted by the tenderer with the tender showing the sequence, method and timing, including (in so far as such work is described in the Employer's Requirements) due allowance for the carrying out of Specialist Works and work by utility undertakings in which the tenderer proposes to carry out the Works.
 - (ii) The Tender Programme which shall indicate how the tenderer intends to organise and carry out the Works and achieve the appropriate Key Dates. Detailed requirements for the Tender Programme are set out in the Employer's Requirements. The submission of this programme is for the tenderer to demonstrate his understanding of and his capability in programming the Works for the Contract.
 - (iii) The Tender Programme shall be prepared in terms of weeks.
 - (iv) The tenderer's attention is drawn to the requirement of Clause 27 of the Special Conditions of Contract that the draft Works Programme shall be submitted within 7 days of notification of acceptance of the Tender. The tenderer should note that he may be required to amplify, explain and develop the Tender Programme prior to acceptance of Tender. Such programme development may necessitate the incorporation of a date for commencement of the Works of Section of the Works or such other date as may be agreed. The tenderer's attention is drawn to the following factors when preparing his proposed programme submission.
 - (1) time for completion;
 - (2) interface problems or constraints;
 - (3) site access constraints and matters related to Portions of the Site;
 - (4) work restrictions;
 - (v) The Tender Programme shall not in any event constitute a submission. The Tender Programme shall not form part of the Contract.

(d) Statement of Current Workload

A statement certified by the Managing Director or a person authorized to sign the Form of Tender on behalf of the tenderer containing a list of the tenderer's current contracts (either as a main contractor or sub-contractor) both with the Employer and in the private sector including the Housing Authority, together with the contract sum and approximate value of uncompleted work on each of these contracts and the approximate time required to complete each contract. For tenders submitted on a joint venture basis, separate submissions shall be made for each participant of the partnership or unincorporated joint venture or shareholder of the incorporated joint venture. This statement shall be in the manner shown at Appendix A to the Special Conditions of Tender.

(e) Statement of Convictions under the Immigration Ordinance (Cap. 115)

- (i) The tender will not be considered if, during the 12-month period prior to the Tender closing date, or if this has been extended, the extended date, the tenderer has had three or more convictions in respect of separate incidents under Sections 17I or 38A of the Immigration Ordinance (Cap. 115) of employing illegal workers or for having illegal immigrants on any site under the tenderer's control, whether or not he has been formally suspended as a result of such convictions. Illegal workers shall mean any persons on construction sites who are illegal immigrants; or any persons who, being not lawfully employable by virtue of Section 17G(2) of the Immigration Ordinance, have committed an offence under Section 41 by contravening the conditions of stay in force in respect of them. If the tenderer is a partnership or an unincorporated or incorporated joint venture, the tender will not be considered if any participants of the partnership or an unincorporated joint venture or shareholder of the incorporated joint venture has had three or more such convictions during the 12-month period, whether or not that participant or shareholder has been formally suspended as a result of such convictions.

Provided that the Tender may be considered if during the 12-month period prior to the date which is 40 days from and including the Tender closing date, the tenderer or, if the tenderer is a partnership, consortium or joint venture, any member of the partnership, consortium or joint venture has no more than two such convictions.

- (ii) The tenderer shall submit with the Tender either a statement of all convictions under Sections 17I or 38A of the Immigration Ordinance (Cap. 115) for employing illegal immigrants or for having illegal immigrants on any sites under the tenderer's control (whether they are sites under public or private contracts), and the dates of all such convictions, during the 12-month period prior to the Tender closing date, or if this has been extended, the extended

date, the details of which shall include the legislation violated, dates of offences, dates of convictions and the associated fine imposed by the court, site addresses, contract numbers and contract titles, or a statement of 'no conviction'. The statement shall be certified by a person authorized to sign the Form of Tender on behalf of the tenderer. This statement shall be in the manner shown at Appendix L to these Conditions of Tender.

- (iii) If the tenderer is a partnership or an unincorporated or incorporated joint venture, each participant of the partnership or unincorporated joint venture or shareholder of the incorporated joint venture shall submit such a statement separately.
 - (iv) Where the tenderer (including shareholders and participants in joint ventures) is a company it shall disclose any change of name made during the 12 month period counts from and includes the date 2 months before the original date set for the close of tender, or if this has been extended, the extended date, and shall include in its statement of all convictions any conviction recorded under any previous name.
- (f) Statement of Convictions Under The Factories And Industrial Undertakings Ordinance (Cap.59), The Occupational Safety and Health Ordinance (Cap.509), The Shipping And Port Control Ordinance (Cap.313), The Merchant Shipping (Local Vessels) Ordinance (Cap.548), The Air Pollution Control Ordinance (Cap.311), The Noise Control Ordinance (Cap.400), The Waste Disposal Ordinance (Cap.354), The Water Pollution Control Ordinance (Cap.358), The Dumping At Sea Ordinance (Cap.466), The Ozone Layer Protection Ordinance (Cap.403), The Environmental Impact Assessment Ordinance (Cap.499) And The Hazardous Chemicals Control Ordinance (Cap.595)
- 1) The tenderer shall submit with the tender, either a statement of "no conviction" or a statement of all convictions for site safety and environmental offences under the Factories and Industrial Undertakings Ordinance (Cap.59), the Occupational Safety and Health Ordinance (Cap.509), the Shipping and Port Control Ordinance (Cap.313), the Merchant Shipping (Local Vessels) Ordinance (Cap.548), the Air Pollution Control Ordinance (Cap.311), the Noise Control Ordinance (Cap.400), the Waste Disposal Ordinance (Cap.354), the Water Pollution Control Ordinance (Cap.358), the Dumping at Sea Ordinance (Cap.466), the Ozone Layer Protection Ordinance (Cap.403), the Environmental Impact Assessment Ordinance (Cap.499) and the Hazardous Chemicals Control Ordinance (Cap.595) for each site during the 12-month period prior to the date set for the close of tender, or if this has been extended, the extended date based on the date of conviction. The statement of all convictions shall include the legislation contravened, dates of offences, date of convictions and the associated fine imposed by the court, site addresses, contract

numbers and contract titles (including sub-contracts where the contractor has acted as sub-contractor). The statement shall be certified by a person authorized to sign the Form of Tender on behalf of the tenderer. This statement shall be in the manner shown at Appendix J to these Conditions of Tender.

- 2) If the tenderer is a partnership or an unincorporated or incorporated joint venture, each participant of the partnership or unincorporated joint venture or shareholder of the incorporated joint venture shall submit such a statement separately.
- 3) Where the tenderer (including shareholders and participants in joint ventures) is a company it shall disclose any change of name made during the 12-month period prior to the date set for the close of tender, or if this has been extended, the extended date and shall include in its statement of all convictions any conviction recorded under any previous name.

(g) Statement of Convictions under the Employment Ordinance (Cap. 57)

- (i) The tender will not be considered if, during the 12-month period prior to the Tender closing date, or if this has been extended, the extended date, the tenderer has had three or more convictions in respect of separate incidents under the Employment Ordinance (Cap. 57), on any site under the tenderer's control, which individually carry maximum fines corresponding to Level 5 or higher within the meaning of Schedule 8 to the Criminal Procedure Ordinance (Chapter 221), whether or not he has been formally suspended as a result of such convictions. If the tenderer is a partnership or an unincorporated or incorporated joint venture, the tender will not be considered if any participant of the partnership or unincorporated joint venture or shareholder of the joint venture has had three or more such convictions during the 12-month period, whether or not that participant or shareholder has been formally suspended as a result of such convictions.
- (ii) The tenderer shall submit with the Tender either a statement of all convictions under the Employment Ordinance (Cap. 57) and the dates of all such convictions, for all sites under his control (whether they are sites under public or private contracts) during the 12-month period prior to the Tender closing date, or if this has been extended, the extended date, the details of which shall include the legislation violated, dates of offences, dates of convictions and the associated fine imposed by the court, site addresses, contract numbers and contract titles, or a statement of "no conviction". The statement shall be certified by a person authorised to sign the Form of Tender on behalf of the tenderer. This statement shall be in the manner shown at Appendix M to these Conditions of Tender.
- (iii) If the tenderer is a partnership or an unincorporated or

incorporated joint venture, each member of the partnership or unincorporated joint venture or shareholder of the incorporated joint venture shall submit such a statement separately.

- (iv) Where the tenderer (including shareholders and participants in joint venture) is a company it shall disclose any change of name made during the 12-month period counts from and includes the date 2 months before the original date set for the close of tender, or if this has been extended, the extended date, and shall include in its statement of all convictions any conviction recorded under any previous name.

(h) NOT USED

(i) NOT USED

(j) NOT USED

(k) Documents List

A summary list of all drawings and documents submitted with the Tender.

(l) Format of Documents

All documents to be submitted shall be in A4 size and drawings in A3 size. Chart, figure and programme shall be in either A4 or A3 size. Failure to comply with the requirements of the format of the documents may invalidate the Tender.

(m) NOT USED

(n) NOT USED

(o) NOT USED

(p) NOT USED

(q) NOT USED

(r) Financial Information

The tenderer shall submit with his tender the financial information set out in Appendix B to these Special Conditions of Tender. The information shall be used for tender assessment only and shall not form part of the Contract.

(s) Anti-collusion

- (1) (a) Subject to sub-clause (2) of this Clause, the tenderer shall not communicate to any person other than the Employer the amount of the tender price or any part thereof until the

tenderer is notified by the Employer of the outcome of the tender exercise.

- (b) Further to paragraph (a) of this sub-clause, the tenderer shall not fix the amount of the tender price or any part thereof by arrangement with any other person, make any arrangement with any person about whether or not he or that other person will or will not submit a tender or otherwise collude with any person in any manner whatsoever in the tendering process.
- (c) Any breach of or non-compliance with this sub-clause by the tenderer shall, without affecting the tenderer's liability for such breach or non-compliance, invalidate his tender.

- (2) The tenderer shall submit with his tender a duly signed and witnessed letter in the form set out in Appendix C to these Special Conditions of Tender. The signatory to the letter shall be a person authorized to sign contracts on the tenderer's behalf.
- (3) The tenderer shall indemnify and keep indemnified the Employer against all losses, damages, costs or expenses arising out of or in relation to any breach of or non-compliance with sub-clause (1) of this Clause by the tenderer, including but not limited to additional costs due to price escalation, costs and expenses of re-tendering and other costs incurred.

(t) NOT USED

(u) NOT USED

SCT2 NOT USED

SCT3 NOT USED

SCT4 NOT USED

SCT5 NOT USED

SCT6 NOT USED

SCT7 NOT USED

SCT8 NOT USED

SCT9 NOT USED

SCT10 Copyright

- (a) The documents, plans, drawings or other materials forming part of the tender documents shall only be used by a tenderer or any person

authorized or licensed by the tenderer for the purpose of preparing his tender. All other rights in the aforesaid materials are reserved by the relevant copyright owners. The tenderer shall be liable to the Employer for breach of the foregoing by any such person as if the breach were committed by the tenderer.

- (b) The tenderer shall indemnify and keep indemnified the Employer against all losses, liabilities, damages, costs, legal costs, professional and other expenses of any nature whatsoever incurred or suffered by the Employer whether direct or consequential arising out of any disputes or other claims or proceedings against the Employer by any third party by reason of any breach of sub-clause (a) above by the tenderer or any person authorized or licensed by the tenderer.

SCT11 Addendum to Tender Documents

Except for any such written clarification which is expressly stated to be by way of an addendum to the tender documents and for any other document issued by the Supervising Officer designate which is similarly described, no written or verbal communication, representation or explanation by any employee of Employer or its agents shall be binding on the Employer or shall be taken to bind or fetter the discretion of the Employer or the Supervising Officer under the Contract.

SCT12 Amendment to the Employer's Requirements

After the closing date of the Tender the Supervising Officer designate may write to the tenderer and request that a particular proposal or proposals in the Contractor's Proposals be incorporated into and form part of the Employer's Requirements should the Tender be accepted by the Employer. The Supervising Officer designate shall annex a draft copy of the Schedule of Amendments to the Employer's Requirements to the said letter which shall set out the proposal or proposals to be incorporated. The tenderer shall within seven days of the receipt of such letter advise the Supervising Officer in writing whether he agrees with the proposal. If the Tender is accepted the Schedule of Amendments to the Employer's Requirements shall be annexed to the Employer's letter of acceptance of the Tender and shall therefore be incorporated into and form part of the Contract.

SCT13 NOT USED

SCT14 Standard Constraints on the Supervising Officer's Power

- (i) Tenderers are advised that the Supervising Officer is required under the terms of his appointment by the Employer to obtain prior confirmation of no objection from the Employer and, in the event of an objection, to act in accordance with the Employer's direction before exercising certain powers

under the Contract, being those set out in the Appendix to the Form of Tender.

- (ii) In addition to the above requirement, the Supervising Officer is also required under the terms of his appointment by the Employer to:
 - (a) refer the details of every Variation to the Works, including the reasons for the Variation and its estimated value, to the Employer for information as soon as the Variation is ordered;
 - (b) refer the details of the evaluation to the Employer for information as soon as the value of a Variation to the Works has been determined;
 - (c) report to the Employer all claims for additional payment made by the Contractor and, except for those solely in respect of agreement of rates, refer the principles underlying his assessment of each claim, to enable the Employer to provide his view of the matter before the Supervising Officer reaches a decision; and
 - (d) report to the Employer all delays to the progress of the Works and, except for those delays solely in respect of inclement weather conditions or the hoisting of storm signals, refer his assessment of grant of extension of time for completion, if any, to enable the Employer to provide his view of the matter before the Supervising Officer reaches a decision.

SCT15 Contractor's Designer

- (i) The tenderer shall submit details of the experience of the firm or company that he intends to appoint together with an organisation chart for the design team and curriculum vitae for key staff.
- (ii) NOT USED
- (iii) NOT USED
- (iv) The tenderer shall submit with his tender either the proposed terms and conditions upon which the designer would be appointed in the event of acceptance of the Tender or at least a statement of the heads of such an agreement. The tenderer should note that, if heads of agreement are supplied with his tender, the tenderer will be required to develop such heads into a full agreement during the tender evaluation period and to submit the agreement in its final form prior to award of the Contract.
- (v) The tenderer shall submit with his tender a letter from the designer confirming their willingness to provide the required services.
- (vi) Failure to submit the documents in SCT 15 (i), (iv) and (v) may invalidate the Tender.

SCT16 NOT USED

SCT17 Pricing Document

- (i) The pricing part of the Contractor's Proposals shall be submitted in the form of Pricing Document as included in Section 13 of the Employer's Requirements. The tenderer shall complete the Pricing Schedule, Grand Summary of the Pricing Schedule and Schedule of Proportions in accordance with the requirements stipulated in the Pricing Document and shall take full account of the provisions contained therein. The completed Pricing Document shall be submitted in accordance with General Conditions of Tender Clause 1.
- (ii) The tenderer shall note that periods specified in pricing schedule are determined by reference to periods from the date for commencement of the Works.
- (iii) In the event that the Tender is accepted the tenderer shall provide at his own expense up to 20 additional copies of the Pricing Document to be used for compilation of the Contract documents.
- (iv) The breakdown of the Contractor's rates and prices in the Pricing Schedules for Cost Centre Nos. 1 to 16 inclusive must be prepared in sufficient details showing the build-up of Contract Sum in accordance with the Requirements of Pricing Document included in Section 13 of the Employer's Requirements.

SCT18 Erratic Pricing

- (i) Without prejudice to the generality of the other General Conditions of Tender and Special Conditions of Tender, the Employer may regard a tender as not being the most advantageous, irrespective of whether or not it is the lowest tender or the tender with the highest overall score, if in the Employer's opinion:
 - (a) the Pricing Schedules of the tender have been priced erratically whether or not such erratic pricing is the result of the application of Environment, Transport and Works Bureau Technical Circular (Works) No. 41/2002; and
 - (b) the erratic pricing is such as to expose the Employer to an unacceptable level of financial risk.
- (ii) For the purposes of this Clause, "erratic pricing" means the situation where an item or certain items in a Pricing Schedule are priced or structured in such a way as to suggest significant and unjustified:-
 - (a) inconsistency, irregularity or non-uniformity as compared with item or items of the same or similar nature in the same Pricing Schedule or another Pricing Schedule submitted by the same tenderer in the

same tendering exercise; or

- (b) deviation from prevailing market prices in respect of the same or similar item or items.

The expression "priced erratically" shall be construed accordingly.

SCT19 Unreasonably Low Bids

Without prejudice to the generality of other General Conditions of Tender and Special Conditions of Tender, the Employer may reject a tender which in the opinion of the Employer is unreasonably low in terms of price and may therefore affect the tenderer's capability to carry out and complete the Contract and/or deliver work of the quality required in accordance with the terms of the Contract.

SCT20 Tender Negotiation

The Employer reserves the right to negotiate with any tenderer about the terms of the offer.

SCT21 NOT USED

SCT22 Ethical Commitment

- (i) The tenderer shall not, and shall procure that his employees, agents and sub-contractors shall not, offer, solicit or accept an advantage as defined in the Prevention of Bribery Ordinance, Cap. 201 in connection with the tendering and execution of this Contract.
- (ii) Failure to so procure or any act of offering, soliciting or accepting advantage referred to in (a) above committed by the tenderer or by an employee, agent or sub-contractor of the tenderer shall, without affecting the tenderer's liability for such failure and act, result in his tender being invalidated.

SCT23 Offering Gratuities

The tenderer shall not and shall ensure that his agents, consultants and employees shall not offer or give any advantage, gratuity, bonus, discount, bribe or loan of any sort to any agent or employee of the Employer or to the Supervising Officer designate or to any member of the Supervising Officer designate's staff. Any breach of or non-compliance with this Clause by the tenderer shall, without affecting the tenderer's liability for such breach or non-compliance, invalidate his tender.

SCT24 Disclosure of Information (Bid Challenges)

- (i) The tenderer shall note that the provisions of the Agreement on Government Procurement of the World Trade Organisation (WTO GPA) apply to this procurement. In the event of a bid challenge by a tenderer to the Review Body on Bid Challenges of alleged breaches of the WTO GPA in respect of this procurement, the Employer may be requested by the Panel

appointed in accordance with the Rules of Operation of the Review Body on Bid Challenges (the Panel) to disclose information submitted by other tenderers.

- (ii) By submitting his tender, the tenderer shall be deemed to have consented that in the event of a bid challenge by a tenderer to the Review Body on Bid Challenges of alleged breaches of the WTO GPA in respect of this procurement and the Employer is requested by the Panel to disclose information submitted in his tender, the Employer may disclose the information to the Panel and to such other persons and in such manner as the Panel may require in accordance with the Rules of Operation. This may include disclosing the information to the complainant which has lodged the bid challenge.

SCT25 NOT USED

SCT26 Requirements of Contractor's Proposal

- (i) The tenderer shall submit with his tender the Contractor's Proposal in accordance with the Employer's Requirements, Appendix B to the General Conditions of Tender and Appendix I to the Special Conditions of Tender. Details of the particular information/proposals required and the aspects in respect of which will be marked are given in the Marking Scheme in Appendix B to the General Conditions of Tender.
- (ii) Tenderers' attention is drawn that the Contractor's Proposal prepared by the tenderer shall adhere to the following guidelines:

Section 2.1 - Design

1. Design proposals, forming part of the Contractor's Proposal, required in marking scheme shall describe the design elements by which the tenderer intends to construct. The design proposals will be assessed during tender evaluation and its descriptions shall therefore be in sufficient detail to allow a full appreciation of the tenderer's proposal in relation to all main aspects of the design elements.
2. The design proposals shall contain the following sections relating to:-
 - (i) Aesthetics and Overall Appearance;
 - (ii) Functional and Planning Requirements;
 - (iii) Structure and Buildability;
 - (iv) Building Services Systems;
 - (v) Operation and Maintenance;
 - (vi) Environmental Friendliness, Health & Safety;
 - (vii) Life Cycle Plan & Energy Efficiency; and
 - (viii) Innovative Ideas and Green Measures.

Section 2.2 - Technical Submission

1. Method statements, forming part of the Contractor's Proposal, required in marking scheme shall describe the methods by

which the tenderer intends to construct the Works. The method statements will be analyzed during tender evaluation and its descriptions shall therefore be insufficient detail to allow a full appreciation of the tenderer's proposal in relation to all main aspects of the Works. In particular the method statements shall cover the full extent of the Works. The method statements should clearly show what parts of the Works if any the tenderer intends to carry out off-site and/or outside Hong Kong.

2. The tenderer shall submit the following method statements for assessment of tenderer's Proposal.
 - (i) Method Statement;
 - (ii) Programme; and
 - (iii) Quality of Submission.
3. The tenderer shall submit the detailed programme for design and construction for assessment of tenderer's Proposal.

Section 2.3 - Technical Resources

1. The tenderer shall show that they have suitably experienced staff and technical resources for the Contract, including those to be obtained from outside design consultants, not committed to other project and capable of handling contract of this scale. The tenderer shall provide information to these Special Conditions of Tender for assessment of tenderer's Design Management Team and Overall Project Organisation. The submission shall also include information to show: i) the organization of the tenderer's project team illustrating reporting relationship and role of responsibility; and ii) full CVs of each team member.

Section 2.4 - Construction Management and Control

1. The tenderer may submit (not mandatory required) with his tender, for the favourable consideration of the assessment of the tender, the following construction management plans:-
 - (i) Quality Plan;
 - (ii) Safety Plan;
 - (iii) Environmental Management Plan.
- (iii) The submitted Contractor's Proposal shall form part of the Contract. The tenderer's attention is drawn to the relevant Conditions of Contract Clause.
- (iv) In the event that the Tender is accepted the tenderer shall provide at his own expense up to 2 additional copies of the technical part of the Contractor's Proposals (including document cover sheets if used) to be used for compilation of the Contract documents.

SCT27 Documents and Records Available for Inspection

- (i) Certain documents and records related to the investigation and design stages leading to the procurement of this Contract to the Employer's Requirements are available for tenderers' inspection by appointment at the office of the School designate.
- (ii) The Employer and his agents or representatives make no representations, warranties or statements (express or implied) of any kind with respect to the accuracy, appropriateness, completeness and/or sufficiency of the documents and records. The tenderer is responsible for carrying out at his own expense any further enquiries and investigations he requires for his own information and is advised to verify the documents and records, and/or obtaining independent advice before acting upon it.

SCT28 Return of Tender Documents

If the tenderers are unable to submit a tender and if the tenderers have collected a hard copy of the tender documents, inclusive of any drawings, site investigation reports, and drawings indicating the location of utility services issued to the tenderers, the hard copy is to be returned to the School designate within two weeks from the date set for receipt of tenders. Should the tenderers receive a notice declining the tender the hard copy is to be returned within 1 week from the date of the notice.

- END OF SPECIAL CONDITIONS OF TENDER -

CONDITIONS OF CONTRACT

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Article 1

General

1.1 Mutual Obligations

1.1.1 Client and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

1.2 Basic Definitions

1.2.1 For the purposes of the Contract Documents, the following words and terms shall have the meanings specified below (other words and abbreviations that have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings), provided, however, that capitalized terms defined in other Contract Documents, including but not limited to the Agreement, shall have the meanings specified in such document.

.1 *Agreement* refers to the executed Lump Sum Design-Build Agreement Between Clientt and Design-Builder.

.2 *Agreement Date* is the date that the Agreement is executed by both parties.

.3 *Calendar Day(s)*, means any day(s) including Saturday, Sunday and public holiday.

.4 *Contract Documents* refer to those documents identified in Article 2 of the Agreement.

.5 *Contractor* shall mean Design-Builder.

.6 *Day or Days*, whether capitalized or not, shall mean calendar days unless otherwise specifically noted in the Contract Documents.

.7 *Client's Project Criteria* are developed by or for Client to describe Client's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Design-Builder's performance of the Work. Client's Project Criteria are included in the Request for Proposals and may include conceptual documents, design criteria, performance requirements and other Project-specific technical materials and requirements.

.8 *Design Consultant* is a qualified, licensed design professional, eligible to provide professional engineering and/or land surveying services in the HKSAR, who is not an employee of Design-Builder, but is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder or Subcontractor, to furnish design services required under the Contract Documents.

.9 *Engineer* shall mean the Client's appointed professional, who acts directly or through his duly authorized representative, the representative acts within the scope of the particular duties assigned to him or the authority given to him.

.10 *General Conditions of Contract (or General Conditions)* refer to this document.

.11 *Client's Approval* means any authorization, consent, approval, license, lease, ruling, permit, certification, exemption, or registration by the client.

.12 *Client's Unit* means any part of the Client.

.13 *Hazardous Environmental Condition* means the presence at the Site of Hazardous Materials in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto on connection with the Work.

.14 *Hazardous Materials* are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

.15 *Interim Milestone(s)* is completion and delivery date(s) for parts of the work specified by the Contract Documents.

.16 *Legal Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any Governmental Unit.

.17 *Proposal* means that document submitted by Design-Builder pursuant to the RFP and identified in Article 2 of the Agreement.

.18 QA Manager (“QAM”) is the Design-Builder’s designee responsible for providing Quality Assurance and Quality Control of the Work, and ensuring conformance with the Contract Documents.

.19 QA/QC Plan is a plan that details how the Design-Builder will provide quality control (“QC”) and quality assurance (“QA”) for both the design and construction elements of the project, obtain samples for Design-Builder quality control testing, perform tests for Design-Builder quality control, provide inspection, and exercise management control (e.g. quality assurance testing) to ensure the work conforms to the contract requirements.

.20 Request for Proposals (“RFP”) is the document identified in Article 2 of the Agreement, inclusive of all of its parts, addenda, Department’s Project Criteria, and any other document that is attached thereto or incorporated therein by reference.

.21 Request for Qualifications (“RFQ”) means all documents, whether attached or incorporated by reference, utilized for soliciting interested persons to apply for prequalification. The RFQ is the first phase of a Two-phase selection process for the purpose of inviting interested Offerors to submit qualifications for a project.

.22 RFP Documents refer to those documents identified in Part 1, Instructions for Offerors, Section 2.9.1 of the RFP.

.23 Separate Contractor means a contractor retained by the Department other than the Design-Builder to perform work or to provide services or materials in connection with the Project.

.24 Site is the land or premises on which the Project is located.

.25 Standard Drawings are the applicable drawings available from Client.

.26 Standard Specifications are the General Specification for Building Works published by ASD, 2012.

.27 HKSAR means the Hong Kong Special Administrative Region.

.28 BD means Buildings Department.

.29 School means and includes the Client, appointed officials, employees, authorized agents and authorized representatives of any of them.

.30 Subcontract means any and all agreements between Design-Builder and its Subcontractors and other agreements between Subcontractors and Sub-subcontractors (and/or any other lower tier subcontractors), it being the intent that all this term encompasses all agreements deriving directly or indirectly from Design-Builder, in connection with the performance of the Work.

.31 Subcontractor is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include materialmen and suppliers.

.32 Sub-Subcontractor is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor’s Work and shall include materialmen and suppliers.

.33 Substantial Completion is the date on which the Work, or an agreed upon portion of the Work, is complete in accordance with the Contract Documents so that Department can occupy and use the Project (or a portion thereof, if the Contract Documents provide for acceptance of portions of the Project upon Substantial Completion of such portions) for its intended purposes. It is intended that, as of Substantial Completion, the Department and the public (traveling and general) will have full and unrestricted use and benefit of the Work (or, if applicable, an agreed upon portion of the Work), from both an operational and safety standpoint, with only minor incidental Work remaining to be performed, corrected or repaired.

.34 Work is comprised of all Design-Builder’s design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

.35 Work Breakdown Structure (“WBS”) is a hierarchically-structured grouping of project elements that organizes and defines the total scope of the Project. Each descending level is an increasingly detailed definition of a project component. Project components may be products (a product-oriented WBS) or tasks (a task-oriented WBS).

.36 Work Package is a deliverable at the lowest level of the WBS. May be divided into activities and used to identify and control work flows in the organization.

Article 2

Design-Builder's Services and Responsibilities

2.1 General

2.1.1 Design-Builder's Representative shall be reasonably available to Client and shall have the necessary expertise and experience required to supervise the Work. Design-Builder's Representative shall communicate regularly with Client and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder's Representative may be replaced only by the mutual agreement of Client and Design-Builder.

2.1.2 The parties will meet within seven (7) days after the Agreement Date, and also will meet within seven (7) days after Date of Commencement, to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.1.3 Design-Builder shall provide Client with the Baseline Schedule, updates and monthly reports set forth in Section 11.1 of the Agreement.

2.1.4 Design-Builder shall be responsible for securing, executing and paying all costs associated with the procurement of all agreements with adjacent land or property owners that are necessary to enable Design-Builder to perform the Work, and shall provide all right-of-way acquisition services associated with this Project.

2.1.5 Design-Builder shall provide management for the Work in accordance with the organization chart set forth in the Proposal. Design-Builder acknowledges the importance of its Design-Build Project Manager, Design Manager, Quality Assurance Manager, Construction Manager (collectively, "**Key Personnel**"). None of the Key Personnel may be withdrawn from the Project without prior written approval of Client, with it being understood and agreed that Design-Builder will provide Department with at least thirty (30) days written notice of any request to withdraw any Key Personnel. Design-Builder shall remove or replace, or have removed or replaced, any personnel performing the Work if Client has a reasonable objection to such person.

2.1.6 If Design-Builder wishes to deviate from the right-of-way limits shown on the approved Project right-of-way plans for property, such deviations will be subject to Client's prior written approval. It will be the responsibility of Design-Builder to coordinate directly with the affected property owners to acquire such right-of-way. Design-Builder shall be responsible for assuming all risks associated with exceeding such right-of-way limits, including any public hearings that may be required, and no modifications to the Contract Price or Contract Time(s) will be granted or considered.

2.1.7 Design-Builder shall submit its QA/QC Plan to VDOT for review and approval at the meeting held after the Date of Commencement as set forth in Section 2.1.2. Along with the QA/QC Plan submittal, the QA Manger shall provide a presentation of the QA/QC Plan utilizing project related scenarios.

2.1.8 Design-Builder shall participate in monthly progress meetings. During such meetings, progress during the prior month shall be reviewed The Design-Builder shall collect information from any key subcontractors/sub-consultant responsible for work completed during the specified duration and work scheduled during the upcoming reporting duration. These meetings shall be attended by the design-build project manager, construction manager, quality assurance manager and design manager, as well as other key personnel from the design and construction firms defined within the Offeror's proposal and Department representative's designated by the VDOT Project Manager. Meetings will occur monthly beginning the month after the issuance of the Notice to Proceed. Design-Builder shall be responsible for preparing, maintaining and

distributing minutes of the meetings to all attendees for review. The meeting minutes shall be provided to the Client within two (2) days of the monthly progress meeting.

2.2 Scope Validation and Identification of Scope Issues

2.2.1 Scope Validation Period. Except as modified in Section 2.2.2 below, the term “**Scope Validation Period**” shall refer to the sixty (60) day period following the Date of Commencement. During the Scope Validation Period, Design-Builder shall thoroughly review and compare all of the then-existing Contract Documents, including without limitation the RFP Documents and the Proposal, to verify and validate Design-Builder’s proposed design concept and identify any errors, omissions, inconsistencies, constructability problems, Site conditions or any other defects or concerns of any kind (collectively referred to as “**Scope Issues**”) that may affect Design-Builder’s ability to complete its proposed design concept within the Contract Price and Contract Time(s). If Design-Builder finds any Scope Issues, it shall notify Client in writing of such findings within the Scope Validation Period. Upon such notice, the Parties shall promptly meet and confer to discuss the resolution of such issues. If a Scope Issue could not have reasonably been identified by Design-Builder prior to the Agreement Date, and if resolution of the issue materially impacts Design-Builder’s price or time to perform the Work, Design-Builder shall be entitled to submit a request for Work Order, and Client shall have the right to act upon such request, in accordance with Article 9 hereof. Notwithstanding anything to the contrary in the Contract Documents or as a matter of law, Design-Builder shall have the burden of proving that the alleged Scope Issue could not have been reasonably identified prior to the Agreement Date and that such Scope Issue materially impacts its price or time to perform the Work.

2.2.2 Scope Validation Period for Non-Accessible Areas of the Site [if applicable]. The Parties recognize that the Department will not have acquired and have complete right of entry to all areas of the Project as of the Date of Commencement, and that, as a result, Design-Builder will not have access to such areas to conduct any additional geotechnical evaluations as contemplated by Section 4.3.2 below. The Parties further recognize that there is a possibility that Design-Builder may be restricted, as of the Date of Commencement, from having full access to other areas of the Site for purposes of conducting geotechnical evaluations. For the limited purpose of determining Scope Issues that directly arise from geotechnical evaluations for such areas, the term “**Scope Validation Period**” shall be deemed to be sixty (60) days from the date that Department notifies Design-Builder that it has acquired and obtained complete right of entry to such areas.

2.2.3 Design-Builder’s Assumption of Risk of Scope Issues. The Parties acknowledge that the purpose of the Scope Validation Period is to enable Design-Builder to identify those Scope Issues that could not reasonably be identified prior to the Agreement Date. By executing this Agreement, Design-Builder acknowledges that the Scope Validation Period is a reasonable time to enable Design-Builder to identify Scope Issues that will materially impact Design-Builder’s price or time to perform the Work. Following completion of the Scope Validation Period, with the sole exception of those Scope Issues identified during the Scope Validation Period and subject to valid requests for Work Orders in accordance with Section 2.2.1 above, the Parties agree as follows:

- .1** Design-Builder shall assume and accept all risks, costs, and responsibilities of any Scope Issue arising from or relating to the Contract Documents, including but not limited to conflicts within or between the RFP Documents and Proposal;
- .2** Design-Builder shall be deemed to have expressly warranted that the Contract Documents existing as of the end of the Scope Validation Period are sufficient to enable Design-Builder to complete the design and construction of the Project without any increase in the Contract Price or extension to the Contract Time(s); and
- .3** Client expressly disclaims any responsibility for, and Design-Builder expressly waives its right to seek any increase in the Contract Price or extension to the Contract Time(s) for, any

Scope Issue associated with any of the Contract Documents, including but not limited to the RFP Documents.

2.3 Design Professional Services

2.3.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering, surveying, and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. All design professional services shall be performed by professionals properly licensed in the HKSAR.

2.3.2 The standard of care for all design professional services performed to execute the Work shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project. Notwithstanding the preceding sentence, if the Contract Documents establish a specific performance standard for any aspect of the Work, the design professional services shall be performed to achieve such standards.

