

**Tender Documents**

**for**

**Flight Simulators**

**for**

**Proposed Hong Kong Air Cadet Corps Training Centre**

**at Nos. 1F Shiu Fai Terrance, Wan Chai, Hong Kong**

## Contents

	<u>Page</u>
Terms and Conditions of Tender	5
Appendix 1 – Reply Slip	13
Appendix 2 – Reply Slip: Terms and Conditions	14
Appendix 3 –Fee Proposal Form	15
Appendix 3A & 3B – Breakdown of Fees	18
Appendix 4 – Anti-collusion Warranty to be signed and submitted by the tenderer	20
Appendix 5 – Site Layout Plans and Drawings	22
Appendix 6 – Particular Description of Scope of Services	28
Appendix 7 – Service Specifications	31
Appendix 8 – Existing Site Photos	42

## Terms and Conditions of Tender

### 1. Background/Description of the Works

- 1.1. Hong Kong Air Cadet Corps (“the Employer”) is a charitable organization set up in 1971 with an aim to offer quality aviation training programmes to prepare young people for possible future service in the local aviation industry. The Employer proposes a Non-profit-making Training Centre at Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong as its new training base with ancillary facilities (“the Training Centre”).
- 1.2. The Training Centre is a vacant school site (Former Pun U Association Wah Yan Primary School). The tenderer intends to supply and install of flight simulators for Room 305 (“the Site”) of the Training Centre in accordance with the Drawings, Specifications, Fee Proposal and the Terms and conditions in this Tender Documents. As the vacant school has been vacated for a while, the building services/utilities are being checked and replaced/repared and reconnected to suit the operation of the Training Centre and the latest statutory requirement (if required by statutory authority or the employer). Please see **Appendix 5, 6, 7 and 8** of the Tender Documents for the site layout plans, drawings, the scope of services, specifications and photos of the current condition of the Training Centre.
- 1.3. The Contractor should refer to such information and other design intents and requirements to be provided by the Employer and work out the Works design with the Employer after the contract is awarded.
- 1.4. The above description of works required is not meant to be exhaustive and the contractor should work out the scope of works with the Employer after the contract is awarded.
- 1.5. This Works is targeted to be completed within 14 weeks of contract award. During the course of works, the Contractor is required to oversee the coordination and advise the Employer if there is any likelihood that the final cost would exceed the budget or the agreed estimates.
- 1.6. Objectives of this Works are to obtain professional services from the Contractor for the successful completion of the Works as described above. The services provided by the Contractor to complete this Works shall meet the following objectives:
  - (a) The intended function of the flight simulators as illustrated in **Appendix 5, 6 and 7** of the Tender Documents;
  - (b) Acoustic consideration for Training Centre, i.e. noise abatement measures affecting the surrounding;
  - (c) Compatibility with surrounding development;
  - (d) Safety, i.e. maintaining safety throughout the Works;
  - (e) Cost effectiveness, i.e. maximize cost effectiveness and recurrent costs; and
  - (f) Programme and budget, i.e. demonstrate the Works can be implemented within the proposed programme.

## 2. Scope of Works

- 2.1 The Contractor shall carry out the Works in strict conformity to the Drawings and Specifications and to the approved information or samples. Upon the Employer's request the Contractor shall promptly replace any of the substandard, non-conforming or defective works at his own costs. The Contractor shall further be responsible for such losses, claims, demands, proceedings, damages, costs and/ or expenses as may be incurred or suffered by the Employer as a result of the Contractor's failure to comply with this clause.
- 2.2 The Contractor shall submit material samples, catalogues, equipment submission and shop drawings to the Employer for approval. The Contractor shall submit all shop drawings and vertical transportation method within 14 calendar days from the acceptance of this tender.
- 2.3 The Contractor shall be responsible for all necessary temporary supporting and framing for transportation of the Works which shall deem to be included in the contract sum.
- 2.4 The Tenderer is recommended to attend a site visit before submitting their bids to such that he can have a more accurate idea of the scope of works involved. The Tenderer is required to visit the Site by prior appointment with the Employer to familiarize himself with the location, existing layout, obstructions, accessibility, storage, working space, restrictions on loading and unloading and any conditions that may in any manner affect the Works and to ascertain and satisfy himself as to any incidental works which may affect their contract sum before tender submission. No claim for extra payment nor extension of the Contract Period will be entertained on the grounds of ignorance of the conditions under which work is to be carried out.

### 2.5 Insurance

All insurance which the Works are required to effect shall be taken out by insurance company approved by the Employer and shall be on "joint names" basis, i.e. the Employer, Hong Kong Air Cadet Corps, the Contractor and of all his domestic sub-contractors whilst engaged in business connected with the Works.

Before commencing work, the Contractor is required to take out the following insurance policies :-

#### (a) Contractor's All Risk Insurance (CAR)

The CAR insurance shall include Insurance of the Works and Third Parties/ Public Liability Insurance. The extension cover limited to the sum of HK\$10,000,000.00 maximum for any one occurrence and unlimited in the aggregate amount (the expression 'occurrence' means any one occurrence or series of occurrences arising out of one event irrespective of the number of claims that may arise therefrom) will be acceptable to the Employer.

#### (b) Employee's Compensation Insurance (EC)

The policies shall not only to comply with the requirement of Employee's Compensation

Ordinance but also be extended to include an “Indemnity to Principal” (The Employer) clause.

The CAR and EC insurance shall be extended to cover the period for rectification of defects and until no further work of any kind is being carried out on site.

The Contractor shall submit the cover note and formal policy to the Employer before the delivery for review and approval. The Contractor shall indemnify the Employer against all claims, liability, loss, proceedings and damages arisen in respect of personal injury to or the death of any person, any injury or damage whatsoever to any property real or personal in so far as such injury or damage arises out of or in the course or by reason of the carrying out the Works, unless due to any act or neglect of the Employer or of any person for whom the Employer is responsible.

## 2.6 Submission

The Contractor should prepare and submit a full set of shop drawings with details and the like, etc. to the Employer for comment and approval within 14 calendar days from the acceptance of this tender.

The Contractor should prepare and submit all technical data of the equipment and the catalogues of the flight simulators to the Employer for comment and approval within 14 calendar days from the acceptance of this tender.

The Contractor should prepare and submit the sample of the flight simulators to the Employer for comment and approval within 14 calendar days from the acceptance of this tender.

## 2.7 Completion Date

The Contractor shall complete the whole of the Works within 14 weeks of contract award.

The Contractor shall be responsible to rectify or make good any defects of whatsoever (including defects on delivery) due to sub-standard materials or workmanship occurred within 2 months upon the Substantial Completion of the Works.

The Employer can engage other parties to rectify the defects at his discretion and will deduct all costs so incurred from monies due or become due to the Contractor.

## 2.8 Damages of Non-completion

If the Contractor fails to complete the Works by the Date for Completion and the Employer certified in writing that in his opinion the same ought reasonably so to have been completed, then the Contractor shall pay or allow to the Employer a sum calculated at the rate HK\$2,500.00 per calendar day as Liquidated and Ascertained Damages for the period during which the Works shall so remain or have remained incomplete, and the Employer, after the Employer’s notice, may deduct such sum from any monies due or to become due to the Contractor under this Contract.

## 2.9 Inspection and Testing

The Employer and their authorized representatives or agents shall be entitled to and be given reasonable opportunity to test and inspect any of the Works for this Contract at any stage or place of production, assembly, manufacture, transportation or delivery, in order to verify the conditions of the Works and its conformity to the Contract.

## 2.10 Access, Restrictions and Delivery of Materials

Access to the Site, working areas, and the suitability of such will be the responsibility of the Contractor who shall make all necessary arrangement in compliance with all requirements of the Employer and the Main Contractor, Goldfield N&W Construction Company Limited of the existing building. The Contractor will be responsible for ensuring that he is properly authorized to use the access and associated facilities, he must give notices, pay all fees and reinstate at his own cost all damage caused by him whatsoever occurring.

The Contractor shall also be responsible for the protection and reinstatement of the access routes. No parking of the Contractor's vehicles of the Site will be permitted at any time.

The Contractor must keep his work people, plant, material, and debris within the designated areas and is not permitted to encroach upon any adjacent areas. The Contractor must ensure that the roads, pavements etc. leading to and around the Site are kept free from obstructions, earth, debris, brought about by the Works at all times and in no way shall cause any inconvenience or hindrance to traffic or persons.

The Contractor shall also be responsible for clear away debris after the removal of packing.

The Contractor shall clean up any affected areas upon receipt of instructions from the Employer.

The Contractor shall allow for any night time work including obtaining approval from the Employer to carry out night time work if required.

