

Candidate Number :

Seat Number :

HKIA / ARB Professional Assessment 2015

Paper 7 BUILDING DESIGN

19 November 2015
9:00 am – 3:00 pm (6 hours)

Kowloonbay International Trade & Exhibition Centre (KITEC)
Kowloon Bay

ONE COMPULSORY QUESTION

100 marks

General Notes

Format	Use the A3 plain and A3 tracing paper provided as appropriate.
Presentation	Black ink line drawings are preferred. Use colour(s) for highlights if necessary. DO NOT use red colour.

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1 PROBLEM STATEMENT

To meet the increasing demand of the community towards sports healthcare and rehabilitation, a non-profit organization (NGO) recently gets sufficient funds to build a complex to accommodate new and merged facilities for the sports healthcare. The client approaches you, as the Architect, to provide a schematic design for a **Sports Healthcare and Rehabilitation Centre**, which comprises the following principal elements:-

1. Sports Healthcare Centre providing consultation, clinical facilities and daytime physiotherapy treatment services; and
2. Rehabilitation Centre providing short term in-patient wards and physiotherapy treatment services including a rehabilitation pool.

Special consideration has to be made in providing barrier free access for those visiting the Centre(s) for the physiotherapy services.

You have to prepare a schematic design for presentation to the management board of the NGO. It should satisfy generally all functional and statutory requirements. It should also show an integrated solution that incorporates preliminary provisions and requirements for building structure, building services, utilities, etc.

Your design should also be sensitive to the existing site context.

You need to comply with Sustainable Building Design (SBD) Guidelines.

2 SITE DESCRIPTION

Context

The Site is a hypothetical site in an urban area. It is generally flat and served by 2 public streets, namely Road A and Road B. Both of them are more than 6m wide. There is a public service lane of 3m width to the south of the Site.

See Location Plan and Site Plan in Attachments 1 and 2.

Vehicular Access and Drop-Off

Run-in/out between points X and Y through Z, drop-off and carparking spaces for vehicles within site **ARE** required.

Environmental Factor

Traffic noise from all roads is considered insignificant.

3 DESIGN BRIEF

3.1 Development Requirements

Site Area 2,300 m² (approximate)

Zoning GIC use

Permissible GFA under lease unrestricted

Permissible site coverage under lease 60%

Building Height Not higher than +30mPD (main roof)

Site Vehicular Access Vehicular access through points X, Y with a reasonable drop-off area is required.

Carpark **THREE** parking spaces for private cars (a minimum of 5mL x 2.5mW x 2.4mH clear headroom each) are required;
ONE parking space for disabled person (a minimum of 5mL x 3.5mW x 2.4mH clear headroom) is required;
and
ONE parking space for ambulance (a minimum of 9mL x 3mW x 4.5mH clear headroom) is required.

Loading and Unloading **NO** loading bay is required for the purpose of this Paper.

Refuse Collection Refuse Collection Parking is **NOT** required for the purpose of this Paper.

Barrier Free Access Statutory requirements shall be complied with.

Lift(s) Statutory requirements shall be complied with.

Operational requirements:-
At least two lifts of shaft size each of minimum 2400mmW X 3400mmD is required for transporting beds to serve the complex.

3.2 Design Requirements

You are required to design a low-rise **Sports Healthcare and Rehabilitation Centre** in accordance with the Accommodation Schedule in section 3.3.

To maintain security and privacy of those patients who will temporarily reside in the Centre, special attention should be made to segregate the public users of the Sports Healthcare Centre from those accessing the in-patients wards of the Rehabilitation Centre.

As the Centre will be frequently used by the public with physical accessibility challenges, the complex shall be equipped with barrier free access as one of the main features of the design.

3.3 Accommodation Schedule

	Gross Floor Area (m ²)	Remarks
Ground Floor Lobby	As appropriate	Shared lobby for most of the functions, except access for the in-patient wards of the Rehabilitation Centre should be designated and segregated from the main entrance of the Centre.
Sports Healthcare Centre (SHC)		
Reception & Waiting Area	As appropriate	
General Office for SHC	100	
Central dispensary & supplies	100	
Function rooms for seminar	50 x 3 nos.	The function rooms should be able to be combined into one large function room.
Cafe	200	It should be provided with appropriate kitchen facilities.
Consultation rooms	15 x 10 nos.	To be designed as office spaces for the purpose of lighting and ventilation under Building (Planning) Regulations

Rehabilitation Centre (RC)

Reception & Waiting Area	As appropriate	
General Office for RC	100	
Treatment rooms	15 x 5 nos.	Private spaces for individual treatment.
Physiotherapy rooms	100 x 3 nos.	Shared spaces for large physiotherapy equipment.
Swimming pool (indoor)	12m x 8m water area, with 2m minimum sidewalks all around	The indoor pool shall be a column-free, long-span & double-volume structure, with sufficient ancillary facilities of reasonable and appropriate sizes, such as filtration plant rooms, changing rooms & toilets, etc. to support the operation of the pool shall be provided.
Rehabilitation in-patient wards	15 x 10 nos. of private rooms	To be designed as habitation for the purpose of lighting and ventilation under Building (Planning) Regulations. Appropriate private bathroom facilities shall be provided for each room.

4 SUBMISSION REQUIREMENTS

Site Plan (1:200)	Show site development including access point(s) for both pedestrians and vehicles.
Plans of all floors (1:200)	<ul style="list-style-type: none">• All required spaces according to Accommodation Schedule with labels• Major structural elements• Overall and critical dimensions• Appropriate annotation• Site boundary, adjacent streets and lane• Means of Access for Firefighting & Rescue and Means of Escape, Barrier Free Access
Section (A minimum of 1 at 1:200)	<ul style="list-style-type: none">• Floor to floor and other critical dimensions• Appropriate annotation• Relationship between elements of construction <i>(E.g. Interfacing and connection of building structure, building envelope, finishes, building services, etc.)</i>
3-dimensional Illustration	Not compulsory
Calculations	All design is assumed to be in compliance with relevant building ordinances and regulations. No calculation is required.

END OF PAPER 7