2.3.3 No Design Consultant is intended to be, nor shall any Design Consultant be deemed to be, a third-party beneficiary of this Agreement. Client is intended to be and shall be deemed a third-party beneficiary of all contracts between Design-Builder and any Design Consultant. In the event that this Agreement is terminated, Design-Builder shall, upon the written demand of Department, assign such contracts to Client.

2.3.4 Design-Builder shall incorporate all obligations and understandings of the Contract Documents applicable to design services in its respective contracts with any Design Consultant, and require that such obligations be flowed down to lower-tiered Design Consultants, including the obligations relative to ownership of the Work Product set forth in Article 4 of the Agreement.

2.4 Design Development Services

2.4.1 Design-Builder shall, consistent with any applicable provision of the Contract Documents, provide Client with ten (10) sets of the following interim design submissions, which submissions generally correspond to the Client's concurrent engineering process, including but not limited to: (i) Preliminary Field Inspection ("PFI"); (ii) Field Inspection and Right-of-Way ("FI/RW"); and (iii) additional interim design submissions that Client may require. On or about the time of the scheduled submissions, Design-Builder and Department shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any significant changes or deviations from the Contract Documents, or, if applicable, previous design submissions. Minutes of the meetings will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Client shall review and provide comments on the interim design submissions (except that it will specifically approve or disapprove of the FI/RW submissions) within twenty-one (21) days after receipt of the required submissions. Design-Builder shall promptly revise and modify all such submittals so as to fully reflect all comments and shall deliver to Client revised submittals for review and comment (and approval as the case may be).

2.4.2 Design-Builder shall submit to Client Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work, in full compliance with all Legal Requirements and Governmental Approvals. The Construction Documents shall be consistent with the latest set of interim design submissions; as such submissions may have been modified in a design review meeting, as agreed upon in writing, and shall be submitted after Design-Builder has obtained all requisite Governmental Approvals associated with the Work contained in such documents. The parties shall have a design review meeting to discuss, and Client shall review and approve, the Construction Documents in accordance with the procedures set forth Section 2.4.1 above. Design-Builder shall proceed with construction in accordance with the approved Construction Documents and shall submit

ten (10) sets of approved Construction Documents to Client prior to commencement of construction.

2.4.3 Client's review, comment and/or approval of interim design submissions and the Construction Documents are for the purpose of establishing Design-Builder's compliance with the requirements of the Contract Documents and mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Client's review, comment and/or approval of any interim or final design submission (including but not limited to the Construction Documents) shall not be deemed to transfer any liability from Design-Builder to Client.

2.4.4 To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may, with the prior agreement of Department, prepare design submittals and Construction Documents for a portion of the Work to permit procurement and construction to proceed on that portion of the Work prior to completion of the Construction Documents for the entire Work.

2.5 Legal Requirements

2.5.1 Design-Builder shall keep fully informed of and perform the Work in accordance with all Legal Requirements. Design-Builder shall provide all notices, and execute and file the documents, statements and/or affidavits applicable to the Work as required by the Legal Requirements. Design-Builder shall permit Department's examination of any records made subject to such examination by any applicable Legal Requirements.

2.5.2 Design-Builder may request, by submission of a Work Order request, that the Contract Price and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the Agreement Date, affecting the performance of the Work. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Legal Requirements. Notwithstanding anything to the contrary, the relief afforded by this Section 2.5 shall not apply to changes in any tax laws, with Design-Builder bearing the risk of such changes.

2.6

Governmental Approvals

2.6.1 Except as identified in the Client and Government's Approvals List attached as Exhibit 3.5.1, Design-Builder shall obtain and pay for all necessary Governmental Approvals required for the prosecution of the Work by any Governmental Unit. If any such Governmental Approval is required to be formally issued in the name of Department, Design-Builder shall undertake all efforts to obtain such Governmental Approvals subject to Department's reasonable cooperation with Design-Builder, including execution and delivery of appropriate applications and other documentation in forms approved by Department. Design-Builder shall deliver to Department, promptly after Design-Builder's receipt, a copy of each such Governmental Approval, with a listing of the status of all such Governmental Approvals included in the monthly reports required by Section 11.1 of the Agreement.

2.6.2 Design-Builder shall provide reasonable assistance to Client in obtaining those Governmental Approvals that are Department's responsibility, and no construction activity will commence until: (i) all Governmental Approvals required for the relevant construction activity (including any activity that may disturb the Site) have been obtained; (ii) Department has been notified that such Governmental Approvals have been obtained; and (iii) Department has, after reviewing the validity and scope of the Governmental Approval, authorized Design-Builder to proceed.

2.6.3 Design-Builder shall ensure that the Work conforms to the requirements and stipulations of all Governmental Approvals. Any violations of or noncompliance with any Governmental Approval, including but not limited to suspensions caused by Design-Builder violating or not being in compliance with a Governmental Approval, shall be at the sole risk of Design-Builder, and shall not be a basis for adjusting the Contract Price and/or Contract Time(s).

2.7 Design-Builder's Construction Phase Services

2.7.1 Unless otherwise provided in the Contract Documents to be the responsibility of Client or a Separate Contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents.

2.7.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents, and shall maintain or cause to be maintained all licenses required of the Design-Builder or its employees in connection with the Work. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

2.7.3 Design-Builder shall employ only Subcontractors who are duly licensed and qualified to perform the Work lawfully in the HKSAR and consistent with the Contract Documents. Design-Builder shall not use any Subcontractor to whom Department has a reasonable objection, and shall obtain Client's written consent before making any substitutions or additions to Subcontractors previously identified to Client as being members of Design-Builder's Project team, including those who may have been identified in the Proposal.

2.7.4 Design-Builder assumes responsibility to Department for the proper performance of the Work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Client and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

2.7.5 Design-Builder shall coordinate the activities of all Subcontractors. If Client performs other work on the Project or at the Site with Separate Contractors under Client's control, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such Separate Contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

2.7.6 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Client to occupy the Project or a portion of the Project for its intended use.

2.7.7 Design-Builder shall be responsible for the security of the Site until Substantial Completion of the Work, or a portion of the Work.

2.8 Design-Builder's Responsibility for Project Safety

2.8.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to: (i) all individuals at the Site, whether working or visiting; (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site; and (iii) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors and others as applicable. Design-Builder shall provide minutes of each safety meeting to Client within five (5) days of such meeting.

2.8.2 Design-Builder shall provide, for Department's review, comment and acceptance, a Safety plan on or before the earlier of fifteen (15) days of the Date of Commencement, or twenty-one (21) days before Design-Builder intends to commence any construction-related activities at the

Site. Design-Builder shall not perform any construction-related activity (including any activity that disturbs the Site) until an acceptable Safety plan is in place.

2.8.3 Design-Builder and Subcontractors shall comply with: (i) all Legal Requirements relating to safety; (ii) Design-Builder's HS&W plan; and (iii) any Client -specific safety requirements set forth in the Contract Documents, provided that such Department-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Department's Representative and, to the extent mandated by Legal Requirements, to all Governmental Units having jurisdiction over safety-related matters involving the Project or the Work.

2.8.4 Client shall have the right to immediately suspend any or all Work if Design-Builder fails to comply with its obligations hereunder.

2.8.5 Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for: (i) complying with all Legal Requirements, including those related to health and safety matters; and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injury, losses, damages or accidents resulting from their performance of the Work.

2.9 Design-Builder's Warranty

2.9.1 Design-Builder warrants to Department that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Design-Builder's warranty obligation excludes defects caused by abuse, damage, alterations, or failure to maintain the Work by persons other than Design-Builder or anyone for whose acts Design-Builder may be liable. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Department with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Design-Builder will provide Department with all manufacturers' warranties upon Substantial Completion.

2.10 Correction of Defective Work

2.10.1 Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.9 hereof, within a period of one (1) year from the date of Substantial Completion of the Work or any portion of the Work, or within such longer period to the extent required by the Contract Documents or applicable Legal Requirements or Government Approvals.

2.10.2 Design-Builder shall, within seven (7) days of receipt of written notice from Department or the QA Manager that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, the client, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that the client will commence correction of such nonconforming Work with its own forces. If Client does perform such corrective Work, Design-Builder shall be responsible for all reasonable costs incurred by Client in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day periods identified herein shall be deemed inapplicable.

2.10.3 The one (1) year period referenced in Section 2.10.1 above applies only to Design-Builder's obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies Department may have regarding Design-Builder's other obligations under the Contract Documents.

2.11 Client's Rights to Direct Design-Builder

2.11.1 When any act, omission, or other action of Design-Builder occurs that violates the requirements, conditions, or terms of the Contract Documents; or affects the health, safety, or welfare of the public or natural resources, Department will have the right, but not the obligation, to direct Design-Builder to take prompt action to repair, replace, or restore the damage or injury within a time frame established by the client. If Design-Builder fails to make such repair, replacement, or restoration within the established time frame, Department will have the damage or injury repaired, replaced, or restored and will deduct the cost of such repair, replacement, or restoration from monies due Design-Builder.

Article 3

Client's Services and Responsibilities

3.1 Duty to Cooperate

3.1.1 Client shall, throughout the performance of the Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

3.1.2 Client shall provide timely reviews and (where required) approvals of submittals, interim design submissions and Construction Documents consistent with the turnaround times set forth in Design-Builder's schedule, provided, however that, unless stated otherwise in the Contract Documents, Client shall have twenty-one (21) days after receipt of such submissions to act upon such submissions.

3.1.3 Client's Project Manager shall be responsible for coordinating and participating in a monthly progress meeting day for the duration of the Project. Meetings will occur monthly beginning the month after the issuance of the Notice to Proceed.

3.2 Furnishing of Services and Information

3.2.1 Client has provided Employer's Requirement Documents for Design-Builder to consider in developing the Proposal and for executing the Work. Design-Builder shall thoroughly review and compare all such documents during the Scope Validation Period and, to the extent that any Scope Issues arise, Client shall consider such issues in accordance with Section 2.2 above.

3.3 Financial Information

3.3.1 At Design-Builder's request, Department shall promptly furnish reasonable evidence satisfactory to Design-Builder that Department has adequate funds available and committed to fulfill all of Client's contractual obligations under the Contract Documents. If Client fails to furnish such financial information in a timely manner, Design-Builder may stop Work under Section 11.3 hereof or exercise any other right permitted under the Contract Documents.

3.3.2 Design-Builder shall cooperate with the reasonable requirements of Client's lenders or other financial sources. Notwithstanding the preceding sentence, after the Agreement Date, Design-Builder shall have no obligation to execute for Client or Client's lenders or other financial sources any documents or agreements that require Design-Builder to assume obligations or responsibilities greater than those existing obligations Design-Builder has under the Contract Documents.

3.4 Client's Representative

3.4.1 Client's Representative shall be responsible for providing Client-supplied information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents. Client's Representative shall also provide Design-Builder with prompt notice if it observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work.

3.5 Governmental Approvals

3.5.1 Client shall obtain and pay for all necessary Governmental Approvals set forth in the Client's Governmental Approval List attached as Exhibit 3.5.1.

3.5.2 Client shall provide reasonable assistance to Design-Builder in obtaining those Governmental Approvals that are Design-Builder's responsibility.

3.6 Client's Separate Contractors

3.6.1 The Client may at any time contract or approve concurrent contracts for performance of other work on, near, or within the same geographical area of the work specified in an existing contract. Design-Builder shall not impede or limit access to such work by others.

3.6.2 When separate contracts are awarded within the limits of one project, contractors shall not hinder the work being performed by other contractors. Design-Builder(s) and/or Separate Contractor(s) working on the same project shall cooperate with each other. In case of dispute, the Engineer will be the referee, and his decision will be binding on all parties.

3.6.3 When contracts are awarded to Design-Builder(s) and/or Separate Contractor(s) for known concurrent construction in a common area, the Design-Builder(s) and/or Separate Contractor(s), in conference with the Engineer, shall establish a written joint schedule of operations. The schedule shall be based on the limitations of the individual contracts and the joining of the work of one contract with the others. The schedule shall set forth the approximate dates and sequences for the several items of work to be performed and shall ensure completion within the contract time limit. The schedule shall be submitted to the Engineer for review and approval no later than twenty-one (21) days after the award date of the later contract and prior to the first monthly progress meeting. The schedule shall be agreeable to, signed by, and binding on each Design-Builder(s) and/or Separate Contractor(s). The Engineer may allow modifications of the schedule when benefit to the Design-Builder(s) and/or Separate Contractor(s) and the Client will result.

3.6.4 Any modification of the schedule shall be in writing, mutually agreed to and signed by the Design-Builder(s) and/or Separate Contractor(s), and shall be binding on the Design-Builder(s) and/or Separate Contractor(s) in the same manner as the original agreement.

3.6.5 If the Design-Builder(s) and/or Separate Contractor(s) fail to agree on a joint schedule of operations, they shall submit their individual schedules to the Engineer, who will prepare a schedule that will be binding on each Design-Builder and/or Separate Contractor.

3.6.6 The joint schedule and any modification thereof shall become a part of each contract involved. The failure of any Design-Builder and/or Separate Contractor to abide by the terms of the joint schedule will be justification for declaring the Design-Builder and/or Separate Contractor in default of his contract.

3.6.7 Each Design-Builder and/or Separate Contractor shall assume all liability, financial or otherwise, in connection with his contract and shall protect and save harmless the Commonwealth from any and all damages and claims that may arise because of any inconvenience, delay, or loss he experiences as a result of the presence and operations of other Design-Builder(s) and/or Separate Contractor(s) working in or near the work covered by his contract. He shall also assume all responsibility for any of his work not completed because of the presence or operation of other Design-Builder(s) and/or Separate Contractor(s).

3.6.8 Except for an extension of the contract time limit, the Client will not be responsible for any inconvenience, delay, or loss experienced by the Design-Builder and/or Separate Contractor as a result of his failure to gain access to the work at the time contemplated. When the failure to gain access is not due to any fault or negligence of the Design-Builder and/or Separate Contractor, an extension of the contract time limit will be allowed on the basis of the amount of time delayed.

3.6.9 The Client will not assume any responsibility for acts, failures, or omissions of one Design-Builder and/or Separate Contractor that delay the work of another except as provided herein.

Article 4

Hazardous Environmental Conditions and Differing Site Conditions

4.1 Hazardous Environmental Conditions

4.1.1 Unless otherwise expressly provided in the Contract Documents to be part of the Work, Design-Builder is not responsible for any Hazardous Environmental Conditions encountered at the Site. Upon encountering any Hazardous Environmental Conditions, Design-Builder will stop Work immediately in the affected area and duly notify Department and, if required by Legal Requirements, all Governmental Units with jurisdiction over the Project or Site.

4.1.2 Upon receiving notice of the presence of suspected Hazardous Environmental Conditions, Department shall take the necessary measures required to ensure that the Hazardous Environmental Conditions are remediated or rendered harmless. Such necessary measures shall include Department retaining qualified independent experts to: (i) ascertain whether Hazardous Environmental Conditions have actually been encountered; and, if they have been encountered, (ii) prescribe the remedial measures that Department must take either to remove the Hazardous Environmental Conditions or render the Hazardous Environmental Conditions harmless.

4.1.3 Design-Builder shall be obligated to resume Work at the affected area of the Project only after Department's expert provides it with written certification that: (i) the Hazardous Environmental Conditions have been removed or rendered harmless; and (ii) all necessary Governmental Approvals have been obtained.

4.1.4 Design-Builder will be entitled to submit a request for a Work Order in accordance with these General Conditions of Contract, to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence, removal or remediation of Hazardous Environmental Conditions at the Site.

4.1.5 Notwithstanding the preceding provisions of this Section 4.1, Department is not responsible for Hazardous Materials introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable.

4.1.6 Design-Builder shall indemnify, defend and hold harmless each State Indemnitee from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from:

.1 those Hazardous Materials introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable;

.2 the spreading, migration, release, remediation, storing, transportation or disposal by Design-Builder, Subcontractors or anyone for whose acts they may be liable, of pre-existing Hazardous Materials not discovered during the Scope Validation Period or thereafter; and

.3 exacerbation, due to negligence, recklessness or willful misconduct of Design-Builder, Subcontractors, or anyone for whose acts they may be liable of the release, spreading, migration or toxicity of Hazardous Materials at the Site which are known by Design-Builder to exist.

4.2 Inspection of Site Conditions

4.2.1 Design-Builder represents and warrants that it has, as of the Agreement Date, ascertained the nature and location of the Work, the character and accessibility of the Site, the existence of obstacles to construction, the availability of facilities and utilities, the location and character of existing or adjacent work or structures, the surface and subsurface conditions, and other general and local conditions (including labor) which might affect its performance of the Work or the cost thereof.

4.2.2 Design-Builder will, after the Date of Commencement, undertake such testing, inspections and investigations as may be necessary to perform its obligations under the Contract Documents, including but not limited to additional geotechnical evaluations or Hazardous Materials studies. If Design-Builder intends to conduct additional geotechnical evaluations to supplement or corroborate the information contained in the RFP Documents, it shall do so during the Scope Validation Period. Any Scope Issues that arise from such evaluations shall be treated in the

manner set forth in Section 2.2.3 above. All reports or analyses generated by Design-Builder's testing, inspections and investigations, including but not limited to additional geotechnical testing, shall be furnished to Department promptly after such reports or analyses are generated.

4.3 Differing Site Conditions

4.3.1 Concealed or latent physical conditions or subsurface conditions at the Site that: (i) materially differ from the conditions indicated in the RFP Documents (as such conditions may be further described through reports or analyses undertaken during the Scope Validation Period); or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work are collectively referred to herein as "Differing Site Conditions." If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to submit a request for a Work Order for an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance are adversely impacted by the Differing Site Condition as allowed for herein.

4.3.2 Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to Department of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

4.3.3 Design-Builder shall not be entitled to any adjustment in the Contract Price and/or Contract Time(s) due to impacts of Differing Site Conditions not identified during the Scope Validation Period.

Article 5

Insurance and Bonds

5.1 Design-Builder's Insurance Requirements

5.1.1 Design-Builder is responsible for procuring and maintaining from insurance companies authorized to do business in the Commonwealth of Virginia the insurance required by the Division I Amendments.

5.1.2 Design-Builder's liability insurance required by Section 5.1.1 above shall be written for the coverage amounts set forth in the Division I Amendments and shall include completed operations insurance for the period of time set forth in such amendments.

5.1.3 Design-Builder's liability insurance set forth in Section 5.1.1 above shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

5.1.4 Prior to the Date of Commencement, Design-Builder shall provide Client with certificates evidencing that: (i) all insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect for the duration required by the Contract Documents; and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Client.

5.2 Bonds and Other Performance Security

5.2.1 Design-Builder shall procure performance and payment bonds executed by a surety acceptable to Department, each in the amount of one hundred percent (100%) of the Contract Price, and in accordance with all other requirements of the Contract Documents, including the Division I Amendments.

Article 6

Payment

6.1 Schedule of Payments

6.1.1 Within ninety (90) days of the Date of Commencement, Design-Builder shall submit to Department, for its review and approval, and as part of its submission of the Baseline Schedule under Section 11.1.2 of the Agreement, pricing for the value of each work package, consistent with the Work Breakdown Structure submitted in Design-Builder's Proposal.

The approved Schedule will: (i) include values for all items comprising the Work; and (ii) serve as the basis for monthly progress payments made to Design-Builder throughout the Work.

6.1.2 The parties agree that progress payments for Work performed prior to Client's approval of the Earned Value Schedule shall be based on the schedule of values provided in the Proposal.

6.1.3 Neither the Earned Value Schedule nor payments made under Section 6.1.2 above shall exceed the monthly payment schedule submitted with the Proposal, unless Client specifically approves this in writing.

6.2 Monthly Progress Payments

6.2.1 On the tenth (10th) day of each month, Design-Builder shall submit for Client's review and approval its Application for Payment requesting payment for all Work performed as of the first day of such month and coinciding with the progress reflected in the monthly Baseline Schedule update. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.2 hereof. Payment shall be made in accordance with the following earned value calculation:

.1 Design-Builder shall identify each work package, and the value in dollars of such work package, in accordance with Section 6.1.1 above. Applications for Payment shall be made based on the following earned values.

.1 Design-Builder shall earn twenty percent (20%) of the value of a work package upon initiation of the respective work package.

.2 Design-Builder shall earn eighty percent (80%) of the value of a work package upon completion of the respective work package.

.2 QA/QC shall be an integral part of each work package. As part of each Application for Payment that includes completed work packages, Design-Builder's designated quality assurance manager shall certify that each work package has been completed in accordance with the Contract Documents, and that all required QA/QC tests, measurements, permits or other requirements have been completed and all non-conformance reports relative to the respective work package have been resolved.

6.2.2 The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that: (i) Department, in its sole discretion, agrees that it is willing to allow payment for such equipment and materials; (ii) Department is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location; (iii) the equipment and materials are protected by suitable insurance; and (iv) upon payment, Client will receive the equipment and materials free and clear of all liens and encumbrances.

6.2.3 The Application for Payment shall constitute Design-Builder's representation that the Work has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Client free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project, or upon Design-Builder's receipt of payment, whichever occurs earlier.

6.3 Withholding of Payments

6.3.1 On or before the date established in the Agreement, Client shall pay Design-Builder all amounts properly due. If Client determines that Design-Builder is not entitled to all or part of an Application for Payment, it will notify Design-Builder in writing at least seven (7) days prior to the date payment is due. The notice shall indicate the specific amounts Client intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify Client's concerns. Design-Builder and Client will attempt to

resolve Department's concerns prior to the date payment is due. If the parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents, including those under Article 10 hereof.

6.3.2 Notwithstanding anything to the contrary in the Contract Documents, Client shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement.

6.4 Right to Stop Work and Interest

6.4.1 If Client wrongfully fails to pay Design-Builder any amount that becomes due, Design-Builder, in addition to all other remedies provided in the Contract Documents, may stop Work pursuant to Section 11.3 hereof. All payments due and unpaid shall bear interest at the rate set forth in the Agreement.

6.5 Design-Builder's Payment Obligations

6.5.1 Design-Builder will pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Client on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend Client against any claims for payment and mechanic's liens as set forth in Section 7.2.1 hereof.

6.6 Substantial Completion

6.6.1 Design-Builder shall notify Client when it believes the Work, or to the extent permitted in the Contract Documents, a portion of the Work, is substantially complete. Within seven (7) days of Client's receipt of Design-Builder's notice, Client and Design-Builder will jointly inspect such Work to verify that it is substantially complete in accordance with the requirements of the Contract Documents. If such Work is substantially complete, Client shall prepare and issue a Certificate of Substantial Completion that will set forth: (i) the date of Substantial Completion of the Work or portion thereof; (ii) the remaining items of Work that have to be completed before final payment; (iii) provisions (to the extent not already provided in the Contract Documents) establishing Client's and Design-Builder's responsibility for the Project's security, maintenance, utilities and insurance pending final payment; and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

6.6.2 Upon Substantial Completion of the entire Work or, if applicable, any portion of the Work, Department shall pay to Design-Builder all amounts properly due, as applicable, to the entire Work or completed portion of the Work, less an amount equal to two hundred percent (200%) of Client's determination of the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion.

6.6.3 Client, at its option, may use a portion of the Work which has been determined to be substantially complete, provided, however, that: (i) a Certificate of Substantial Completion has been issued for the portion of Work addressing the items set forth in Section 6.6.1 above; and (ii) Design-Builder and Client have obtained the consent of their sureties and insurers, and to the extent applicable, the appropriate Governmental Units having jurisdiction over the Project.

6.7 Final Acceptance and Final Payment

6.7.1 Design-Builder shall notify Department when it believes the Work, or to the extent permitted in the Contract Documents, a portion of the Work, is finally complete. Within seven (7) days of Client's receipt of Design-Builder's notice, Client and Design-Builder will jointly inspect such Work to verify that it is complete in accordance with the requirements of the Contract Documents. The Client will make the Final Acceptance of the Work in accordance with Section 105.15 of the Division I Amendments, whereupon Design-Builder will provide Client with a Final Application for Payment. Client shall make final payment by the time required in the Agreement, provided that Design-Builder has completed all of the Work in conformance with the Contract Documents.

6.7.2 At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information.

.1 an affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Department's interests;

.2 a general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Client and remaining unsettled at the time of final payment, which claims shall be specifically listed in an attachment to the general release;

.3 consent of Design-Builder's surety to final payment;

.4 all operating manuals, warranties and other deliverables required by the Contract Documents, including the correspondence files required by Section 11.1.9 of the Agreement; and

.5 certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.

6.7.3 Upon making final payment, Department waives all claims against Design-Builder except claims relating to: (i) Design-Builder's failure to satisfy its payment obligations, if such failure affects Client's interests; (ii) Design-Builder's failure to complete the Work consistent with the Contract Documents, including defects appearing after Final Acceptance; and (iii) the terms of any special warranties and indemnifications required by the Contract Documents.

Article 7

Indemnification

7.1 Patent and Copyright Infringement

7.1.1 Design-Builder shall defend any action or proceeding brought against any State Indemnitee based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. The State Indemnitee shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless State Indemnitees from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against State Indemnitees or Design-Builder in any such action or proceeding. Design-Builder agrees to keep the Indemnitees informed of all developments in the defense of such actions.

7.1.2 If a Indemnitee is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense: (i) modify the Work so as to avoid infringement of any such patent or copyright; or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright: (i) relating solely to a particular process or product of a particular manufacturer specified by Client and not offered or recommended by Design-Builder to Department; or (ii) arising from modifications to the Work by Client after acceptance of the Work.

7.2 Payment Claim Indemnification

7.2.1 Providing that Client is not in breach of its contractual obligation to make payments to Design-Builder for the Work, Design-Builder shall indemnify, defend and hold harmless State Indemnitees from any claims or mechanic's liens brought against any State Indemnitee or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from a Indemnitee that such a claim or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Design-Builder fails to do so, The Indemnitee will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees.

7.3 Design-Builder's General Indemnification

7.3.1 Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Indemnitees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for: (i) bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable; and (ii) any violation of Sections 2.5, 2.6, or 2.8 hereof by Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

7.3.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable, has a claim against a State Indemnitee, Design-Builder's indemnity obligation set forth in Section 7.3.1 above shall not be limited by any limitation on the amount of damages, compensation or

benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

7.4 Defense and Indemnification Procedures

7.4.1 If Department receives notice of or otherwise has actual knowledge of a claim which it believes is within the scope of Design-Builder's indemnification under the Contract Documents, it shall by writing as soon as practicable: (i) inform Design-Builder of such claim; (ii) send to Design-Builder a copy of all written materials Client has received asserting such claim and (iii) notify Design-Builder that either: (i) the defense of such claim is being tendered to Design-Builder; or (ii) Department has elected to conduct its own defense for a reason set forth below.

7.4.2 If the insurer under any applicable insurance policy accepts tender of defense, Design-Builder and Department shall cooperate in the defense as required by the insurance policy. If no defense is provided by insurers under potentially applicable insurance policies, then the following provisions shall apply.

7.4.3 If the defense is tendered to Design-Builder, it shall within forty-five (45) days of said tender deliver to Department a written notice stating that Design-Builder: (i) accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any "reservation of rights" to deny or disclaim full indemnification thereafter; (ii) accepts the tender of defense but with a "reservation of rights" in whole or in part; or (iii) rejects the tender of defense if it reasonably determines it is not required to indemnify against the claim under the Contract Documents. If such notice is not delivered within such forty-five (45) days, the tender of defense shall be deemed rejected.

7.4.4 If Design-Builder accepts the tender of defense, Design-Builder shall have the right to select legal counsel for the State Indemnitees, subject to reasonable approval of the State Attorney General, and Design-Builder shall otherwise control the defense of such claim, including settlement, and bear the fees and costs of defending and settling such claim. During such defense: (i) Design-Builder shall at Design-Builder's expense, fully and regularly inform Department of the progress of the defense and of any settlement discussions; and (ii) Client shall, at Design-Builder's expense for all of Client's reasonable out-of-pocket third party expenses, fully cooperate in said defense, provide to Design-Builder all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to Department and maintain the confidentiality of all communications between it and Design-Builder concerning such defense to the extent allowed by law.

7.4.5 Client shall be entitled to select its own legal counsel and otherwise control the defense of such claim if: (i) the defense is tendered to Design-Builder and it refuses the tender of defense, or fails to accept such tender within forty-five (45) days, or reserves any right to deny or disclaim such full indemnification thereafter; or (ii) Client, at the time it gives notice of the claim or at any time thereafter, reasonably determines that: (i) a conflict exists between it and the Design-Builder which prevents or potentially prevents Design-Builder from presenting a full and effective defense; or (ii) Design-Builder is otherwise not providing an effective defense in connection with the claim and Design-Builder lacks the financial capability to satisfy potential liability or to provide an effective defense. Client may assume its own defense pursuant to the above by delivering to Design-Builder written notice of such election and the reasons therefor.

7.4.6 If Client is entitled and elects to conduct its own defense pursuant hereto, all reasonable costs and expenses it incurs in investigating and defending and claim for which it is entitled to indemnification hereunder (and any settlements or judgments resulting therefrom) shall be reimbursed by Design-Builder after completion of the proceeding.

7.4.7 If Client is entitled to and elects to conduct its own defense, then it shall have the right to settle or compromise the claim with the Design-Builder's prior written consent, which shall not be unreasonably withheld or delayed, or with approval of the court, and with the full benefit of the Design-Builder's indemnity. Notwithstanding the foregoing, if the Client elects to conduct

its own defense and it is later determined that no indemnification obligation existed as to the particular claim, the Client shall pay its own costs and expenses relating thereto. In addition, if the Department elects to conduct its own defense because it perceives a conflict of interest, the Department shall pay its own costs and expenses relating thereto.

Article 8

Time

8.1 Obligation to Achieve the Contract Times

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time(s) in accordance with Article 5 of the Agreement.

8.2 Delays to the Work

8.2.1 If Design-Builder is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own, Subcontractors, Design Consultants, or those for whom Design-Builder, Subcontractors, or Design Consultants are responsible, Design-Builder may submit a request for a Work Order that the Contract Time(s) for performance be reasonably extended by Work Order. By way of example, events that Client may consider for an extension of the Contract Time(s) include acts or omissions of school or anyone under Department's control (including separate contractors), changes in the Work, Differing Site Conditions, Hazardous Materials, wars, floods in excess of the base flood (as defined in the Division 1 Amendment), hurricane force winds, tornados, labor disputes, and earthquakes that cause ground accelerations in excess of AASHTO bridge design standards for the Site. It is specifically understood that other than floods in excess of the base flood, hurricane force winds and tornados, Design-Builder assumes the risk, and will not be entitled a time extension for any delays caused by weather or conditions resulting from weather.

8.2.2 In addition to Design-Builder's right to a time extension for those events set forth in Section 8.2.1 above, Design-Builder shall also be entitled to submit a request of a Work Order for an appropriate adjustment of the Contract Price provided, however, that the Contract Price shall not be adjusted for those events set forth in Section 8.2.1 above that are beyond the control of both Design-Builder and Department, including the events of wars, floods in excess of the base flood (as defined in the Division 1 Amendment), hurricane force wind, tornados, labor disputes, and earthquakes that cause ground accelerations in excess of AASHTO bridge design standards for the Site.

8.2.3 As a condition precedent to Design-Builder receiving an extension of the Contract Time(s), Design-Builder shall demonstrate that: (i) notice has been given by Design-Builder as provided in these General Conditions; (ii) the delay impacts the critical path (as reflected on the most recent monthly Baseline Schedule update) and is outside the reasonable control of Design-Builder; (iii) Design-Builder's performance would not have been concurrently delayed or interrupted by any event other than those identified in Section 8.2.1 above; (iv) Design-Builder, in view of all the circumstances, has exercised reasonable efforts to avoid the delay and did not cause the delay; and (v) Design-Builder has complied with the requirements of Section 8.3 below. Delays of Subcontractors shall be deemed to be within the reasonable control of Design-Builder, unless such delays are themselves excusable in accordance with the provisions of Section 8.2.1.

8.2.4 Should school have a reasonable belief that the Contract Time(s) will not be met for causes that do not constitute an excusable delay under Section 8.2.1 above, Department has the right, but not the obligation, to so notify Design-Builder, and Design-Builder shall then work additional overtime, engage additional personnel and take such other measures as necessary to complete the Work within the Contract Time(s). Design-Builder shall bear all costs related to such overtime, additional personnel and other measures.

8.2.5 Notwithstanding the right of Design-Builder to receive a time extension pursuant to Section 8.2.1, Design-Builder agrees that if it encounters an excusable delay, it will, if directed

by Department, develop and implement a recovery schedule and plan to improve progress and take such measures to overcome such delay.

8.3 Time Impact Analysis for Proposed Time Extensions

8.3.1 If Design-Builder claims that any event, including but not limited to a change in the Work, justifies an extension to the Contract Time(s), Design-Builder shall submit to school a written Time Impact Analysis ("TIA") establishing the influence of the event on the latest approved Baseline Schedule update. Each TIA shall include a Fragmentary Network, and for events that have yet to occur (such as proposed change orders), the Fragmentary Network shall demonstrate how Design-Builder proposes to incorporate such event into the Baseline Schedule. The TIA shall demonstrate: (i) the time impact based on the date the event occurred, or, in the instance of proposed change orders, the date such change order was given to Design-Builder; (ii) the status of the Work at such point in time; and (iii) the time computation of all affected activities. Upon approval by school, the event shall be included in the next Baseline Schedule update.

8.3.2 Activity delays shall not automatically mean that an extension of the Contract Time(s) is warranted or due Design-Builder. Design-Builder recognizes that certain events will not affect existing critical activities or cause non-critical activities to become critical, and that such events may result in only absorbing a part of the available total float that may exist within an activity chain of the network, thereby not causing any effect on the Contract Time.

8.3.3 Float is not for the exclusive use or benefit of either school or Design-Builder, but rather shall be used for the benefit of the overall Project. Activity splitting or float suppression techniques will not be permitted. Extension of the Contract Time(s) will be granted only to the extent the equitable time adjustments to the activity or activities affected by the event exceeds the total float of a critical activity or path and extends the Contract Time(s).

8.3.4 Two (2) copies of each TIA shall be submitted in accordance with the following along with a written proposal for any requested time extension:

- .1** Within seven (7) days after receipt of a written change order.
- .2** Within ten (10) days from the beginning of any other event claimed to give rise to a delay.
- .3** Within the time period required for the filing of a written notice of claim pursuant to Article 10 Contract Adjustments and Disputes.