## 2.11 Cartage of Loading and Off-Loading of Materials and Plant

The Contractor is responsible for the cartage of loading and off-loading of materials to and away from the Site by lorries or other vehicles to suit any special regulations imposed or special arrangements required by the Employer, the Local Authority or relevant Government Department and to pay for any charges and fees required for making good damage to roads and paths or for any works necessary. The Contractor is to take full responsibility for the liaison with and obtaining of permission from the various authorities concerned in respect of restrictions for cartage of loading and off-loading of materials for the Works.

- 2.12 Please note the services to be provided as stated in **Appendix 6** of the Tender Documents on the Particular Description of Scope of Services and **Appendix 7** of the Tender Documents on the Service Specifications.

## 3. Completion of Tender

- 3.1 Tenderers shall follow the instructions in the letter of invitation for the submission of tender.
- 3.2. Unless otherwise stated, tenders shall be valid for 90 days from the specified closing date and the tenderer shall abide by the tender during the period.
- 3.3. Tenderer should ascertain the prices quoted are accurate before submitting his tender. Under no circumstances will the Employer accept any request for price adjustment due to any mistake made in the tender prices.
- 3.4. In the event of a tenderer discovering a genuine error in his tender after it has been deposited, attention in writing shall be drawn to the error and an amendment submitted which, provided that the amendment shall have been deposited in the manner described in the letter of invitation before the time fixed for receipt of tenders, shall be accepted and form part of the tender.
- 3.5. The tendered sum will be regarded as a lump sum tender and will not be amended for errors found in the examination of tenders after the tender closing date.

#### **4. Probity and anti-collusion**

- 4.1. The tenderer shall not, and shall procure that his directors, 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, execution of this contract and administration of any works contract.
- 4.2. Failure to so procure or any act of offering, soliciting or accepting advantage referred to in 3.1 above committed by the tenderer or by a director, 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.
- 4.3. The Tenderer shall not communicate to any person other than the Employer the amount of any tender, adjust the amount of any tender by arrangement with any other person, make any arrangement with any other person about whether or not he or that other person should or should not tender or otherwise collude with any other person in any manner whatsoever in the tendering process. Any breach of or non-compliance with this sub-clause by the Tenderer shall, without affecting the Tenderer's liability for such breach of rules and laws or noncompliance, invalidate his tender.
- 4.4. Sub-clause 3.3 of this Clause shall have no application to the Tenderer's communications in strict confidence with his own insurers or brokers to obtain an insurance quotation for computation of tender price and communications in strict confidence with his contractors/sub-contractors to solicit their assistance in preparation of tender submission.
- 4.5. The Tenderer shall submit to the Employer a duly signed warranty in the form set out in **Appendix 4** of the Tender Documents to the effect that he understands and will abide by these clauses. The warranty shall be signed by a person authorized to sign the contract on

the Tenderer's behalf. Any breach of any of the representations and/or warranties by the Tenderer may prejudice the Tenderer's future standing as the contractor of this Works.

## **5. Tender Interview**

- 5.1. During the tender evaluation stage, the tenderer may be requested to attend a tender interview or briefing for clarification on their capability to fulfil the Works requirement.
- 5.2. The tenderer shall bear all the costs associated with the presentation.
- 5.3. The presentation should at least include the Works team profile, the approach to fulfill the objectives described in this tender documents and an outline programme for completing the Works. The presentation shall be conducted, where possible, by the leader of the proposed Works team for performing the Works management.

## **6. Tender Evaluation**

- 6.1. Tenderers shall note that their tender proposal, presentations and responses to the Employer's queries in connection with the tender will be taken into account when deciding whether the tenderer is capable to undertake this.

## **7. Tender clarification**

- 7.1. The Employer may after tender closing, invite the Tenderer to submit further clarification or information. However, 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.

## **8. Award of Contract**

- 8.1. The successful tenderer will receive a letter of acceptance (or in other forms) as an official notification of acceptance. Unless and until a formal contract agreement is prepared and executed, this letter of acceptance together with the tender submission shall constitute a binding contract between the successful tenderer and the Employer. Tenderers who do not receive any notification within the validity period of their offer shall assume that their tenders have not been accepted.
- 8.2. The Employer reserves the right of not awarding the contract after receipt of submissions by the tenderer.
- 8.3. The Contract shall be a lump sum fixed price contract for the carrying out of the whole of the Works and in conformity with the Terms and Conditions, Drawings, Specification and Fee Proposal where quantities, except the quantities described as 'Provisional', do not form part of the Contract. If in case there is no or insufficient provision specified in the specifications and drawings for the relevant works of the tender, the description as stated in the Fee Proposal of this tender shall also form part of Contract. Any items where are



not included in the Fee Proposal but shown on the Drawings or described in the Specification shall be deemed to have been included in the Contract Sum. The Contract Sum will not be adjusted for any fluctuation in cost of labour and material, etc. occurring after the date for submission of tender except for variations as issued in writing by the Employer where no fluctuation shall apply. Any quantities as may be estimated and submitted by the Contractor at the time of tender submission are at the Contractor's own risk. No adjustment to the Contract Sum due to errors in these quantities will be made.

- 8.4. It is expressly agreed that the Employer shall have the right to omit work from the Contract Works and employ other contractors to carry out such omitted work. The Contractor shall not be entitled to make any claim for any losses and expenses incurred or loss of profit for items of work omitted.

## **9. Variation**

- 9.1. The Employer may, at any time during the contract period by notice of writing, direct the contractor to alter, amend, omit, add to, or otherwise vary any of the work items stated in the Contract and the contractor shall carry out such variations. The contract sum will be adjusted accordingly if required.
- 9.2. Extended Time required for Government departments' approval process, contractors' delay of site work, minor delays in Employer's approval of design, and delay caused by utilities companies would not be grounds for adjustment of contract sum.

## **10. Submitted Documents**

- 10.1. All submitted documents will not be returned.

## **11. Payment Terms**

30% upon Signing of Letter of Acceptance;  
10% upon Planning and design of the MR Flight Simulator;  
30% upon Delivery, installation and configuration of the whole MR Flight Simulator;  
10% upon Usage training for Employer's staff;  
10% upon User Acceptance Test;  
10% upon Completion of the finished MR system.

- 11.1. Payment are based on the Contract Sum less provisional sums (if any) and value of any works omitted under the Employer's instruction as in accordance with the Conditions of Contract.
- 11.2. Payment made in accordance to the above payment terms shall be one month.
- 11.3. The Employer reserves the right to terminate the contract at any stage of works

## **12. Employer Discretion**

Notwithstanding anything to the contrary in the Tender Documents, the Employer reserves the right to disqualify a Tenderer on the grounds that the Tenderer has engaged, is engaging, or is reasonably believed to have engaged or be engaging in acts or activities that are likely to cause or constitute the occurrence of offences endangering national security or otherwise the exclusion is necessary in the interest of national security or is necessary to protect the public interest of Hong Kong, public morals, public order or public safety.

## **13. Termination**

The Employer may immediately terminate the Contract upon the occurrence of any of the following events:

- (a) the Contractor has engaged or is engaging in acts or activities that are likely to constitute or cause the occurrence of offences endangering national security or which would otherwise be contrary to the interest of national security;
- (b) the continued engagement of the Contractor or the continued performance of the Contract is contrary to the interest of national security.

**Appendix 1**

**Flight Simulators for  
Proposed Hong Kong Air Cadet Corps Training Centre  
At Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong**

**Reply Slip**

**To:** Hong Kong Air Cadet Corps

I/we, \_\_\_\_\_, in the capacity of \_\_\_\_\_  
duly authorized to sign for and on behalf of \_\_\_\_\_ are pleased to  
express as follows:

We would be unable to process this tender

We would submit our tender with the following documents for your consideration.

- Reply Slip: Terms and Conditions (Appendix 2)
- Fee Proposal Form (Appendix 3)
- Breakdown of Fees - S300CBI Flight Simulator (Appendix 3A)
- Breakdown of Fees - DA40 Flight Simulator (Appendix 3B)
- Anti-collusion warranty (Appendix 4)
- Copy of Business Registration Certificate
- Copy of latest Audited Financial Reports
- Others (Please specify)

Authorised Signature & Company Chop:

Name of Person Authorised to Sign (in Block Letters) \_\_\_\_\_

For and on behalf of (name of tenderer): \_\_\_\_\_

Address: \_\_\_\_\_

Contact Number: \_\_\_\_\_

Date: \_\_\_\_\_

**Appendix 2**

**Flight Simulators for  
Proposed Hong Kong Air Cadet Corps Training Centre  
at Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong**

**Reply Slip: Terms and Conditions**

To: Hong Kong Air Cadet Corps

1. I/We offer to construct the Works in this Tender Document based on the rates in the Fee Proposal Form and agree to comply with the above terms and conditions contained in this Tender Documents.
2. I/We agree to abide by this tender submission for a period of 90 days from the date fixed for receiving the same and it shall remain binding upon me/us and may be accepted at any time before the expiration of that period.