8.3.5 In cases where Design-Builder does not submit a TIA within the time requirements stated above, it shall be considered a waiver of any request for an extension of the Contract Time(s).

8.3.6 Approval or rejection of each TIA by Department shall be made within ten (10) days after receipt of each TIA, unless subsequent meetings and negotiations are necessary. Upon approval, a copy of the TIA signed by Department shall be returned to Design-Builder, and incorporated into the next Baseline Schedule update.

8.3.7 The TIA related to a change order shall be incorporated into and attached to the applicable change order.

Article 9

Changes to the Contract Price and Time

9.1 Work Orders

9.1.1 A **Work Order** (change order), is a written instrument on VDOT Form C-10, issued after the Agreement Date signed by Client and Design-Builder, stating their agreement upon all of the following:

- .1 The scope of the change in the Work;
- .2 The amount of the adjustment to the Contract Price; and
- .3 The extent of the adjustment to the Contract Time(s).

9.1.2 All changes in the Work authorized by applicable Work Order shall be performed under the applicable conditions of the Contract Documents. Client and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

9.1.3 If Client requests a proposal for a change in the Work from Design-Builder and subsequently elects not to proceed with the change, a Work Order shall be issued to reimburse Design-Builder for reasonable costs incurred for estimating services, design services and services involved in the preparation of proposed revisions to the Contract Documents.

9.2 Contract Change Directive

9.2.1 A **Contract Change Directive** ("CCD") or variation order is a written order prepared and signed by Client, directing a change in the Work prior to agreement on an adjustment in the Contract Price and/or the Contract Time(s).

9.2.2 Client and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Contract Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Work Order reflecting the terms of the agreement.

9.2.3 The Department may issue a CCD/ or variation order by unilateral Work Order, subject further to the terms of Section 9.4.3.

9.3 Minor Changes in the Work

9.3.1 Minor changes in the Work do not involve an adjustment in the Contract Price and/or Contract Time(s) and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, provided, however that Design-Builder shall promptly inform School and the project manager, in writing, of any such changes and record such changes on the documents maintained by Design-Builder.

9.4 Contract Price Adjustments

9.4.1 The increase or decrease in Contract Price resulting from a change in the Work shall be determined by one or more of the following methods:

- .1 Unit prices set forth in the Agreement or as subsequently agreed to between the parties;
- .2 A mutually accepted, lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Client;
- .3 Costs, fees and any other markups set forth in accordance with Section 109.05 of the Division 1 Amendments; and
- .4 If an increase or decrease cannot be agreed to as set forth in items .1 through .3 above and Client issues a Contract Change Directive, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the Agreement. If the net result of both additions and deletions to the Work is an increase in the Contract Price, overhead and profit shall be calculated on the basis of the net increase to the Contract Price. If the net result of both additions and deletions to the Work is a decrease in the Contract Price, there shall be no overhead or profit adjustment to the Contract Price. Design-Builder shall maintain a documented, itemized accounting evidencing the expenses and savings associated with such changes.

9.4.2 If unit prices are set forth in the Contract Documents or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to school or Design-Builder because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be equitably adjusted. Design-Builder shall bear the burden of proving that there is a substantial inequity in the unit rates.

9.4.3 If Client and Design-Builder disagree upon whether Design-Builder is entitled to be paid for any services required by school, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Client and Design-Builder shall resolve the disagreement pursuant to Article 10 hereof. As part of the negotiation process, Design-Builder shall furnish Client with a good faith estimate of the costs to perform the disputed services in accordance with Client's interpretations. If the parties are unable to agree and Department expects Design-Builder to perform the services in accordance with Client's interpretations, Design-Builder shall proceed to perform the disputed services, conditioned upon Client issuing a written order to Design-Builder: (i) directing Design-Builder to proceed; and (ii) specifying Client's interpretation of the services that are to be performed. If this occurs, Design-Builder shall be entitled to submit in its Applications for Payment an amount equal to fifty percent (50%) of its reasonable direct costs incurred to perform the services, and Client agrees to pay such amounts, with the express understanding that: (i) such payment by Client does not prejudice Client's right to argue that it has no responsibility to pay for such services; and (ii) receipt of such payment by Design-Builder does not prejudice Design-Builder's right to seek full payment of the disputed services if Department's order is deemed to be a change to the Work.

9.5 Emergencies

9.5.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9.

Article 10

Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief

10.1.1 If Design-Builder believes that it is entitled to an adjustment to the Contract Price or Contract Times or other relief for any event arising out of or related to the Work or Project, including the acts or omissions of Client, it shall provide written notice to Client of the basis for such Contract Price or Contract Time adjustment or relief. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of these General Conditions of Contract. In the absence of any specific notice requirement, written notice of Design-Builder's intention to seek a Contract Price or Contract Time adjustment or relief shall be given within a reasonable time, not to exceed twenty-one (21) days, after the occurrence giving rise to the request for Contract Price or Contract Time adjustment or relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request for Contract Price or Contract Time adjustment or relief, whichever is later. Such notice shall include sufficient information to advise Client of the circumstances giving rise to the request for Contract Price or Contract Time adjustment or relief, the specific contractual adjustment or relief requested and the basis of such request.

10.2 Dispute Avoidance and Resolution

10.2.1 The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes and disagreements. If disputes or disagreements do arise, Design-Builder and Client each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

10.2.2 Design-Builder and Client will first attempt to resolve all disputes or disagreements at the field level through best efforts and good faith negotiations between Design-Builder's Representative and Client's Representative. If the dispute or disagreement cannot be resolved through Design-Builder's Representative and Client's Representative, Design-Builder's Senior Representative and Client's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than forty-five (45) days after such a request is made, to attempt to resolve such dispute or disagreement. Prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving the dispute or disagreement. If the Senior Representatives determine that the dispute or disagreement cannot be resolved to the mutual satisfaction of both parties, despite their best efforts, then such dispute or disagreement shall be submitted administratively as set forth in Sections 10.2.3 and 10.2.4 below.

10.2.3 If the process established in Section 10.2.2 above does not result in the resolution of a dispute or disagreement, Design-Builder shall submit to school a written claim which shall set forth the facts upon which the claim is based. Design-Builder shall include all pertinent data and correspondence that may substantiate the claim. Within ninety (90) days from the receipt of such claim, Client shall make an investigation and notify Design-Builder in writing by registered mail of its decision. Design-Builder and Client may, however, mutually extend such ninety-day period for another thirty (30) days. If dissatisfied with the decision, Design-Builder shall, within thirty (30) days from receipt of such decision, notify the Commissioner, in writing, that Design-Builder desires to appear before him, either in person or through counsel, and present any additional facts and arguments in support of its claim as previously filed.

10.2.4 The Commissioner or his designee will schedule and meet Design-Builder within thirty (30) days of receiving the Design-Builder's written request. Design-Builder and Commissioner may, however, mutually agree to schedule such appearance to be held after thirty (30) days but before sixty (60) days from the receipt of such written request. Within forty-five (45) days from the date of the appearance before him, the Commissioner shall make an investigation of the

claim and notify Design-Builder in writing of his decision. Design-Builder and the Commissioner may, however, mutually agree to extend such forty-five day period for another thirty (30) days. If the Commissioner deems that all or any portion of a claim is valid, he shall have the authority to negotiate a settlement with Design-Builder, but any such settlement shall be subject to the provisions of VA. CODE §2.2-514.

10.2.5 Failure of Client or the Commissioner to render a decision within the time period specified in Section 10.2.4 above, or within such other period as has been mutually agreed upon, shall be deemed a denial of the claim. Any mutual agreements for time extension permitted herein shall in no way extend the limitations set out in §33.1-192.1. If the Commissioner determines that a claim has been denied as the result of an administrative oversight, then the Department reserves the right to reconsider the claim. **10.2.6** As to such portion of the claim as is denied by the Commissioner, Design-Builder may institute a civil action for such sum as it claims to be entitled to under the Agreement for itself, and for anyone claiming by or through Design-Builder, by the filing of a petition in the Circuit Court of the City of Richmond, which shall be the exclusive jurisdiction for any civil actions brought by Design-Builder against Client. Any civil action brought by Design-Builder on behalf of a Subcontractor or Design Consultant shall only be brought for costs and expenses caused by the acts or omissions of Client and shall not be brought for costs and expenses caused by Design-Builder. Trial shall be by the court without a jury. The submission of the claim to the Client of Transportation within the times and as set out in Sections 10.2.3 through 10.2.5 above shall be a condition precedent to bringing a civil action. School shall be allowed to assert any and all defenses in a case brought by Design-Builder on behalf of a Subcontractor or Design Consultant which are available to Design-Builder.

10.2.7 No civil action shall be brought against school by Design-Builder (on behalf of itself or anyone claiming by or through Design-Builder) arising out of or related to this Agreement unless: (i) Design-Builder shall have exhausted the processes set forth in Sections 10.2.1 through 10.2.5 above; and (ii) such suit or action is initiated within twelve (12) months from Design-Builder's receipt of the decision of the Commissioner. The parties agree that the above-referenced conditions are conditions precedent to the initiation of a civil action, and that failure of Design-Builder to meet such conditions will be grounds for the civil action being dismissed.

10.2.8 Any moneys that become payable as the result of a settlement after Final Payment will not be subject to payment of interest unless such payment is specified as a condition of the settlement.

10.3 Duty to Continue Performance

10.3.1 Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and Department shall continue to satisfy its payment obligations to Design-Builder, pending the final resolution of any dispute or disagreement between Design-Builder and Client.

10.4 CONSEQUENTIAL DAMAGES

10.4.1 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY (EXCEPT AS SET FORTH IN SECTION 10.4.2 BELOW), NEITHER DESIGN-BUILDER NOR DEPARTMENT SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL LOSSES OR DAMAGES, WHETHER ARISING IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO LOSSES OF USE, PROFITS, BUSINESS, REPUTATION OR FINANCING.

10.4.2 The consequential damages limitation set forth in Section 10.4.1 above will not affect the payment of liquidated damages set forth in Article 5 of the Agreement, which both parties recognize has been established, in part, to reimburse Department for some damages that might otherwise be deemed to be consequential.

Article 11

Stop Work and Termination for Cause

11.1 School's Right to Stop Work

11.1.1 School may, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed sixty (60) consecutive days or aggregate more than ninety (90) days during the duration of the Project.

11.1.2 Design-Builder is entitled to seek an adjustment of the Contract Price and/or Contract Time(s) if its cost or time to perform the Work has been adversely impacted by any suspension or stoppage of work by Department, by requesting a Work Order.

11.2 School's Right to Perform and Terminate for Cause

11.2.1 If Design-Builder persistently fails to do any of the following, then Design-Builder may be declared in default and Department, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth in Section 11.2.2 below:

.1 begin the Work on the Date of Commencement;

.2 provide a sufficient number of skilled workers, equipment, or supply the materials required by the Contract Documents;

.3 comply with applicable Legal Requirements;

.4 timely pay, without cause, Design Consultants or Subcontractors;

.5 prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time(s), as such times may be adjusted; or

.6 perform material obligations under the Contract Documents;

11.2.2 If any of the conditions set forth in Section 11.2.1 above exists, school will give written notice to Design-Builder and its surety of the condition. If, within ten (10) days after such notice, Design-Builder or its surety fails to cure, or reasonably commence to cure, such condition to the satisfaction of school, then Client may then, or at any time thereafter, send a second written notice to Design-Builder declaring Design-Builder in default. Upon declaring Design-Builder in default, Client shall have the right, among other things, to terminate this Agreement for default.

11.2.3 Upon terminating this Agreement for default, Client will have the right to, in addition to any other right available at law, take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to Client for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. Design-Builder specifically agrees that it will assign all Subcontractors and Design Consultants to Client, upon Client's written demand that it do so. In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, if the unpaid balance of the Contract Price exceeds the cost and expense incurred by Client in completing the Work, such excess shall be paid by Client to Design-Builder. If school's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Design-Builder shall be obligated to pay the difference to Client. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by Department in connection with the procurement and defense of claims arising from Design-Builder's default, subject to the waiver of consequential damages set forth in Section 10.4 hereof.

11.2.4 If Client improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Article 8 of the Agreement.

11.2.5 Client shall have the right, upon the occurrence of any of the conditions set forth in Section 11.2.1 above, and regardless of whether or not Design-Builder is declared in default

and/or terminated, to communicate with Design-Builder's surety and compel such surety to cure such conditions.

11.3 Design-Builder's Right to Stop Work

11.3.1 Design-Builder may, in addition to any other rights afforded under the Contract Documents or at law, stop work for the following reasons:

- .1 Client's failure to provide financial assurances as required under Section 3.3 hereof; or
- .2 Client's failure to pay amounts properly due under Design-Builder's Application for Payment.

11.3.2 Should any of the events set forth in Section 11.3.1 above occur, before exercising its rights under this section, Design-Builder shall provide Client with written notice that Design-Builder will stop work unless said event is cured within ten (10) days from Client's receipt of Design-Builder's notice. If Client does not cure the problem within such ten (10) day period, Design-Builder may stop work. In such case, Design-Builder shall be entitled to make a claim for adjustment to the Contract Price and Contract Time(s) to the extent it has been adversely impacted by such stoppage.

11.4 Design-Builder's Right to Terminate for Cause

11.4.1 Design-Builder, in addition to any other rights and remedies provided in the Contract Documents or by law, may terminate the Agreement for cause for the following reasons:

- .1 The Work has been stopped for one hundred twenty (120) consecutive days, or more than one hundred eighty (180) days during the duration of the Project, because of court order, any Governmental Unit having jurisdiction over the Work, or orders by school under Section 11.1.1 hereof, provided that such stoppages are not due to the acts or omissions of Design-Builder or anyone for whose acts Design-Builder may be responsible.
- .2 Client's failure to provide Design-Builder with any information, permits or approvals that are Client's responsibility under the Contract Documents which result in the Work being stopped for one hundred twenty (120) consecutive days, or more than one hundred eighty (180) days during the duration of the Project, even though Client has not ordered Design-Builder in writing to stop and suspend the Work pursuant to Section 11.1.1 hereof.
- .3 Client's failure to cure the problems set forth in Section 11.3.1 above after Design-Builder has stopped the Work.

11.4.2 Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to Client that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within ten (10) days of Client's receipt of such notice. If Client fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Client of its intent to terminate within an additional ten (10) day period. If Client, within such second ten (10) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Department of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Client had terminated the Agreement for its convenience under Article 8 of the Agreement.

11.5 Bankruptcy of Design-Builder

11.5.1 If Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code, such event may impair or frustrate Client's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur: **.1** Design-Builder, its trustee or other successor, shall furnish, upon request of Client, adequate assurance of the ability of Design-Builder to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

.2 Design-Builder shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If Design-Builder fails to comply with its foregoing obligations, Client shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to Department under this Article 11.

11.5.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of Client to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code. It shall also not limit the ability of Department to seek recourse against Design-Builder's surety, who shall be obligated to perform notwithstanding the bankruptcy proceedings against Design-Builder.

Article 12

Miscellaneous

12.1 Assignment

12.1.1 Design-Builder shall not, without the prior written consent of Client (which consent may be withheld or denied for any reason), assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents.

12.2 Successorship

12.2.1 Design-Builder and Department intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

12.3 Governing Law

12.3.1 The Agreement and all Contract Documents shall be governed by the laws of the HKSAR, without giving effect to its conflict of law principles.

12.4 Severability

12.4.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

12.5 No Waiver

12.5.1 The failure of either Design-Builder or Client to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

12.6 No Third-Party Beneficiary Status

12.6.1 Nothing under the Contract Documents shall afford any third party to this Agreement, including members of the public, third-party beneficiary status hereunder.

12.7 Headings

12.7.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

12.8 Notice

12.8.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given: (i) if delivered in person to the individual intended to receive such notice; (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement; or (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the facsimile number of the intended recipient, provided, however, that the intended recipient is present to receive the facsimile and the transmittal is immediately followed by a hard copy delivered in accordance with (i) or (ii) above.

12.9 Amendments

12.9.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

- END OF CONDITIONS OF CONTRACT -

FORM OF TENDER

To: The Chairman,
Central Tender Board,
Logos Academy Campus at Tseung Kwan O,
Hong Kong.

1. Having inspected the Site, examined the Employer's Requirements, Conditions of Contract and addenda thereto (if any) issued by you for the execution of the above-named Works, completed (where appropriate) the Appendix hereto and prepared the Contractor's Proposals forming part of this Tender, I/we offer to execute the Works in conformity with the said Employer's Requirements, General and Special Conditions of Contract, addenda (if any), the Appendix hereto and the Contractor's Proposals for the sum of Dollars.....
.....
.....(HK\$.....) or such sum as may be ascertained in accordance with the General and Special Conditions of Contract (hereinafter referred to as "the said Conditions").
2. I/We undertake if my/our Tender is accepted to complete the Works within the time stated in the Appendix hereto.
3. I/We agree to abide by this Tender for the period of 180 days from the date fixed for receiving the same or, if this has been extended, the extended date, and it shall remain binding upon me/us and may be accepted at any time before the expiry of that period.
4. Unless and until the Articles of Agreement are prepared and executed this Tender, together with the written acceptance thereof by the Employer subject to the provisions of Clause 3 hereof, shall constitute a binding contract between us.
5. I/We understand that the Employer reserves the right to negotiate with any tenderer about the term of the offer and is not bound to accept any tender irrespective of whether the tender is the lowest offer or, where the assessment of the tenders is based on a marking scheme or formula approach, the tender is with the highest overall mark.

EMPLOYER'S REQUIREMENTS

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1. INTRODUCTION

1.1 Preamble

1.1.1 The Employer's Requirements are divided into the following Sections:

- Section 1 : Introduction (which is this Section)
- Section 2 : General Site Data
- Section 3 : Statutory Requirements
- Section 4 : Design Brief
- Section 5 : Programme Requirements and Progress Report
- Section 6 : Quality Assurance
- Section 7 : Safety Aspects
- Section 8 : Environmental Protection Aspects
- Section 9 : Design Checking Procedures
- Section 10 : Employer's Construction and Site Safety Supervision
- Section 11 : Facilities for the Supervising Officer
- Section 12 : General Site Management
- Section 13 : Pricing Document
- Section 14 : Particular Specification

1.2 Definitions and Interpretations

1.2.1 Definitions given in Clause 1 of the General Conditions of Contract shall apply to all documents forming the Contract.

1.2.2 In addition to Conditions of Contract, the following words and expressions shall have the meaning hereby assigned to them except when the context otherwise requires:

“Contract Period” means duration commencing from the date for commencement of the Works notified by the Supervising Officer

“Drawings” means the drawing referred to in the Employer's Requirements or Bill of Quantities and any modification of such drawings approved in writing by the Supervising Officer and such

other drawings as may from time to time be furnished in writing or approved in writing by the Supervising Officer.

"Permanent Works" means the permanent works to be executed and completed by the Contractor in accordance with this Contract.

"As-built Drawings" means those drawings produced by the Contractor and endorsed by it as true records of construction of the Permanent Works and which have been agreed with the Supervising Officer.

"Utilities Plans" means drawings that show the locations, layouts and sizes of all services as included in the Drawings. The locations and the types of the utilities are indicative only and the Contractor is required to ascertain the exact locations and the types of the utilities himself.

1.2.3 The following abbreviations are used:

- (a) 'AFCD' means Agriculture, Fisheries and Conservation Department
- (b) 'AIP' means Approval in Principle
- (c) 'ArchSD' means Architectural Services Department
- (d) 'ATCD' means Area Traffic Control Division
- (e) 'BD' means Buildings Department
- (f) 'BS' means British Standard
- (g) 'C&DM' means Construction and Demolition Material
- (h) 'C&DW' means Construction and Demolition Waste
- (i) 'CAD' means Computer Aided Design
- (j) 'CEDD' means Civil Engineering and Development Department
- (k) 'CICTA' means Construction Industry Council Training Academy

- (l) 'CNP' means Construction Noise Permit
- (m) 'CRA' means Construction Risk Assessment
- (n) 'CSSM' means Construction Site Safety Manual
- (o) 'dB(A)' means Decibels (A weighted sound pressure level)
- (o1) 'dB(L)' means Decibels (Linear for air overpressure)
- (p) 'DDA' means Detailed Design Approval
- (q) 'DEP' means Director of Environmental Protection
- (r) 'DLO' means District Lands Office
- (s) 'DSD' means Drainage Services Department
- (t) 'EBS' means Existing Buildings and Structures, which also include roads, installations, utilities, slopes, retaining walls, parks, pavements, street lightings, street furniture and other man-made facilities
- (u) 'EIA' means Environmental Impact Assessment
- (v) 'EM&A Manual' means Environmental Monitoring and Audit Manual
- (w) 'EMP' means Environmental Management Plan
- (x) 'EMSD' means Electrical and Mechanical Services Department
- (y) Not Used
- (z) 'EPD' means Environmental Protection Department
- (aa) 'ER' means Employer's Requirements
- (ab) 'ETWB TCW' means Environment, Transport and Works Bureau Technical Circular (Works)
- (ac) 'FSD' means Fire Services Department
- (ad) 'GCC' means General Conditions of Contract for Design and Build Contracts 1999 Edition
- (ae) 'GEO' means Geotechnical Engineering Office, Civil Engineering and Development Department

- (af) 'Government' means the Government of the Hong Kong Special Administrative Region
- (ag) 'GS' means the General Specification for Civil Engineering Works -2006 Edition
- (ah) Not Used
- (ai) Not Used
- (aj) 'HKHA' means Hong Kong Housing Authority
- (ak) 'HOKLAS' means Hong Kong Laboratory Accreditation Scheme
- (al) 'HD' means Housing Department
- (am) 'HyD' means Highways Department
- (an) 'IEC' means Independent Environmental Checker
- (ao) 'ISO' means International Standards Organisation
- (ap) 'ITAP' means Inspection, Test and Approval Plans
- (aq) 'kV' means kilovolts
- (ar) Not Used
- (as) 'Lands D' means Lands Department
- (at) 'LCSD' means Leisure and Cultural Services Department
- (au) 'LD' means Labour Department
- (av) 'LDRGC' means Labour Department Recognised Green Card
- (aw) 'm' means metre
- (ax) 'mm' means millimetre
- (ay) 'm²' means square metres
- (az) 'm³' means cubic metres
- (ba) 'm³/s' means cubic metres per second
- (bb) 'mPD' means metres above principle datum
- (bc) 'MTRCL' means MTR Corporation Limited

- (bd) 'O&M' means Operation and Maintenance
- (be) 'PFA' means Pulverised Fuel Ash
- (bf) 'PFSES' means Pay for Safety and Environmental Scheme
- (bg) 'PS' means Particular Specification
- (bh) 'PWL' means Public Works Laboratories
- (bi) 'SCC' means Special Conditions of Contract
- (bj) 'SDM' same as 'SDMHR' means Structures Design Manual for Highways and Railways (2006)
- (bk) 'SO' means Supervising Officer
- (bl) 'SOR' means Supervising Officer's Representative
- (bm) 'SSEMC' means Site Safety and Environmental Management Committee
- (bn) 'TCSS' means Traffic Control Surveillance System
- (bo) 'TD' means Transport Department
- (bp) Not Used
- (bq) 'TIA' means Traffic Impact Assessment
- (br) 'TMLG' means Traffic Management Liaison Group
- (bs) 'SIL(E)' means South Island Line (East)
- (bt) 'TPDM' means Transport Planning & Design Manual
- (bu) 'TTMS' means Temporary Traffic Management Scheme
- (bv) 'VEP' means Variation of Environmental Permit
- (bw) 'WPCO' means Water Pollution Control Ordinance
- (bx) 'WSD' means Water Supplies Department

1.2.4 All references to the "Engineer" or "Engineer's Representative" in reference texts shall be taken to be the same as references to the "Supervising Officer" or "Supervising Officer's Representative".

1.3 General Obligations

1.3.1 The Contractor shall take full responsibility for the detailed design, construction, testing and commissioning, and, for a period of one year following the date of completion of the Works, maintenance of all elements of the Works, all to the stated requirements of the Contract. The Contractor shall also undertake the design works defined in Employer's Requirement Section 4.

1.4 Project Description

1.4.1. Contract Title : Uplifting Works to Logos Academy Campus at Tseung Kwan O, N.T.

Contract No. : CF2014/2015

The Works are to be executed for the Logos Academy (the School). This project is a Design and Build Contract for the uplifting works in the campus of Logos Academy campus number 1 and 2 in Tseung Kwan O, N.T.

1.4.2 The objective is to enhance the religious appeal of the Logos Academy campus to highlight its character as a Christianity School, it is proposed to develop a sense of creativity and religious atmosphere in the campus, particular on the public image of the school. The brief scope of works is as follows.

Scope of Works

- a. School Motto in Chinese characters on the external wall at the first campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.
Works including erection of scaffolding/ platform at site, fabrication of school motto wordings in enamel coated aluminum cut out wordings at least 100mm thick measured from the surface of the wall, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.
The contractor is required to prepare Minor Works Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled in 2014 summer and should be completed within the summer holiday of the school.
- b. Cladding and feature lighting on the external wall (Extension Block) at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.
Works including erection of scaffolding/ platform at site, fabrication of aluminum cladding works at least 300mm thick measured from the surface of the wall, metal frame works, transporting to site, lifting and fixing and cleaning

and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare cladding Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled on or before 2015 summer and should be completed within the summer holiday of the school.

- c. School Sign and School Motto on the external wall (Assembly Block of the secondary school section) at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.

Works including erection of scaffolding/ platform at site, fabrication of perforated metal frame backdrop (in matching colour with the surrounding wall) at least 500mm projection measured from the surface of the wall, metal frame works, fabrication of school sign and motto in powder coated aluminum cut out wordings at least 100mm thick well fixed to the metal backdrop, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare Minor Works Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled in 2014 summer and should be completed within the summer holiday of the school.

Scope of Works for Free Standing Architectural Feature

- d. Triangular Architectural Feature in the Primary School Campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.

Works including completing verification of the existing site condition, site investigation, substructure works, temporary works including ELS works, superstructure construction, erection of scaffolding/ platform at site, fabrication of structural steel frame works, transporting to site, lifting and fixing, external finishing works, electrical installation works and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare cladding Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled on or before 2015 summer and should be completed within the summer holiday of the school.

1.4.3 In view of existing utilities, comprehensive coordination with relevant authorities and utility undertakings shall be necessary to arrange/execute diversions for construction of the Works.

1.4.4 The Contractor shall conduct assessments and obtain approvals from relevant authorities and any interested parties the condition, protection, support and diversion of various existing utilities and services prior to commencement of construction work.

1.4.5 The Works shall be designed and built in accordance with the best international practice and local design standards.

1.4.6 The Works are illustrated on the Drawings. The drawings illustrate:

- a) General information such as general layouts and Portions of the Site and Works Areas;
- b) Nothing shown or implied on these drawings shall limit the Contractor's responsibilities under the Contract. In particular, but without limitation, no warranty is given that the dimensions, levels or clearances illustrated, shown or implied on the Drawings sufficient to meet the Contract requirements. The Contractor shall develop the Works as illustrated on the Drawings to meet the Contract requirements and any necessary Contractor's requirements for Temporary Works.

1.5 Outline Design

1.5.1 The outline design is shown in the drawing is for reference only. The Contractor is required to develop his design in compliance with the Employer's Requirements.

1.6 Metric Units

1.6.1 The Contract shall use the International System of Units (SI). Codes and Standards in imperial or other units shall not be used unless approved by the client.

1.7 Liaison with Relevant Authorities and Interested Parties

1.7.1 NOT USED

1.7.2 The Contractor shall arrange and attend meetings as necessary for the timely completion of the Works and as required by the Contract. The Contractor shall use his best endeavours to ensure that his sub-contractors, relevant authorities and other contractors attend meetings when so required by the client.

1.7.3 When the Contractor arranges meetings with interested parties or other contractors, unless otherwise defined elsewhere in this Employer's Requirement, he shall inform client at least 4 working days before they are to be held, or such shorter period permitted by the Supervising Officer, and shall give the Supervising Officer the opportunity to attend such meetings.

1.7.4 When required by the client, the Contractor shall attend meetings related to the Contract, which are arranged by the Employer with

other relevant authorities and interested parties.

- 1.7.5 Correspondence in relation to the Contract received from or despatched to interested parties and other contractors shall be copied to the client for information within 2 working days of receipt or despatch.

1.8 Information Available for Review

- 1.8.1 Certain information has been prepared or collated by the client or others on behalf of the client and may be inspected at the client's office on request by the Contractor if not already in the tender documents. The collection of information is not exhaustive and further information may be available from public records and utility undertakings, etc. No warranty is given as to the accuracy or completeness of any information provided by this clause or to any interpretation of the information given by the Employer. The Contractor shall, at his own expense, obtain such further information and make his own assessment of all the information for the necessary undertaking and completing of the Works.

1.9 Sections of the Works

- Section I- comprises all Works for external signage and cladding works..
- Section II - comprises all Works for free standing triangular feature

- END OF SECTION -

Appendix 1A - List of Relevant Authorities and Interested Parties

Agriculture, Fisheries and Conservation Department (AFCD)
Architectural Services Department (ArchSD)
Buildings Department (BD)
Civil Engineering and Development Department (CEDD)
Drainage Services Department (DSD)
Electrical and Mechanical Services Department (E&MSD)
Environmental Protection Department (EPD)
Fire Services Department (FSD)
Food and Environmental Hygiene Department (FEHD)
Highways Department (HyD)

Home Affairs Department (HAD)
Hong Kong Police Force (HKPF)
Housing Department (HD)
Labour Department (LD)
Lands Department (LandsD)
Leisure and Cultural Services Department (LCSD)
Marine Department(MD)
Office of the Telecommunications Authority (OFTA)
Planning Department (Plan D)
Tourism Commission, Commerce and Economic Development Bureau (TC)
Transport Department (TD)
Water Supplies Department (WSD)
Southern District Council (SDC)
Chinese Temples Committee
Area Committees
Property Management Companies / Incorporated Owners' Committees / Owner's
Committees/ Mutual Aid Committees of adjacent residential, commercial and government
buildings or developments
Incorporated Owners Associations
Hong Kong Electric Co. Ltd (HEC)
Hong Kong and China Gas Co Ltd (HKCG)
PCCW-HKT Ltd
HK Cable Television Ltd(HKCG)
Hutchison Global Communications Ltd(HGC)
New World Telephone
Wharf New T&T Ltd
Hong Kong Broadband Network Limited (HKBN)
Towngas Telecom Fixed Network Ltd
Cable & Wireless Hong Kong Ltd
HKC Network Ltd
New World Telecommunications Ltd(NWT)
Rediffusion (Hong Kong) Ltd

MTR Corporation Limited (MTRC)

Appendix 1B - List of Information Available for Inspection

Reports
Site Investigation Report for Campus 2
As-built drawings of the school campus no.1 and no.2

2. GENERAL SITE DATA

2.1 Survey and Structural Condition Survey

Survey

- 2.1.1 The Contractor shall at his own expense undertake his own survey to establish the precise boundaries of the Site, the existing ground levels within the Site, and various other levels as necessary for setting out the Works.
- 2.1.2 The Contractor shall afford all equipment and facilities to the client for carrying out any survey at any time throughout the Contract Period.
- 2.1.3 The Contractor shall, unless otherwise agreed with the client, submit within 7 days from the date of commencement of the Contract a drawing depicting the locations of all points, levels, and lines of reference on which the setting out of the Works will be based.
- 2.1.4 NOT USED

Structural Condition Survey

- 2.1.5 The Contractor shall at his own expense undertake structural condition survey of the existing structures to assess the conditions of the existing structures and provide information to the Contractor's detailed designs.

2.2 Ground Investigation

- 2.2.1 The Contractor must make his own assessment of the information available and shall undertake further ground investigation at his own expense as required to design and construct the Works and temporary works.
- 2.2.2 In reviewing the necessity for further ground investigation, the Contractor shall make reference to the technical guidelines given in the Technical Guidance Note No. 5 (TGN 5) published by GEO.

2.3 The Site

2.3.1 Portions of the Site and Works Area

- (a) The Site is divided into Portions which will be made available to the Contractor at different times and for various durations. The Contractor shall note that parts of the Works including, but not limited to, condition surveys of all structures in the vicinity of the works areas, and etc. may require to be carried out outside these defined Portions of the Site. Possession of these other sites shall not be made to the Contractor and the Contractor shall arrange for accesses to these areas for carrying out these physical/non-physical construction works.

- (b) The descriptions of the Portions given are indicative only. The exact demarcation for these Portions shall be agreed with the client and relevant authorities on Site. The exact nature and extent of the Works to be performed is to be ascertained by reference to the Contract as a whole.
- (c) The Contractor shall note that in the case where their design and construction method render the impositions of additional design requirements from relevant Government authorities, the Contractor shall be responsible for preparing all the required design submissions and carrying out of the approved construction works to the satisfaction of the relevant Government authorities. The cost of such works deemed to have been included in the Contractor's tender price and in no case shall the Contractor be entitled to any additional payment.
- (d) NOT USED
- (e) Possession of the Site by the Contractor for the construction of the Works shall not entitle the Contractor to the exclusive use of the Site. As directed by the client and subject to provision of reasonable justification and notice, Portions of the Site and access thereto is to be made available for the use of others during the course of the Contract.
- (f) NOT USED
- (g) NOT USED
- (h) The programme submitted by Contractor shall take due account of the dates mentioned in Appendix of Form of Tender. The Employer may, however, give to the Contractor possession of Portions of the Site earlier than stated, and the Contractor shall accept them without entitlement to any additional payment for early possession.
- (i) Except if and to the extent otherwise provided for in the Contract the Site shall not be used for purposes other than the execution of the Works.
- (j) The Contractor shall provide hoarding to be used at where works are required. Other than that, the work fronts shall be guarded by continuous barrier. All ground openings shall be covered up after working hours.
- (k) NOT USED

(l) NOT USED

2.3.2 Access

General

- (a) The Contract shall arrange all site accesses and make provision for all temporary lighting, signing and guarding in accordance with conditions and restrictions imposed by any relevant parties. The Contractor shall maintain all the rights of way in a clean, passable and safe state at all times.
- (b) The Contractor shall also regularly clean the campus area if they become dirty as a result of construction activities under this Contract.
- (c) The Contractor shall, when directed by the client with reasonable justification and notice, allow others to use his access(es) during the Contract Period.
- (d) NOT USED
- (e) NOT USED
- (f) NOT USED
- (g) NOT USED

Access to Portions of the Site

- (h) The Contractor shall be responsible for making good any damage to all access which, in the opinion of the client, have been caused by the use of construction or haulage vehicles being used in connection with this Contract.
- (i) NOT USED
- (j) NOT USED
- (k) The Contractor shall not modify any existing installation without the written consent of the client. The Contractor shall reinstate any modified parts of the existing installations to the written satisfaction of the client and the relevant parties concerned.
- (l) The Contractor shall not obstruct any part of the public area, carriageway, footpath or public right of way without endorsements

from the relevant authorities and approval from the client.