Authorised Signature & Company Chop:

Name of Person Authorised to Sign (in Block Letters)

For and on behalf of (name of tenderer):

Address:

Contact Number:

Date:

### Appendix 3

**Flight Simulators for  
Proposed Hong Kong Air Cadet Corps Training Centre  
at Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong**

#### Fee Proposal Form

**To:** Hong Kong Air Cadet Corps

I / We submit our Fee Proposal as follows:

Fee Basis: Lump Sum

Proposed Fee:	Quantity	Unit	Rate	Amount
(1) Insurance		Item		HK\$
(2) Shop Drawings		Item		HK\$
(3) Setting Out		Item		HK\$
(4) Cleaning		Item		HK\$
(5) General Protection Works		Item		HK\$
(6) S300CBI Flight Simulator  Please provide a breakdown of fees in Appendix 3A.	1	Item		HK\$

Proposed Fee:	Quantity	Unit	Rate	Amount
(7) DA40 Flight Simulator  Please provide a breakdown of fees in Appendix 3B.	1	Item		HK\$
(8) Warranty: ____ years	1	Item		
(9) Others  Allow for any other items not included in the foregoing but required for Completion of the works (The Tenderer shall submit a detail breakdown for the cost inserted):				HK\$
Total Fee				HK\$

Authorised Signature & Company Chop:

Name of Person Authorised to Sign (in Block Letters)

For and on behalf of (name of tenderer):

Address:

Contact Number:

Date:

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Notes to Appendix 3, 3A and 3B

- (1) The proposed lump sum fee at fixed term shall include all associated expenses, including site survey, investigation works, office expenses (such as printing, copying, binding and electronic media copying of tender and contract documents, etc.), and all expenses for postage, courier, delivery and communication.**
- (2) The contract shall refer to relevant clauses in the Tender Documents.
- (3) The Contractor is to refer to the Specification and Drawings for full description of materials and workmanship wherever applicable to the works included thereunder.
- (4) The Contractor is to fill in the Quantity and Unit Rate of all the items included in the Fee Proposal. The Unit Rates inserted thereunder shall form part of the contract and shall be used for valuation of variations.
- (5) Items of contract works specified hereunder must not be considered as complete description of works. The Contractor is advised to read in conjunction with the other related documents, specifications and drawings etc. If in case there is no or insufficient provision specified in the specifications and drawings for the relevant works of the Tender, the description as stated in the Fee Proposal of this Tender shall also form part of Contract.
- (6) After studying and considering the related documents, if works which were described and included in this Contract are not itemized or listed out in this Fee Proposal, the Tenderer can state and list such works out clearly with their breakdown at the end of each section. Otherwise such works are already included in the contract sum.

**Appendix 3A**

**Flight Simulators for  
Proposed Hong Kong Air Cadet Corps Training Centre  
At Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong**

**Breakdown of Fees - S300CBI Flight Simulator**

Quantity	Description of Flight Simulator	Unit Price HK\$	Total HK\$
	<p>Allow for any other items not included in the foregoing but required for Completion of the works (The Tenderer shall submit a detail breakdown for the cost inserted):</p>		

Delivery Time: \_\_\_\_\_



**Appendix 3B**

**Flight Simulators for  
Proposed Hong Kong Air Cadet Corps Training Centre  
At Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong**

**Breakdown of Fees – DA40 Flight Simulator**

Quantity	Description of Flight Simulator	Unit Price HK\$	Total HK\$
	<p>Allow for any other items not included in the foregoing but required for Completion of the works (The Tenderer shall submit a detail breakdown for the cost inserted):</p>		

Delivery Time: \_\_\_\_\_

## **Appendix 4**

### **Anti-collusion warranty to be signed and submitted by the tenderer**

To: Hong Kong Air Cadet Corps

Dear Sir/Madam,

#### **Anti-collusion Warranty**

1. By submitting a tender, the Tenderer represents and warrants that in relation to the invitation of tender of **Proposed Hong Kong Air Cadet Corps Training Centre at Nos. 1F Shiu Fai Terrace, Wan Chai, Hong Kong**:
  - (i) it has not communicated and will not communicate to any person other than the Employer the amount of any tender price;
  - (ii) it has not fixed and will not fix the amount of any tender price by arrangement with any person;
  - (iii) it has not made and will not make any arrangement with any person as to whether it or that other person will or will not submit a tender; and
  - (iv) it has not otherwise colluded and will not otherwise collude with any person in any manner whatsoever in the tendering process.
2. In the event that the Tenderer is in breach of any of the representations and/or warranties in Clause (1) above, the Employer shall be entitled to, without compensation to any person or liability on the part of the Employer:
  - (i) reject the tender;
  - (ii) if the Employer has accepted the tender, withdraw its acceptance of the tender; and
  - (iii) if the Employer has entered into the contract with the Tenderer, terminate the contract.
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 any of the representations and/or warranties in Clause (1) above.
4. A breach by a Tenderer of any of the representations and/or warranties in Clause (1) may prejudice its future standing as an Employer's supplier or service provider.
5. Clause (1) shall have no application to the Tenderer's communications in strict confidence with its own insurers or brokers to obtain an insurance quotation for computation of the tender price, or with its professional advisers, and contractors or sub-contractors to solicit their assistance in preparation of tender submission. For the avoidance of doubt, the making of a bid by a bidder to the Employer in public during an auction will not by itself be regarded as a breach of the

representation and warranty in Clause (1)(i) above.

6. The rights of the Employer under Clauses (2) to (4) above are in addition to and without prejudice to any other rights or remedies available to it against the Tenderer.

Authorised Signature & Company Chop:

Name of Person Authorised to Sign (in Block Letters)

For and on behalf of (name of tenderer):

Address:

Contact Number:

Date:

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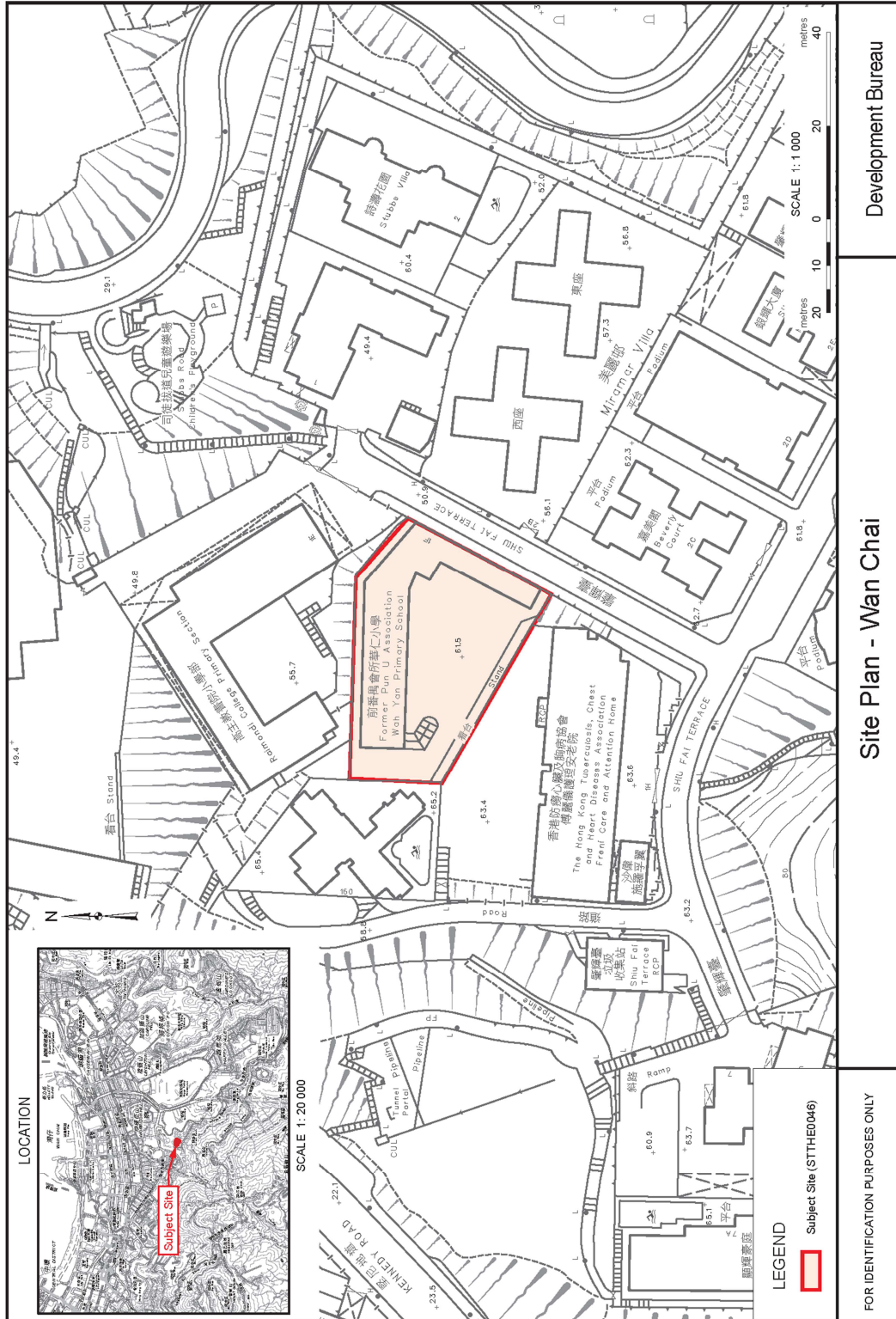
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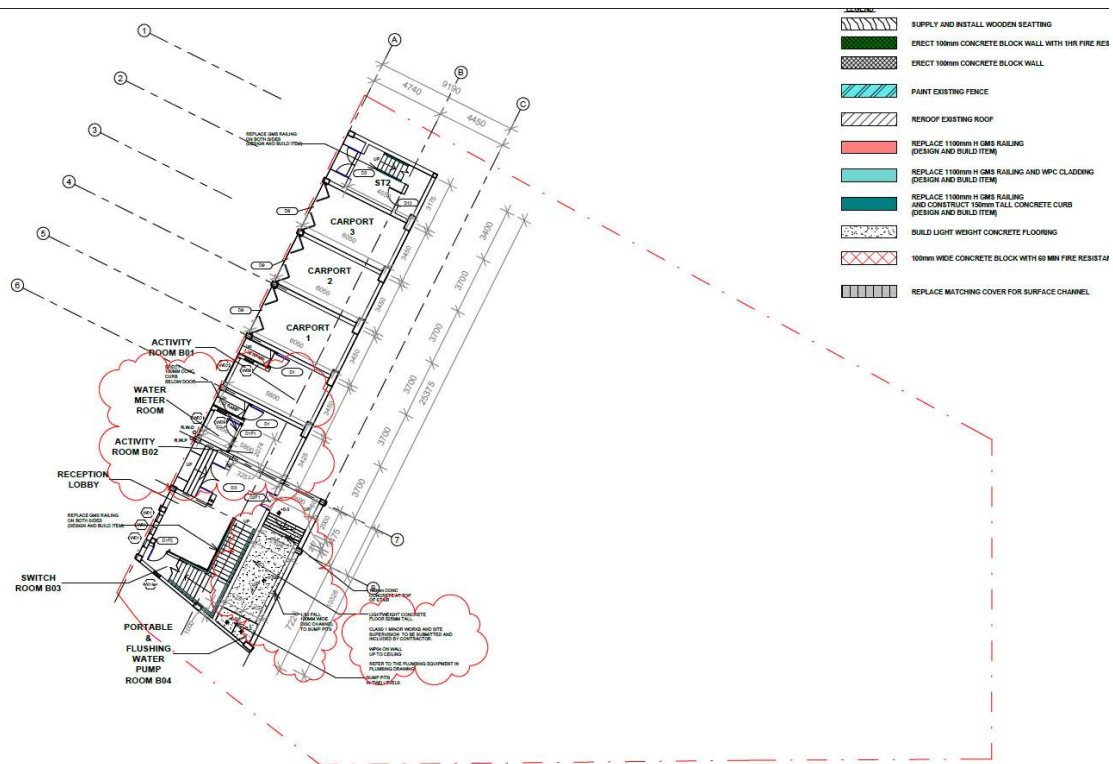
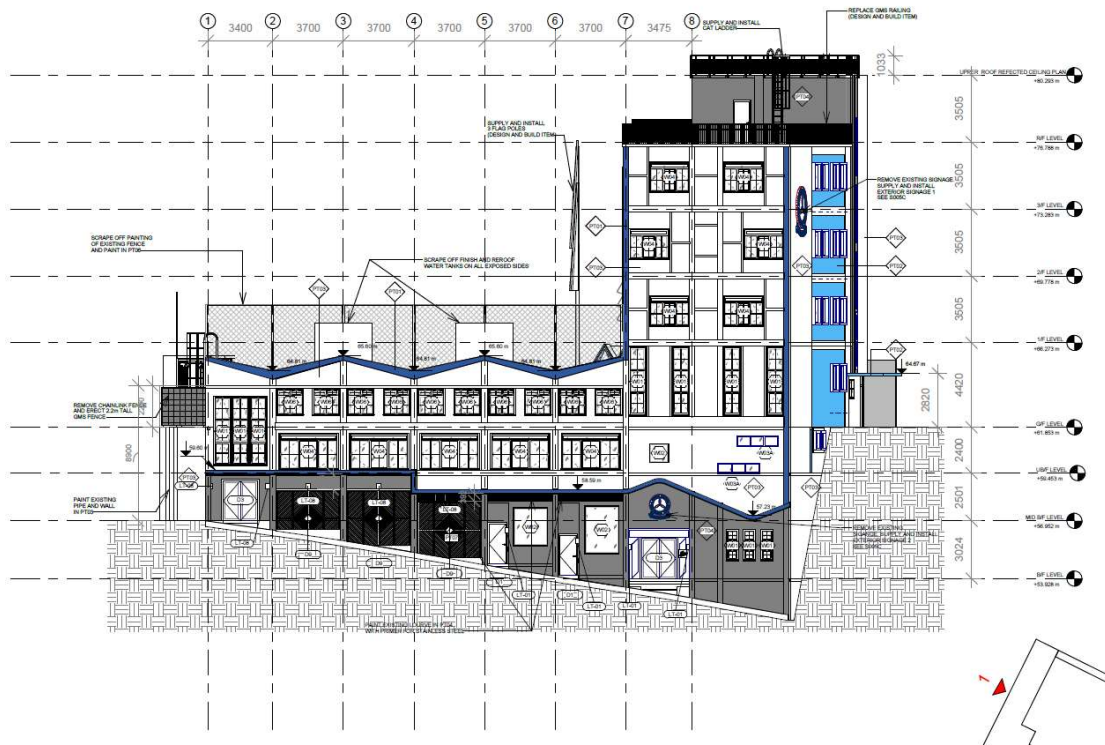
**Appendix 5**

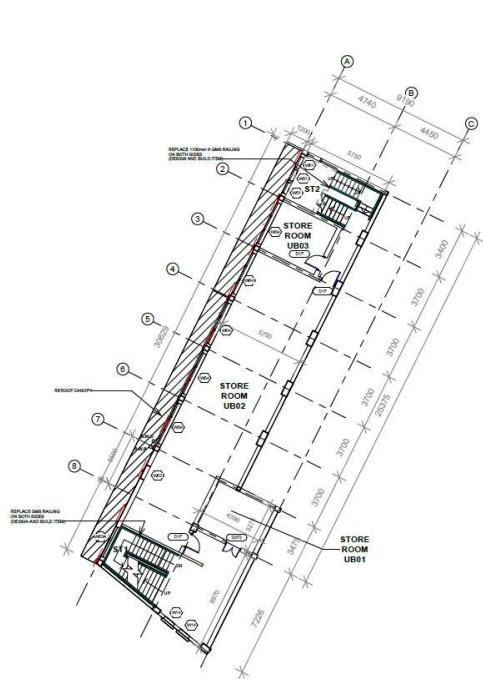
**Site Layout Plans**

**1. Site location plan**



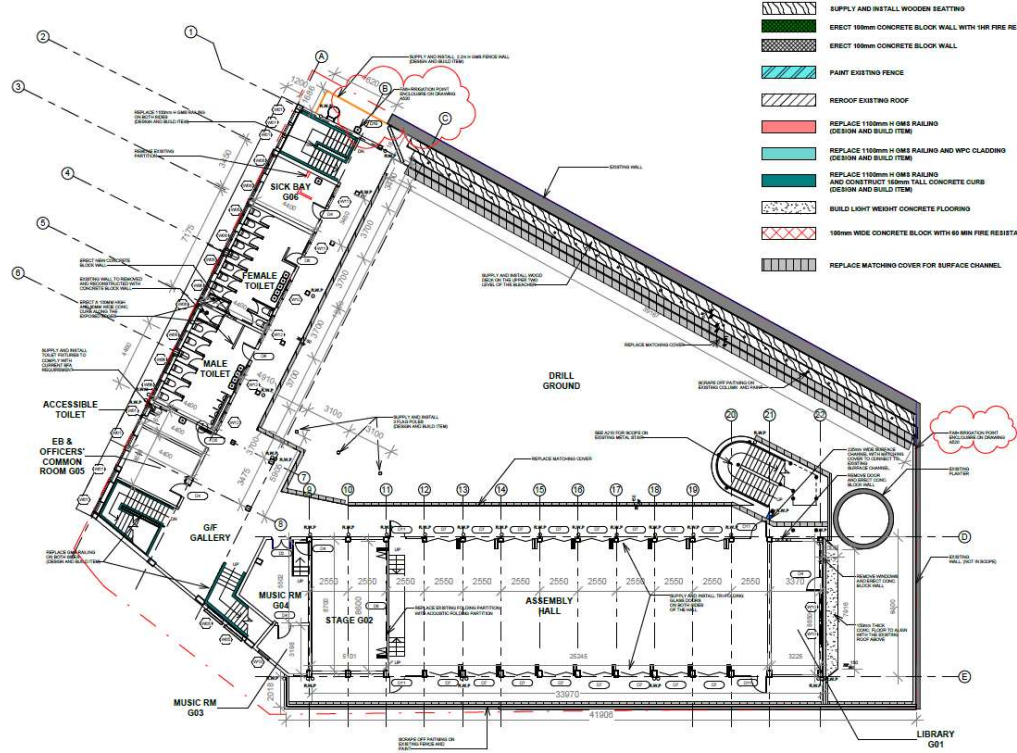
## 2. Floor plan



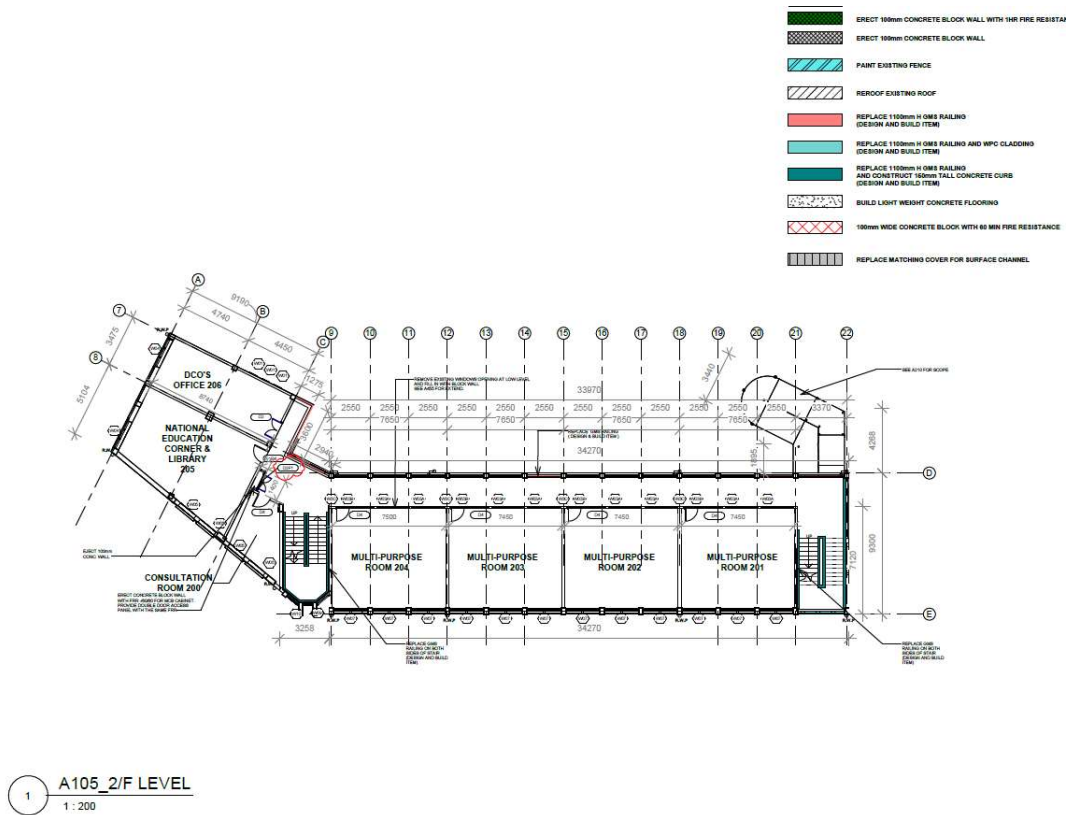
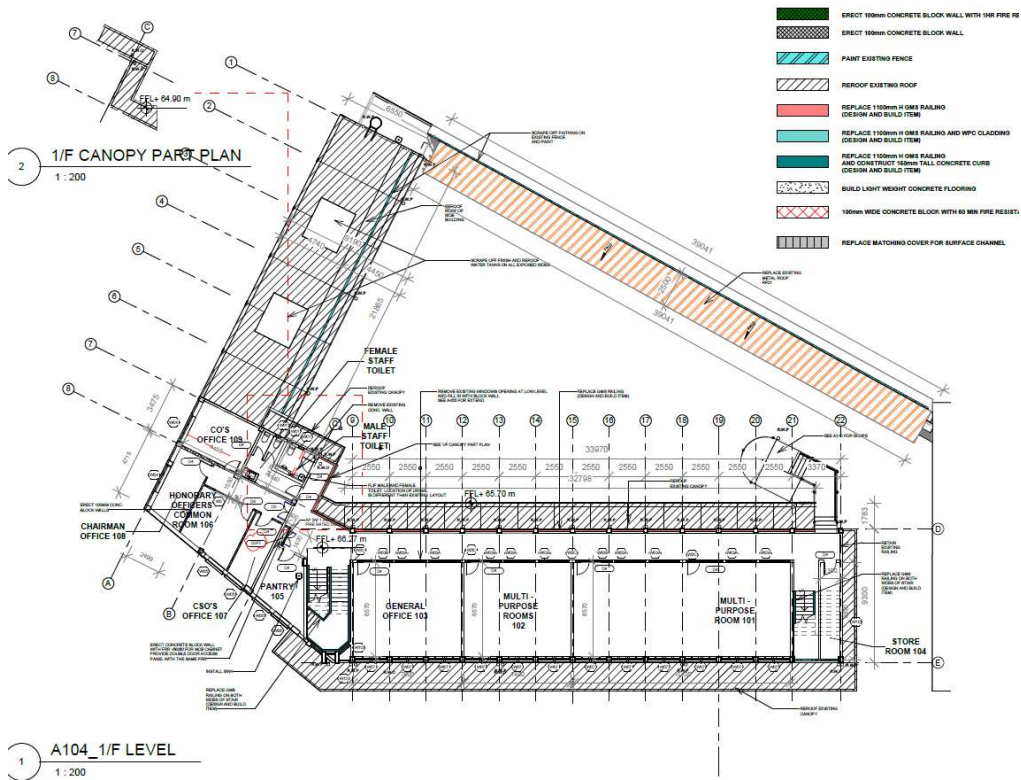


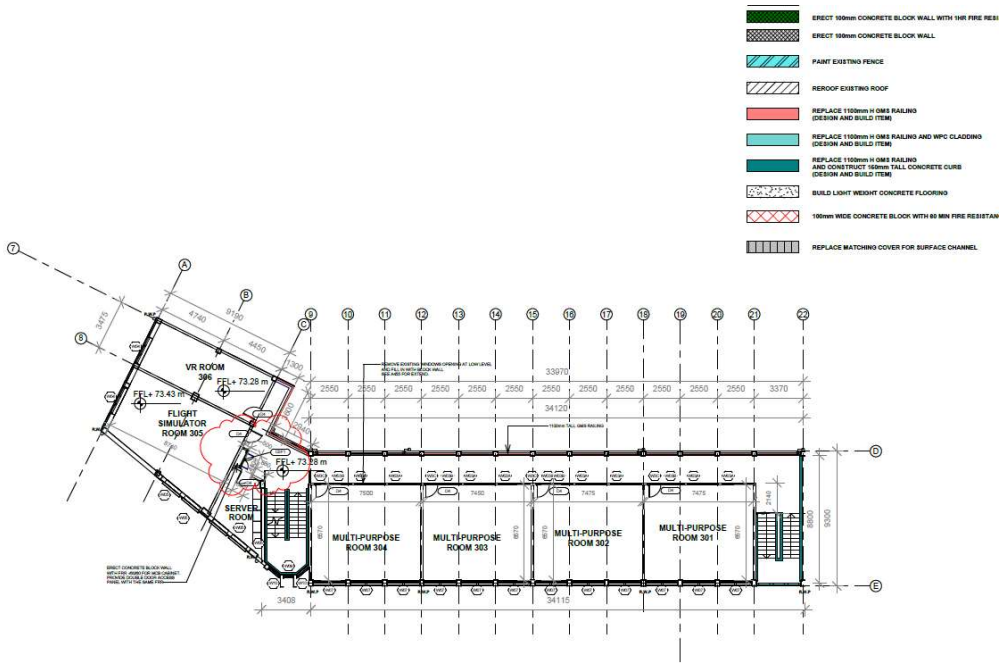
- ERECT 100mm CONCRETE BLOCK WALL
- PAINT EXISTING FENCE
- REEROOF EXISTING ROOF
- REPLACE 1100mm H GMS RAILING (DESIGN AND BUILD ITEM)
- REPLACE 1100mm H GMS RAILING AND WPC CLADDING (DESIGN AND BUILD ITEM)
- REPLACE 1100mm H GMS RAILING AND CONSTRUCT 150mm TALL CONCRETE CURB (DESIGN AND BUILD ITEM)
- BUILD LIGHT WEIGHT CONCRETE FLOORING
- 100mm WIDE CONCRETE BLOCK WITH 60 MIN FIRE RESISTANT
- REPLACE MATCHING COVER FOR SURFACE CHANNEL

1 A102\_UPPER BASEMENT  
1 : 200



- SUPPLY AND INSTALL WOODEN SEATING
- ERECT 100mm CONCRETE BLOCK WALL WITH 1HR FIRE RESISTANT
- ERECT 100mm CONCRETE BLOCK WALL
- PAINT EXISTING FENCE
- REEROOF EXISTING ROOF
- REPLACE 1100mm H GMS RAILING (DESIGN AND BUILD ITEM)
- REPLACE 1100mm H GMS RAILING AND WPC CLADDING (DESIGN AND BUILD ITEM)
- REPLACE 1100mm H GMS RAILING AND CONSTRUCT 150mm TALL CONCRETE CURB (DESIGN AND BUILD ITEM)
- BUILD LIGHT WEIGHT CONCRETE FLOORING
- 100mm WIDE CONCRETE BLOCK WITH 60 MIN FIRE RESISTANT
- REPLACE MATCHING COVER FOR SURFACE CHANNEL

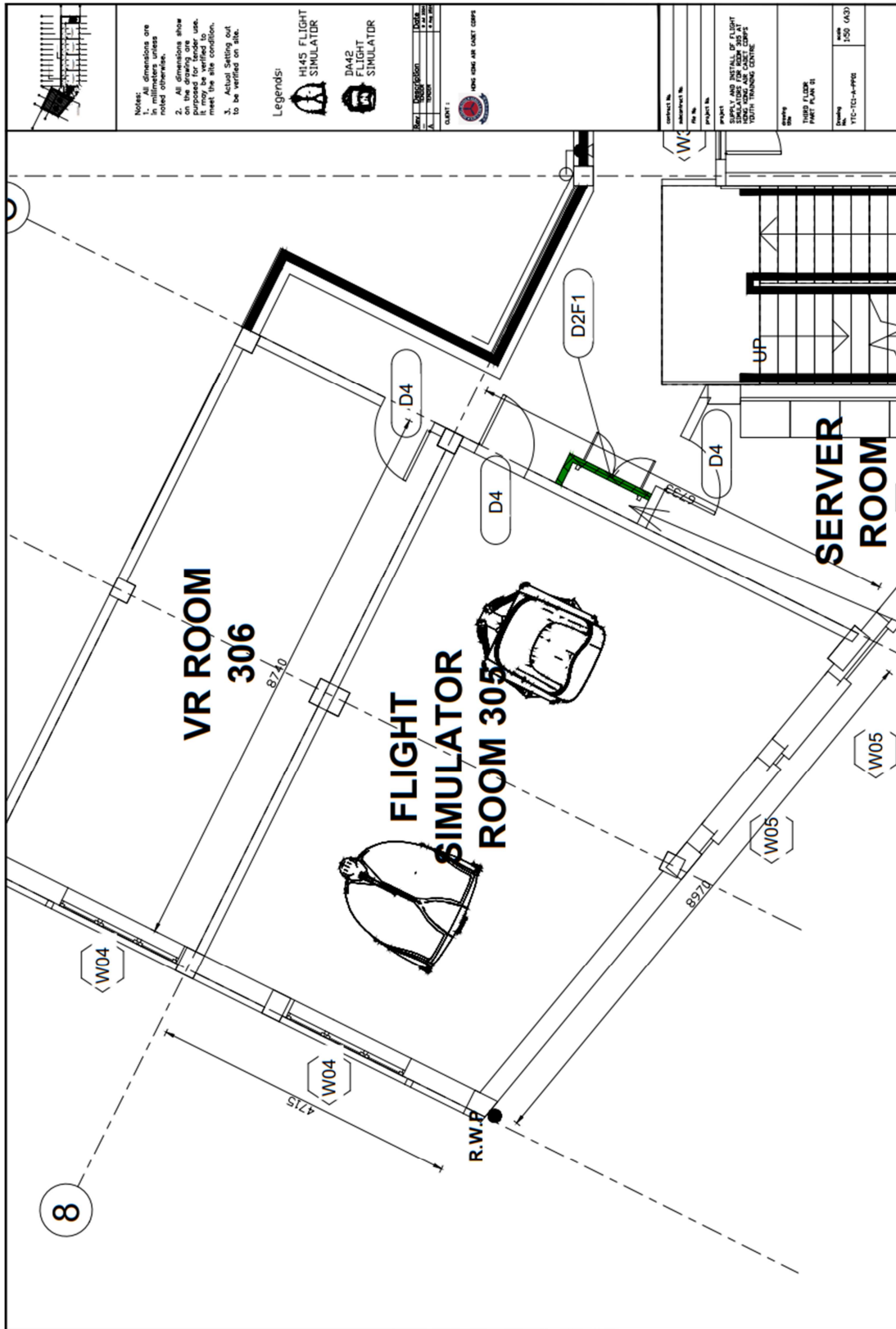




1 A106\_3/F LEVEL  
1 : 200



3. Drawing



## **Appendix 6**

### **Particular Description of Scope of Services**

1. Attend meetings with the Employer.

#### **Outline proposal and Sketch design stage:**

2. Visit the site. Prepare all necessary records and measurements on all existing details and site features for carrying out the services
3. Carry out, administer, manage, supervise and coordinate all the necessary studies, assessments, surveys, investigations and tests.
4. Submit lists of the proposed plant and equipment including known manufacturer's name list, model and/ or catalogue number and performance requirements to the Employer for agreement, inform other design team members on design and requirements.
5. Obtain/ advise on any further information and instructions necessary to proceed with the plan and detail proposals.
6. The Contractor shall ensure compliance with all statutory regulations or restrictions that may be imposed by relevant statutory authorities.
7. Recommend a strategy for site supervision etc.
8. Prepare, describe and illustrate outline proposals and sketch plans as may be required for the purpose of or in connection with the Works.

#### **Detailed design stage:**

9. Develop a total solution design which meets the Employer's operational and maintenance needs and statutory requirements.
10. The Contractor shall be required to prepare and submit plans, drawings, calculations and other documents etc. to Buildings Department and other relevant government departments for approval if necessary.
11. Leading and coordinating and integrating the works from all the sub-contractors for the completion of the Works.
12. Review & adopt results and findings of the investigations and surveys for the use in various Works stages.
13. Prepare detailed designs, specifications for works, drawings, dimensions, sections and plans based on the conceptual design developed in outline proposal stage with such design data, calculations and other Information as may be required for the purpose of or in connection with the Works. The detailed design should be cost effective satisfying the Employer's functional,

sustainable and self-maintained needs, budget and planned programme.

14. Consult/ liaise with all relevant Government departments, authorities, relevant bodies and utility companies and submit plans as necessary to obtain all necessary approvals to complete the works, if necessary.
15. Identify all facilities and installations affected by the Works.
16. Submit all necessary plans and documents of equivalent standards as required under Buildings Ordinance to Buildings Department for approval and make any amendments necessary to fulfill compliance and submit justifications for modifications and exemptions for a timely approval.
17. Prepare required documents for the purposes of compliance with statutory procedures.
18. The Contractor shall directly approach and coordinate all concerned utility companies in order to obtain their consents and requirements on connection/ provision of utility services for the building proposed and necessary works for diversion of existing services.

#### **Documentation/Tendering stage**

19. Complete the detailed design, drawings and Specifications for tender issuance.
20. Prepare the detailed cost estimates.
21. Check the tenderers' technical submissions. Answer tender queries and prepare tender addendum. Advise the Employer and prepare information for the reports on tenders, prices with product specifications and estimates.
22. Provide Works cost reconciliation and ensure the anticipated Works expenditure is within the budget. Conduct tender negotiation and cost cutting exercise with the approval from the Employer. Any extra funds required to complete the Works should get advanced approval from the Employer.
23. On receipt of the Employer's instructions regarding the acceptance of tenders, coordinate the preparation of the necessary contract documents.

#### **Post-Handover Services:**

24. Carry out the duties of the respective contractors under the terms of the Works Contract.
25. Preparation of the final account.
26. Provide and update the list of outstanding and defective works and arrange inspections.
27. Arrange final inspection with relevant bodies.

28. Monitor progress of defects rectification and completion of outstanding/ additional works.
29. Arrange handover of spare parts/ materials and as-built records including drawings, manuals, warranties and certificates to the maintenance agent.
30. Prepare the maintenance manual including Maintenance Manual to the Employer for handing over to Employer for maintenance after completion of works.
31. The tenderer should note that the above is not an exhaustive list of scope of services. Any reasonable consultancy services which have not been listed above in association with and for the delivery the Works should be included and the Contractor would not be entitled to additional money claim.

## **Appendix 7**

### **Service Specifications**

**All the requirements set out in these Tender Specifications are mandatory features. All mandatory features are essential requirements. Offer which fails to comply with any of the essential requirements set out in the Tender Specifications should NOT be considered further.**

#### **1 Background Information**

The Mixed Reality (MR) Flight Simulator (one (1) for Diamond DA40 Fixed wing and one (1) for Schweizer S300CBi Helicopter) will be utilized to provide flight training to the Employer's members, and to educate the Employer's guests / visitors on basic principle of flight (Aeroplane / Helicopter), as well as to promote the Employer in special events such as Employer's open house, visit, recruitment and so on.

#### **2 System Requirements**

- 2.1 The Contractor shall design, develop and provide the tailor-made MR Flight Simulator, including but not limited to mock up cockpit for pilot, motion platform, mixed reality wireless headset with controller packages, portable gaming laptop for operating the VR system, VR Wi-Fi router, HDMI screen splitter, usage training for Employer's staff and essential technical support services.
- 2.2 All necessary hardware, software, operating systems, software licenses and accessories in relation to the MR Flight Simulator shall also be provided by the Contractor
- 2.3 The MR Flight Simulator shall be available to deploy in a room scale of around 45m<sup>2</sup>.
- 2.4 The MR Flight Simulator shall be controlled by computer in Windows 11 operating system or equivalent.
- 2.5 The MR Flight Simulator shall support multiple wireless MR/VR headsets at the same time.
- 2.6 The MR Flight Simulator shall be capable to expand the number of participants through additional MR/VR devices.
- 2.7 The Contractor shall provide HDMI screen splitter, which can split the signal from a single source device to facilitate simultaneous connection to multiple displays.
- 2.8 The Contractor shall possess strong knowledge in Aviation Industry and solid experience on MR/VR Works for aviation related products.

### 3 Implementation Plan

Unless otherwise agreed by the Employer, the Contractor shall comply with the following implementation plan:

<b>Activity Description</b>	<b>Completion date</b>
(a) Planning and Design of the MR Flight Simulator	Within 2 weeks from the date of written order or such later date as designated by the Employer Representative
(b) Delivery, Installation and Configuration of the whole MR Flight Simulator	Within 10 weeks from the date of written order or such later date as designated by the Employer Representative
(c) Usage training for Employer's staff	Within 12 weeks from the date of written order or such later date as designated by the Employer Representative
(d) User Acceptance Test (UAT)	Within 12 weeks from the date of written order or such later date as designated by the Employer Representative
(e) Completion of the finished MR system	Within 14 weeks from the date of written order or such later date as designated by the Employer Representative

### 4 Delivery Location

- 4.1 Delivery, installation and configuration are required to be made in accordance with the Implementation Plan in this Part upon receipt of written order or any other date accepted by the Employer.
- 4.2 The MR system shall be delivered to the Employer located at Room 305, Hong Kong Air Cadet Corps Training Centre at Nos. 1F Shiu Fai Terrance, Wan Chai, Hong Kong

## 5 Technical Requirements

5.1 The contractor shall provide the following flight simulator systems

Item	Features	Requirements	Qty
<u>A1</u>	(1) Frames	(i) Fiberglass Shell	<u>1 set</u>
	(2) The Maximum dimension	(ii) 2.5 m(L) x 2.5 m(W) x 2.7 m(H)	
	(3) the maximum Weight	(i) 300 kg/m2.	
	(4) Flight deck controls panel	(i) The panel shall include the realistic and functional gauges for DA40 including but not limited: - <ul style="list-style-type: none"> <li>• G1000 Panel Module;</li> <li>• Backup Instrument Panel Module;</li> <li>• Lighting Panel Module;</li> <li>• Engine Control Panel Module;</li> <li>• Starter Panel Module;</li> <li>• Circuit Breaker Panel Module;</li> <li>• Landing Gear Control Module;</li> <li>• Structural Module, and;</li> <li>• Backup Static Source, Backup Air Source</li> </ul>	
	(5) Flight Control	(i) Two (2) motorized DA40 Fight Stick grip with Trim control (ii) Two (2) DA40 rudder system with Brake system (iii) One (1) Throttle system (including one (1) throttle control, one (1) Propeller control, one (1) Mixture control). (iv) One (1) Cabin heat control, and one (1) Defrost control, and one (1) Parking Brake Control (v) Central Console Fuel Control Panel (vi) Trim Wheel	
	(6) Display	(i) Three (3) sets of at least 27" or larger <ul style="list-style-type: none"> <li>(a) Resolution: 3840 x 2160 or better</li> <li>(b) Panel Type: IPS</li> <li>(c) Refresh Rate: 144 Hz or larger</li> </ul>	

			(d) Response Time: 1ms or less
	(7) MR/VR Headset		<p>(i) Two (2) sets of MR/VR Headset with the following features.</p> <p>(a) 2 sets of MR/VR/Headset</p> <p>(b) Dual mini-LED displays</p> <p>(c) 3840 x 3744 resolution at 51 PPD or better</p> <p>(d) At least 120° x 105° field of view</p> <p>(e) At least 98% sRGB, 96% DCI-P3 color space</p> <p>(f) At least 90 Hz refresh rate</p> <p>(g) At least 200 nits brightness</p> <p>(h) At least 20 MP passthrough cameras</p> <p>(i) At least 33 PPD passthrough</p> <p>(j) At least Inside-out tracking</p> <p>(k) ART and OptiTrack supported via API or better</p> <p>(l) At least 300 KPix LiDAR with 7m range</p> <p>(m) At least 200 Hz eye tracking</p> <p>(n) Auto-IPD</p> <p>(o) Controllers included</p> <p>(p) Integrated speakers included</p> <p>(q) Noise-cancelling microphones included</p> <p>(r) Zero gravity comfort fit</p> <p>(s) 15m Extension Cable</p>
	(8) Motion Platform		<p>(i) Rubix Blackbird 400 Motion Platform 6-DOF Motion Platform (400mm actuator version) or equivalent with the following requirement:</p> <p>(a) Max Roll: at least <math>\pm 17^\circ</math></p> <p>(b) Max Pitch: at least <math>\pm 17^\circ</math></p> <p>(c) Max Yaw: at least <math>\pm 32^\circ</math></p> <p>(d) Max Heave: at least <math>\pm 110\text{mm}</math></p> <p>(e) Max Surge: at least <math>\pm 145\text{mm}</math></p> <p>(f) Max Sway: at least <math>\pm 145\text{mm}</math></p> <p>(g) Max Weight: at least 600kg or above</p> <p>(h) Motor Power: at least 1000kW per each</p>



		(9) Seats	(i) Two (2) Realistic DA40 Pilot Seat with Adjustable Height
		(10) Instructor Dock Station	<p>(i) at least one (1) instructor panel with 27” monitor and table setup.</p> <p>(ii) One (1) set of Instructor Station’s software with user-friendly interface and interactive map with function including at least but not limited to: -</p> <ul style="list-style-type: none"> <li>● Move the aircraft on an approach, to a runway takeoff point, on a helipad or any other custom location.</li> <li>● Real-time moving map shows current aircraft position, taxiways, gates, nav aids, airways and a lot more.</li> <li>● Plan your flights manually or synchronize the flight plan with many other aircraft add-ons</li> <li>● Define detailed weather conditions, enable real-time weather and set season, time and simulation rate.</li> <li>● Control the aircraft pushback operations and set any needed pushback direction.</li> <li>● Set the current fuel amount in all or individual tanks and change the payload of the aircraft.</li> <li>● Control the current camera view and use aircraft slew mode if needed.</li> <li>● Fail any aircraft component with just one click or define detailed failure conditions</li> <li>● Get an overview of all important aircraft data and control parts like gear, flaps and spoilers directly.</li> <li>● Keep all important graphs on one view including detailed</li> </ul>

			<p>approach graphs with export function.</p> <ul style="list-style-type: none"> <li>• Remote control network computers by defining certain actions and create a flight status web page.</li> <li>• Operate and monitor motion as well as control loading devices</li> <li>• Customize this program to the needs with detailed, even aircraft-specific settings.</li> <li>• Restrict the access to the simulator using access control solution.</li> </ul>
		(11) System	<p>(i) Latest version of Microsoft Flight Simulator or Laminar Research XPlane or Digital Combat Simulator equivalent</p> <p>(ii) DA40 aircraft system Addon</p>
		(12) Server Rack	(iii) One (1) set of 24U Server Rack
		(13) Processing Server	<p>(i) Two sets of processing servers with the following specification: -</p> <ul style="list-style-type: none"> <li>• Processor: 14th Gen Intel® Core™ i9-14900 series or better</li> <li>• Memory: at least 64GB DDR5-4800 SO-DIMM</li> <li>• Storage: at least 2 TB SSD PCIe ®4.0 NVMe™ M.2</li> <li>• Operating system: Window 11 or above</li> <li>• Silverstone RM51 server case or equivalent</li> </ul> <p>(ii) Two (2) set is for flight simulator and one (1) set is for Instructor Station.</p>
		(14) Power	(i) Maximum input is 220V 13A
		(15) Others	<p>(i) 4 sets of David Clark Aviation Headset or equivalent</p> <p>(ii) Intercom system</p> <p>(iii) HDMI Splitter</p> <p>(iv) Emergency stop button</p>

<b>Item</b>	<b>Features</b>	<b>Requirements</b>	<b>Qty</b>
<u>B1</u>	(1) Frames	(i) Fiberglass Shell	1 set
	(2) The Maximum dimension	(i) 2.5 m(L) x 2.5 m(W) x 2.7 m(H)	
	(3) the maximum Weight	(i) 300 kg/m2.	
	(4) Flight deck controls panel	(i) The panel shall include the realistic and functional gauges for S300CBi including but not limited: <ul style="list-style-type: none"> <li>• S300CBi Main Panel Module;</li> <li>• Garmin GTN650 Replica System</li> <li>• Vertical Speed Indicator</li> <li>• Attitude Indicator</li> <li>• Airspeed Indicator</li> <li>• Engine and Rotor RPM Indicator</li> <li>• Altimeter VOR Receiver</li> <li>• Manifold Pressure Gauge</li> <li>• Associated Warning Light Group</li> <li>• Timer modules</li> </ul>	
	(5) Flight Control	(i) Two (2) S300CBi cyclic Stick (ii) Two (2) S300CBi pedal system (iii) Two (2) S300CBi Collective system and Throttle system	
	(6) Display	(i) Three (3) sets of at least 27" or larger (e) Resolution: 3840 x 2160 or better (f) Panel Type: IPS (g) Refresh Rate: 144 Hz or larger (h) Response Time: 1ms or less	
	(7) MR/VR Headset	(i) Two (2) sets of MR/VR Headset with the following features. <ul style="list-style-type: none"> <li>(a) 2 sets of MR/VR/Headset</li> <li>(b) Dual mini-LED displays</li> <li>(c) 3840 x 3744 resolution at 51 PPD or better</li> <li>(d) At least 120° x 105° field of view</li> </ul>	

			<ul style="list-style-type: none"> <li>(e) At least 98% sRGB, 96% DCI-P3 color space</li> <li>(f) At least 90 Hz refresh rate</li> <li>(g) At least 200 nits brightness</li> <li>(h) At least 20 MP passthrough cameras</li> <li>(i) At least 33 PPD passthrough</li> <li>(j) At least Inside-out tracking</li> <li>(k) ART and OptiTrack supported via API or better</li> <li>(l) At least 300 KPix LiDAR with 7m range</li> <li>(m) At least 200 Hz eye tracking</li> <li>(n) Auto-IPD</li> <li>(o) Controllers included</li> <li>(p) Integrated speakers included</li> <li>(q) Noise-cancelling microphones included</li> <li>(r) Zero gravity comfort fit</li> <li>(s) 15m extension cable</li> </ul>
		(8) Motion Platform	<ul style="list-style-type: none"> <li>(ii) Rubix Blackbird 400 Motion Platform 6-DOF Motion Platform (400mm actuator version) or equivalent with the following requirement: <ul style="list-style-type: none"> <li>(i) MaxRoll: at least <math>\pm 17^\circ</math></li> <li>(j) Max Pitch: at least <math>\pm 17^\circ</math></li> <li>(k) Max Yaw: at least <math>\pm 32^\circ</math></li> <li>(l) Max Heave: at least <math>\pm 110\text{mm}</math></li> <li>(m) Max Surge: at least <math>\pm 145\text{mm}</math></li> <li>(n) Max Sway: at least <math>\pm 145\text{mm}</math></li> <li>(o) Max Weight: at least 600kg or above</li> <li>(p) Motor Power: at least 1000kW per each</li> </ul> </li> </ul>
		(9) Seats	<ul style="list-style-type: none"> <li>(i) Two (2) Realistic S300CBi Pilot Seat with adjustable height function</li> </ul>
		(10) Instructor Station	<ul style="list-style-type: none"> <li>(iii) at least one (1) instructor panel with 27" monitor and table setup.</li> <li>(iv) One (1) set of Instructor Station's software with user-friendly interface and interactive map with function including at least but not limited to: -</li> </ul>

			<ul style="list-style-type: none"> <li>• Move the aircraft on an approach, to a runway takeoff point, on a helipad or any other custom location.</li> <li>• Real-time moving map shows current aircraft position, taxiways, gates, nav aids, airways and a lot more.</li> <li>• Plan your flights manually or synchronize the flight plan with many other aircraft add-ons</li> <li>• Define detailed weather conditions, enable real-time weather and set season, time and simulation rate.</li> <li>• Control the aircraft pushback operations and set any needed pushback direction.</li> <li>• Set the current fuel amount in all or individual tanks and change the payload of the aircraft.</li> <li>• Control the current camera view and use aircraft slew mode if needed.</li> <li>• Fail any aircraft component with just one click or define detailed failure conditions</li> <li>• Get an overview of all important aircraft data and control parts like gear, flaps and spoilers directly.</li> <li>• Keep all important graphs on one view including detailed approach graphs with export function.</li> <li>• Remote control network computers by defining certain actions and create a flight status web page.</li> <li>• Operate and monitor motion as well as control loading devices</li> </ul>	
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			<ul style="list-style-type: none"> <li>• Customize this program to the needs with detailed, even aircraft-specific settings.</li> <li>• Restrict the access to the simulator using access control solution.</li> </ul>
		(11) System	<p>(i) Latest version of Microsoft Flight Simulator or Laminar Research XPlane or Digital Combat Simulator or equivalent</p> <p>(ii) S300CBi Helicopter add-on</p>
		(12) Server Rack	(i) One (1) set of 24U Server Rack
		(13) Processing Server	<p>(i) Three (3) sets of processing servers with the following specification:</p> <ul style="list-style-type: none"> <li>● Processor: 14th Gen Intel® Core™ i9-14900 series or better</li> <li>● Memory: at least 64GB DDR5-4800 SO-DIMM</li> <li>● Storage: at least 2 TB SSD PCIe ®4.0 NVMe™ M.2</li> <li>● Operating system: Window 11 or above</li> <li>● Silverstone RM51 server case or equivalent</li> </ul> <p>(ii) Two (2) set is for flight simulator and one (1) set is for Instructor Station.</p>
		(14) MR/VR Wi-Fi router	<p>(i) Processor: 2.0 GHz quad-core processor or better</p> <p>(ii) Network Standard: <b>WiFi 7</b> (802.11ax), WiFi 7E (802.11ax), Backwards compatible with 802.11a/b/g/n/ac Wi-Fi</p> <p>(iii) Antenna: at least four (4) of external antenna</p> <p>(iv) Operating Frequency: Quad-band Wi-Fi: 2.4 GHz / 5 GHz-1 / 5 GHz-2 / 6 GHz</p>
		(15) Power	(i) Maximum input is 220V 13A
		(16) Others	<p>(i) 4 sets of David Clark Aviation Headset or equivalent</p> <p>(ii) Intercom system</p>

		(iii) Emergency stop button	
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## 6 Warranty & Maintenance requirements

- 6.1 The Contractor shall provide at least two (2) years free warranty and additional three (3) years maintenance service for **Item A1** and **Item B1** commenced from the completion of Works of the MR Flight Simulator which is accepted by Employer.
- 6.2 During the free warranty and maintenance period, The Contactor shall provide on-site replacement and installation of parts service at Training Centre to keep all hardware equipment supplied and all software components provided under this Contract in proper functions in accordance with the Service Specifications at no additional charge to the Employer. The maintenance services are required during the working hours (09:00 – 17:00) on the next working day (Monday to Friday) when the service is requested by Employer. The on-site maintenance services of Item A1 and Item B1 shall be provided at the same address as stated in paragraph 4 of this service specification or other area required by Employer.
- 6.3 The Contractor shall be responsible for the price of the inspection, maintenance, system support services and replacement of defective parts deemed necessary included the labour cost to support all maintenance services.
- 6.4 The Contractor shall provide and replace all defective spare parts with brand new parts to the satisfaction of the Employer during the Warranty Period.
- 6.5 The Contractor shall provide single point of contract by telephone to Employer for hardware remedial maintenance calls and for monitoring the progress of the maintenance call.
- 6.6 The Contractor shall provide bug fixing support service for the software of the MR Flight Simulator.

## 7 On-site technical support services

- 7.1 The Contractor shall provide unlimited on-site technical support services for Employer MR Flight Simulator in Hong Kong.

## 8 Training services

- 8.1 The usage training of the MR Flight Simulator shall be conducted in three half-day sessions, and each session shall be provided to maximum 10 Employer’s staff. The actual training dates shall be subjected to the agreement of the Employer.

**Appendix 8**

**Existing site photos**

**Existing Conditions of the Room 305**