(m) NOT USED

(n) NOT USED

2.4 Existing Utilities and Services

2.4.1 General

- (a) Existing utilities and services including HKE power, Towngas, fresh and saltwater supply, drainage, sewerage and telecommunications in the vicinity of the existing utilities and services, the Contractor shall fully comply with the requirement as stipulated in Employer's Requirement. The Contractor shall avoid any diversion or adverse effect to the existing utilities and services.
- (b) The information shown on the Drawings, if provided are based on record plans provided by the corresponding utility undertakings, and neither the Employer nor his agents accepts any responsibility whatsoever for the accuracy of the information contained in these drawings. The Contractor should make further enquiries and investigations as necessary for this planning, design and implementation of the Works under the Contract.
- (c) When preparing the programme of works to be submitted, the Contractor shall be responsible for arranging, co-coordinating, and agreeing with the utility undertakings a programme for their works. The Contractor shall make full allowance for time and provision of facilities and working space for utility undertakings in his programme. The Contractor shall have allowed in his programme the time required for the exposing, temporary support and diversion of all utilities affected by the Works.
- (d) The Contractor shall prepare the proposed layouts and circulate to all utility undertakings for the planning of utilities diversions required for the execution of the Works. The Contractor shall also identify all existing utility services and facilities to be affected by the Works and define the facilities to be abandoned, facilities to be supported in place, facilities to be relocated when carrying out the design of the Works.
- (e) The Contractor shall liaise closely with the utility undertakings and shall take all reasonable steps to ensure the utility undertakings would proceed with their works in accordance with the agreed programme. Due consideration shall be made in construction phasing to accomplish any relocation and method of accommodating utilities during construction.

- (f) The Contractor shall keep the client informed of the agreed timing of works to be carried out by utility undertakings, and shall inform the same immediately if any delays by the utility undertakings will affect the overall programme of works.
- (g) The Contractor shall exercise the utmost care to avoid damaging, or interfering with, any utility services and shall be responsible for any such damage caused by him or his agents arising directly or indirectly from anything done or omitted to be done. The Contractor shall carry out all temporary work necessary to adequately support and protect such services.
- (h) The Contractor shall carry out investigations to locate existing utilities and services by means of non-destructive detection methods and hand-dug inspection pits. The locations and number of inspection pits required in meeting the Contractor's obligation to establish the locations of existing utilities and underground features shall be determined by the Contractor. The Contractor shall note that many existing pipe/ducts/cables may not be shown in records kept by the utility undertakings, and may only be identified by non-destructive detection methods and exposed by excavation. The trench excavation shall be carried out by hand where there are utilities adjacent to or within the excavation works. Should any pipes/ducts/cables or cover tiles be exposed, the respective utility undertakings shall be contacted to determine if all the utilities have been located. Cover tiles and utilities shall only be removed by the utility undertakings concerned.
- (i) The Contractor shall be fully responsible for all temporary utility diversions required to facilitate the construction of either temporary or permanent works. The Contractor shall be responsible for coordinating and paying all necessary fees and charges for the work which is necessary to be carried out by the utility undertakings for implementations of temporary utility diversions.
- (j) The Contractor shall be responsible for the relocation, temporary or permanent, and maintenance of facilities in the school in accordance with the requirements of the relevant authorities/parties during the course of construction.
- (k) All cables shall remain live at all times during construction and no cable shall be abandoned before diversion. All existing cables and gas mains to be affected by the works identified to be abandoned and no longer required after the proposed utility diversions shall be removed and disposed off site by the Contractor after verified by the corresponding utility undertakings unless specified otherwise.

2.5 Site Constraints- NOT USED

2.6 Interfaces with other Projects- NOT USED

2.7 Stock Piling- NOT USED

- END OF SECTION -

2A.1 Site Survey and Setting Out

- 2A.1.1 Prior to constructing any part of the Works, the values of the control point(s) necessary for setting out these works shall be agreed with the client, and the agreed values then form the basis for setting out these works. The Contractor shall take every precaution to protect and preserve, where possible, such points from disturbance to the satisfaction of the client. The Contractor shall further re-check the accuracy of all control points at intervals not exceeding 90 days throughout the Contract duration and notify the client immediately when discrepancy is discovered.
- 2A.1.2 The Contractor shall carry out all setting-out using methods approved by the client.
- 2A.1.3 To facilitate checking of the setting-out by the client and of the amount of work executed for interim and final payments, the Contractor shall preserve all benchmarks, sight-rails, pegs and other marks used in the setting-out, as and when required by the client.
- 2A.1.4 NOT USED
- 2A.1.5 NOT USED.
- 2A.1.6 Any survey station, piezometer or other monitoring point which is within the Portions of Site limit shall be preserved until the completion of the Works unless the client shall direct otherwise.
- 2A.1.7 The Contractor shall jointly with the client undertake all survey work necessary to establish, maintain control of and record the locations, alignments and levels of the Works. The survey work shall, but not limited to the followings:
- (1) Initial survey for the followings:
 - (a) establishment of the lines, levels and boundaries of the Works;
 - (b) confirming the details and location of all Utility Services on or in the vicinity of the Site;
 - (c) checking whether adjacent buildings and structures and any adjacent construction work not associated with the Contract are properly coordinated with principal location.
 - (d) checking whether all works are within the Site.
 - (2) All surveys required during the progress of the Works to control and record locations, alignments and levels of the Works;
- 2A.1.8 Unless otherwise permitted by the client, all survey measurements shall be either directly recorded or prepared in an electronic digital format which is suitable for the preparation of Survey Record Drawings as stated in the Draft Specification for Engineering Survey (to be used in conjunction with CAD Standard for Works Projects).
- 2A.1.9 NOT USED

2A.1.10 NOT USED

2A.1.11 NOT USED

2A.1.12 NOT USED

2A.1.13 NOT USED

2A.1.14 NOT USED

2A.1.15 The Contractor shall undertake record surveys for all as-constructed Permanent Works.

2A.1.16 NOT USED

2A.1.17 The units of measurement for recording the as-constructed location and level of the Permanent Works shall be as follows:

Linear Measurements:	metres;
Vertical Measurements:	metres;
Angular Measurements:	clockwise from 0° to 360°;
Azimuth:	Local Plane Rectangular System

2A.1.18 The Contractor shall prepare and maintain a set of drawings ("the Survey Record Drawings") of the Permanent Works to show the as-constructed survey records and identify any changes thereto, whether due to the client's instructions, the Contractor's method of construction, site conditions or any other reason.

2A.1.19 NOT USED

2A.1.20 NOT USED

2A.1.21 NOT USED

2A.1.22 NOT USED

2A.1.23 NOT USED

2A.1.24 NOT USED

2A.1.25 NOT USED

2A.1.26 The use of Coordinates System and Height Datum

- (1) For all works within the Site limit, the coordinates shall be referred to the Hong Kong 1980 Grid System.
- (1) All survey levels shall be referred to the Hong Kong Principle Datum (HKPD) or Chart Datum (CD).

TABLE :
REQUIREMENTS FOR AS-CONSTRUCTED SURVEYS AND SURVEY
RECORD DRAWINGS

A. EARTHWORK -

Item	Requirements for as-constructed surveys	Survey Record Drawing
N/A	-	-

B. STRUCTURES

Item	Requirements for as-constructed surveys	Survey Record
(1) Foundations and footings	Founding levels at 5m centres; location, size & level of top of foundation concrete	Location Plan
(2) Columns	Location of centre-point at column head & foot	Location Plan
(3) Walls	Location of inner & outer faces at each end of wall, at vertical construction joints and at any changes of alignment. Where top of wall is exposed the finished levels at 5m centres and at any changes of alignment	Location Plan

3. STATUTORY REQUIREMENTS

3.1 The Contractor shall comply with the requirements of all relevant ordinances and regulations, including but not limited to the following:

Ordinances:

- Air Pollution Control Ordinance
- Antiquities and Monuments Ordinance
- Buildings Ordinance
- Construction Workers Registration Ordinance
- Crimes Ordinance
- Crown Land Resumption Ordinance
- Dangerous Goods Ordinance
- Dumping at Sea Ordinance
- Electricity Ordinance
- Employment Ordinance
- Environmental Impact Assessment Ordinance
- Factories and Industrial Undertakings Ordinance
- Foreshore and Sea-bed (Reclamations) Ordinance
- Immigration Ordinance
- Land (Miscellaneous Provisions) Ordinance
- Land Drainage Ordinance
- Merchant Shipping (Local Vessels) Ordinance
- Noise Control Ordinance
- Occupational Health and Safety Ordinance
- Public Health and Municipal Services Ordinance
- Public Lighting Ordinance
- Road Traffic Ordinance
- Roads (Works, Use and Compensation) Ordinance
- Shipping and Port Control Ordinance
- Town Planning Ordinance
- Waste Disposal Ordinance
- Water Pollution Control Ordinance
- Waterworks Ordinance

Regulations:

- Air Pollution Control (Construction Dust) Regulations
- Air Pollution Control (Open Burning) Regulations

- Air Pollution Control (Specified Processes) Regulations
- Building Regulations
- Construction Sites (Safety) Regulations
- Dangerous Goods (General) Regulations
- Electricity Wiring Regulations
- Builder's Lifts and Tower Working Platforms (Safety) Regulations
- Factories and Industrial Undertakings (Abrasive Wheels) Regulations
- Factories and Industrial Undertakings (Cartridge-Operated Fixing Tools) Regulations
- Factories and Industrial Undertakings (Confined Spaces) Regulations
- Factories and Industrial Undertakings (Dangerous Substances) Regulations
- Factories and Industrial Undertakings (Electricity) Regulations
- Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations
- Factories and Industrial Undertakings (Noise at Work) Regulations
- Factories and Industrial Undertakings (Protection of Eyes) Regulations
- Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations
- Factories and Industrial Undertakings (Suspended Working Platforms) Regulations
- Factories and Industrial Undertakings (Woodworking Machinery) Regulations
- Factories and Industrial Undertakings (Safety Management) Regulations
- Factories and Industrial Undertakings (Loadshifting Machinery) Regulations
- Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulations
- Factories and Industrial Undertakings (Guarding and Operation of Machinery) Regulations
- Factories and Industrial Undertakings (Work in Compressed Air) Regulations
- Merchant Shipping (Local Vessels) (Certification and Licensing) Regulations
- Occupational Safety and Health Regulations
- Road Traffic (Expressway) Regulations
- Waste Disposal (Chemical Waste) (General) Regulations

4. DESIGN BRIEF

4.1 General Design Specifications

- (a) The design of the Works shall be developed by the Contractor in accordance with these Employer's Requirements, the Contractor's proposals and other requirements of the Contract. In the event that any discrepancy is found between the Drawings and the Employer's Requirements, the Employer's Requirements shall prevail.
- (b) The Works shall be designed and constructed using proven up-to-date good practice and to the latest standards available. The Contractor's proposal shall in any case, which in the S client's opinion, not be less than or inferior to those described in the Employer's Requirements.
- (c) NOT USED
- (d) The Contractor shall adopt the outline design provided in the Drawings as reference and develop the construction details with appropriate materials in accordance with the requirements set out in the Employer's Requirements.
- (e) The Contractor shall propose and use durable materials for all permanent works.
- (f) The Contractor shall provide suppliers' information, job reference, specification, warranty, etc. for the proprietary materials to ensure the proposed materials are of highest standard of quality.
- (g) NOT USED
- (h) NOT USED
- (i) The design shall be functional, sustainable and environmentally sensitive, incorporating renewable resources and environmentally friendly materials.
- (j) NOT USED

4.1.1 Serviceability

- (a) All new works shall have a design life of 50 years (where applicable), apart from minor components, which can be replaced without complete removal and without interruption to the school operation. Such components shall have a service life of at least 20 years. Only materials and details having a proven record of durability in similar conditions shall be used. Maintenance arrangement for the Works shall be designed and specified accordingly.
- (b) Steelwork shall be hot dip galvanised and subsequently painted unless otherwise specified. The paint systems for steelwork shall have a minimum life of 15 years before full maintenance painting is required. The corrosion protection of non-structural steel items shall be

appropriate to the accessibility of the items for inspection and routine maintenance. Steelwork details shall be designed such that, whenever practicable, all connections are inspectable in service.

- (c) Existing drainage or associated drainage for the Works within the project boundary shall be assessed/ designed, with provision of upgraded/new drainage system incorporated to prevent flooding of rainwater. The drainage system shall be easily accessible for inspection and routine maintenance. Particular attentions shall be given to the relatively flat areas along the promenade.
- (d) The Works shall be designed and constructed to minimise the amount of costs of maintenance whilst not compromising the performance characteristics and the prescribed aesthetic requirements. Maintenance requirements shall be minimised by appropriate detailing and the selection of suitable materials, which reduce weathering and staining as far as possible. Structures shall be detailed to shed surface water in such a way that ponding and streaking do not occur. Details which encourage the accumulation of debris shall be avoided. Details shall be designed for ease for maintenance.

4.2 Design Standard

The following list of Manuals, Codes, Guidance Notes and Guidelines are applicable to the Contract. The list is not exhaustive and shall not necessarily represent all relevant design documents for the Contract. The Contractor shall be responsible for checking and following all necessary design documents for the proper execution of the Works.

4.2.1 Relevant Manuals:

- (1) Hong Kong Civil Engineering Manual
- (2) Code of Practice on Wind Effect in Hong Kong, 2004, Buildings Department
- (3) Hong Kong Code of Practice for the Structural Use of Steel, 1987
- (4) Hong Kong Code of Practice on Structural Use of Concrete, 1987
- (5) Civil Engineering and Development Department, Geoguide 2; Guide to Site Investigation, September 1987
- (6) Civil Engineering and Development Department, Geoguide 3; Guide to Rock and Soil Descriptions, July 1988
- (7) Civil Engineering and Development Department, Geotechnical Engineering Office (GEO) Publication No. 1/2006 – Foundation

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- (8) Civil Engineering and Development Department, Geotechnical Control Office (GCO) Publication No. 1/90 – Review of Design Methods for Excavations
- (9) Civil Engineering and Development Department, GEO Ground Investigation Note No. 1/2006
- (10) Civil Engineering and Development Department, relevant GEO Reports
- (11) Civil Engineering and Development Department, relevant GEO Technical Guidance Notes
- (12) Relevant Development Bureau Technical Circulars (Works)
- (13) Relevant Environment, Transport and Works Bureau Technical Circulars (Works)
- (14) Building Department, Design Manual – Barrier Free Access 2008
- (15) Building Department, relevant Technical Circulars / Practice Notes including PNAP
- (16) Building Ordinance and its related regulations

4.3 Drawings

- 4.3.1 A list of Drawings showing the layout and outline design of the Works is provided in Appendix 4A.
- 4.3.2 The outline design drawings are for reference only, unless otherwise specified in this Contract document. The Contractor is required to develop the detailed design and construction details in compliance with the Employer's Requirements.

4.4 Performance Specifications

4.4.1 General Requirements for Lighting

- (a) Lighting requirements are not prescribed explicitly and shall be proposed by the Contractor on case-by-case basis for each proposed feature in the scheme. The Contractor is expected to consider the following in the lighting design:
 - Lighting arrangement, both internally and externally for a structure to maintain its function in the operation hours;
 - Security; and
 - Enhancing Christian faith appeal for the Special Features

of the works in the night time.

- (b) The Contractor shall also be responsible for assessing the existing lighting arrangement within the school and recommending, in the proposed landscape design at tender stage, as to whether new/upgraded lighting will be required. The Contractor shall demonstrate how the proposed lighting will integrate with and enhance the proposed design, for example, an appropriate improved lighting type, which will highlight the iconic features in the darkness. Flood light may be proposed with careful considerations given to its impact on lighting nuisance to the local residents.
- (c) For any new/upgraded lighting forming parts of the design, The Contractor shall be responsible for specifying the lighting type, location, proposed level of luminance and associated electrical connections subject to approval from the client.

4.5 Other requirements

4.5.1 As-built Drawings and O&M Manuals

As-built Drawings

- 4.5.1.1 The Contractor shall prepare as-built drawings of the completed Works designed by The Contractor. A draft version of all as-built drawings shall be prepared and submitted to the client within two months of the issue of a certificate of completion of that Section. The as-built drawings shall be to the approval of the Supervising Officer. Six hard copies and one soft copy (including both CAD format and pdf format) of the approved as-built drawings for a particular Section of the Works shall be submitted within 90 days of the date of the certificate of completion for that Section.
- 4.5.1.2 Reproducible negatives and electronic copies shall be provided for all as-built drawings. The format for all electronic files shall be agreed with the Supervising Officer.
- 4.5.1.3 All as-built drawings of the completed Works designed by The Contractor shall be signed by authorised representatives of The Contractor, the designer and the Design Checker to confirm that the Works as-built and shown on the drawings comply with the requirements of the Contract.

Operation and Maintenance Manuals

General

- 4.5.1.4 The Contractor shall prepare an Inspection, Operation and Maintenance Manual relating to the inspection and maintenance procedures of all structures, architectural finishes and associated mechanical and electrical

installations.

4.5.1.5 NOT USED

4.5.1.6 Maintenance instructions shall include charts showing lubrication, checking, testing and replacement procedures to be carried out daily, weekly, monthly and at longer intervals to ensure trouble free operation. Where applicable, fault location charts shall be included to facilitate trouble-shooting in the event of imperfect operation or breakdown.

4.5.1.7 During delivery and installation, The Contractor shall update, amend, modify and supplement the draft manuals as necessary for the client's approval.

4.5.1.8 NOT USED

4.5.1.9 NOT USED

4.5.1.10 NOT USED

4.5.2 Guarantees and Maintenance Requirements

General

4.5.2.1 The Contractor shall be responsible for consulting and obtaining approval from the relevant parties during the design stage.

4.5.2.2 The Contractor shall prepare and submit the as-built records to relevant maintenance authorities within three month after the completion of works unless otherwise specified in this section. The as-built records shall clearly indicate all information and details for the completed works and shall include

- two sets of velographs in A1 size,
- one set of digital data files in both CAD and PDF format, in the form of CD- ROM.

4.5.2.3 NOT USED

4.5.2.4 NOT USED

4.5.2.5 10% of the spare parts of the lighting equipment together with the photocell controller, other than that of conventional road lighting system, shall be provided and delivered to the designated area of Lighting Division of Highways Department. The amount of spare parts to be handed over shall be agreed by the Lighting Division.

4.5.2.6 Four sets of the as-fitted public lighting drawings, lighting layout and

conduit layout plans for the noise enclosure lighting installation, O&M manuals shall be submitted before handing-over of the lighting systems. The as-fitted drawings shall be in “.DWG” format.

4.6 Consultation- NOT USED

5. PROGRAMME REQUIREMENTS AND PROGRESS REPORT

5.1 General Requirements on Programme

5.1.1 General

- (a) The Contractor shall submit his proposed draft Works Programme including an outline narrative statement within 7 days of notification of acceptance of the Tender and his more detailed version within 7 days of receiving the client’s comments on the draft Works Programme. In addition, the Contractor shall submit an Executive Summary Programme at the same time with the Works Programme and all updates.
- (b) The Contractor shall programme his work at all times to meet the periods for completion of the Works as stated in the Contract.
- (c) The Contractor shall plan in detail the full scope of the Contract taking into account the complex nature and different phases and aspects of the Contract and provide realistic programmes which reflect the detail planning undertaken, and provide detailed supporting information.
- (d) The Contractor shall monitor his progress against those programmes or others as required by the client. Progress monitoring shall be carried out daily. The monitoring reports shall be submitted by the end of each calendar month including all necessary supporting data.
- (e) All programmes shall be submitted in paper format and electronically on compact disc.
- (f) In compiling his Works Programme and in subsequent updating and reporting, the Contractor shall make provision for the time required for determining and complying with the requirements of Government Departments and entities whose consent, permission, authority or license is required prior to the execution of any work. The Contractor shall also make provision for the time required for order and delivery periods for any manufactured parts or materials, for obtaining and preparation of any lands for use in fabricating or preparing any materials or parts off-site and for the transport of such materials and parts to the Site and for any other purposes in

connection with the Works.

5.1.2 Works Programme

- (a) The Works Programme shall show the Contractor's plan for designing and construction of the Works including any necessary submission of design by the Contractor to the client for checking.
- (b) Tasks in the Works Programme shall be sufficiently detailed to describe activities and events that include, but are not limited to, the following :
 - (i) the periods for completion of the Section of the Works;
 - (ii) all on-site work, including Temporary Works, temporary and permanent utility diversions;
 - (iii) the requested date for issue of any drawings or information by the client;
 - (iv) the requested date for grant of approvals/consents by the client or relevant authorities;
 - (v) statutory submission and approval;
 - (vi) Contractor's designs including periods for design, review and check by relevant Government Departments, independent design checking and dates for submission to and acceptance by the client;
 - (vii) dates for submission and acceptance of construction and shop drawings;
 - (viii) dates for obtaining permits from various authorities;
 - (ix) procurement of major materials and the delivery and/or partial delivery date on-Site of all plant and major equipment;
 - (x) any off-Site work such as production or pre-fabrication of components or materials;
 - (xi) installation of temporary construction facilities;
 - (xii) interfaces with other contractors or utility undertakings;
 - (xiii) testing;

- (xiv) design and/or construction activities of sub-contractors;
 - (xv) any external factors which will or may affect the Works including General Holidays and inclement weather; and
 - (xvi) utilities diversion programme.
- (c) The Works Programme shall show completion within the times for completion of the Works. The Works Programme shall also show all completion dates and Milestone stated in the Schedule of Milestones, but the Milestone shall not be taken as imposing any constraints which in any way affect the logic or limit the achievement of completion dates in the programme.
- (d) Activity descriptions shall be unique, describing discrete elements of work. Any activity creating an imposed time or other constraint shall be fully defined by the Contractor.
- (e) The Works Programme shall be organized in a logical work-breakdown-structure including work stages and shall clearly indicate the critical path(s).
- (f) Each activity in the Works Programme shall be coded to indicate :
- (i) work groups responsible for the activity including identification of Contractor or sub-contractor;
 - (ii) area, facility or location.
- (g) All programmes shall be fully resourced and include but not limited to; major manpower trades, numbers of items of major plant and equipment, principle quantities (i.e. numbers of drawings, other design deliverables and approvals, volume of excavation/concrete, tonnage of steelwork, reinforcement, area of formwork, finishing works, numbers of components or parts, length of cabling, pipe, ductwork and equipment items, etc.) as appropriate or required by the Supervising Officer covering all stages and aspects of the Contract.
- (h) Activity durations shall not exceed three months except as approved by the Supervising Officer and shall be expressed in working days. The Contractor shall submit a programme/project calendar with cross references clearly indicating the allowance for General Holidays and inclement weather.
- (i) The Works Programme shall be accompanied by an activity report and a narrative statement, in both electronic format and hard copy

(time scale logic diagrams in A1 size, reports in A4 size).

- (j) The narrative statement shall be a comprehensive statement of the Contractor's plan and approach for the execution of the Works and the completion of the Works within the specified periods for completion. It shall incorporate outline method statements and assumptions in respect of major items of work including Temporary Works and shall cover:
 - (i) Construction sequences fully explaining the reasons for the main logic links in the Works Programme;
 - (ii) daily and weekly working hours, holidays and shift patterns;
 - (iii) assumed production levels for all major activities;
 - (iv) overall manpower forecasts detailing individual trades and other sub-contract/indirect labour;
 - (v) particulars of how activity durations are established;
 - (vi) primary items of plant;
 - (vii) S-curves and histograms showing the planned weekly figures for each principle quantity, major items of equipment and major manpower trades;
 - (viii) consideration of major programme risks and proposed mitigation measures; and
 - (ix) such other information or may be requested by the Supervising Officer.

5.1.3 **Draft Works Programme- NOT USED**

5.1.4 **Executive Summary Programme**

- (a) The Executive Summary Programme shall be condensed from the Works Programme and it shall show all major components of the Works in particular those where milestones are attached. The number of items shall normally not exceed 30 but the exact details and presentation shall be agreed with the Supervising Officer. It shall satisfy the requirements of software described in Employer's Requirement Clause 5.1.9 below and capable of being electronically transferred to the computer system in the Supervising Officer's and Employer's offices.

5.1.5 Works Programme Revisions

- (a) The Contractor shall immediately notify the client in writing of the need for any change in the Works Programme, whether due to a change of intention or of circumstances or for any other reason.
- (b) If at any time the client considers the actual or anticipated progress of the work reflects a significant deviation from the Works Programme, he shall request in writing the Contractor to submit a proposed revised Works Programme, together with an accompanying activity report and narrative statement.

5.1.6 Three-month Rolling Works Programme- NOT USED

5.1.7 Three-month Rolling Works Programme Revisions and Updates- NOT USED

5.1.8 Utility Programme Requirements- NOT USED

5.1.9 Programme Management Software- NOT USED

5.2 Monthly Progress Reports

5.2.1 General

- (a) The Contractor shall submit to the client the following sets of Monthly Progress Reports (MPR) describing the current status of the Works:
 - (i) 2 copies of full Monthly Progress Report for the use of client,
 - (ii) 1 copy of full Monthly Progress Report in CD-ROM format for the use of the client.
- (b) The MPR shall be submitted before the 10th day (unless otherwise instructed by the client) of each month, and shall account for work actually performed up to and including the last day (unless otherwise instructed by the client) of the preceding month and work forecast to be accomplished through to the end of that month.
- (c) The Monthly Progress Report for a month shall be submitted with or prior to the application of interim payment for the month, but in any event no later than the 10th day of the following calendar month. The report shall account for all works actually performed and works forecast to be completed within the next month.
- (d) The Contractor shall attend monthly progress meeting to discuss the progress of the Works and all issues mentioned in the MPR and

other relevant issues raised by the client.

- (e) The Monthly Progress Report shall be submitted in a format to which the client shall have given his consent and shall contain sections/ sub-sections for, but not limited to, the topics described below.

5.2.2 Progress

- (a) The Monthly Progress Report shall describe the status of work performed as agreed with the Supervising Officer and work forecast to be completed as discussed with the client which shall include the design and construction of the permanent Works and Temporary Works, significant accomplishments, including critical items and problem areas, corrective actions taken or planned and other pertinent activities and shall, in particular, address interface issues, problems and resolutions.
- (b) The Monthly Progress Report shall include a simplified representation of progress measured in percentage terms and compared with the percentages derived from the Works Programme. This can be incorporated into the items of Programme Update and the Executive Summary Programme Update.
- (c) The Monthly Progress Report shall include a report on the status of all Milestones due to have been achieved during the month, forecasts of their achievement and of any missed Milestone, and those Milestones which are to be due in the next month.
- (d) The Monthly Progress Report shall include a section covering the survey work undertaken each month. This section of the monthly report shall comment on the survey work undertaken and the survey record completed. It shall also show planned survey programmes for the following month.

5.2.3 Programme Update (including Executive Summary Programme)

- (a) The Monthly Progress Report shall include an updated programme in coloured prints. Programme updating shall include:
 - (i) the monthly programme update which shall be prepared by recording actual activity completion dates and percentage of activities complete within the month of submission together with estimates of the duration and expected completion dates of the remaining activities based on current progress. The programme update shall be accompanied by an activity report and a narrative statement;
 - (ii) the programme status which shall display Works Programme status up to and include the current report period, cumulative

progress to date and a forecast of work remaining to be presented either as a Gantt-chart on A3 or A4 media or a time-phased logic network diagram on A1 media and shall include activity listings;

- (iii) the activity variance analysis which shall analyse activities planned to start prior to or during the report period but have not started at the end of the report period as well as activities that have started and/or completed in advance Programme; and
- (iv) the measures to mitigate any delay experienced.

- (b) Executive Summary Programme updating shall basically include (i) and (ii) above but for the main activities in the Executive Summary Programme. The detailed format to be agreed with the client.

5.2.4 **Planning and Coordination**

- (a) The Monthly Progress Report shall include a summary of all planning/coordination activities during the month and details of outstanding actions.
- (b) A schedule of all submissions and consents/approvals obtained/outstanding.
- (c) The Monthly Progress Report shall also include a report on utilities diversion and installation:
 - (i) A summary of meetings and liaisons with various utility undertakings and relevant authorities;
 - (ii) Updated schemes and programmes on utility diversions and installations; and
 - (iii) Any other matters relating to utility diversions and installations.

5.2.5 **Contract Matters**

The Monthly Progress Report shall include:

- (a) A summary of committed contract value, payment received, claims, variations, appointment of sub-contractors and material suppliers, extension of time granted and updated completion dates; and
- (b) A schedule of the status of all outstanding claims. The report shall in particular provide interim updated accounts of the continuing claims and actions taken by the Contractor to assist the client in resolving the outstanding claims.

5.2.6 Procurement

- (a) The Monthly Progress Report shall include a summary of all significant procurement activities during the month, including activities taken to overcome problems.
- (b) A computer generated report listing major items of plant and materials which will be incorporated into the Works. The items shall be segregated by type as listed in the Specifications and will be retrievable by type, date of various procurement actions, origin or other specific information as may be required by the client.

5.2.7 Production

The Monthly Progress Report shall include:

- (a) A review of all production and manufacturing activities during the month; and
- (b) Summaries of all production and manufacturing outputs during the month together with forecasts for the next month.

5.2.8 Safety

The Monthly Progress Report shall include:

- (a) A review of all safety matters during the month including reports on all dangerous occurrences, accidents, safety breaches and corrective actions proposed to prevent future occurrence; and
- (b) This section of the report shall be signed by the Safety Officer.

NTT 46 5.2.9 **NOT USED**

NTT 47 5.2.10 **NOT USED**

NTT 48 **NOT USED**

5.2.11 Public Relations

The Monthly Progress Report shall include:

- (a) A summary of all complaints and enquiries received on environment issues;
- (b) A summary of all complaints and enquiries received on non-environment issues;
- (c) A summary of activities performed during the month together with a forecast for the next month;

- (d) A review of all activities relating to public relations; and
- (e) This section of the report shall be signed by the PR Officer.

5.2.12 **Financial**

The Monthly Progress Report shall include:

- (a) A summary of committed Contract value, interim payment received, claims, variations;
- (b) A review of all significant outstanding financial matters and actions proposed or taken; and
- (c) A schedule indicating the status of all variations and a monthly expenditure forecast.

NTT 49 NOT USED

NTT 50 NOT USED

6. QUALITY ASSURANCE

6.1 Introduction

- 6.1.1 The Contractor shall establish, implement and maintain a documented Quality System to control all activities so as to facilitate completion of the Works in accordance with the Contract.
- 6.1.2 The Quality System shall include, but not limited to, the management, design, manufacture, construction, monitoring, testing, installation and commissioning of the Works, and to ensure that these activities are in compliance with the Employer's requirements.

NTT 51 6.2 NOT USED

6.3 Quality System Requirements

- 6.3.1 The Quality System shall embrace the activities of the designer, Design Checker, all subcontractors, manufacturers and suppliers who shall be required to conform to the Quality System procedures defined by the Contractor in order to ensure compliance with the Employer's requirements.
- 6.3.2 NOT USED
- 6.3.3 The Contractor shall ensure that the design and site operations conform

to his quality procedures, and that the procedures for purchase and supply of materials, products and specialist services, and the subcontractor's activities comply with the Quality System. The Contractor shall provide certificates, inspection and test reports/records, and similar documentary evidence to demonstrate that all materials, products and specialist services used in the Works comply with the requirements of the Contract. Where specific certification requirements are not specified these shall be agreed with the School prior to the placement of purchase orders.

- 6.3.4 The Contractor shall also establish and maintain procedures in the Quality System to review the design of the permanent Works prepared by the designer to ensure that the design is in compliance with the Employer's requirements. The other purpose of this review is to ensure the Contractor and designer have the same understanding of the design, functional and contractual requirements of the Works and of their responsibilities and that the Contractor's, its sub-contractor's and supplier's resources are adequate to the task and that these review activities are recorded in detail and submitted to the Supervising Officer.
- 6.3.5 NOT USED
- 6.3.6 Quality plans which are necessary to meet the quality objectives shall be prepared for all activities under, but not limited to, the following headings by the Contractor:
- (a) Design and design checking of permanent and Temporary Works;
 - (b) Construction and installation of permanent Works;
 - (c) Erection of Temporary Works;
 - (d) Manufacturing;
 - (e) Records (correspondence, documents, reports, drawings, etc.);
 - (f) Approval and submission procedures;
 - (g) Inspection and testing;
 - (h) Site safety policy and control;
 - (i) Environmental protection.
- 6.3.7 The Contractor shall include in the Progress Report include non-conformities during the month and the progress of any corrective and preventive actions that have been taken or otherwise towards clearance of such non-conformities and observations.

The Contractor shall provide all necessary access, assistance and facilities enabling the School to conduct on-Site and off-Site surveillance visits in order to verify the Quality System is being properly and fully

implemented. The School shall also carry out random checks on the Contractor's activities and operations under the Quality System and those of its subcontractors of any tier of the entire range of activities for compliance with the requirements of the Contract.

- 6.3.8 The Supervising Officer may serve notice in writing on the Contractor in respect of non-conformities. The School shall issue a report to the Contractor summarizing the status of all the non-conformities identified and the time period notified to the Contractor for rectifying such non-conformities. The Contractor shall take all necessary steps to implement the appropriate corrective and preventive actions without delay, but in any event within the period for rectification specified in such notice.
- 6.3.9 The inspection and testing of materials and workmanship by the Contractor in accordance with the Quality System shall be without prejudice to the Supervising Officer's duties and powers under the Contract to supervise and inspect the Works, and to carry out or order any test.

7. SAFETY ASPECTS

7.1 General

- 7.1.1 The health, safety and welfare of all personnel working on the Project, the general public, and the avoidance of damage to property and equipment are all of paramount importance to the Employer. Prime consideration shall be paid to construction activities to ensure that all operations shall be conducted in such a manner as to eliminate the risks to persons, property and equipment. The Contractor shall treat safety, health and loss prevention measures as the top priority in all his activities with respect to executing the Works.
- 7.1.2 In undertaking the construction of the Project, the Contractor shall comply with the requirements of the latest Construction Site Safety Manual (CSSM) published by the Development Bureau of the Government of Hong Kong SAR.
- 7.1.3 The Contractor shall ensure that his subcontractors of any level, all persons employed by him on the Site and any person authorised by him to be on the Site, shall comply in every respect with the provisions of relevant statutory requirements, the Contract requirements and the Contractor's own Safety Plan for construction. The Contractor shall ensure that proper and adequate provisions regarding safety, health and loss prevention, to ensure compliance are included in all subcontracts placed by him and into all subcontract documentation.
- 7.1.4 The Contractor shall provide and employ on the Site only such personnel who have received adequate training including safety and health training relevant to their tasks and adopt safe working practices at all times and shall ensure his sub-contractors comply with this requirement.

7.1.5 The Contractor shall not allow any person to work on the Site who has repeatedly breached safety requirements. A notice of such sanction shall be displayed at a prominent place on the Site.

7.1.6 Particular attention shall be paid to the following:

- (a) provision of proper safety and rescue equipment of sufficient quantities to cater for emergency situations, fire, gassing incident, electric shock, etc, first aid boxes, stretchers, resuscitators, fire extinguishers, breathing apparatus, gas detectors, full body safety harnesses with attached life rope, etc;
- (b) safe storage, handling and use of explosives, gases, fuels, and other dangerous goods;

- (c) control of flood water, including the provision of ample standby pumping and generating plant;
- (d) provision of suitable lighting to provide adequate illumination of the Works with appropriate spares and standby equipment;
- (e) provision and maintenance of safe, sound mechanical equipment, each item of plant having a valid test certificate;
- (f) provision and maintenance of safe slings, ground ropes, pulleys and other uplifting tackle, each appliance having an up to date test certificate where appropriate; and,
- (g) provision of adequate ventilation taking account of the method of working and the potential for accumulation of radon and other gases.
- (h) provision of safety measures to ensure the safety of the staff and students at all time.

7.2 Legislation, Regulations and/or Codes of Practice

- 7.2.1 The Contractor shall provide at least two sets of each of the relevant legislation, regulations and/or codes of practice on the Site, one set being for the sole use of the Supervising Officer.
- 7.2.2 The Contractor shall display advisory and warning signs, labels and/or posters for the promotion and enhancement of safety and health and notices concerning the availability of the legislation and documents stated above at prominent locations around the Site including site offices and workshops.
- 7.2.3 All legislation and documents referred to in this Clause shall be kept in both Chinese and English insofar as available.

7.3 Safety Risk Assessments

- 7.3.1 NOT USED
- 7.3.2 The Contractor shall prepare and submit to the Supervising Officer, for review and approval, detailed method statements for all construction tasks with perceived risks to safety, health and such other construction tasks as the Supervising Officer requires:
 - (a) Method statements shall be prepared as logical construction guides designed for the use of the Contractor's engineers on site and shall be submitted for review by the Supervising Officer. They shall:
 - (i) describe planned construction sequences, materials, personnel and plant to be used;

- (ii) provide a safety risk assessment covering the Contractor's personnel, sub-contractors' personnel, Supervising Officer's personnel, the public and all persons directly or indirectly associated with the Works;
 - (iii) include a hazard analysis;
 - (iv) propose safe working procedures and equipment to prevent injury, including personal protective equipment, relevant safety training and any pertinent safety measures to be adopted; and
 - (v) identify the risk controller (the person responsible for managing and controlling the risk).
- (b) After review by the Supervising Officer a copy of the method statement shall be held in the Contractor's site office to facilitate monitoring of the work, and further copies shall be given to the Contractor's engineer for the described works and the Supervising Officer. The original shall be retained in the Contractor's files for audit purposes.
- (c) The Contractor shall monitor construction activities and ensure safe working procedures are being followed.

7.3.3 NOT USED

Manual Handling

- 7.3.4 If manual handling is required for any Works, a risk assessment should be carried out in accordance with the Guidance Notes on Manual Handling Operations published by the Labour Department. The Safety Officer should keep the relevant records of the risk assessment at the site which shall be readily available for inspection by the ER or his/her representatives.

7.4 Safety Plan

- 7.4.1 The Contractor shall prepare and submit to the Supervising Officer six copies of the Safety Plan signed by the Contractor's agent and the Safety Officer. It shall contain details of the following 14 key elements of a safety management system:-
- (a) safety policy
 - (b) safety organisation
 - (c) safety and health training
 - (d) safety rules and regulations

- (e) safety committees
- (f) safety and health inspections
- (g) job hazard analysis
- (h) personal protective equipment
- (i) accident/incident investigation
- (j) emergency preparedness
- (k) safety promotion
- (l) health assurance programme
- (m) evaluation, selection and control of sub-contractors
- (n) process control programme

7.4.2 Details shall contain, without limitation, the following:

- (a) Safety Policy

A policy statement setting down in clear and unambiguous terms the management's approach and commitment to communicate, implement and maintain health and safety for those involved in the Works and others who may be affected by the Works; it shall:

- (i) be signed by the Managing Director of the Contractor, or the Managing Directors of companies of the consortium, partnership or joint venture comprising the Contractor;
- (ii) declare that safety and health are given priority in all aspects of the Works and in discharging its contractual obligations;
- (iii) state the Contractor's commitment to comply with relevant statutory and contractual obligations regarding safety and health and the means by which the Contractor will supervise, monitor and audit the safety assurance system to achieve due compliance;
- (iv) identify the key senior personnel for overall co-ordination and implementation of the policy;
- (v) state the general responsibilities and duties of the Contractors employees and sub-contractors in upkeeping safety and health;
- (vi) state the safety targets to be achieved;

(vii) be communicated to all levels of persons involved in the Works;
and

(viii) be dated, reviewed periodically and revised.

(b) Safety Organisation

The safety organisational structure and the manpower resources to implement the management's commitments; it shall:

(i) define clearly the safety and health responsibilities of staff at all levels including those of sub-contractors;

(ii) describe the arrangements for a regular communication and reporting system on safety and health amongst all levels from top management down to labour force and vice versa;

(iii) list the names and telephone numbers of the Contractor's agent, Safety Manager, Safety Officer and Safety Supervisors administering and ensuring compliance with the Safety Plan, together with their disciplines and the geographical area of the Works under the supervision of each Safety Supervisor, revised and re-issued at any time necessary to reflect accurately the current arrangement for safety supervision;

(iv) state the powers vested in the safety staff which would enable them to take urgent and appropriate action to make safe the Site and the Works and to prevent unsafe working practices or other infringements of the Safety Plan or statutory regulations;

(v) state the name of the personnel responsible for updating the Safety Plan; and

(vi) maintain and upkeep a register of first aiders, competent persons and examiners required under the relevant legislations and persons responsible for conducting different levels of safety training.

(c) Safety and Health Training

Procedures shall be established to ensure that all staff working on the Site, and in particular those joining the Site to work for the first time or staff transferred to new assignments are given proper general safety and health training as well as job-specific training relevant to their duties. A programme shall be developed to identify and review the training need which shall contain the frequency, coverage and application of training ranging from safety management training to tool box talks and to check that the knowledge covered in the safety trainings are applied by the

Contractor's staff.

(d) Safety Rules and Regulations:-

- (i) Arrangements for safety rules and regulations including those specific rules laid down by clients to be documented, reviewed, amended and communicated to all appropriate levels of staff working on the Site including means and disciplinary action to ensure that they are implemented and enforced;
- (ii) Arrangements for method statements and permit-to-work systems to be implemented for high risk activities carried out on site including the provision of details such as persons identified by job titles who will be authorising the issue of permits; these activities should include, but not limited to hot work, electrical work, slope works, confined spaces work, release of flammable/toxic liquid or gas etc.;
- (iii) Specific rules and regulations laid down by the client for Works to be carried out within premises that are occupied, partially occupied and/or controlled by the client; and
- (iv) Rules and regulations to protect authorised visitors and prevent entry of unauthorised persons to the Site.

(e) Safety Committees

The objectives, powers, functions, terms of reference, membership, frequency of meetings, agenda and distribution of minutes of meetings of the safety committee.

(f) Safety and Health Inspections

Arrangements to establish procedures for the identification, recording and reporting of hazardous conditions and their rectification; they shall include:

- (i) planning and review of the frequency, coverage and extent of inspections conducted by safety staff, supervisory staff and senior management;
- (ii) developing a comprehensive safety inspection checklist for use in safety inspections to record irregularities or hazards identified and a scheme for them to be reported and prompt corrective actions to be taken by the appropriate staff; and
- (iii) developing a preventive maintenance programme for the workplace, electrical installations and equipment, plants (fixed and mobile) and equipment (including emergency equipment), in particular lifting plant and equipment to

ensure that statutory tests, examinations, and inspections are carried out at required intervals and for such records to be made available for inspection by the Supervising Officer.

(g) Job Hazard Analysis

Arrangements for identification of potential hazards and assessment of health and safety risks associated with Works are carried out by trained safety personnel for the development of safe working procedures and method statements to ensure the satisfactory elimination, reduction or control of such risks before work starts; they shall include:

- (i) procedures for the recording and regular review of the risk assessments and the developed safe working procedures and method statements to ensure that the risk control measures contained therein are suitable and relevant to the Works being undertaken; these should include those prepared by sub-contractors; and
- (ii) means to ensure that the risk control measures contained in the risk assessments, safe working procedures and method statements are clearly written down and communicated to those supervising and carrying out the Works and that their implementation are being regularly monitored.

(h) Personal Protective Equipment

Procedures for the identification and selection of suitable personal protective equipment and their issue, including the means and frequency by which personal protective equipment will be inspected, tested and maintained and records kept and the standard below which the equipment will be removed from the Site and replaced; they shall include:

- (i) means to ensure that proper and, where appropriate, mandatory use by all persons on the Site;
- (ii) arrangement to ensure that information, instruction and training in the safe use, storage and maintenance of such equipment are provided; and
- (iii) arrangement to ensure adequate supply and for replacement.

(i) Accident/Incident Investigation

Procedures for the prompt reporting, recording and investigation of accidents/incidents including dangerous occurrences occurred on Site; they shall include:

- (i) the keeping of accidents statistics and their analysis with a

view to identifying trends and developing measures for prompt implementation against recurrences; and

- (ii) means to communicate accident statistics, recommendations against recurrences and lessons learnt from previous accidents to all persons working on the Site.

(j) Emergency Preparedness

Arrangements for the establishment of procedures to deal with emergency situations on the Site (e.g. any situation requiring rescue) prior to arrival of the Police, the Fire Services Department or Marine Department and procedures during tropical cyclones, thunderstorm warnings, landslip warnings and heavy rainstorm warnings, outbreak of a fire, etc.; they shall include:

- (i) means to communicate the emergency procedures to all personnel on the Site and to promote their emergency awareness;
- (ii) the organisation and training of emergency and/or rescue teams;
- (iii) checklists on steps to be taken during emergency;
- (iv) means of receiving and communicating adverse weather information to site staff;
- (v) emergency equipment to be provided and their locations;
- (vi) drills and exercises to test the preparedness for emergency actions which shall be carried out at not less than 6 months intervals or as stated in the Contract;
- (vii) the first aid personnel and facilities, including arrangements for transporting the injured; and
- (viii) arrangements for the review and regular updating of emergency procedures and telephone list.

(k) Safety Promotion

Methods of promoting and maintaining safety awareness and developing a safety and health culture amongst all persons on the Site; they shall include:

- (i) the display of the company safety policy, accident statistics, safety signs and posters and the showing of safety videos and films;
- (ii) procedure for the selection of appropriate safety

promotion items for displaying on Site;

- (iii) the conduct of talks and campaigns and distribution of safety bulletins or newsletters drawing attention to particular special safety issues and emergency procedures; and
- (iv) procedure to recognize and commend those site personnel, teams, sections or sub-contractors with good safety performance.

(l) Health Assurance Programme

The programme shall contain:

- (i) arrangements for pre-job and regular medical examinations of workers exposed to health hazards;
- (ii) arrangements for the identification, assessment, regular monitoring of health hazards and the reduction of exposure through technological and administrative control measures; they shall include:
 - arrangement to ensure that all persons at the Site are aware of the health risks associated with their work and those in their vicinity are fully informed of the necessary precautions in controlling the risks;
 - procedures for the selection, provision, training and supervision on the use of suitable personal protective equipment to supervisors and workers, in particular to those working in an environment potentially hazardous to health;
 - the seeking of outside specialist assistance for assessment and monitoring of health hazards where necessary, and
 - the provision of welfare facilities on the Site.

(m) Evaluation, Selection and Control of Sub-contractors

Arrangements for the evaluation, selection and control of sub-contractors working on the Site; they shall include:

- (i) provision to each sub-contractor with a copy of the Safety Plan and the list of safety obligations and requirements which must be met for incorporation into the sub-contract agreement before works commence for ensuring compliance;
- (ii) means to ensure that only sub-contractors with satisfactory safety performance will be employed and procedures for evaluating the safety performance of sub-

contractors employed on the Site at regular intervals;

- (iii) the timely provision of adequate safety and health information to suppliers of materials to the Site for their compliance;
- (iv) means by which safety procedures and method statements proposed by sub-contractors, whether directly employed or not, will be reviewed for compliance with the Safety Plan and the statutory regulations;
- (v) arrangements to ensure that machinery and other plants used on Site by sub-contractors are appropriate to the nature of the task and that they are properly operated and maintained;
- (vi) the safety co-ordination system established to liaise between various sub-contractors; and
- (vii) ensure that sub-contractor's workers have received proper training appropriate and relevant to the type and level of work to be undertaken.

(n) Process Control Programme

The programme shall contain:

- (i) The formulation of policy on the review of accident control and hazards elimination measures during the conception and design stages, the setting of parameters for processes and materials to take into account of any changes in Site conditions and the development of a regular monitoring mechanism; and
- (ii) Arrangements and means for the effective implementation of accident control and hazards elimination measures described in the Safety Plan to ensure safety and health in the execution of the work processes, they shall include safety rules, regulations, safe working procedures, and in particular method statements and permit-to-work systems incorporating the findings of risk assessments conducted for identified high risk processes including, but not limited to the following:
 - Housekeeping
 - Traffic control and transportation
 - Fire prevention measures and fire fighting equipment
 - Excavation

- Working in confined spaces
- Hand dug caissons
- Hot work
- Electrical equipment and installations
- Welding/cutting operations
- Personal protective equipment
- Conveyance, handling and use (blasting) of explosives
- Lifting operations involving cranes and hoists etc
- Manual handling - Scaffolding and working platforms
- Ladders and accesses - Hand tools and portable power driven tools
- Use and storage of hazardous substances including chemicals
- Working over water or adjacent to water
- Working at height - Structural steel erection
- Floor and wall openings and stairways
- Lighting
- Protection against falling objects
- Protection against lightning
- Demolition
- Tunnelling

(iii) The risk assessment should also identify whether there are works that cannot be done safely by a person working alone. In general, a co-worker system shall be put in place in the following:

- 1) Temporary access equipment for working at height, including portable ladders or trestles that cannot be safely handled by one person.

- 2) The plant substances and goods cannot be safely handled by one person.
- 3) Working near or over water, or electrical work at or near exposed live conductors.
- 4) There is a risk of violence.

7.5 Safety Organisation

The Contractor shall provide to the Supervising Officer at monthly intervals an updated safety organisation chart containing a complete list of all sub-contractors, whether directly employed by the Contractor or not, on the Site and the Works and the name of the Safety Supervisor for each such sub-contractor, insofar as the employment of a Safety Supervisor is expressly set out in the Contract or in the absence of such requirement then by any enactment or statutory requirement. The list shall also include the names of the Safety Manager, Safety Officer and Safety Supervisors, and the names of Safety Representatives and the respective labour groups or teams they belong. Telephone numbers of these safety staff shall also be shown on the chart.

7.6 Safety Manager

- 7.6.1 The Contractor shall employ a Safety Manager to be present full time on the Site under the Contract who shall be approved by the Supervising Officer. The Safety Manager shall devote the whole of his time to safety and health matters of this Contract.
- 7.6.2 The Safety Manager shall hold an acceptable university degree or an equivalent qualification in civil engineering appropriate to the nature of the works of this contract, shall be a member of the Institution of Occupational Safety and Health or equivalent, and with at least five years' construction site safety experience appropriate to the type and magnitude of the Works at managerial level after registration as Safety Officer under the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations. The name, details of qualifications and previous experience of the proposed Safety Manager shall be submitted to the Supervising Officer for approval.
- 7.6.3 The Contractor shall not carry out any construction work on the Site without the appointment of the required Safety Manager unless expressly permitted by the Supervising Officer in writing.
- 7.6.4 The Safety Manager shall head the Safety Officers and Safety Supervisors. The duties of the Safety Manager shall be solely directed towards safety and health matters. In addition to the duties of a Safety Officer stipulated in the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations, he shall be responsible for :

- (a) supervise and monitor implementation of the Safety Plan;
- (b) supervise the work of the Safety Officer(s), the Safety Supervisors and all other safety personnel employed for carrying out safety related duties under the Contract;
- (c) develop and implement regular internal safety audits for the Safety Plan at intervals of not less than once every six months which format, scope and programme are to be proposed and agreed with the Supervising Officer, and prepare action plan for the Contractor to follow up; and
- (d) ensure the timely rectification of all safety deficiencies identified under the Contract.

7.6.5 The Contractor shall empower the Safety Manager to order any person working on the Site to suspend any unsafe operation or to take urgent action to make safe the Site or the Works or to disallow any practice, which may infringe the Safety Plan, or any statutory safety requirement.

7.6.6 If the Safety Manager is unable to perform his duties for any reason the Safety Manager shall be replaced as soon as practicable but in any case within one month. The Safety Manager shall not be replaced without consent by the Supervising Officer.

7.6.7 The Safety Manager shall be clearly identified on the Site by wearing an armband or a safety helmet appropriately marked in Chinese and English.

7.7 Safety Officer

7.7.1 “Safety Officer” means a person registered as a safety officer in accordance with the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations and employed by the Contractor to carry out the duties of a Safety Officer as specified in the Contract and duties specified in these regulations.

7.7.2 The Contractor shall employ at least one full-time Safety Officer who shall be approved by the Supervising Officer. If the total number of workers employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractor exceeds 200, then the number of full-time Safety Officer to be provided shall be :

Total no. of workers	Minimum no. of full-time Safety Officer
201 to 700	2
701 to 1200	3
1200 and above	4

If the total number of workers employed is less than 50, the Safety

Officer may be engaged part time for this Contract but with sufficient presence on the Site to perform the duties of a Safety Officer. The time thus spent on site shall be not less than 12 hours per week excluding attendance of the Site Safety Management Committee meeting and the Site Safety Committee meetings.

- 7.7.3 The Contractor shall not commence any construction work on the Site without the appointment of the required number of Safety Officer(s) unless expressly permitted by the Supervising Office in writing.
- 7.7.4 The duties of the Safety Officer shall be solely directed towards safety and health matters. In addition to the duties stipulated in the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations, the Safety Officer shall:
- (a) carry out safety inspections and prepare inspection reports;
 - (b) supervise and monitor implementation of the Safety Plan;
 - (c) ensure that sub-contractors and all persons working on the Site are made aware of and comply with the Safety Plan, and
 - (d) assist the Safety Manager in carrying out internal safety audits for the Safety Plan at intervals of not less than once every six months, which format, scope and programme are to be proposed and agreed with the Supervising Officer. In this respect, the internal safety audits can be carried out either by the Safety Officer or a Registered Safety Auditor (RSA).
- 7.7.5 The Safety Officer shall maintain a safety diary which shall record all matters related to safety and health, including Safety Supervisors' reports, details of safety inspections and audits, accidents, dangerous occurrences, safety related incidents, etc. The Safety Officer shall check to ensure that all unsafe situations are promptly rectified and the dates of their completion duly recorded in the safety diary. The safety diary shall be made available for inspection by the Supervising Officer upon request and copy thereof shall be submitted to the Supervising Officer upon request.
- 7.7.6 The Contractor shall empower the Safety Officer to order any person working on the Site to suspend any unsafe operation or to take urgent action to make safe the Site or the Works or to disallow any practice which may infringe the Safety Plan or any statutory safety requirement.
- 7.7.7 The Safety Officer shall carry out comprehensive safety inspections on all activities on the Site at weekly intervals. The safety inspection shall identify any unsafe operation or potential hazards using a check-list agreed by the Supervising Officer. The Safety Officer shall give prior notice to the Supervising Officer of the date and time of the weekly inspection and shall allow the Supervising Officer to attend the inspection.
- 7.7.8 If the Safety Officer is unable to perform his duties for any reason, the

Safety Officer shall be replaced as soon as practicable but in any case within 14 days. The Safety Officer shall not be replaced without consent by the Supervising Officer.

- 7.7.9 The Safety Officer shall be clearly identified on the Site by wearing an armband or a safety helmet appropriately marked in Chinese and English.

7.8 Safety Supervisors

- 7.8.1 “Safety Supervisor” means a person employed by the Contractor or his sub-contractors on the Site to carry out the duties of a Safety Supervisor as stipulated in the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations. The Safety Supervisor shall carry out safety inspections on all active parts of the Site for which he is responsible at least at daily intervals using an appropriate comprehensive checklist agreed by the Supervising Officer. All completed safety checklists shall be signed by the Safety Officer to ensure prompt follow-up actions have been taken on unsafe situations.
- 7.8.2 The Contractor shall employ at least one Safety Supervisor to be present full time on Site. Where the number of workers employed on the Works or in connection with the Contract whether in the employ of the Contractor or by his sub-contractor exceeds 50, the number of Safety Supervisors to be provided shall be increased by one for every additional 50 workers.
- 7.8.3 Notwithstanding the requirements stated in sub-clause 7.8.2 above, each sub-contractor of the first tier (directly employed by the Contractor) engaging 20 persons or more in the activities for which he is responsible shall provide at least one full-time Safety Supervisor to oversee the safety of his own activities.
- 7.8.4 Safety Supervisors shall have at least three years’ experience on construction work and have completed an appropriate training course provided for safety supervisors.
- 7.8.5 Safety Supervisors shall be clearly identified on the Site by wearing an armband or a safety helmet appropriately marked in Chinese and English.

7.9 Safety Representative

- 7.9.1 In addition to the Safety Officer and Safety Supervisors, the Contractor shall appoint the foreman or ganger of each labour group or team working on the Site to act as Safety Representative. The Safety Representative shall be responsible for ensuring that the directives from the Contractor, the Safety Officer and Safety Supervisors on safety and health matters are duly carried out, safety practices are adopted and protective clothing and equipment are used by the work force at all times on the Site. Normally, each gang of workers shall have one Safety Representative. He shall be

made aware of his responsibilities and the group of workers on the Site whose activities he is required to supervise. Every worker working on the Site shall be made aware of the roles of the Safety Representatives and from which Safety Representative he may seek advice or receive instructions on safety and health matters.

- 7.9.2 Safety Representatives shall be clearly identified on the Site by wearing an armband or a safety helmet appropriately marked in Chinese and English.

7.10 Safety Training

- 7.10.1 The Contractor shall regularly review the training needs of all persons employed on the Works or in connection with the Contract and prepare a long-term training programme. Each month the Contractor shall submit a proposed training programme to be provided in the next month for the Supervising Officer's approval. It shall contain the topics, dates, venues, the target participants of the proposed training and the names and qualification of the trainers.

- 7.10.2 All persons carrying out construction work including general workers, skilled workers, foremen, gangers, drivers and plant operators, who are employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractors must have completed the mandatory basic safety training course for the construction industry under the Factories and Industrial Undertakings (Amendment) Ordinance 1999 and hold the relevant valid certificate which shall be referred to hereafter as the Labour Department Recognised Green Card (LDRGC).

- 7.10.3 Any skilled workers of the specified trades as set out below in this sub-clause, who are employed on the Works or in the connection with the Contract whether in the employment of the Contractor or his sub-contractors of all tiers shall attend the relevant Safety Training Course for Construction Workers of Specified Trade (also known as the Silver Card Course) organised by the Construction Industry Council Training Academy (CICTA):

- painter and decorator
- carpenter
- building demolition worker
- plumber
- bar bender and fixer
- plasterer and tiler
- bamboo scaffolder and metal scaffolder

- curtain wall installer
- construction materials rigger
- lift mechanic (installation and maintenance)
- tower crane worker (erecting, dismantling, telescoping & climbing)
- tunnel worker

Any other recognised courses will be notified by the Supervising Officer.

7.10.4 If the Contractor intends to employ or permit the employment of any skilled workers of trades specified in clause 7.10.3 but do not possess the Silver Card that is relevant to the trade and work in which he/she is working on the Site for the execution of the Works, he shall arrange within 2 working days of such skilled workers commencing work on the Site to attend the course specific to the trade and work in which he/she is employed under the Contract. A skilled worker who passes the test at the end of the course will be awarded with a Specified Trade Safety Training Certificate. For the purpose of this Contract, this course shall be referred to hereafter as the “trade specific advanced safety training” course.

7.10.5 The Contractor shall also ensure that all card holders will carry their LDRGC and Silver Card whilst working on the Site.

7.10.6 The Contractor shall pay a daily token allowance of \$650 to each skilled worker of specified trades as set out in clause 7.10.3 above after he or she has successfully completed the second day of the trade specific advanced safety training course and received a Silver Card. He/She will not be paid the token allowance for completing the first day of the two-day Silver Card course, which is the LDRGC course and is a mandatory requirement under the Factories and Industrial Undertaking (Amendment) Ordinance 1999. The skilled worker is responsible for the payment of the course fee. However, the token allowance will not be paid if the second day of the course is attended.

- (a) before the skilled worker starts works on Site; or
- (b) after the skilled worker has left the Site.

At the end of each month, the Contractor shall prepare and submit a certified monthly statement of workers who have successfully completed the trade specific advanced safety training course to the Supervising Officer using the pro forma attached in Appendix 7B. Copies of the Silver Card, the original receipts signed by the workers for the receipt of the token allowance and a certified payroll record indicating the trades and salaries of the workers shall be made available for inspection if requested

by the Supervising Officer.

- 7.10.7 The Contractor shall only arrange skilled workers to attend the trade specific advanced safety training course that is relevant to the trades and works in which he/she is employed under the Contract. The Supervising Officer has a right to disapprove the payment on the trade specific advanced safety training to a skilled worker if he/she is found on the Site and not working for the trades and works in which he/she has received the training.
- 7.10.8 (a) All persons employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractors shall receive “site specific induction training”.
- (b) Site specific induction training and its refresher shall take the form of a one-hour talk conducted by the Safety Officer in accordance with sub-clause (e) below.
- (c) The talk should be conducted as follows:
- | | | |
|---------------|--|----------------|
| (i) | Safety Policy | 10 mins |
| (ii) | General particulars of the Site | 10 mins |
| (iii) | Special characteristics of the Works and inherent hazards on the Site, highlights of particular safety measures and use of personal protective equipment | 15 mins |
| (iv) | Emergency procedures and first-aid facilities | 10 mins |
| (v) | Reporting of accidents and injury compensation procedures | 5 mins |
| (vi) | Questions and answers | 10 mins |
| Total: | | <u>60 mins</u> |
- (d) The Safety Officer shall prepare the talk based on Part II of the “Site Safety & Health Induction Training Manual” published by the Hong Kong Construction Association Ltd.
- (e) An outline of the talk and every update of it shall be provided to the Supervising Officer for approval. The talk shall be carried out within 2 working days of any such employee commencing work on the Site. Thereafter, he/she shall be given refresher talks at intervals of 6 months depending on the amount of changes to the site condition.
- (f) The Contractor shall ensure that “site specific induction training” talks are carried out by Safety Officers who are competent trainers and have received training on safety training techniques organised by the Hong Kong Construction Association Ltd., CITA or other approved training organisations.
- 7.10.9 (a) The Contractor shall provide tool box talks at a frequency of one

talk per worker on Site every two weeks commencing from the date of commencement of the Works subject otherwise to any change in frequency as may be approved by the Supervising Officer. The Contractor shall also ensure that the topic of every talk given to a worker is relevant to his/her trade and the work that he/she will perform under the Contract and a worker shall attend no more than one talk on the same topic in any two-month period.

- (b) The Contractor shall propose the topics of the tool box talks at a frequency specified in sub-clause (a) having regard to the activities of the Site and the prevailing safety concern at that time. They shall be submitted with the proposed monthly training programme to the Supervising Officer for his approval. The Supervising Officer has the right to disapprove the training programme when the proposed topic is considered not relevant to the trade of the workers or the prevailing work activities. Moreover, the Supervising Officer can request the Contractor to review the topics to cater for special safety concern. For workers undertaking scaffolding work including truss-out bamboo scaffolds, demolition work and works in confined spaces, they should be provided with suitable toll box talks prior to the commencement of these works. Workers not having attended the concerned toll box talks shall not be allowed to undertake these works.
- (c) The content of the tool box talks shall be based on training kits published by the Hong Kong Construction Association Ltd. (HKCA) or where such a proposed topic is not amongst one of those published by HKCA kits, the Contractor shall then develop training kits to a similar standard for approval by the Supervising Officer.
- (d) The Contractor shall ensure that “tool box talks” are conducted by Safety Officers or Safety Supervisors or gangers who are competent trainers and have received training on safety training techniques organised by the Hong Kong Construction Association Ltd., CITA or other approved training organisations.
- (e) Payment for this item shall be made on a per worker per talk basis based on a frequency of one talk per worker every two weeks subject otherwise to any change in frequency approved by the Supervising Officer and the Supervising Officer being satisfied that the talks have been conducted in accordance with this clause. Any tool box talks conducted in excess of the specified frequency and without approval from the Supervising Officer shall be deemed to have been borne by the Contractor in the rates inserted elsewhere in the Pricing Document.

7.10.10 The Contractor shall prepare attendance records on site specific induction training and tool box talks which shall include the topics and dates of the talks, the names of the trainers, names and trades of the persons receiving the talks and their signatures.

- 7.10.11 The Contractor's agent or Safety Officer shall certify the accuracy of attendance records on site specific induction training and tool box talks before they are submitted to the Supervising Officer for payment. If requested by the Supervising Officer, the Contractor shall give at least 24-hour notification on the time and venue of each tool box talk to be held, so that the Supervising Officer could arrange his/her staff to take attendance record for measurement.
- 7.10.12 The Contractor shall ensure that all site management and supervisory staff, who are employed on the Works whether employed by the Contractor or sub-contractor of all tiers, shall attend, if they have not done so, and complete the basic training commensurate with their duties, as follows:
- (a) The term "site management staff means persons engaged in the senior or managerial posts such as project managers, site agents, sub-agents, superintendents and site engineers. The basic training required to be attended by site management staff shall include:
 - i. Appropriate training course such as Occupational Safety Management Course run by OSHC/CICTA or other approved training organizations. The course should cover amongst others: safety legislation in Hong Kong, safety management system, risk assessment, safety plan and safety auditing, and
 - ii. Basic Accident Prevention Course run by OSHC/CICTA or other approved training organisations.
 - (b) The term "supervisory staff" means gangers and foremen. The basic training required to be attended by supervisory staff shall include:
 - i. Appropriate training course such as the Safety and Health Supervisor (Construction) Course run by OSHC or the Construction Safety Supervisor run by CICTA or other approved training organizations. The course should cover amongst others: safety legislation, safety management & training techniques, principle of accident prevention, safety at work and safety inspection techniques on construction sites.
- 7.10.13 The Contractor shall keep on Site records of all safety training received by his staff including those on refresher training and make them available for inspection by the Supervising Officer upon request.

7.11 Site Safety and Environmental Committee

- 7.11.1 The Contractor shall establish a Site Safety and Environmental Committee which shall be responsible for ensuring the implementation of the Safety Plan, reviewing and monitoring the effectiveness of the safety and health measures taken and seeking the co-operation and commitment

of staff at all levels.

- 7.11.2 The Site Safety and Environmental Committee shall be chaired by the Contractor's agent with members comprising a representative at senior management level from the Contractor's headquarters or the project manager, the Safety Officer, all Safety Supervisors, selected Safety Representatives and other staff of the Contractor or sub-contractors as may be considered necessary. It shall meet at monthly or more frequent intervals discussing all matters relating to the implementation of the Safety Plan. The first meeting shall be held no later than 30 days after the date for commencement of Works. The Contractor may invite any other party such as the Labour Department, Marine Department, Mines Division of Civil Engineering and Development Department, Fire Services Department, Police or representatives of utility undertakings to attend the meeting and provide advice as necessary.
- 7.11.3 The Contractor shall give an advance notice of every Site Safety and Environmental Committee meeting to the Supervising Officer who will attend the meeting in person or nominate a representative to attend the meeting as an observer.
- 7.11.4 The following items shall, amongst others, be discussed at the Site Safety and Environmental Committee meeting:
- (a) Review of the Safety Plan:-
 - (i) update risk assessment for the work scheduled at least for the next two months;
 - (ii) review and establish safety and health provisions, safe working procedures and method statements;
 - (iii) update the emergency and rescue procedures;
 - (iv) discuss and reconcile any discrepancies between the Safety Plan prepared by the Specialist Contractor and that of the Contractor.
 - (b) Update of the safety organisation chart and review of the adequacy of safety personnel;
 - (c) Review of the safety performance of sub-contractors;
 - (d) Any unsafe practices and conditions identified during safety inspections/audits and any follow up action;
 - (e) Advisory/warning letters issued by Marine Department and Labour Department and any Improvement/Suspension Notices received;
 - (f) Review of accident frequency rates and statistics of the

Contractor and sub-contractors and identification of trends;

- (g) Details of the Contractor's accident and dangerous occurrence experience;
- (h) Safety and health training undertaken in the previous month and the proposed training programme for the following month;
- (i) Details of safety promotional activities; and
- (j) Safety co-ordination between various sub-contractors working in close proximity to each other.

7.11.5 Minutes of the Site Safety and Environmental Committee meeting shall be prepared by the Contractor and copied to the Supervising Officer within 10 working days of the meeting. One copy of the minutes in Chinese, and English if necessary, shall be posted at a prominent place on the Site.

7.12 Site Safety and Environmental Management Committee

7.12.1 The Supervising Officer shall establish a Site Safety and Environmental Management Committee to monitor the adequacy of the Safety Plan and ensure its implementation on Site by the Contractor, and to enhance communication between the Supervising Officer and the Contractor on safety and health matters. The Site Safety and Environmental Management Committee shall be chaired by the Supervising Officer and shall meet at monthly or more frequent intervals. The first meeting shall be held no later than 30 days after the date for commencement of Works.

7.12.2 The Contractor shall provide all necessary assistance required for the proper functioning of the Site Safety and Environmental Management Committee and shall be represented on the Committee by a representative at senior management level from the Contractor's headquarters or the project manager or the Contractor's agent, the Safety Manager, the Safety Officer and Safety Supervisors. The Contractor shall act without delay upon the decisions or recommendations made by the Committee on matters of safety and health. The above arrangements are entirely without prejudice to and do not relieve the Contractor from any contractual or legal obligation with respect to safety and health. Where a Specialist Contractor is directly employed, a representative at the senior management level from the Specialist Contractors' headquarters or his project manager, Safety Officer and Safety Supervisors shall also attend this meeting.

7.12.3 Prior to every meeting of the Site Safety and Environmental Management Committee, the Contractor shall arrange an inspection of the Site by those who are to attend the meeting and/or any other members nominated by the Supervising Officer. This inspection shall be taken as

one of the weekly safety walks.

7.12.4 The following items shall, amongst others, be included in the agenda of each SSEMC meeting:

- (a) Review of the Safety Plan
 - (i) update risk assessment for the work scheduled at least for the next 2 months
 - (ii) review and establish safe working provisions, safe working procedures and method statements
 - (iii) update the emergency and rescue procedures
 - (iv) discuss and reconcile any discrepancies between the Safety Plan prepared by the Specialist Contractor and that of the Contractor
- (b) Update of the safety organization chart and review of the adequacy of safety personnel;
- (c) Review of safety performance of sub-contractors;
- (d) Any unsafe practices and conditions identified during safety inspections/audits and any follow up action;
- (e) Advisory/warning letters issued by Marine Department and Labour Department and Improvement/Suspension Notices;
- (f) Public concern/complaint;
- (g) Review of accident frequency rates and statistics of the Contractor and sub-contractors and identification of trends;
- (h) Details of the Contractor's accident and dangerous occurrence experience;
- (i) Safety and health training undertaken in the previous month and the proposed training programme for the following month;
- (j) Details of safety promotional activities;
- (k) Contractor's monthly safety report;
- (l) Safety co-ordination between various sub-contractors including Specialist Contractor working in close proximity to each other; and
- (m) Reports on safety audits conducted by internal or external safety auditors and action plans prepared by the Contractor.

- 7.12.5 The Supervising Officer may invite any other parties, such as Labour Department, Marine Department, Fire Services Department, Police, representatives from utility undertakings and the CEDD's Safety and Environmental Advisory Unit to attend the Site Safety and Environmental Management Committee meeting and provide advice as necessary.
- 7.12.6 The Supervising Officer shall prepare the minutes of the Site Safety and Environmental Management Committee meeting for distribution to all attending parties within 10 working days of the meeting. The minutes of each meeting shall be signed by the Supervising Officer or his representative and the Contractor's agent.

7.13 Weekly Safety Walk

- 7.13.1 The Contractor shall arrange a weekly safety walk attended by the Contractor's Safety Manager, Safety Officer and Contractor's agent or his delegate and the Supervising Officer's nominated site representative to inspect the Site checking that safety and health conditions are being maintained on the Site. It shall include, but not be limited to:
- (a) Checking scaffolding in current use to be in compliance with the approved "Code of Practice for Scaffolding Safety" issued by the Commissioner for Labour;
 - (b) Checking that the temporary lighting and electrically powered hand-held tools and equipment are all rated at 110V CTE (centre-tapped to earth) in compliance with Clause 7.17.13; and
 - (c) Checking that site tidiness and cleanliness are conducive to avoiding accidents and injury.

Weekly safety walks conducted under this clause are entirely without prejudice to and do not relieve any of the Contractor's responsibility to carry out regular inspections to upkeeping safety and health conditions on Site required by the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations.

- 7.13.2 The Contractor shall prepare and agree with the Supervising Officer a comprehensive check-list for use during safety walk and site inspections. It shall contain a table listing out the deficiencies identified during the walk / inspection with the proposed rectification measures, the names of the persons responsible for taking any necessary rectification measures and the corresponding completion dates. More than one comprehensive checklist may need to be prepared by the Contractor to suit the variety of works at various Portions of the Site.
- 7.13.3 Immediately after the safety walk, the comprehensive checklist shall be agreed and signed by the Safety Officer and the Supervising Officer's nominated site representative and a copy kept by the Supervising Officer. The Contractor shall take prompt action to rectify those deficiencies identified during the walk and shall report the status of actions taken at

the forthcoming SSEMC meeting.

7.14 Sub-contractors

- 7.14.1 The Contractor shall provide each sub-contractor with sets of site rules and regulations, safe working procedures and safety obligations to ensure compliance.
- 7.14.2 The Contractor shall, for contracts where more than two sub-contractors are working in close proximity, establish a safety co-ordination system to liaise amongst the sub-contractors and to maintain a safe working environment.

7.15 Reporting

- 7.15.1 In addition to the requirements of the General Conditions of Contract Clause 27, the Contractor shall complete any other forms as the Commissioner for Labour may require including, but not limited to, forms requesting supplementary information used by the Labour Department for the purpose of accident analysis. Copies of such forms should be made available for inspection by the Supervising Officer upon request.
- 7.15.2 Further to sub-clause 7.15.1 above, the Contractor shall notify the Supervising Officer immediately of any accident occurring on the Site involving dangerous occurrence or death or serious personal injury. The initial notification may be made verbally. A written notification with details shall be made within 24 hours of the occurrence of the accident.
- 7.15.3 The Contractor shall then investigate the incident / accident and complete any further report as may be required by Supervising Officer on the detailed cause of the accident or dangerous occurrences, measures to prevent recurrence and complete standard forms provided by the Supervising Officer to enable the Employer to prepare an up-to-date database on site accident statistics.
- 7.15.4 The Contractor shall submit a monthly report for consideration at the meeting of the Site Safety and Environmental Management Committee. It shall be prepared by the Safety Officer and duly endorsed by the Contractor's agent, to the Supervising Officer containing the following information:
- (a) all accidents involving dangerous occurrence, death, personal injury irrespective of severity or damages to properties in or adjacent to the Site;
 - (b) results of any Labour Department's inspections, advice, warning, Improvement / Suspension Notices and prosecutions;
 - (c) proposed training programme for the next month and training carried out in the previous month;

- (d) a list of all competent persons and a summary record of all examination and test certificates required by any legislation or the Contract; and
- (e) Safety Officer's inspection reports, reports on follow up action taken on irregularities identified during safety inspections, weekly safety walks and safety audit reports on the implementation of the Safety Plan.

7.15.5 The Contractor shall, upon the request of the Supervising Officer, submit a written report within 14 days upon the date of notification by the Supervising Officer on how to improve the safety performance of the Site to prevent accidents due to the high accident rate of the Contract in any three-month period.

7.16 Further Safety Measures

7.16.1 Safety, rescue and health matters shall be given a high degree of publicity on the Site. The Contractor's safety policy statement, emergency procedures and any rescue organization shall be made know to all persons on the Site. Such information shall include an emergency telephone list including the names and contact telephone numbers (such as mobile phone number and pager number) of at least two key members of the Contractor's emergency organization, and the telephone numbers of the appropriate divisional police, fire and ambulance stations, utility undertakings, Labour Department's Operation Division and Marine Department. Copies of the above information and safety posters, in Chinese and English languages, shall be displayed at prominent places on the Site. A notice board shall be erected near the entrance of the Site for the display of safety posters, up-to-date accident records and the names of the Safety Officer and the Contractor's agent.

7.16.2 The Contractor shall ensure that all tools, plant, equipment and temporary facilities and all other items used in carrying out the Works how-so-ever provided are in a safe, sound and good condition, are capable of performing the functions for which they are intended, and where required by the law or by the relevant codes of practice, are licensed and / or have been issued with the necessary permits for use.

7.16.3 All sides of working platforms, places, gangways, openings from which a person may be liable to fall for more than two metres shall be provided with at least two guard-rails of adequate strength and toe-boards securely fixed in position. The height of the top guard-rail shall be between 900mm and 1150mm. The intermediate guard-rail shall be positioned so that the unprotected gap in between does not exceed 470mm. The toe-board shall be at least 200mm high.

7.16.4 Fences and / or nets of adequate strength shall be provided along all

edges where workers may be liable to fall into water. If it is not possible to provide such fences and nets, persons working over or immediate adjacent to water shall wear a life jacket or a suitable buoyancy aid or a personal fall arrestor (as is appropriate) when so working.

- 7.16.5 Where necessary, the Contractor shall provide a suitably equipped and dedicated rescue launch, manned and available whenever work is being carried out on or over water.
- 7.16.6 Alcoholic drinks and other substances which may impair judgment shall be prohibited from the Site. The Contractors shall remove any person under the influence of such substances from the Site immediately.
- 7.16.7 Personal protective equipment provided by the Contractor for use in confined spaces and for protection against falling from height shall be full-body type safety harnesses with suitable lanyards. Safety belts shall not be permitted except for use as a means of positioning to restrict horizontal movement. The Contractor shall also provide secure anchorages for the attachment of safety harnesses / safety belts.
- 7.16.8 Permit-to-work systems shall be implemented to control access to hazardous areas or the carrying out of any hazardous operations including, but not limited to, hot work, electrical work, work in confined spaces, maintenance of material hoist, area or operation liable to release of flammable or toxic liquid or gas, etc.
- 7.16.9 All lifting gears including slings, shackles and such like equipment shall be colour coded for identifying lifting gear which requires re-inspection or disposal. Details of the colour coding system are given in Appendix 7C.
- 7.16.10 All material hoists installed shall be fitted with fail-safe interlocking hoist way gates such that the driving mechanism is operable only when all gates are closed and latched; and hoists shall not be operated manually when one gate is opened. A single channel communication from the user to the operator of the hoist shall also be provided.
- 7.16.11 All persons engaged in works with risks of receiving foot injuries including but not limited to pneumatic drilling work and manual handling work shall be provided with safety boots when they are engaged in such works. The cost of provision of safety boots shall be deemed to have been allowed in the Contract Sum. Safety boots shall comply with EN ISO 20345:2004 or equivalent standards.
- 7.16.12 Further to the requirements under the Factories and Industrial Undertakings (Noise at Work) Regulations, the Contractor shall provide approved ear protectors to all persons working on the Site who are exposed to noise levels of 90 dB(A) or above.
- 7.16.13 The Contractor shall keep a register of all dangerous substances including those hazardous to health which are delivered to and stored for

use on the Works. The register shall include information on:

- (a) their physical and chemical properties;
- (b) hazards;
- (c) safe handling and storage;
- (d) precautionary measures to be taken; and
- (e) first aid measures.

extracted from the manufacturers' material safety data sheets.

- 7.16.14 Receptacles with full containment on four sides to prevent the falling out of materials shall be used for the lifting and transportation of reinforcement links, stirrups, short pieces of splice or reinforcement U-bars, couplers and the like. The safe working load shall be marked on the receptacle after being tested by a competent examiner. The colour coding system for lifting gear shall also apply to these receptacles.
- 7.16.15 The lifting of reinforcement bars should be by the use of wire slings. No cradles should be used for the lifting of reinforcement bars unless they are properly designed and with their safe working load certified.
- 7.16.16 Roads and footways below suspended precast concrete/steel segments or the like, shall be closed until such time the segments are secured in their permanent locations unless measures are taken to the Supervising Officer's satisfaction to prevent the segments from falling in the event of the failure of the equipment used to suspend the segments. The Contractor shall seek approval from the relevant authorities for the closure for the concerned sections of roads and footways. Adequate measures including the use of barricades and warning shall be provided to ensure that no person shall inadvertently enter the area below any suspended segments.
- 7.16.17 Construction vehicles and plant used on Site shall be equipped with audible signals on reversing. Other form of warning signals and/or banksman shall be provided as necessary to guide such reversing movements if audible signals are causing nuisance to nearby residents particularly at night. For quarry operations, no person shall operate or drive any mechanical equipment at or near the edge of any face, side, tip or embankment in a quarry unless a banksman is in attendance.
- 7.16.18 Where there are more than one tower cranes operating within the Site and there is a possibility of overlapping crane movements, the Contractor shall develop, implement and maintain a safe system of work to prevent the overlapping of tower cranes lifting operation. The system shall include, but not limited to, the following:

- the provision of a warning system in the form of light and/or sound to alert the crane operator of the approach of cranes in the overlapping areas;
- the appointment of Overlapping Area Lapping Supervisor (OALS) to co-ordinate and control the lifting operation in the overlapping area or the provision of an automatic control device to prevent the occurrence of overlapping situation;
- the provision of adequate buffer zone on both sides to slow down the slewing movement of cranes so as to prevent a sudden stop which might induce an inertia to the moving load; and
- regular inspection and maintenance of the warning system and automatic control device.
- appropriate measures shall also be implemented to address the possible overlapping crane movement for a mobile crane movement and a tower crane operating within the Site.

7.16.19 The Contractor shall actively organise safety promotional activities to promote and enhance the standards of health and safety on the Site. In addition, the Contractor shall also participate in other territory-wide safety promotional campaigns as instructed by the Supervising Officer.

7.17 Electrical Safety

7.17.1 A Registered Electrical Worker (REW) of the appropriate grade under the Electricity Ordinance (EO) shall be employed by the Contractor throughout the Contract to handle the entire temporary electrical systems and installations on the Site.

7.17.2 Upon completion of the temporary electrical system (TES) and after each alteration/repair to the existing TES, the Contractor shall arrange his REW/Registered Electrical Contractor (REC) under the EO to complete an individual Work Completion Certificate (WR1) as required by the Code of Practice for the Electricity (Wiring) Regulations (COP) issued by the Electrical and Mechanical Services Department. If a REC is not employed, the Contractor shall then assume the responsibilities of a REC and sign on the WR1 together with the REW employed by the Contractor as per Code No. 19B(d) of the COP. Each of such Certificates shall include a circuit diagram clearly indicating which portion(s) of the TES is/are covered, and, where appropriate, other necessary supporting documents.

7.17.3 Temporary electrical installations, such as lighting fittings, distribution boards, socket outlets, plugs and cable couplers in outdoor or damp environment shall be or splash-proof type to IP 54 or above.

7.17.4 The sheath of all electric portable cables shall be of heavy-duty type

or otherwise adequately protected against mechanical damage if laid on ground. They shall be hung overhead as far as possible. Ordinary PVC cables, if employed, shall be enclosed in metallic conduits or trunkings and properly maintained.

- 7.17.5 The Contractor shall develop checklists for carrying out regular routine inspections and checking and monthly comprehensive checking of the TES. The checklists should be developed by the Contractor and agreed by the Supervising Officer. Comprehensive checking shall include, but not be limited to, checking of temporary generators, functional test of earth leakage circuit breakers, integrity of cables and connections, measurement of earthing resistance and those items listed in Checklists Nos. 3 and 4 of the COP where appropriate. The checklist should be signed by the REW after each inspection and /or checking.
- 7.17.6 Adequate precautionary measures should be adopted to ensure safety during inspection, repair and maintenance of the temporary electrical installations including the use of permit-to-work system and/or lock-off system. The Contractor shall establish and review regularly the maintenance programme and logging system for the TES.
- 7.17.7 The Contractor shall keep and maintain updated circuit diagrams, WR1 (complete with supporting documents) and records of inspection and checking of the TES by REW/REC in a dedicated file for inspection by the Supervising Officer's site supervisory staff upon request.
- 7.17.8 During weekly safety walks and when requested by the Supervising Officer's site supervisory staff, the Contractor shall open the cover plates of temporary electricity distribution boards for inspection of the conditions of the internal wiring and/or carry out testing immediately. Updated schematic circuit diagram shall also be affixed inside the cover of the temporary distribution boards.
- 7.17.9 All temporary electrical distribution boards shall be kept locked and accessible only by authorized persons appointed by the Contractor, e.g. REW and/or general foreman. Legible warning notices (Danger - Electricity) in both Chinese and English, names and telephone numbers of such authorized persons shall be posted up on the temporary distribution boards.
- 7.17.10 For work carried out in occupied buildings, unless prior approval has been obtained and proper and safe arrangement has been made, the Contractor shall not connect his fixed electric equipment directly to any existing permanent distribution boards. Such connection shall only be made through temporary distribution boards equipped with proper protective devices.
- 7.17.11 All arc welding machines and electrode holders shall comply with BS 638: Part 7, IEC 60974 - 1 (or BS EN60974 - 1) and BS EN 60974 - 11

or equivalent standards. The welding machines should be fitted with no-load voltage reducing device for protection against electric shock at the output side. Welding machines shall be enclosed and the metal casing shall be effectively connected to earth. Cable terminals of the welding machines shall be effectively insulated.

- 7.17.12 All hand-held electrical tools and portable equipment (e.g. submersible pumps), whether they belong to the Contractor or his sub-contractors, Nominated Sub-contractor or Specialist Contractors under domestic sub-contract, shall be examined by the REW before they are used on Site. The examination shall include visual inspection for the general conditions of the tools and equipment and also tests for checking the functional, protective conductor continuity, polarity and insulation aspects. After passing the examination, all hand-held tools and equipment shall be registered and recorded. Identification labels showing the registration number, type of the tool, name of the owner and date of examination stamped with the Contractor's company chop shall be affixed to these tools and equipment. Re-examination of the registered hand-held tools shall be carried out at 3-month intervals or each time after repairs to damages.
- 7.17.13 Voltage in excess of 110V shall only be used for heavy equipment such as hoists, tower cranes, etc. with an earth leakage circuit breaker installed and in proper function. Portable and hand-held tools and temporary site lighting shall be operated at a voltage of 110V or less supplied from a step-down transformer with its output winding centre-tapped to earth and comply with BS 3535 : Part 2 : 1990 or equivalent. All cables shall be terminated within the transformer enclosure of Class I and IP 55 and the outgoing circuit shall be provided with short circuit protection. In confined and damp environment, the voltage of temporary lighting and hand-held tools shall not exceed 25V.

7.18 Site Safety Cycle

- 7.18.1 The Contractor shall practise "Site Safety Cycle" (SSC) to improve and promote the safety and health of the Site. Site Safety Cycle shall begin when there are workers working on the Site, and shall cease by the date of substantial completion of the Works, or at a date proposed by the Contractor and approved by the Supervising Officer. The activities for Site Safety Cycle for one day, one week and one month are referred to as the "Daily Cycle", "Weekly Cycle" and "Monthly Cycle" respectively. Details of the activities and the provisions for holding activities are described in Appendix 7D. For simplicity, the Pre-work Exercise and Safety (PES) meeting, Hazard Identification Activity (HIA) meeting and Pre-work Safety Checks of the Daily Cycle are collectively referred to as the "Pre-work Activities".
- 7.18.2 The Contractor shall arrange Pre-work Activities to be held for attendance by persons employed on the Works (excluding clerical and administrative staff in site office), irrespective of whether they are in the employment of the Contractor or his sub-contractors. For the

avoidance of doubt, persons employed on the Works are those persons whose number of man-hours worked on the Site are to be included in the number of man-hours worked for the Contract. The Contractor is encouraged to arrange Pre-work Activities to be held daily, but in any case the frequency of Pre-work Activities for attendance by each person employed on the Works shall be not less than once in a week (commencing on Monday). Where necessary, the Contractor can arrange more than one session of Pre-work Activities to be held in a day in order to suit the large workforce or the different times of arrival of workers at the Site. The Pre-work Activities shall be carried out prior to any work carried out by the persons attending the Pre-work Activities on that day. Furthermore, the number of persons attending the Pre-work Activities in a session shall be governed by the hard-paved area which shall be sized based on the rate for a person specified in Appendix 7D. Details of the Pre-work Activities are described in Appendix 7D.

7.19 Safety precautionary measures on the use of special motorized vehicles for transportation of materials

- 7.19.1 The Contractor shall ensure that all motorized vehicles for use on roads have valid permits issued by the Transport Department. Notwithstanding any permit conditions and requirements, the Contractor shall ensure that only competent drivers holding a valid driving license are assigned to operate the motorized vehicles and the drivers should be trained and familiar with the function and operation of the vehicles. The maximum load and the size of goods to be carried by the vehicles should be clearly marked on the vehicles. The operational route of the vehicles should be properly checked to ensure that the routing is safe for vehicular transport. The vehicles should be maintained in accordance with the instructions from the vehicles manufacturers and the operational functions of the vehicles should be checked on a regular basis, at least once a week, to ensure the safe functioning of the vehicles

- END OF SECTION -

ENVIRONMENTAL PROTECTION ASPECTS

8.1 General

- 8.1.1 This Contract is not a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap 499). No environmental permit is required for the execution of the works.
- 8.1.2 NOT USED
- 8.1.3 NOT USED
- 8.1.4 The Contractor shall comply with all the requirements in relevant Government technical circulars, their subsequent version replacements and any new technical circulars.
- 8.1.5 Should any licences (e.g. Discharge Licence, Licence for Specified Process, Construction Noise Permit, Noise Emission Labels, etc) be required for the construction works, the Contractor shall apply for those licences at his own expense.
- 8.1.6 The Contractor shall implement appropriate environmental mitigation measures pertinent to the nature and extent of works to be executed in various stages of construction in accordance with the Environmental Protection Ordinance.
- 8.1.7 The Contractor shall conduct a review of the assessment during detailed design and submit to relevant authorities for approval if considered necessary by the Supervising Officer.

- END OF SECTION -

9. DESIGN CHECKING PROCEDURES

9.1 Definitions

9.1.1 The following expressions shall have the meaning assigned to them except when the context otherwise requires:-

- (a) “Project Design Plan” means the document to be submitted by the Contractor in accordance with the Employer’s Requirements showing how the Contractor intends to implement the Design Checking Procedures.
- (b) “Approval in Principle” means the consent given by the Supervising Officer in respect of the Contractor’s design submitted for Approval in Principle after the endorsement of appropriate Government Departments and statutory authorities and the submission of a Check Certificate by the Contractor, signed by the designer, the Contractor and the Design Checker.
- (c) “Detailed Design Approval” means the consent given by the Supervising Officer in respect of the Contractor’s design submitted for Detailed Design Approval after the endorsement of appropriate Government Departments and statutory authorities and the submission of a Check Certificate by the Contractor, signed by the designer, the Contractor and the Design Checker.
- (d) “Certified Working Drawing” means a drawing, and/or document prepared by the Contractor’s designer and endorsed as being checked and approved by the Design Checker.
- (e) “Check Certificate” means a certificate submitted to the Supervising Officer for Approval in Principle or for Detailed Design Approval as the case may be, in the forms specified in Appendix 9A to the Employer’s Requirements:
 - (i) identifying the nature and description of the submission and a description of the Works to which the submission refers;
 - (ii) signed by the designer who is a nominated leader of the Design Management Team to certify that the design complies with the Contract requirements and the Contractor’s Proposals, has been checked in-house to confirm the completeness, adequacy and validity of the design of the Works covered by the submission and that all necessary and required approvals have been obtained from Government Departments and statutory authorities;
 - (iii) signed by the Contractor to certify that the design complies with the Contractor’s Proposals and is endorsed by the Contractor;

- (iv) signed by the Design Checker to certify that the design has been independently checked by the Design Checker using all reasonable skill and care and complies in all respects with the terms and conditions of the Contract.
- (f) Not Used
- (g) “designer” means the person, firm or company appointed by the Contractor to design the permanent Works.

9.2 Designer

- 9.2.1 The Contractor shall appoint a designer to design the permanent works. The designer shall be, individual or firm or company, with suitable experience as required in Employer’s Requirements Section 12 sub-clauses 12.1.2 (h) and (i) under this Contract, subject to the Supervising Officer’s approval. The designer shall not sub-contract any of his obligations under the Contract without approval in writing from the Supervising Officer.
- 9.2.2 The design of temporary works may be undertaken by the Contractor, the designer, or such other competent designer as the Contractor may choose, subject to no objection by the Supervising Officer. In relation to temporary works, the term “designer” where used in the Design Checking Procedures contained herein shall be deemed to include the designer of the Temporary Works permitted by this clause.
- 9.2.3 The designer shall provide certification, and agreed with the Supervising Officer, to confirm that the design complies with the terms and conditions of the Contract and that the design takes account of the Contractor’s method of working. If the Contractor’s method of working is revised at any time after the Detailed Design Approval has been given, then the designer and Design Checker shall review the design to ensure that the design principles are not affected, and the Contractor shall issue new certification and request consent from the Supervising Officer in accordance with Employer’s Requirement.
- 9.2.4 The Contractor shall ensure that all designs are submitted to interested parties including Government Departments and statutory authorities for checking/comment and approval as required to comply with the Employer’s Requirements and any relevant statutory requirements, without limitation, as follows:

Department/Office of Government	Concerned Issues
Buildings Department	Building Regulation compliance for the works concerned
Civil Engineering and Development Department	Geotechnical matter for the works

Drainage Services Department	Sewerage and drainage of the area affected by the execution of the Contract
Electrical and Mechanical Services Department	Energy Efficiency and new electrical loading and wiring
Environmental Protection Department Environmental Compliance Division	Construction noise permit Discharge licence for the Works and the Operation
Environmental Protection Department Waste Facilities Group	Sludge disposal C&D materials, and Construction Waste disposal charging
Fire Services Department	Fire services installations/ EVA
Hong Kong Police Force	Temporary traffic diversions
Labour Department	Occupational safety and health
Lands Department	Leased Land Terms and Conditions

9.2.5 The Contractor should note the Professional Indemnity Insurance coverage required to comply with Clause 32 of the Special Conditions of Contract.

9.3 Design Checker

9.3.1 The Contractor shall voluntarily appoint a Design Checker, independent of the Contractor and the designer, to check all the permanent and temporary design works..

9.4 Objectives of Design Checking and Design Checking Procedures

9.4.1 The objective of design checking is to ensure that the design is checked for compliance with the Employer's Requirements that the detailed design has met the requirements of Government Departments, statutory authorities and interested parties affected by the Works. The objective of the Design Checking Procedures is to ensure the progressive process of submissions, discussion and endorsements to avoid delays to the project.

9.4.2 The Design Checking Procedures comprise two main stages:

- (a) Approval in Principle check (AIP)
- (b) Detailed Design Approval check (DDA)

- 9.4.3 The Contractor shall submit and update from time to time a programme for submission of all items to the Supervising Officer in demonstrating that the Supervising Officer and relevant authorities should have reasonable time to review the submissions.
- 9.4.4 The Design Checker shall check all permanent Works designs and, but not limited to, the following Temporary Works designs in accordance with this Design Checking Procedures:
- (a) all works related to the protection of existing structures;
 - (b) temporary support of all excavations deeper than 2.5 m;
 - (c) temporary support of footbridges and subway renovation;
 - (d) temporary power supplies;
 - (e) temporary works associated with the support or protection of existing pipes, cables and other utilities;
 - (f) temporary bridging structures, over open excavations;
 - (g) temporary drainage / sewerage facilities and diversions;
 - (h) temporary utility diversions;
 - (i) falsework for suspended slabs and walls of height greater than 2 m;

9.4.5 NOT USED

9.4.6 NOT USED

9.5 Approval in Principle (AIP)

- 9.6.1 The specific purpose of AIP is to check that all aspects of the Works, including Temporary Works stated in the Employer's Requirements, which could affect the theme, integrity or performance of the proposed works, are identified and have been taken into account before detailed design and construction commences. The AIP document on the basis of which the Supervising Officer has given his consent to proceed will serve as a yardstick for subsequent consent to the detailed design.
- 9.6.2 AIP submissions shall include as appropriate but without limitation:
- (a) General arrangement drawings.
 - (b) Construction sequence drawings, construction method statements and any temporary traffic arrangements.
 - (c) List of design codes.

- (d) List of design parameters.
- (e) Plans and sections.
- (f) Description of analysis methods to be used.
- (g) Descriptions of architectural finishes and materials, taking into consideration the aesthetic and other landscaping requirement.
- (h) Preliminary stability assessment
- (i) Employer's Requirements requiring further clarification by the Supervising Officer.
- (j) Evidence of consultation with the relevant statutory authorities / Government departments and interested parties on design, management and maintenance issues.
- (k) Performance Specifications.
- (l) Preliminary Construction Risk Assessment.
- (m) Compliance testing proposals.

9.6.3 Not Used

9.6.4 The Contractor shall prepare and submit his design in accordance with the Project Design Plan to the Supervising Officer for Approval in Principle. The Supervising Officer shall, either give his consent in writing or refuse to give such consent and notify the Contractor in writing of his refusal giving particulars within the time (or times) and in such manner as stated in sub-clause 9.6.7 hereafter.

9.6.5 The Contractor shall submit to the Supervising Officer in accordance with the Project Design Plan:-

- (a) 2 certified copies of the Contractor's design;
- (b) 2 copies of the Contractor's design; and,

9.6.6 The Supervising Officer shall within 35 days of receipt of the Contractor's submissions, part or parts thereof submitted in accordance with the Project Design Plan, notify the Contractor in writing:-

- (a) that consent to proceed to detailed design is given; or
- (b) that consent to proceed to detailed design is given but with conditions; or

- (c) that consent not given in which case reasons for not granting consent shall be given; or
- (d) that further information is required to be submitted, in which case the information required shall be stated.

Provided that if none of the above actions is taken within the said period of 35 days, the Supervising Officer's consent to proceed to detailed design shall be deemed to have been given.

- 9.6.7 The Contractor shall within 7 days of receiving notification or within such further period as the Supervising Officer may allow in writing, provide the further information requested failing which consent to proceed to detailed design have not been granted. The Supervising Officer shall within 14 days of receipt of such further information grant or not grant consent to proceed to detailed design.
- 9.6.8 In the event that consent to proceed to detailed design is not granted or deemed to have not been granted under Sub-clause 9.6.8, the Contractor shall within 7 days thereafter resubmit his design, part or parts thereof taking account of the reasons given for the rejection or incorporating the further information requested by the Supervising Officer, as the case may be.
- 9.6.9 Having received consent to proceed to detailed design for an element or the whole of the Works, the Contractor shall not vary any of the design criteria used in the AIP submission without seeking the consent of the Supervising Officer by making a revised AIP submission.
- 9.6.10 The AIP submission shall contain the proposed architectural finishes and materials and the manufacturer's performance specifications and warranty based on the requirements specified in the Employer's Requirements. The Supervising Officer has the right to reject the Contractor's proposal should there be any deviation from the Employer's Requirements as considered by the Supervising Officer.

9.7 Detailed Design Approval (DDA)

- 9.7.1 The scope of the design check to accompany DDA shall include:
 - (a) Ensure compliance of the design with the terms and conditions of the Contract;
 - (b) Ensure compliance with the Employers' Requirements;
 - (c) Ensure compliance with any relevant AIP documents;
 - (d) Ensure compliance of the design, management and maintenance with the requirements of Government Departments/Offices, relevant authorities, District Councils and interested parties;

- (e) Ensure that any computer programs used have been properly validated, calibrated or verified as appropriate;
- (f) Check input data to computer programs and carry out a separate check of critical elements using the output data;
- (g) Carry out an analytically separate design check of critical elements without reference to the calculations if hand calculations are submitted;
- (h) Review in detail the general arrangement and other drawings and to ensure that the design is accurately translated to the drawings;
- (i) Assess in detail any required Temporary Works proposals as listed in the Employer's Requirements and influence of construction methods and sequence on design of permanent Works and safety of adjacent property;
- (j) Ensure the compliance with the Performance Specifications.

9.7.2 The content of the submission for DDA shall include, but not be limited to, information of the following:-

- (a) the dimensions of all major features, structural and non-structural elements and members;
- (b) all materials and the corresponding colour codes and finishes;
- (c) potential forces and movements due to all possible loadings and actions on the structures, and their accommodation;
- (d) the layout and typical details of reinforcement in structural concrete members;
- (e) standard details and structural connection details;
- (f) location, geometry and setting-out of all main elements and features;
- (g) provisions and proposals for interfacing with other contracts;
- (h) erection methods and their effects on the Permanent Works;
- (i) drainage provisions;
- (j) building services and E&M installations;
- (k) any utilities diversions; and
- (l) any deviation from the design standards but accepted by the relevant parties other than Supervising Officer, as given in Table 9.1.

- 9.7.3 The DDA submission shall include, where appropriate and without limitation, the following documents, unless otherwise agreed by the Supervising Officer”

9.7.4.1 Design Drawings

The drawings shall illustrate the proposed Detailed Design and in particular shall include, without limitation:

- (a) general arrangements;
- (b) layouts, cross sections and details of all elements of Works, including where applicable:
 - (1) structural details;
 - (2) provisions for electrical and mechanical services and equipment and associated fittings;
 - (3) movement joints, structural connections and the like;
 - (4) parapets and other furniture;
 - (5) earthworks;
 - (6) structural, surface and subsurface drainage;
 - (7) configuration of structural elements and waterproofing arrangement;
 - (8) material schedule and installation details
 - (9) site access arrangement;
 - (10) temporary land/marine traffic management schemes;
 - (11) necessary utilities diversions; and
 - (12) construction sequence

9.7.4.2 Specification

The design technical submission included in the Contractor’s Proposals shall be amplified so as to comprehensively specify the design and construction of the Permanent Works in conjunction with the Specification described in Part 14 of the Employer’s Requirements.

9.7.4.3 Design Manual

The design manual shall be based on the final version of the Design Memorandum and include the design technical submission incorporating all design requirements, standards, codes, loadings, permissible movements and deflections, limit states, design stresses and strains, material properties and all other documents or matters which are relevant to and govern the design. Where connections have to be made with existing structures, the design manual shall highlight the effect of the proposed structure on such existing structure and demonstrate that the proposed works would not have any detrimental consequence on the existing structure either of permanent or temporary nature. The design manual shall refer to all materials, codes and standards used, making clear their specific application. The design manual shall be produced so that it can be used by those involved in the preparation or review of the design of the Permanent Works as a comprehensive reference text and efficient working document.

9.7.4.4 Testing and Commissioning Report

Details of proposals for testing and commissioning procedures for all relevant elements and equipment contained in the Permanent Works.

9.7.4.5 Aesthetic Report

This report shall take account of the aesthetic requirements as set out in the Employer's Requirements and shall contain:-

- (a) a general description of the aesthetic aspects of the structures or elements of Works identifying design objectives, parameters and constraints and explaining the method by which the stated objectives are achieved;
- (b) Suitable material to illustrate fully the design of the Permanent Works including general arrangement drawings, perspectives, photomontages or models as required generally and to highlight important design features and details;
- (c) Information on proposed finishes and treatments;
- (d) any other relevant information necessary to allow comprehensive and informed evaluation of the aesthetic aspects of a Detailed Design submission.

9.7.4.6 Survey Report

A report on all survey work undertaken by the Contractor, including checks on mapping, survey stations, co-ordinates and setting-out. Updated topographical and survey drawings shall be included.

9.7.4.7 NOT USED

9.7.4.8 Construction Method Statement

A report which provides sufficient information on methods of construction and Contractor's equipment to allow the Supervising Officer to assess their effects on the Permanent Works and to enable these to be taken into account in the review of the Detailed Design. This report shall also describe the procedures and controls to be carried out by the Contractor on site to ensure that the assumptions of the design is met.

9.7.4.9 Works Programme

The Contractor shall, prior to submitting the Detailed Design, review the Works Programme against the current status of the design submissions.

In the event that the Contractor considers there to be any discrepancy or inconsistency between the design submission and the Works Programme, the Contractor shall submit with the Detailed Design, its proposed revisions to the Works Programme in accordance with Employer's Requirements Section 5 : Programming Requirements and Progress Report such that the discrepancy or inconsistency is removed.

The Contractor shall provide details of submissions of proposed Working Drawings and their anticipated timing during the Construction Phase and shall identify information required from, or actions to be undertaken by, the Employer or others which are necessary to permit the completion of the design of the Permanent Works and the Working Drawings. Dates for receipt by the Contractor of such information or for the completion of such actions shall be included with appropriate justification.

9.7.4.10 NOT USED

9.7.4.11 Utilities Report- NOT USED

- 9.7.5 In addition to the information listed above, the DDA submission shall, where applicable, incorporate information which amplifies the following specified requirements, unless otherwise agreed by the Supervising Officer :-

9.7.5.1 Structures

- (a) Foundation Design Report: A report giving full details of the foundation arrangement, proposed founding levels, loading cases and construction methodology.
- (b) Maintenance Report: A report updating the statement of maintainability in the Contractor's Proposals and outlining maintenance routines necessary for the achievement of the required lives of the various elements of the Works.

9.7.5.2 Not Used

9.7.5.3 Not Used

9.7 Design Changes

9.8.1 Subject to the approval of the Supervising Officer, minor design changes relating to previously consented DDA submissions due to correction of errors or instructed Variations may be permitted to follow a streamlined process.

9.9 Shop Drawings and Coordination Drawings

9.9.1 Unless otherwise requested by the Supervising Officer, the Contractor's shop drawings and co-ordination drawings to further detail the fabrication or installation of the permanent Works, shall not require the formal certification from the Design Checker or the consent from the Supervising Officer, provided that such drawings comply with the certified and consented design.

9.9.2 The Contractor's shop drawings and co-ordination drawings shall be signed by the Contractor's designer to confirm compliance with the certified and consented design and submitted for information to the Design Checker and Supervising Officer.

9.10 Check Certificates- Not Used

9.11 Submissions

9.11.1 The Contractor shall carry out the duties to prepare and circulate the submissions according to the following table to the relevant parties for comments. The Contractor shall revise each draft submission to incorporate the comments received from the circulation and circulate the revised submission again to the circulated parties until the submission is accepted by all circulated parties. The Contractor shall then prepare the final version of the submission and distribute to all circulated parties for their records.

Design Memorandum

9.11.2 The Contractor shall prepare the Design Memorandum for use in the detailed designs of the Contract. The Design Memorandum shall state the design standards, design parameters, design criteria and design assumptions to be adopted in the detailed designs. The memorandum shall be prepared according to the requirements in the Employer's Requirements and cover all aspects of the design works of the Contract. The memorandum shall be prepared in such a format that all the relevant design standards, parameters, criteria and assumptions of each of the design elements to be included in AIP or DDA submissions can be easily extracted from the memorandum.

Ground Investigation Report

- 9.11.3 The Contractor shall prepare Ground Investigation Report containing the results, findings and conclusions of the tests, trials and investigation carried out as detailed ground investigation for the Contract.

Durability Assessment Report

- 9.11.4 The Contractor shall carry out a durability assessment for all structures and landscape features to be designed and built in the Contract, including their finishes and components, to identify the significant durability issues and their components pertaining to their environmental exposure and functionality. The Employer's view shall be sought on areas where there are choices of design or materials affecting durability significantly. The assessment shall include:

- (a) appraisal of the deterioration mechanism that will materials during the design/service life; affect various
- (b) appreciation of the failure criteria for the elements and components;
- (c) how the selected design will achieve the durability objective;
- (d) identification of the critical elements and issues with respect to durability; and
- (e) required post construction maintenance.

- 9.11.5 The Contractor shall prepare a Durability Assessment Report to address the above and set out the proposed approach to resolve the following issues:

- (a) corrosion protection of structural steel, reinforcement, cable and exposed metals;
- (b) concrete protection and crack control;
- (c) waterproofing;
- (d) jointing and sealing;
- (e) fixing on/into structure;
- (f) durability of envelope components (including finishes and cladding elements);
- (g) method of rectification for the failure of critical elements;
- (h) mould growth and staining; and

- (i) warranty and spare parts.

Structural Condition Survey Report

9.11.13 The Contractor shall carry out the structural condition survey of the existing structures based on the requirements of Employer's Requirement to assess the conditions of the existing structures for the Contractor's detailed designs. Checks including any E&M and lighting works to accommodate the uplifting works should be investigated. The Contractor shall submit a Structural Condition Survey Report detailing the investigation, proposed strengthening, modification and/or extension works.

Survey Information

9.11.14 The Contractor shall carry out all necessary surveys, levels, sounding, monitoring work and make such investigations and inquiries as are necessary for the satisfactory completion of the Contract, including taking readings of the monitoring equipment such as tell-tale, ground movement point, structure movement point, utility monitoring point, inclinometer, piezometer/standpipe, seismograph (for vibration monitoring), tiltmeter, etc. The Contractor shall prepare and submit reports to the Supervising Officer on the results, findings and conclusions of the surveys, levels, sounding, investigation and inquiries carried out. The submissions shall also contain field notes, field data and resultant plans arising from any survey carried out as well as digitised survey data prepared by the Contractor.

Consultation materials

9.11.15 The Contractor shall prepare and supply all necessary drawings, photomontages, documents, consultation papers, presentations, display materials for public consultations including those at local organisation, Tourism Commission and District Councils (Southern District Council) and/or committees established there under. The Contractor shall attend and answer queries at a maximum of 30 meetings for the purpose of public consultation and endorsement of findings, conclusions and recommendations of the detailed designs. These meetings will be in addition to the Steering Group Meetings, Working Group meetings, progress meetings, liaison meetings, technical presentations, seminars, conferences, and the like.

Working papers

9.11.16 In addition to other deliverables listed in Table 9.1 Submission Schedule, the Contractor shall produce and circulate for comment and acceptance other deliverables including report, papers, submissions, programmes, estimates, calculations, certificates, documents, manuals, plans and drawings as may be required under the Contract.

9.11.17 The Contractor shall prepare and circulate sufficient copies (maximum 30 copies per deliverable) of the deliverables in draft form on or before the submission deadline to relevant parties for comment.

9.12 Contractor's onus in respect of Approvals

The Contractor should take into consideration the time required to process each submission and approval required by parties concerned. The onus is on the Contractor to synchronize his submission schedule and secure all necessary approvals with his design and construction programme in order to meet the completion date.

- END OF SECTION -

10. EMPLOYER'S CONSTRUCTION AND SITE SAFETY SUPERVISION- NOT USED

11 FACILITIES FOR THE SUPERVISING OFFICER- NOT USED

12. GENERAL SITE MANAGEMENT

12.1 Contractor Organisation

12.1.1 General

- (a) Within 7 days of commencement of the Contract, the Contractor shall submit his Staffing Proposal to the Supervising Officer for approval, which shall include:
 - (i) The Contractor's proposed Staff Organization showing in chart form the names of his proposed staff for each position;
 - (ii) CVs of the Contractor's proposed staff, with adequate details and copies of documentary proof on the qualification and experience (with contract titles, position held and dates) of each staff to substantiate that he is competent for undertaking the proposed position;
 - (iii) The scope of responsibilities of each staff and the reporting lines between individual staff;
 - (iv) The documents that each staff is authorized to sign on behalf of the Contractor.
- (b) The Staff Organization shall cover the Contractor's Key Staff and Specially Required Staff as well as other working-level staff with authorities and responsibilities in directing execution of the Works on Site, or in deciding technical details of the Contractor's proposals.
- (c) The Contractor's Staffing Proposal as stipulated in (a) and (b) above shall not in any way be inferior to that submitted at tender stage. In particular, the Key Staff shall remain as that proposed at tender stage, unless it is necessary to propose a better qualified and more experienced staff in order to meet the requirements of the Contract, in which case the Contractor shall within the Staffing Proposal include an explanation for each of such a change in Key Staff.
- (d) Each staff in the Contractor's Staffing Proposal including the Key Staff and the Specially Required Staff as described in this section shall be allocated to this Contract on a full-time basis on Site, until the activities that he is responsible for have been carried out. Should it be necessary to replace any staff before the activities he is responsible for have been carried out, the Contractor shall submit the CV of the proposed substitute for the Supervising Officer's

approval. The substitute shall not be less qualified/experienced than the staff he is replacing.

12.1.2 Key Staff

- (a) Without prejudice to the generality of GS Clause 1.12 the Contractor's staffing Proposal shall include at least the following Key Staff:
 - (i) Project Manager;
 - (ii) Site Agent , who shall be the agent of the site;
 - (iii) Construction Manager;
 - (iv) Design Manager;
 - (v) AP and Registered Structural Engineer; and
 - (vi) Registered General building Contractor
- (b) All the foregoing staff shall hold a university degree or an equivalent qualification in Architecture, Building Engineering or relevant qualifications. In addition, the Project Manager, the Site Agent, the Design Manager and the Building and Structural Engineer shall be either a Corporate Member of the Hong Kong Institution of Engineers or have a similar chartered engineer qualification.
- (c) The Project Manager shall be a Corporate Member of the Hong Kong Institution of Engineers (Building Engineering Discipline) or equivalent. He shall have a minimum of 5 years post professional qualification experience in construction contracts, among which (a) at least 2 years should be in managerial position; and (b) at least 3 years should be in Construction Engineering works.
- (d) The Construction Manager shall be a holder of a recognized degree in Building Engineering discipline. He shall have a minimum of at least 2 years should be in managerial experience.
- (e) The Design Manager shall be a Corporate Member of the relevant professional qualification. He shall have a minimum of 2 years of the relevant field.
- (f) The Registered Structural Engineer shall be a Corporate Member of the Hong Kong Institution of Engineers (Civil Engineering Discipline) or equivalent. He shall have a minimum of 3 years of experience in design of Building Civil Engineering projects, among which at least 5 years should be in design of Civil and Structural works. The Civil and Structural Engineer shall be authorized to

represent the Contractor on matters related to the Contractor's proposals with respect to construction methodologies, Contractor's designs, material proposals, and shall bear overall responsibilities on these aspects. He shall coordinate the input of the Project Manager and the Construction Managers for ensuring that the proposals are of good constructability and are conducive to the assurance of quality of the Works as well as conducive to the assurance of safety and environmental requirements.

- (g) Design Landscape Architect shall be a Registered Landscape Architect recognized by the Hong Kong Institute of Landscape Architects. He shall have a minimum of 10 years experience in design of Landscape works, among which at least 5 years should be in landscape hardworks design. The Design Landscape Architect shall attend meetings related to Landscape works and inspect the Landscape works at reasonable intervals.
- (h) The Project Manager, Site Agent, Construction Managers, Programme Manager, Design Manager, Civil and Structural Engineers and Design Landscape Architects shall be assisted by engineers and foremen of adequate number and experience for ensuring that the Works will meet the requirements of the Contract from quality, progress, safety and environmental points of view. Without prejudice to the generality of the above, the Contractor's Staffing Proposal shall also include Specially Required Staff as stipulated in Clause 12.1.3 below.

12.1.3 Specially Required Staff

- (a) Geotechnical staff – The Construction Manager shall be assisted by the following staff:
 - (i) Geotechnical Engineer

The Contractor shall provide the services of at least one Geotechnical Engineer, who is approved under the List of Approved Suppliers of Materials and Specialist Contractors for Public Works, Category of Ground Investigation Field Work (Group II), to undertake the following duties:

- (a) providing technical supervision of the GI field works (e.g. excavation of trial pits/ trial trenches, sampling, field testing and instrumentation) to ensure its quality;
- (b) verifying the accuracy, correctness and completeness of all technical information supplied to the Supervising Officer under the terms of the Contract, including all records, field test results and the production of the required data in AGS digital format;

- (c) presenting all investigation data, preliminary records and Final Field Work Reports within the specified times and to the required standards;
 - (d) liaising with the Supervising Officer on all geotechnical matters related to the Contract; and
 - (e) certifying the Final Field Work Reports as having been checked for compliance with the requirements of the Specification.
- (b) Topographic Surveyor – The Construction Manager shall be assisted by a Topographic Surveyor whose responsibility requirements/experience shall be as specified below.
- (i) The Contractor's Topographic Surveyor shall be a Corporate Member of the Hong Kong Institute of Surveyors in the Land Surveying Division or have a similar chartered qualification. In addition, the Contractor's Topographic Surveyor shall either possess a degree in land surveying or equivalent, plus a minimum of 5 years of experience appropriate to the nature of the survey work included in the Contract, or a diploma in land surveying or equivalent, plus a minimum of 7 years of experience appropriate to the nature of the survey work included in the Contract. The Contractor's Topographic Surveyor shall be full time on Site during the construction period of the Contract.
 - (ii) The Supervising Officer shall not carry out any checking of the setting out work performed by the Contractor until the Contractor's Topographic Surveyor is approved.
 - (iii) The Supervising Officer shall have the authority to withdraw the approval of the approved Topographic Surveyor and to require the Contractor to replace him. Upon notification of replacement of the Contractor's Topographic Surveyor, the Supervising Officer shall not carry out any further checking of the setting out survey work performed by the Contractor until the Contractor's replacement Topographic Surveyor is approved.
 - (iv) The Contractor's Topographic Surveyor shall be authorized to receive from the Supervising Officer all survey data relevant to the Contract. The Contractor's Topographic Surveyor shall be available on Site for this purpose and/or attending the site meetings when required by the Supervising Officer.
 - (v) The Contractor shall give at least 24 hours' notice to the Supervising Officer when making a request for checking of the survey work. In case the checking of the survey work is required to be carried out on General Holiday or on the day

immediately following the General Holiday, the Contractor must give notice at least 24 hours before the commencement of the General Holiday.

- (vi) In addition, the Contractor's Topographic Surveyor shall be assisted by assistant surveyors who shall be full time at any of the Contractor's precast/fabrication yard for the tunnel segments. The assistant surveyors shall be of adequate number and experience, so as to take up the responsibility for surveying work at the precast/fabrication yard.

(c) Safety Staff

The Contractor shall employ safety staff including Safety Manager, Safety Officer and Safety Supervisors whose responsibilities and minimum requirements / experience shall be as specified in Section 7 of Employer's Requirements.

(d) Environmental Staff

The Contractor shall employ environmental staff including Environmental Officer and Environmental Supervisors whose responsibilities and minimum requirements / experience shall be as specified in Section 8 of Employer's Requirements.

(e) Tree Specialists (NOT USED)

(i) Independent Tree Specialist (ITS) (NOT USED)

The Contractor shall provide an ITS for the preservation and protection of the trees during the construction period. The ITS shall be a degree holder of any of the disciplines of agriculture, arboriculture, botany, forestry, horticulture, landscape architecture, landscape design, landscape management or landscape science or a discipline of equivalent subject acceptable to the Supervising Officer and shall have specialised knowledge and training in the above fields. The ITS shall also have at least three (3) years' documented or demonstrable experience gained whether in Hong Kong or elsewhere in the physiology and care of major tree species commonly found in Hong Kong.

(ii) Arborist (NOT USED)

The Contractor shall provide an Arborist. An Arborist is a pinnacle of the Arborist Profession and is capable to provide independent opinion on Tree Survey and any tree care practices. An Arborist is a Certified Arborist who has held the credential for at least 3 years and has re-certified at least once. He possesses "A" level in English Language and has successfully produced Arborist Report a minimum of 3 times.

(f) Quality Manager

The Contractor shall employ a Quality Manager to fulfil the requirements specified in Section 6 of Employer's Requirements.

(g) PR Officer

The Contractor shall employ a PR Officer whose responsibilities and minimum requirements / experience shall be as specified in Clause 12.8 of Employer's Requirements.

(h) Contractor's Labour Officer

The Contractor shall employ a Contractor's Labour Officer whose responsibilities and minimum requirements / experience shall be as specified in Section 28 of Particular Specification.

(i) Co-ordinator for Dealing with Internet Interface Utility Management System and application of Excavation Permit

The Contractor shall employ a Co-ordinator for Dealing with Internet Interface Utility Management System and Application of Excavation Permit whose responsibilities and minimum requirements / experience shall be as specified in Section 1 of Particular Specification.

12.1.4 Employment of Technician Apprentices and Building & Civil Engineering Graduates

(a) The Contractor shall employ a minimum of three technician apprentices under a valid contract of apprenticeship. The Contractor shall provide to the Employer the names of technician apprentices employed, together with evidence of each technician apprentice's contract of apprenticeship, within three months after the date of commencement of the Contract. Any subsequent changes on the employed technician apprentices must also be reported to the Employer within 1-month time.

(b) The Contractor shall employ a minimum of one building or civil engineering graduate each with an academic qualification gained within the preceding three years, and recognised by an appropriate local or overseas professional institution, such as the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Institution of Civil Engineers, the Institution of Structural Engineers or the Chartered Institute of Building. The Contractor shall provide to the Employer the names of the building or civil engineering graduates employed, together with evidence of each graduate's terms or contract of employment and the qualified professional supervising such graduates, within three months after the date of commencement of the Contract. Any subsequent changes on the

employed graduates must be reported to the Employer within 1-month time.

12.1.5 Employment of Qualified Tradesmen and Intermediate Tradesmen

- (a) The minimum number of Qualified Tradesmen and Intermediate Tradesmen to be employed by the Contractor in accordance with SCC Clause 20 shall be calculated in accordance with the following stated percentages of the total local workforce on the Site (i.e. excluding those labour who are imported with the approval of the Director of Immigration) at any time in each of the following specified trades and rounded up to the nearest whole number:

(i) Building and Civil Engineering Trades

Specified Trade	Minimum Percentage of Qualified Tradesmen	Minimum Percentage of Qualified Tradesmen plus Intermediate Tradesmen
Asphalter (Other Construction) (C301)	20%	20%
Asphalter (Roadworks) (C302)	5%	5%
Bamboo Scaffolder (C303)	60%	80%
Bar Bender and Fixer (C304)	35%	55%
Bricklayer (C305)	60%	75%
Carpenter (Fender) (C306)	5%	5%
Carpenter (Formwork) (C307)	40%	60%
Concretor (C309)	30%	60%
Construction Plant Mechanic (C310)	20%	20%
Drainlayer (C314)	20%	20%
General Welder (C318)	60%	70%
Ground Investigation Operator / Driller / Borer (C320)	80%	80%
Joiner (C322)	40%	60%
Leveller (C323)	60%	70%
Marble Worker (C324)	60%	70%
Marine Construction Plant Operator	5%	5%
Metal Scaffolder (C327)	30%	30%
Metal Worker (C328)	30%	50%

Specified Trade	Minimum Percentage of Qualified Tradesmen	Minimum Percentage of Qualified Tradesmen plus Intermediate Tradesmen
Painter and Decorator (C329)	55%	75%
Pipelayer (C331)	20%	20%
Plant and Equipment Operator (Piling) (C335)	40%	40%
Plasterer (C337)	45%	70%
Plumber (C338)	55%	70%
Tiler (C347)	55%	70%
Window Frame Installer (C350)	20%	40%

(ii) Electrical and Mechanical Trades

Specified Trade	Minimum Percentage of Qualified Tradesmen	Minimum Percentage of Qualified Tradesmen plus Intermediate Tradesmen
Electrician/ Electrical Fitter (E305)	30%	40%
Building Services Mechanic (E302)	0%	20%
Fire Services Mechanic (E306)	0%	20%
Mechanical Fitter (E310)	10%	20%
Sheet Metal Worker (E315)	0%	20%

- (b) Job descriptions of the specified trades shall be as shown in the Final Report for the Review of Trade Classification in the Construction Industry published by the Works Bureau.
- (c) Trade test certificates, certificates of completion of apprenticeship and intermediate trade test certificates are relevant if they are in trades or types of work specified in the following tables:

(i) Qualified Tradesmen

Specified Trade	Relevant Trade Test Certificate (issued either jointly or separately by Vocational Training Council (VTC) & Construction Industry Council Training Academy (CICTA))	Relevant Certificate of Completion of Apprenticeship
Asphalter (Other Construction)	Asphalter (Waterproofing)	Not available
Asphalter (Roadworks)	Asphalter (Road Construction)	Not available
Bamboo Scaffolder	Bamboo Scaffolder	Bamboo Scaffolder
Bar Bender and Fixer	Bar Bender and Fixer	Not available
Bricklayer	Bricklayer	Bricklayer/Plasterer/ Tiler
Carpenter (Fender)	Carpenter (Fender)	Not available
Carpenter (Formwork)	Carpenter, Carpenter (Formwork), Carpenter (Formwork-Building)	Carpenter/Joiner or Carpenter (Formwork)
Concretor	Concretor	Not available
Construction Plant	Construction Plant Mechanic	Construction Plant Mechanic
Drainlayer	Drainlayer	Not available
General Welder	General Welder	Not available
Ground Investigation Operator / Driller / Borer	Ground Investigation Operator	Not available
Joiner	Joiner	Carpenter/Joiner
Leveller	Leveller	Leveller
Marble Worker	Marble Worker	Marble Worker
Metal Scaffolder	Metal Scaffolder	Not available
Metal Worker	Metal Worker	Metal Worker
Painter and Decorator	Painter and Decorator	Painter/Decorator /Sign Writer
Pipelaye	Pipelaye	Not available
Plant and Equipment Operator	Plant and Equipment Operator (H-Pile) or Plant and Equipment Operator (Bored Pile)	Not available
Plasterer	Plasterer	Bricklayer/Plasterer/

Specified Trade	Relevant Trade Test Certificate (issued either jointly or separately by Vocational Training Council (VTC) & Construction Industry Council Training Academy (CICTA))	Relevant Certificate of Completion of Apprenticeship
		Tiler
Plumber	Plumber	Plumber
Tiler	Tiler	Bricklayer/Plasterer/ Tiler
Window Frame Installer	Window Frame Installer	Not available
Electrician/ Electrical Fitter	Electrician (issued by VTC)	Electrical, Electrician or Electrical Fitter
Building Services Mechanic	Not Applicable	Building Services Mechanic
Fire Services Mechanic	Not Applicable	Fire Services Mechanic
Mechanical Fitter	Mechanical Fitter (issued by VTC)	Mechanical, Mechanical Fitter
Sheet Metal Worker	Not Applicable	Steel Metal Worker

(ii) Intermediate Tradesmen

Specified Trade	Relevant Intermediate Trade Certificate	
	Trade or Type of Work	Issued by
Bamboo Scaffolder	Bamboo Scaffolder	CICTA
Bar Bender and Fixer	Bar Bender and Fixer	CICTA
Bricklayer	Bricklayer	CICTA
Carpenter (Formwork)	Carpenter, Carpenter (Formwork), Carpenter (Formwork-Building Construction) or Carpenter (Formwork-Civil Construction)	CICTA
Concretor	Concretor	CICTA
Construction Plant Mechanic	Construction Plant Mechanic	CICTA

Specified Trade	Relevant Intermediate Trade Certificate	
	Trade or Type of Work	Issued by
General Welder	General Welder	CICTA
Joiner	Joiner	CICTA
Leveller	Leveller	CICTA
Marble Worker	Marble Worker	CICTA
Metal Worker	Metal Worker	CICTA
Painter and Decorator	Painter and Decorator or Painter (Texture-Spray)	CICTA
Plasterer	Plasterer	CICTA
Plumber	Plumber	CICTA
Tiler	Tiler	CICTA
Window Frame Installer	Window Frame Installer	CICTA
Electrician/Electrical Fitter	Electrical Work	VTC
Building Services Mechanic	Any one of the following : Electrical Work, Sheet Metal Work, Mechanical Fitting, Pipe Works (E & M) or Welding (E&M)	VTC
Fire Services Mechanic	Any one of the following : Electrical Work, Mechanical Fitting or Pipe Works (E & M)	VTC
Mechanical Fitter	Mechanical Fitting	VTC
Sheet Metal Worker	Sheet Metal Work	VTC

- (d) For the purpose of complying with the requirements set out in paragraph (a)(ii) above, Qualified Tradesmen of the other related E&M trades can also be counted as Intermediate Tradesmen for the specific trade as set out below:

Specified Trade for Intermediate Tradesmen	Qualified Tradesmen of related trades
Electrician/ Electrical Fitter	Lift Electrician
Building Services Mechanic	Any one of the following except the specified trade for Intermediate Tradesmen:
Fire Services Mechanic	
Mechanical Fitter	

Sheet Metal Worker	Electrician/Electrical Fitter, Building Services Mechanic, Fire Services Mechanic, Mechanical Fitter or Sheet Metal Worker
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- (e) The Contractor shall keep daily records of the names and trades of the Qualified Tradesmen and Intermediate Tradesmen working at the Site and shall make such records available for inspection by the Supervising Officer as required.
- (f) The Day of Checking is defined as the 15th of each month or the subsequent working day if the 15th is a General Holiday. The Contractor shall submit to the Supervising Officer, within 3 days (General Holiday not to be counted) from and including the Day of Checking, a name list of the Qualified Tradesmen and Intermediate Tradesmen working at the Site in the morning of the Day of Checking. The List shall be submitted in the forms shown in the table in Appendix 12A. The Contractor shall also direct the workers to sign against their names on the forms in Appendix 12A. In addition, the Contractor shall send pages 2 and 4 of Appendix 12A (in Excel format) of the completed forms direct to the CICTA by e-mail (E-mail address: VERIFY@cicta.edu.hk) on the same day of the submission to the Supervising Officer. Likewise completed forms should be sent to VTC by e-mail (E-mail address: aputtr@vtc.edu.hk) and to EMSD (E-mail address: contract@emsd.gov.hk), if applicable. The submission of this information in electronic format is to facilitate CICTA / VTC / EMSD in processing the submitted forms. Checking for compliance with the contractual requirements is based on the hard copies of the submitted forms. Submission of the forms in Appendix 12A will not be required after the issue of the Certificate of Completion.
- (g) Random site checks will be carried out by the Supervising Officer's site supervisory staff on the workers working on Site. The Contractor shall ensure that all Qualified Tradesmen and Intermediate Tradesmen will be able to produce their trade test certificates, intermediate trade test certificates, trade test certification cards, intermediate trade test certification cards, certificates of completion of apprenticeship or registration certificates under the Electricity Ordinance (Cap. 406) upon request.

12.2 Project Control Group Meetings

- 12.2.1 Project Control Group Meetings shall take place on a monthly basis or at such other intervals agreed by the Supervising Officer.
- 12.2.2 The purpose of such meetings is to:

- (a) review progress on the design, design checking and construction with particular emphasis on the project programme for both time and expenditure
- (b) discuss and attempt to resolve problems before they become formal disputes
- (c) anticipate and discuss future problems
- (d) review compliance with safety requirements
- (e) review compliance with environmental protection requirements
- (f) discuss any other matters relevant to the Contract including interface with other projects

12.2.3 Membership of the Project Control Group should comprise the following persons:-

- The Supervising Officer or his representative
- The Employer's representative
- The Contractor's head office representative
- The Design Checker or, if a company, his representative
- The Contractor's designer or, if a company, his representative
- The Contractor's agent (as GCC Clause 17(2))

Others may include:

- Representative(s) of sub-contractor(s)
- Representative(s) of interfacing projects

12.3 Safety Requirements

12.3.1 The Contractor shall comply with all safety requirements as described in the Contract.

12.4 Environmental Requirements

12.4.1 The Contractor shall comply with all environmental protection requirements as described in the Contract.

12.5 Contractor's Construction Supervision

- 12.5.1 The Contractor shall ensure that the Project Manager delegates appropriate powers and duties to his assistants as may be necessary for them to properly execute their duties and fulfill their responsibilities. The extent of such delegation shall be advised to the Supervising Officer.
- 12.5.2 The Contractor shall ensure that the site teams are fully supported at all times by qualified staff of the designer who are familiar with all the various aspects of the design and are able to respond promptly and authoritatively to any site queries so that the progress of the Works is not delayed.
- 12.5.3 The responsibilities of the Contractor's site staff shall include but not limited to:
- (a) Day-to-day administration of the Contract, including all correspondence and the maintenance of full contemporary records;
 - (b) Ensuring that the Works are carried out in accordance with the requirements of the Contract, approved designs and approved method statements;
 - (c) Monitoring and ensuring the satisfactory progress of the Works including holding regular progress coordination meetings Supervising Officer; with the
 - (d) Monitoring and ensuring that quality of the Works by ensuring the implementation of a full Quality Assurance System;
 - (e) Monitoring and inspecting all work sites to ensure the safety of the Works, all personnel employed on the Works, all third parties and property;
 - (f) Liaising with and making submission to Government departments, utility companies, and other interfacing organisations where their activities affect or are affected by the Works including preparation of documents for and attendance at Traffic Management Liaison Groups, Site Liaison Groups and other such committees; and,
 - (g) Preparing monthly progress reports and financial accordance with Section 5.2 forecasts in
- 12.5.4 The Contractor shall arrange to carry out compliance testing of the Works as defined by the designer and submitted as part of the AIP and DDA submissions consented by the Supervising Officer. The requirements of the General Specification and the Employer's Requirements shall be the minimum acceptable standard and frequency of compliance testing. When considered necessary by the

designer and in accordance with any further requirements given in the GS or herein, the compliance testing shall be carried out by an approved testing contractor.

- 12.5.5 The Contractor shall be responsible for quality assurance and quality control in accordance with Section 6 of the Employer's Requirements including day-to-day materials sampling and testing, monitoring of site instrumentation and maintenance of all records.
- 12.5.6 The Contractor shall be responsible for undertaking detailed safety risk assessments, preparing safety risk management plans and safety plans in accordance with section 7 of the Employer's Requirements.
- 12.5.7 The Contractor shall establish on site a computerised document control system to be approved by the Supervising Officer. The system shall be capable of containing full details of all correspondence, drawings and other documents relating to the Works.
- 12.5.8 The Contractor shall ensure that the document control system is properly maintained by promptly recording any new data or changes so that the information is available on a real time basis to all users.

12.6 Correspondence

- 12.6.1 All correspondence between the Contractor and the Supervising Officer's Representative on Site shall be delivered in both hard (paper) and electronic form at the same time.

12.7 Systematic Risk Management

- 12.7.1 During the course of the Contract, the Contractor shall, when required by the Supervising Officer, participate in the Systematic Risk Management activities and prepare risk reports in accordance with ETWB TCW No. 6/2005, ETWB TCW No. 15/2005, ETWB Risk Management User Manual. These activities may include attending risk management workshops, meeting with relevant stakeholders, preparing the Contractor's own risk treatment plans, risk management plans and risk registers, etc. Unless otherwise specifically provided for in the Contract, the Contractor shall not be entitled to any additional payment for performing such management activities. Nevertheless, for the avoidance of doubt, it is clarified that any instructions, orders, directions, or decisions of the Supervising Officer given or made in accordance with the Contract or any variation to the Works ordered in accordance with the Contract due to a particular identified risk treatment activity shall be dealt with under the relevant provisions in the Contract.

12.8 Public Relations (PR) (NOT USED)

12.9 Testing and Inspection, Test and Approval Plans

- 12.9.1 The cost of all testing except the cost incurred by the Employer's laboratories, including testing order by the Supervising Officer and testing by independent inspection authorities or specialist testing consultants, shall be borne by the Contractor.
- 12.9.2 Samples for laboratory testing and locations for in-situ testing shall be selected by the Supervising Officer who shall also supervise transport and delivery to the laboratory(ies). Test result shall be supplied directly to the Supervising Officer by the laboratory in sealed envelopes.
- 12.9.3 Notwithstanding the requirements of GS Clause 1.40, Laboratories other than the Employer's laboratories shall be:
- (a) checked by periodic verification using another independent laboratory;
 - (b) demonstrate staff competence by carrying out tests on dummy samples;
 - (c) subject to quality and technical audit checking by the Supervising Officer;
 - (d) allow the Supervising Officer and PWL to supervise all stages of the sampling, testing and reporting process.
- 12.9.4 The Contractor shall submit inspection, test and approval plans (ITAP) for each part of the Works for the approval of the Supervising Officer, prior to the commencement of relevant parts of the Works on Site. The purpose of ITAP is to identify hold points and witness points where opportunity is given to the Supervising Officer to control the Contractor's checking process. Hold points are points in the construction process where work cannot proceed further without notification and successful inspection by the Supervising Officer. Witness points are points in the construction process where the Supervising Officer is notified that the witness point has been achieved, but where work may proceed without inspection by the Supervising Officer if inspection does not take place at the agreed time.
- 12.9.5 The Contractor shall not commence any work until the ITAP for that activity has been approved by the Supervising Officer. Works that are carried out prior to this and works that are carried out without the Supervising Officer's approval at hold points as defined in the ITAPs shall be classified as defective work and shall be replaced by the Contractor at his own expense.
- 12.9.6 The Contractor shall arrange to carry out all compliance testing specified in this Employer's Requirement, the General Specification,

and any other specification submitted and approved in accordance with Employer's Requirement Section 9.

- END OF SECTION –

- END OF EMPLOYER'S REQUIREMENTS -

TECHNICAL SPECIFICATIONS

1.0 GENERAL

1.1 General

The specification for the landscape and building works shall follow the General Specification for Building by Architectural Services Department (2012 edition) and all current amendment thereto.

All clauses of the Specification shall be applicable to this Contract unless expressly stated in this Performance Specification. Provided where there are any discrepancies between the Specification and this Performance Specification, the latter shall take precedence over the former.

This section should be for both soft and hard landscape works in outdoor areas.

1.2 Equivalent Product

The products mentioned in this specification are only an indicative standard and may be replaced by other products having equivalent functions or performance.

1.3 Reference with Other Trades

This Performance Specification for Building Works should be read in conjunction with other contract documents.

1.4 Scope of Works

The works will be divided into 2 groups and the contractor is required to work out the design and construction works in accordance with the indicated schedule,

External Signage Works

- e. School Motto in Chinese characters on the external wall at the first campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.

Works including erection of scaffolding/ platform at site, fabrication of school motto wordings in enamel coated aluminum cut out wordings at least 100mm thick measured from the surface of the wall, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare Minor Works Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled in 2015 summer and should be completed within the summer holiday of the school.

- f. Cladding and feature lighting on the external wall (Extension Block) at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.

Works including erection of scaffolding/ platform at site, fabrication of aluminum cladding works at least 300mm thick measured from the surface of the wall, metal frame works, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare cladding Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled on or before 2015 summer and should be completed within the summer holiday of the school.

- g. School Sign and School Motto on the external wall (Assembly Block of the primary school section) at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.

Works including erection of scaffolding/ platform at site, fabrication of perforated metal frame backdrop (in matching colour with the surrounding wall) at least 500mm projection measured from the surface of the wall, metal frame works, fabrication of school sign and motto in powder coated aluminum cut out wordings at least 100mm thick well fixed to the metal backdrop, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare Minor Works Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled in 2015 summer and should be completed within the summer holiday of the school.

External Triangular Feature

- a. Triangular Architectural Feature in the First Campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.

Works including completing verification of the existing site condition, site investigation, substructure works, temporary works including ELS works, superstructure construction, erection of scaffolding/ platform at site, fabrication of structural steel frame works, transporting to site, lifting and fixing, external finishing works, electrical installation works and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.

The contractor is required to prepare cladding Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled on or before 2015 summer and should be completed within the summer holiday of the school.

1.5 Omission/ Deletion of Works

The contractor is required to note that, upon serving a written notice, the client has the right to delete any group of works at any stage of the contract. No loss of profit or any other claim in associate with such deletion of works will be entertained.

2.0 Material Specifications

2.1 Structural Work

The structural works shall include, but not limited to, the followings:

- The design and execution of external light system with GMS steel frame and aluminum cladding;
- The design and execution of external tempered glass feature(s) system with GMS steel frame and aluminum cladding;
- The design and execution of external enamel coated and powder coated signage at external wall;
- The design and execution of the school logo and signage with metal frame backdrop on existing wall;
- The design and execution of the iconic free standing feature with aluminum cladding and feature lighting provision. The feature including superstructure GMS steel frame and substructure works;
- in respect to the extent and are as specified in the design intention drawings to sustain the dead, superimposed and wind load and all other loads in accordance with the Specification & Government requirements.

- The design and execution of all temporary works in associated with the execution of the works;

- The preparation and submission of all necessary design and amendments to the Architect and the Buildings Department for approval;

- The contractor is required to carry out all testing, monitoring works, preparation and submission of all record plan, assessment report, testing report and provision of site supervision etc. as imposed by the Building Department and requirements under current Regulations and PNAPs;

- All design submissions including drawings & structural calculation in relation to structural works and/or for the submission to Buildings Department shall be endorsed by a Registered Structural Engineer;

- The loading impact of the new design/works on the existing structure and structural assessment report shall be satisfactory checked, prepared and endorsed by the Contractor's Registered Structural Engineer and submit to the client for his review before submission to the Buildings Department;

- Contractor must prepare and submit all necessary material submissions including catalogue, technical literature, test reports and job reference for client's consideration. No site work is allowed to be carried out should there be no approval from client on such submission.

- Contractor must prepare and submit all necessary material sample, shop drawing and detail submissions together with method statement and / or calculation for client's consideration. No site work is allowed to be carried out should there be no approval from client/ Authorities on such submission.

- Contractor must review whether if there are any discrepancies between the Construction Drawings and should inform the same promptly to client.

- Contractor must arrange all necessary tests, together with test report submission, by Independent Testing Authorities accredited under HOKLAS as stipulated in Contract Conditions and Specifications, and / or directed / requested by client.

- Contractor must provide all necessary TCP(s) to supervise, monitor, carry out the Works and complete the Design and the Works as stipulated in Contract Drawings and Specifications.
- Contractor must prepare and submit all necessary drawings / documents for submission to Building Department, F.S.D. or any others government departments in order to obtain acknowledgement from BD upon completion (if necessary).
- Contractor must prepare and submit record plans (including hard copy and soft copy in Auto CAD format) together with O&M manuals of buildings works showing levels, dimensions, setting outs and details of the Works at completion of the Works in a form agreed by the client.

2.2 General Requirements

The Contractor shall be deemed to have examined the Specification for this Contract which is the "General Specification for Building - 2012 Edition" with all current amendments thereto referred to hereinafter as the "General Specification" (G.S.) and issued by the Architectural Services Department, which together with this Specification, is the Specification referred to in the Articles of Agreement & Conditions of Contract.

In connection with the requirement of the Specification, it is to be understood that any reference to British Standard Specifications in this contract shall be in respect of the latest version published in Metric Units.

All building works performed under this contract shall comply in every respect with the latest edition of the rules and regulations of:-

Buildings Department, Hong Kong

Fire Services Department, Hong Kong

Air Pollution Control Unit of the Labour Department, Hong Kong

Environmental Protection Department, Hong Kong

Lands Department, Hong Kong

All other authorities having jurisdiction over the installations and works in Hong Kong

2.3 Particular Requirements

All structural steel sections shall be grade 43 to BS4360, Grade 250. All Mill Certificate for the steel regarding their chemical composition and steel tests shall be submitted to the RSE before commencement of the work.

All aluminum shall be designed to BS8118.

Apply surface protection painting with 2-Pack Epoxy Zinc Phosphate Primer to all steel elements for internal steel works. All structural steel shall be galvanized to BS 729, especially for external uses with minimum thickness of 85 μm , unless otherwise stated.

Welding works shall be carried out by licensed welder for fillet and / or butt weld wherever required as directed by the Engineer.

All welds and welded connections made on site shall be painted with zinc-rich paint such as E90 before the application of finishing paint.

All welds shall be tested by a Testing Agency accredited by HOKLAS. The Contractor shall submit report on weld testing to the Engineer for checking within one week after the completion of the welding works.

The Contractor shall carry out 3. Nos. of trail anchor tests on existing structure specified by the commencement of any structural works. The report on the test shall be submitted to the Engineer within 3 days after the test.

5% or minimum 10 Nos. of anchor bolts of each type and each size or with the testing frequency and acceptance criteria as required by the Buildings Department, whichever is greater, shall be tested with pull out or equivalent to 1.5 times its recommended capacity with load and deformation measured at each stage of loading as directed by the Engineer. The report on anchor bolt testing shall be submitted for the Engineer's checking within one week after the completion of anchor bolt installation.

All structural works must be completed to the satisfaction of the Engineer before the installation of non-structural work and decoration are allowed.

The Contractor shall submit any fixing details and structural calculation for decoration, light boxes and so on for the client's consideration and approval before carrying out installation.

The Contractor shall provide a full time foreman on site during the construction period to ensure the quality of works and safety of the site. The foreman must have experience on structural steel construction and Buildings Department's procedures. The qualification and experience of the foreman must be submitted to the client for approval before the commencement of work.

All architectural fixing including bolt and screws shall be made of stainless steel unless otherwise approved.

The new concrete kerb shall be constructed of Grade 30D/20 waterproofing concrete. The design mix and waterproofing admixture shall be submitted to client for approval before commencement of works.

When demolition work is required, existing structural elements shall not be removed / cut off / damaged / altered until inspection is carried out by the client.

Concrete cubes of 7 day and 28 day strength shall be tested according to CS1. Steel reinforcement shall be tested to CS2.

The Contractor shall also submit compliance test certificate to the client for consideration on the method of quality control confirming that the material conforms to the relevant standard prior to the actual commencement of work. The contractor shall propose a method of quality control acceptable to the client.

The Contractor is also required to comply all requirement imposed by Buildings Department's approval letter at no cost and time implication.

The Contractor shall also comply with the following specification for structural works:-

General:

All structural works shall be constructed in accordance with the Building

Construction Regulations: 1990 and current PNAP & PNRC enforced.

All steel design shall comply with Code of Practice for the Structural Use of Steel, 2004.

The basic wind pressure shall comply with the requirements of the Code of Practice on Wind Effect, 2004. The contractor's attention is drawn to that the constant value occurred at the height is to be taken as the breadth of the building or the actual height of the building whichever is the lesser, clause 6.2 of Code of Practice on Wind Effect, 2004 referred.

The contractor shall carry out inspection and measurement to verify existing site condition to the intended works/details. Any non-irregularities found with deviation, structural defects or details not in compliance with the previous BD's approved details shall be reported to the client for review and agreement a week prior to the commencement of works.

For any demolition work to be carried out, method statement shall be prepared in accordance with the requirements of the Building (Demolition Works) Regulations 1990, Practice Notes PNAP 71 and Draft Code of Practice for Demolition of Buildings and the Construction Site (Safety) Regulation and submit to client for consideration. The Contractor is not allowed to carry out demolition works on site should there is no approval obtained from the client.

All debris shall be removed immediately without overloading the existing floor structure. No accumulation of debris shall be allowed on the existing canopies.

All necessary precaution measures as required and to fulfill current practice requirements especially for external works, and as instructed by the client, shall be taken to avoid inconvenience to the occupants, the properties and the people in general.

All testing shall be carried out by HKOLAS accredited laboratory with details of the proposed laboratory to be submitted for approval.

Install adequate protective measure(s) as required by the client, and relevant government department if any, for the execution of the external works including erection of bamboo scaffolding with double layer tarpaulin sheeting and catch-fan.

All welding shall be performed in accordance with BS5135. E51 electrodes shall be used in welding and shall comply with BS639. The welding shall be carried out by qualified welders who have satisfactorily completed the HOKLAS Approved Laboratory Welding Tests as specified in BS4871: Part 1. The certificates of the welders shall be submitted to the RSE before commencement of the work.

Detail proposal method statement for erections aids and devices shall be submitted to the client for approval.

All welding terms and symbols to BS499 Part 2.

Unless otherwise stated, all members connected to gusset or end plates to be welded all around.

Prepare all beam splice interfaces be machine square to ensure full contact.

The contractor shall submit method statement for the fabrication and erection.

Welding tests shall be carried to demonstrate structural adequacy of welding with testing details as follows:-

Non-destructive testing of welds shall comply with PNAP 160.

Non-destructive test on a representative number of welded joints should be carried out with a sampling rate not less than 10% of the total number of welded joints, or frequency as required by the Buildings Department, whichever is the more.

The reports of such tests should be submitted to Architect/ Engineer upon completion of the works.

For welding of ALL steel works, welding procedures and welders should be tested in accordance with appropriate provisions of British Standards BS 4870, BS 4871 and BS 4872.

All splice joints shall be full penetration butt weld.

The contractor is to ensure that all holding down bolts are correctly located and aligned by the use of approved rigid templates. All holding down bolts are to be loosened whilst the concrete is still green.

The void(s) and irregular surface(s) between endplate and existing concrete surface shall be filled with approved grouting with non-shrinkage properties. Bedding shall be with approved grouting with non-shrink properties.

Steelwork subcontractor is to submit shop drawings & welding procedures not less than 2 weeks prior to commencing any fabrication.

Steelwork contractor is responsible for design of any holding-down bolts as required for temporary stability of sub-columns during erection.

All overhang structures must remained prop until the supporting structures are cast and have gained the required strength.

Remove all finishes at the steel beam support location on existing r.c. structures to make contacting face for better bonding prior to the construction of steel plate.

Compressive strength of new cementitious non-shrinkage grout to be min. 45N/mm², unless otherwise stated. Contractor shall submit catalogue of cementitious non-shrinkage grout to the client for approval.

Fire protection of steelwork shall comply with the Hong Kong Code of Practice for Fire Resisting Construction. Fire protection is required to all structural steel elements and is to be compatible with the corrosion protection system.

All anchor bolts used shall comply with manufacturer's specifications.

2.4 Fittings

- Blinds, fittings, roller shutter and small articles of ironmongery (not painted), such as lock furniture, finger plates, etc. are to be removed before painting surfaces upon which they are fixed, cleaned as directed and re-fixed after painting. The Contractor shall be responsible for the safe custody of the articles taken down or off and shall make good at his own cost any damage caused by his workmen to the articles so removed.

2.5 Glass Elements

The work consists of the supply, delivery to site, assembling, installation in position, grouting the fixing lugs and pointing in mastic as shown on the drawings, described in the following specification, complete with all necessary screws, bolts, anchors, fixing lugs and mastic sealing compound. All parts supplied shall be pre-drilled and pre-fabricated where possible and well wrapped and protected against scratching or damage during delivery and fixing.

The contractor shall design, engineer, test, fabricate, deliver, install and guarantee all construction necessary to provide a complete glass panel wall including any measures that may be required to that end, not withstanding and omissions or inadequacies of drawings and/or specification.

Sample

The contractor will be required to submit material samples with frames and fixing in lengths of 300mm with same finishes, and workmanship as the proposed sections to the actual installations.

300 x 300mm samples of all types of specified glass. (Samples to include exposed screws and other exposed security device if any.)

Submittals

The contractor shall submit the following within 2 weeks after award of contractor for approval by the client before manufacture/ordering: -

Shop Drawings

The tender drawings indicate only the outline of glass panels. It is the responsibility of the contractor to verify at the building site all dimensions shown on the architect's drawings and incorporate the verified dimensions into their final set of shop drawings before manufacture.

In addition to the preliminary design drawings required to be submitted with the Tender, the contractor will be required to submit, for client's approval, within 2 weeks upon award of the contract, complete shop drawings showing elevation and full size details of all components for glass panels and showing clearly fixing details fully dimensioned. Work to be done by other trades is to be indicated.

Four copies for each of the final approved drawing shall be submitted for use by the Employer.

Glazing and Sealant Materials

The contractor shall submit for client's approval samples and performance data of glazing and sealant materials for glass panels.

Structural Calculation

The contractor shall submit for Architect and the Engineer approval full details of structural calculations for the installation pertaining to the fixing and anchorage of the system to the building structure. The calculations must conform to Codes and Regulations presently being enforced in Hong Kong. The Architect / Engineer may require the contractor to alter details of fixing and anchorage in order to satisfy Building Regulations and PNAP.

Glazing Works

All glass shall be designed in compliance with BS6206.

All glass shall be tempered glass to BS 6262.

Test certificate on the glass material to prove the glass impact resistance as per PNAP 235 shall be submitted; in case of the glass is also function as protective barrier.

Lateral resistance of external glass shall conform to Table 3 of Hong Kong Building (Construction) Regulations 1990 for crowded load condition.

Heat soaking testing shall be carried out to all tempered glass with testing report and compliance certificate to be submitted prior to the installation of the glass.

A compatibility testing shall be submitted for the demonstration of the adhesive properties of the proposed structural sealant to the substrate of the supporting steel members. The report shall be submitted one week prior to the commencement of the glazing works.

2.6 Plasterer

Lime

Lime for plaster work is to be hydrated lime complying with BS890 which has been run to putty 24 hours before use, or alternatively well burnt stone or chalk lime which has been run to putty and sieved through a 3 mm sieve into a maturing tank at least one month before use. Shell lime shall not be used.

Prepare lime putty in accordance with BS 5492 by adding hydrated lime to water and mixing to a thick creamy consistency. The mixture shall be left undisturbed for minimum of 16 hours before use.

White or Coloured Cement

White or coloured cement is to be “Snowcrete”, “Colourcrete” or other approval brand of similar quality and of the colours required for the work. It is to be delivered to the site in sealed drums bearing the name of the maker and the brand of cement.

Where the term coloured is used, the meaning shall also include white colour.

Keying for Plaster and Wall Screeds

Joints of brickwork are to be thoroughly raked out and loose particles of mortar etc. brushed out to form key for plaster.

Concrete walls, soffits, columns, beams and other concrete work generally, both internally and externally, where required to be plastered, are to have a “Spatterdash” coat applied to form key before the concrete is fully cured as follows:

The concrete shall be damped immediately after removal of formwork and Spatterdash, consisting of 1 part cement and 2.5 parts of coarse sand or granite fines (by volume) mixed to the consistency of a thick slurry, thrown on to a thickness not exceeding 6mm with a hand scoop or a towel. The Spatterdash will be wetted one hour after application and left to harden. Surface of Spatterdash shall be lightly brushed to remove any loose particles and well wetted before application of undercoat.

Plaster Surfaces

Plastering work is to be carried out in accordance with BS 5492 and BS 5262.

All plaster work is to be brought to true, even surfaces by means of proper screeds temporarily fixed at angles and the surfaces trued-off with a straight edge before trowelling. The final coat of plaster on any one surface is to be applied continuously to prevent ridges or unevenness. Finish wall and ceiling plaster surfaces to a true plane and to correct line and level with a maximum tolerance of 3mm from a 2m straight edge measured in any direction. Angles and corners to be right angles unless otherwise required. Where uneven surfaces are visible, the Contractor may be required at the discretion of the Architect to remove the wall finish entirely and re-apply it properly.

Mixing of Plasters

Mixing of plasters is normally to be carried out with machine-driven roller pan mixers of appropriate size and type, but for small quantities may be mixed by hand on a clean dry floor or platform. The constituents are to be measured by means of gauge boxes.

2.7 Light box/Flood Lights/Down Lights/LED Lights

The LED, light box, flood lights and down lights should be proposed by the contractor, the performance should be to the satisfaction of the Employer and Project Manager. The quality of the LED should be of long life span with proven record which has been used in Hong Kong's project.

2.8 Painting

Materials Generally

All paints and decorative materials are to be submitted to the client for approval of brand, type and colour before delivery of the bulk of the material to the site.

Materials delivered to the site are to be stored in a ventilated, covered storage space.

Paint is to be strained free from all skin and extraneous substances before use and all materials shall be thoroughly mixed in clean containers and kept well mixed during use.

Primers

Priming paints are to be of approved proprietary brands applied in accordance with the manufacturer's instructions and of the following types:

Aluminium - for use with synthetic finishing paints on internal and external woodwork.

Zinc Chromate - for use with synthetic finishing paints on internal and external metalwork.

White lead - for use with oil finishing paints on internal and external woodwork. To be in accordance with B.S. 2521 and contain a minimum of 96 per cent of white and red lead in the proportions of 9 parts white lead to 1 part red lead.

Red lead - for use with oil finishing paints on internal and external metalwork. To be in accordance with B.S. 2523. Type A and contain between 78 and 82 per cent of red lead.

Application of Paint Generally

Paint shall be applied to dry surfaces which have been prepared and cleaned in accordance with this Section. The interval between the preparation of the surface and the application of the first priming coat shall be in accordance with this Section. Where not specifically stated the priming coat shall be applied on the same day that the preparation is carried out.

Surfaces shall be kept clean and free from dust during coating and drying.

Freshly applied surface coatings and surfaces adjacent to those being coated shall be protected from damage. The Contractor shall exhibit "Wet Paint" signs and provide protective barriers where necessary.

Paints shall be applied as follows unless otherwise specified:

Work primer into surface, joints, angles and end grain.

Ensure that priming coats are of adequate thickness and suit the surface porosity.

Ensure that any primed surfaces that have deteriorated on Site or in transit are touched up or re-primed.

Apply primer to metal surfaces on same day as they have been cleaned.

2.9 Making Good Surfaces

All cracks, nail or plug holes in plastered or rendered surfaces are to be properly cut out and filled with patent plaster filler and any defective patches not exceeding 0.10m² in area are to be made good prior to decoration and the Contractor is to allow in his rate for such making good.

Any larger areas found to be defective will be reported to the Employer and his written instructions obtained.

If patent plaster filler is unobtainable, lime putty gauged with plaster of Paris or gauged mortar (1:1:6) will be used, as directed by the Employer.

2.10 Preparation of existing surfaces

Remove all dust, dirt, stains, efflorescence, grease and loose material and, unless otherwise specified, prepare existing decorated surfaces for decoration as follows:

Limewashed, whitened, surfaces - Scrape, broom down, stop, apply and bring forward bare spots with new material.

Chinese distempered washable sealer or non-washable distempered surfaces - Strip off completely, wash down, stop, seal and prepare to receive emulsion paint.

Washable distempered surfaces - Scrape, wash down, stop, apply clearcolle to and bring forward bare spots with new material.

Emulsion or textured emulsion painted surfaces - Scrape, wash down, stop, and bring forward bare spots with new material.

Cement painted and external textured painted surfaces - Scrape, wash down, stop, bring forward bare spots with new material and dampen surface immediately prior to painting.

Synthetic painted surfaces other than metal or wood - Scrape, wash down, stop, rub down and apply primer to and bring forward bare spots with undercoat.

Black bituminous coated surfaces - Spot prime bare areas with black bituminous coating.

Metal work:

Painted non-galvanized iron and steel, wash down, scrape, chip off, and wire brush to remove all scale and rust, rub down, apply rust inhibitor and primer to bare areas or such additional areas as directed and bring forward with undercoat.

Painted zinc-sprayed or galvanized iron and steel, wash down, scrape and remove all scale and rust from, rub down and apply calcium plumbate primer and bring forward bare spots with undercoat.

Woodwork:

Synthetic painted surfaces - Wash down, scrape, rub down, knot, prime and stop and bring forward bare spots with undercoat.

Polyurethane or cold cure epoxy painted surfaces - Wash down, scrape, rub down, stop and apply epoxy filler to and bring forward bare spots with undercoat.

Varnished surfaces - Wash down, scrape and rub down and bring forward bare spots with varnish.

Waxed or Lacquered surfaces other than waxed floors - Rub down fill and again rub down to produce a smooth surface ready for re-waxing or re-lacquering.

2.13 Preparation of hardened or existing concrete

Where finish or screed is to be bonded to hardened or existing wall or base:

Shortly before applying finish or screed, thoroughly hack concrete to remove laitance and expose coarse aggregate.

Thoroughly clean and wet surface 24 hours before applying finish or screed and remove surplus water.

Brush neat cement slurry into damp surface immediately before applying finish or screed, or

Apply approved proprietary bonding agent in accordance with the manufacturer's recommendations.

2.14 Preparation of Surfaces - Definitions

Unless specifically stated to the contrary, the descriptions of "Painting" work shall be understood to include all preparatory work required and necessary to produce a first class finish, free from all blemishes, brush marks, blisters and weeping. The following definitions are to apply where preparation is to be carried out:-

"Wash down" shall mean either:-

The removal with clean water of all dirt, etc not absorbed into the surface of a material not previously decorated, or

The removal with clean water of existing limewash, non-washable distemper or similar material not absorbed into the decorated surfaces, or

The removal of dirt, etc from, and cleaning down of, existing washable distempered, cement painted, synthetic painted and similarly decorated surfaces with sugar soap powder mixed with water, followed by further application of clean water.

“Broom down” shall mean the thorough dry brushing of any surface with a stiff broom or brush so as to remove all cobwebs, stiff dust or loose particles of previous finishes.

“Scrape” shall mean the removal of all existing coats of paint, limewash, colourwash, distemper, etc by scraping tools with or without the use of chemical solvents or heat and without damage to the underlying material. Any damage so caused shall be made good at the Contractor’s expense.

“Wire brush” shall mean the thorough brushing of the surface with a stiff wire brush.

“Strip” shall mean the complete removal, without damage to the underlying surface, of all existing coats of limewash, distemper, paint or other decorative material by means of washing and scraping together with the use of chemical solvents or heat, if necessary.

“Stop” to plaster shall mean carefully trimming the edges of all holes, cracks or crevices of any description and filling with an approved proprietary brand of filler or with Plaster of Paris to produce an even, flat surface, and touching up all patches with a coat of sealer prior to repainting.

“Stop” to woodwork shall mean the cleaning out and filling of all holes, cracks and crevices, etc.

“Knot” to metal pipes shall mean the application of one coat of patent “Knotting” to surface of any bitumen or “Dr. Angus Smith’s Solution” coated pipe.

“Knot” to woodwork shall mean the application of a sufficient number of coats of “knotting” over all knots in the wood to prevent the bleeding of resin, etc through the subsequent decoration.

“Rub down” shall mean the rubbing of newly prepared surfaces, or surfaces of existing paint remaining after preparation for redecoration, with approved waterproof glass paper, pumice stone or similar, to give a flush, slightly roughened surface as key for new paint.

“Fill” shall mean filling of grain with approved surface filler.

2.14 Preparation of New Surfaces

Remove all dust, dirt, stains, efflorescence, grease and loose material and, unless otherwise specified, prepare new surfaces for decoration as follows:-

Plaster, cement render, and similar surfaces:- Wash down, stop, and rub down.

Concrete and similar surfaces:- Broom down.

Iron and steel:-

Non-galvanized - manual

Chip off and scrape surfaces to remove all scale and rust, welding slag and spatter: wire brush to leave iron or steel bare and clean. Remove oil, grease and dirt using white spirit, naphtha or steam. Apply rust inhibitor at least twelve hours prior to painting.

Non-galvanized - chemical

Where required, remove oil, grease, dirt, rust and mill scale by an approved chemical process and rinse off cleaning chemicals prior to application of rust inhibitor.

Pre-primed surfaces

Ensure that any defective primer, rust, loose scale, etc is removed back to bare metal. Patch prime using the same type of primer as adjacent surfaces. Remove dirt and grease as required and rub down lightly before applying further coatings.

Galvanized and zinc coated surfaces:-

Wash with white spirit to remove dirt and grease.

Soft or hard fibre-board, insulating board, acoustic tile and similar surfaces:-

Broom down, punch nail heads, stop all nail and screw holes, rub down and leave with texture to match surrounding surfaces.

Fill surfaces to be painted with polyurethane paint or cold cure epoxy paint with an approved epoxy filler.

Welding to Steelwork

All welding should comply with the requirement by the Engineer and welding tests should be allowed with the quantity as required by the RSE.

Anchor System to Existing Building Structure

The Contractor is required to submit the method statement and all necessary documents for Engineer's consideration. Site work is not allowed to be carried out without Architect's approval.

The installation and application of the anchor bolts strictly in compliance with manufacturer's recommendations/specifications.

Carry out anchor bolts testing, 5% or minimum 10 nos. of each type and each size or with the testing frequency and acceptance criteria as required by the Buildings Department, whichever is greater.

Compliance with Statutory Requirements

The Contractor's attention is to be drawn to his obligations under but not limited to the following regulations:

The Industrial Training Ordinance, Pneumoconiosis (Compensation) Ordinance, the Industrial Undertakings Regulation, the Construction Sites (Safety) Regulations, the Employee's Compensation Ordinance, the Noise Control Ordinance and the Air Pollution Control (Construction Dust).

2.15 Manhole Cover and Channel Cover

The contractor is required to provide the manhole cover at the area shown in the drawing. The cover should be provided with the materials with the adjacent paving materials to the channel and manhole cover in accordance with the design intention as shown in the drawings. The contractor is requested to design and install manhole cover to comply to loading, maintenance and any other requirements which any authorities requested. Client's approval for shop drawings and samples are also requested before the contractor is allowed to fabricate the products in large quantity.

2.16 Planter walls and Kerb Planters

All planters shall be modified or be built and finished to the style as the immediately around the affected area. Materials for planters shall be natural stone in close joint and forming pattern if it is newly built. The natural granite stone in honed finish or other appropriate finishes surface as specified by client. The stone is fixed onto the structure by cement sand bedding. Size of the granite materials on the planter wall surface would be in 100 x 150 which facilitate the fitting of the curved surface of the planter wall.

Whenever the planter wall is above ground, internal side of the planter wall should be applied with a layer of waterproofing layer product. All planters should be built as open bottom type to facilitate proper drainage performance unless otherwise specified.

- END OF TECHNICAL SPECIFICATION -

SCHEDULE OF RATES

CONTENTS

GENERAL PREAMBLES

SCHEDULE OF RATES

SUMMARY OF THE RATES

GENERAL PREAMBLES

***Method of
Measurement***

1. The contractor is required to provide all the measurement to his rates entered in the completed schedule of rates. The contractor has the onus for the accuracy of such measurements and no claim in additional cost arising from the discrepancy between the measurements and the actual size of the works.

General Directions

2. In these Schedules, the sub-headings and item descriptions identify the work covered by the respective items, but the exact nature and extent of the work to be performed is to be ascertained by reference to the Drawings, Specification, the Contractor's Design Development and Conditions of Contract, as the case may be, in conjunction with the matters listed against the relevant marginal headings "Item coverage" in the Method of Measurement. The rates inserted shall be deemed to be the full inclusive value of the work covered by the respective items, including but not limited to the following, unless expressly stated otherwise:

- (i) provision of labour and costs in connection therewith;
- (ii) provision of plant and costs in connection therewith;
- (iii) the supply, transportation, handling and storage of materials and goods;
- (iv) sampling and testing and costs in connection therewith;
- (v) assembling, fixing, erecting, installing or placing of materials and goods in position;
- (vi) wastage, bulking, shrinkage and the disposal of surplus material;
- (vii) Temporary Works;
- (viii) taking precautions and measures as far as is reasonable and practical to prevent interference with or damage to existing structures and utilities, roads, footpaths and paved areas, watercourses and drainage systems, public and private vehicular and pedestrian accesses, trees, graves and burial urns, including the provision of alternative access, if necessary;
- (ix) keeping the Works where necessary, and as near as may be practical, free of water and protected from damage due to water and from weather conditions which may adversely affect the Works, and taking measures to prevent flotation of new or existing structures;
- (x) provision of working space and upholding the sides of excavations;
- (xi) submitting to the client all drawings, details of procedures and methods of construction to be used, technical literature, test certificates and any other documents or information required to be submitted under the Contract;
- (xii) in the case of materials supplied by the Employer, return of the surplus;

- (xiii) in case of plant and equipment supplied by the Employer, protection, maintenance and repair of such plant and equipment while it is on the Site, costs in connection with operating such plant and equipment, and return of plant and equipment to the Employer or replacement of such plant and equipment if it is damaged beyond repair or lost;
 - (xiv) notifying, making arrangements and liaising with all relevant Government Departments, authorities or other interested parties to obtain all licences and permits necessary for the execution of the Works, and costs in connection therewith;
 - (xv) liabilities, obligations and risks involved in the execution of the Works set forth or reasonably implied in the Contract;
 - (xvi) establishment charges, overheads and profit.
- Measurement** 3. The measurement of work shall be computed net from the Drawings unless stated otherwise in the Method of Measurement.
- Item Coverage** 4. If any item coverage includes reference to work which is the subject of item coverages elsewhere in the Method of Measurement, then the combined item coverages shall apply.
- Use of Alternative Materials or Designs** 5. Since this is a Design-Build Contract, where in the Contract a choice of alternative materials or designs is indicated for a given purpose, the description and rates inserted shall be deemed to cover any of the permitted alternative materials or designs which the Contractor may use.
- Unpriced Items** 6. Items against which no rate is entered shall be deemed to be covered by the other rates in the Schedule of Rates.
- General Attendance** 7. General Attendance in connection with Nominated Sub-contractors shall include for affording the use of existing work space, access, temporary roads, erected scaffolding, working shelters, staging, ladders, hoists, storage, latrines, messing, welfare and other facilities existing on Site and the provision of protection, water, telephone, electricity for lighting, and clearing away rubbish and debris arising from the work.

Schedule of Rates for the works

	Item Description	Qty	Unit	Rate (HK\$)	Amount (HK\$)
	<u>EXTERNAL SIGNAGE WORKS</u>				
1.01	<u>Preliminaries</u> Preliminaries including insurance, third party insurance, designer fee and other contractor's overhead				
1.02	<u>School Motto on Secondary School Wall</u> School Motto in Chinese characters on the external wall at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site. Works including erection of scaffolding/ platform at site, fabrication of school motto wordings in enamel coated aluminum cut out wordings at least 100mm thick measured from the surface of the wall, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works. The contractor is required to prepare Minor Works Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled in 2015 summer and should be completed within the summer holiday of the school.				
1.03	<u>Cladding on External Wall of Extension Block at Secondary School Campus</u> Cladding and feature lighting on the external wall (Extension Block) at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site. Works including erection of scaffolding/ platform at site, fabrication of aluminum cladding works at least 300mm thick measured from the surface of the wall, metal frame works, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works. The contractor is required to prepare cladding Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled on or before 2015 summer and should be completed within the summer holiday of				

1.04	<p>the school.</p> <p><u>School Sign and Motto in the External Wall of the Hall at Primary School Campus-</u></p> <p>School Sign and School Motto on the external wall (Assembly Block of the primary school section) at the second campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site.</p> <p>Works including erection of scaffolding/ platform at site, fabrication of perforated metal frame backdrop (in matching colour with the surrounding wall) at least 500mm projection measured from the surface of the wall, metal frame works, fabrication of school sign and motto in powder coated aluminum cut out wordings at least 100mm thick well fixed to the metal backdrop, transporting to site, lifting and fixing and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works.</p> <p>The contractor is required to prepare Minor Works Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled in 2015 summer and should be completed within the summer holiday of the school.</p>					
Total of the Works Carried to Summary of Price No.1 (HK\$)						

	Item Description	Qty	Unit	Rate (HK\$)	Amount (HK\$)
	<u>EXTERNAL TRIANGULAR FEATURE</u>				
2.01	<u>Preliminaries</u> Preliminaries including insurance, third party insurance, designer fee and other contractor's overhead				
2.02	<u>Triangular Feature at Primary School Campus</u> Triangular Architectural Feature in the first Campus- in accordance with the relevant design intention drawings, the contractor is required to develop the design and carry out construction works at site. Works including completing verification of the existing site condition, site investigation, substructure works, temporary works including ELS works, superstructure construction, erection of scaffolding/ platform at site, fabrication of structural steel frame works, transporting to site, lifting and fixing, external finishing works, electrical installation works and cleaning and touching up after works and all relevant provisions that necessary for the completion of the works. The contractor is required to prepare cladding Submission to BD, prepare conceptual design (AIP) stage submission and detail design (DDA) stage submission for the client's approval. No site works could be commenced until and unless all these submission was approved by client. The anticipated commencement of site works for this item is scheduled on or before 2015 summer and should be completed within the summer holiday of the school.				
Total of the Works Carried to Summary of Price No.2 (HK\$)					

Contract No. CF 2014/2015

Uplifting Works to Campus of Logos Academy, Tseung Kwan O, N.T.

**SCHEDULE OF RATES
GRAND SUMMARY**

PRICE No.	Summary	Amount (HK\$)
1	EXTERNAL SIGNAGE WORKS	
2	EXTERNAL TRIANGULAR FEATURE	
3.	LUMP SUM, (a) Contingency Sum, (b)	500,000.-
	TENDER SUM, (a) + (b)	

Signature of person authorized to sign on behalf of tenderer:

Name of tenderer:

Date: