

**HKIA / ARB Professional Assessment 2020**  
**Paper 1: Statutory Controls in Building Works**  
**Examiners' Report**

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**STRUCTURE OF PAPER**

Paper 1 comprised two sections, one for multiple-choice (MC) questions and the other for essay questions.

The MC section had 40 questions. Each MC question carried 2 marks. The passing mark was set at 65%.

For the essay question section, candidates were required to answer 1 compulsory essay question and 2 out of 3 other essay questions. The compulsory question carried 30 marks and the other two questions carried 15 marks each. The passing mark was set at 50%.

Set on topics detailed in the syllabus of PA Handbook, the questions tested candidates' knowledge, skills and maturity to handle their day-to-day work as an Architect.

**ASSESSMENT OBSERVATIONS**

**FOR WHOLE PAPER**

353 candidates took Paper 1 and 142 candidates (40.22%) passed.

**FOR MULTIPLE-CHOICE QUESTIONS**

The mean mark and standard deviation were comparable to that of the previous years. 151 candidates passed (42.77%) and the mean mark was 45.93 marks out of 100.

**FOR ESSAY QUESTIONS**

157 candidates passed (44.47%). The passing rates of the essay questions were as follows:

Q1 – 56.37% (199 out of 353 candidates)

Q2 – 36.88% (97 out of 263 candidates)

Q3 – 28.62% (81 out of 283 candidates)

Q4 – 61.60% (77 out of 125 candidates)

**Question 1 (Compulsory)**

Question 1 aims to test Candidates' understanding of development potential control and the application of the First Schedule.

The question was about converting an existing school building into a student hostel, and the feasibilities of adding new floors or building an extension block to increase the total floor area of the building. Extracts of the General Building Plan record plans showing the layouts, sections and the plot ratio and site coverage calculations, together with an extract of outline zoning plan (which only controls the height of building) were given in the question. The question also stated that the lease is an old lease with no controls on use of development intensity.

Candidates are expected to understand the following:

There is no control of the lease so no lease modification is needed.

There is no control of development intensity other than building height control the OZP.

The First Schedule should be applied to determine whether the addition of floor areas by vertical extension or horizontal extension would be feasible.

The health, safety and environmental concerns for such conversion and extensions should also be considered.

### **Observations**

Less than a third of the candidates were able to mention that schools follow non-domestic and hostel domestic controls under the BO.

Only around two thirds of the candidates knew that the maximum permitted PR and SC depend on the building height. These candidates understood how the building height should be determined.

Although the PR and SC calculations from the record plan GBP were provided in the question, very few candidates made use of this hint and failed to follow the format which is generally used by real GBP to arrive at the conclusions for the feasibilities. Most of the presentation of PR and SC calculations in the answers were disorganized.

Surprisingly, nearly a fifth of the candidates misread the schedule, as a result they were unable to get the correct plot ratio and site coverage from the building height range of which the designs belong.

There were more than 5 candidates who mistook student hostel as a hotel and went on to write about hotel concession.

There were quite a few candidates who wasted a lot of time elaborating on lease modification procedures after they have stated that such application is not needed in their answer.

In general, candidates did quite well in telling what health, safety and environmental issues are to be considered in the conversion.

### **Question 2**

This question mainly tests candidates' understanding of the health and safety controls under the Building (Planning) Regulations and the CoP FS and their applications in building design.

In part (a), candidates were asked to list four out of the many non-compliances of Buildings Ordinance or its subsidiary regulations from the plans provided. Common correct answers included absence of temporary refuge area within the protected exit, absence of a refuge floor, insufficiency of 1.5m width of service lane when podium height exceeds 15m, and the doors of the flats to a common internal corridor need to have FRR of -/60/60.

Part (b) of the question requires candidates to list two items from the plans which fail to comply with the Buildings Ordinance or its subsidiary regulations but may likely be modified/ exempted by the Building Authority. Most candidates managed to quote two

common modification items, which include non-provision of natural lighting and ventilation, as well as gas aperture in Flat C bathroom etc. The design of open kitchen creates problems for candidates as the legislative requirements were not clearly stated in published documents. A common misconception among candidates was that application for modification was required for an open kitchen design.

Part (c) of the question asks candidates the considerations of the Building Authority in deciding whether or not to grant modifications. Most candidates were able to answer that the modification should not be granted to the prejudice of structural stability and public health. However, they missed the point that special circumstances should exist, and it was desirable for Building Authority to grant the modification.

### **Question 3**

The question was about developing a disused garage in Yuen Long to a commercial complex with cinema. The question comprised of 2 parts: the first part was about assessing the development constraints and the second was about statutory procedures until superstructure consent.

The key observation was that most candidates' answers were too general. For part one, many of them simply listed out the town planning application procedures (OZP, S12A, S16 and S16A), lease modification\* and development potential under BO, which is applicable to most sites. Candidates failed to provide site-specific answers, such as special requirements for the scheduled area (Yuen Long), treatments for contaminated land, and requirements for a place of public entertainment. Less than 10% candidates mentioned PPER & MOE requirements pertaining to a Place of Public Entertainment.

Land Lease is not a statutory control but is a contractual requirement. However, some marks were still given for mentions of statutory control to recognize the candidates' basic understanding of land administration.

Similar observations had been found in part two. Many candidates merely listed out all BA forms and the names of prescribed plans. Again, it was not case-specific and the answers apply to most of the BD submission cases. Most candidates failed to mention site supervision and additional statutory requirements for the subject redevelopment, for example GI for the scheduled area and performance review.

Moreover, many candidates did not read the question carefully. The question only required the discussion the statutory procedures from foundation to commencement of superstructure, however some candidates elaborated on the procedures after that period, e.g. OP application.

One common mistake among candidates is that they tend to include an excessive number of points in their answers, despite some being irrelevant to the question, hoping the examiner would pick up the relevant points. Such an approach exposes the candidates' weaknesses in the interpretation of the question and time allocation.

Performance of part (d) was dissatisfactory. Hoarding layout abutting the carriageway was well explained by most candidates. However, most candidates failed to illustrate a proper and complete hoarding arrangement for the remaining portion of the site.

#### **Question 4**

The question was based on the government lease of a lot in the New Territories, which required the application for Certificate of Compliance upon completion of a residential development. The lessee was required to “uphold maintain and repair” a section of the access road to the site and to carry out “geotechnical investigations and such slope treatment and remedial works” on the surrounding hillsides, outside the site boundary. The development also involved the removal of two mature trees.

Candidates were asked to:

- Name the government authority in charge of processing the application and explain why a Certificate of Compliance is required;
- List the documents that need to be submitted upon application; and
- Name two other government departments that will be consulted on issues related to the Certificate of Compliance.

About 135 candidates attempted this question: most of them gave reasonable, straightforward answers and scored well. Certificate of Compliance was a subject discussed in the PA seminar series for Paper 1, and candidates who fully answered the question demonstrated a good fundamental understanding of the process, under the administration of the Lands Department acting on comments by other government authorities on the access road, the adjacent hillsides and compensatory planting. The lower achievers were largely those who did not complete the question.

#### **ADVICE TO CANDIDATES:**

Candidates will not pass by giving very generalized principles in their answers. Candidates' answers must demonstrate thorough understanding of the specific situations or circumstances relating to the question. HKIA members are expected to be aware of issues that fundamentally affect the design and development, including schedule areas, place of public entertainment etc. Solely knowing that there are controls under 'planning' 'building' 'lease' will NOT be adequate to pass Paper 1.

If the candidate has already stated that lease modification is not needed for the situation in their answer, it is not necessary to elaborate on the procedures for lease modification. By doing so candidates would be wasting their precious examination time, as the elaborations would not score any marks.

All fundamental concepts and principles needed to pass paper one were covered in the lectures. However, many candidates were unable to apply the concepts when constructing their answers, despite thorough elaboration in the lectures. One such example is how development sizes are controlled under the First Schedule -- something so basic in architectural practice in HK that any qualified architect must know. Candidates are expected to revisit lecture materials to consolidate their understanding on the topics after lectures, in order to be able to relate concepts covered in lectures to daily practices in office.

It will be difficult for candidates to pass if their writing is illegible. Presentation skills such as proper spacing between words or paragraphs, use of numbering, subheadings, and underlining allow the examiner to follow candidates' line of thinking. Such markings allow examiners to understand whether the candidate has misinterpreted the question, misunderstood the concepts, or simply made a careless typo. It is to the benefit of candidates if answers are well-structured and provided in clear handwriting.

Examiners are deeply concerned with candidates' inability to read carefully. Too many candidates mixed up hostel and hotels in Q1, or wrote paragraphs after paragraphs about occupation permit procedures in Q3. Such carelessness can be detrimental in an exam or in real life professional career.

General building plans are very good sources of reference for revising for paper 1. Approved GBPs summarise all the facts and figures that made the development proposal acceptable under the BO, and sometimes also the OZP or the lease. Candidates should know the contents of a GBP thoroughly, and understand why each part of the plans are the way they existed.

Paper 1 Subject Panel Chair

## **HKIA / ARB Professional Assessment 2020**

### **Paper 2: Building Contracts, Professional Practice, Professional Conduct, Conditions of Agreement Examiners' Report**

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#### **STRUCTURE OF PAPER**

Paper 2 is an open-book examination comprising multiple-choice and essay questions.

The MC section had 80 multiple-choice questions. Each MC question carries 1 mark. The passing mark was set at 65%.

For the Essay Questions section, candidates needed to answer 1 compulsory question for Part A Professional Practice, Code of Professional Conducts and Conditions of Agreement, and 2 out of 3 questions for Part B Building Contract. Question for Part A carried 15 marks while questions for Part B Building Contract each carried 15 marks. The passing mark was set at 50%.

#### **ASSESSMENT OBSERVATIONS**

##### **GENERAL**

281 candidates took Paper 2. 156 candidates (55.51%) passed.

##### **FOR MULTIPLE CHOICE QUESTIONS**

111 candidates passed (39.50%); the mean is 59.41 marks out of 100.

Whereas the standard deviation is comparable to those of the previous years, the mean mark is lower than that of the last year.

##### **FOR ESSAY QUESTIONS**

185 candidates passed (65.83%). Passing rates of the essay questions are as follows:

SQ Part A - Q1 – 77.93% (219 out of 281 candidates)

SQ Part B - Q2 – 62.29% (114 out of 183 candidates)

SQ Part B - Q3 – 46.34% (114 out of 246 candidates)

SQ Part B - Q4 – 72.50% (87 out of 120 candidates)

#### **Part A Question 1**

##### **Question 1a**

This question asked to discuss different methods of remuneration under the Standard Form of Agreement for a residential development comprising 3 domestic towers over podium, with the latter part of the question requesting for suggestions to consider a reduction in the proposed fee.

Candidates were expected to discuss the different options of remuneration methods under the HKIA Standard Form of Agreement, and specific to the project nature, SUGGEST and EXPLAIN which option(s) will be most appropriate. Many candidates managed to list down the various methods but failed to provide a recommendation. Also there were quite a number of candidates who mixed up the method of staged payment with the remuneration method of the overall fee.

Suggestions for reduction of the proposed fee may include consideration of repetitive design (domestic towers) or refinement of scope of services. These may be more proactive yet ethical ways to positively deal with the Client's request, than just quoting the Code of Conduct as a reason for not providing reduction under all circumstances.

### **Question 1b**

The question was based on the scenario of a project architect working under the firm's director, who agreed to revise the professional fee downwards and wishes to downsize the project team in order to save cost. Candidates were asked how the project architect should advise the employer.

Most candidates correctly quoted Rule 3.1.2, which requires that a member offering professional services "shall ensure his compliance with all professional standards in the performance of those services, even if he agrees to revise a fee quotation." They wrote that the architect should advise the employer not to downsize the project team, in order to avoid rendering substandard services due to inadequate manpower.

In addition, many candidates also expanded on Rules 3.1, 3.2 and 3.2.1, pointing out that it was in the architect's interest to define the terms and scope of services in the agreement with the client, areas of responsibilities in relation to the commission, and provision of comprehensive professional services in individual service stages.

Some candidates quoted Rule 2.3, referring to "discounts, commissions or gifts", which applied to a different context and was not relevant to the question.

### **Question 1c**

This question was about the possible commitment of Prevention of Bribery Ordinance. Many candidates answered that the senior architect has accepted the offer from the Contractor and thus has breached the Prevention of Bribery Ordinance. However, it was not mentioned in question that whether the architect has accepted the offer or not. Candidates were advised to read the question carefully.

Many candidates were able to answer that the senior architect should handle the frequent lavish meals treated by the contractor with care while only few would report attempted bribe to the consultancy firm and ICAC.

## **Part B Question 2**

### **Question 2(a)**

This question intended to ask the candidates to demonstrate their understanding of different procurement method and application. Some candidates gave standard answers and were unable to advise the considerations / reasons for recommending different types of procurement methods in related to different types of works.

### **Question 2(b)(i)**

This question was to test candidates' knowledge to identify the difference between Direct Contract, Domestic Sub-contract and Nominated Sub-contract.

Results of this question were surprisingly poor. Candidates were not able to discuss the

advantages and disadvantages of different contractual arrangement, in particular Direct Contract.

### **Question 2(b)(ii)**

Candidates were tested on the understanding on Contractor's right to object the nomination of Nominated Sub-Contractor. Most candidates had no difficulty to refer to the relevant Clause in Standard Form of Contract and scored high marks.

### **Question 3**

This question was about the granting of extension of time (EOT) for a redevelopment project of new primary school, due to delay of delivery of window glass panels under the COVID-19 pandemic. Candidates were expected to write an email to the Principal about his assessment and stance in the granting of EOT [Parts (i) and (ii)], and further suggest any possible alternatives [Part (iii)] to enable the school to commence on time.

Part (i) was about the basic considerations in EOT assessment, in particular the type of listed event that the COVID-pandemic could be referred to, i.e. force majeure in Clause 25.1(3)(a) or special circumstance in Clause 25.1(3)(u). Some candidates quoted NSC in Clause 25.1(3)(m) which was not quite the central issue of this question, because it would loop back to the reason of COVID-19 pandemic behind NSC's delay in order for Clause 25.1(3)(m) to be valid.

Most candidates were able to discuss the important considerations for EOT in Part (i), state the listed event, and come to a decision in Part (ii). However, some just copied the required timeline of EOT submissions from the HKIA Standard Form, or the basic principles but without proposing a DECISION. Many failed to read the question which asked for an email to the Principal. A good answer would comprise proper advice given to the Principal on the factors to be considered in the EOT assessment, the Architect's conclusion and decision, and whether or not and how the contract details (i.e. Completion Date) would be adjusted (in terms of days to be granted and the New Completion Date).

Part (iii) was a follow-up of Part (ii). There are a number of provisions under the Contract that could help extinguishing the delay or allowing early possession of the site according to the original Completion Date. Candidates were expected to discuss at least any two of them, which may include Delay Recovery Measures, Partial Possession, sourcing of available alternative products in the market, or any other practical proposals. Some answers only stated the methods, but no discussion on the pros and cons – leading to scoring of low marks. There were quite some candidates mixing up the concepts of Sectional Completion and Partial Possession, which are totally different mechanisms under the Contract. For Partial Possession of a new building, it should be noted that Phased Occupation Permit and its implications should be an essential element for consideration. There were some ingenious suggestions including taking the advantage of no face-to-face lessons during the pandemic to give more time to compensate for the site works.

Proposals have to be practical yet fulfilling the actual needs of the Client, e.g. omitting all the fitting-out works or even the window works themselves from the Contract would not be practical ways to make the building fit for use by the Employer. Likewise, compromising the standard of the design, e.g. revising the specification of windows to a lower standard which could be available from the market, should not be an acceptable solution.



Depending on the proposed alternatives, the decision of the Architect in Part (ii) may be affected. Any EOT granted in Part (ii) may be fully or partly extinguished by Delay Recovery Measures; unchanged for the remaining works if Partial Possession would be employed; or withdrawn if the use of alternative materials could catch up with the original Completion Date. Many candidates ignored these considerations and wrongly concluded that the Architect should NOT take any comments from the Employer and that once EOT was granted, it should be final under all circumstances.

#### **Part B Question 4**

The question consisted of 3 parts and was based on a scenario in which the design and installation of seats in a lecture theatre of a school project was a design-and-build work item under the main contract and it was 2 months before practical completion.

In Part (a), the architect's client was dissatisfied with the sightline of the seats and gave a verbal instruction directly to the contractor demanding the installation to be stopped. Candidates were expected to discuss the authority of giving instructions under a contract, expected response of the contractor and architect, possible claims from the contractor and the architect's advice to the client. It was expected that considerations on a design-and-build work item should be made.

In general, most candidates could discuss possible claims from the contractor based on their own focus or interpretation of the matter, followed by some advice to the client that was sensible although not necessarily comprehensive. A good number of candidates mentioned that instructions should be given in writing and included procedures following an oral instruction requiring a Variation.

However, only a limited number of candidates managed to address all the expected aspects. In particular, few candidates discussed how irregularities of a design-and-build item should be interpreted and handled. This reflected that in general candidates might have limited practical experience in administering contracts, thus were not aware of design-and-build items and the specification of performance criteria. Some candidates misread that the Clerk of Works gave the stop-work instruction. Several suggested to carry out an open up inspection which was irrelevant to a sightline problem of theatre seats.

In Part (b), candidates were requested to draft an Architect's Instruction given that the completed installation was sub-standard and the client decided to adopt a new seating layout. Candidates were asked to state relevant clause(s) of the contract and include headings and information that should typically be included.

Over half of the candidates managed this part reasonably well. However, some quoted clauses 4.1 to 4.3 instead of clause 8.3 which was more relevant. A portion of candidates did not include a contract title, serial number of the instruction and/or parties to whom the instruction should be copied. The difference between candidates with and without practical experience in contract administration was rather obvious.

Part (c) was straight forward. Candidates were requested to list 3 effects to which an Architect is empowered to issue instructions to a Contractor under a Contract.

Most candidates scored well. Some, however, were not familiar with wording of the phrase

“effects to which an Architect is empowered” and were so confused they attempted to list consequences (“effects”) of Architect’s instructions.

Among those who failed Question 4, many could not complete their answer to all parts and a few did not even start. Candidates shall be mindful of time management during examinations.

## **ADVICE TO CANDIDATES**

In general, candidates demonstrated an acceptable standard in organization and presenting their knowledge in written English.

To better prepare for the multiple-choice paper, candidates should familiarize themselves with the principles of contract, agreement and professional conduct. Hypothesizing different scenarios, analyzing the pros and cons of each contractual mechanism, e.g. delay recovery measures, sectional completion, partial possession, etc., and generating questions to discuss with study groupmates or colleagues are good ways to start.

Candidates are also advised to explore more opportunities to learn from work or ask their seniors about practical solutions to deal with issues like EOT assessment, rationale in fee proposal preparation, and dealing with Contractor’s claims.

Candidates should read and analyze the question carefully, identify the issues and make proper references and applications of the learnt principles. The examiners are looking for discussions and reasoning based on contract principles, instead of direct copying from resources.

Paper 2 Subject Panel Chair

**HKIA/ARB Professional Assessment 2020**  
**Paper 3 - Building Structures**  
**Examiner's Report**

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## **STRUCTURE OF PAPER**

Paper 3 was an open-book examination comprising multiple-choice questions only. The paper consists of 60 multiple-choice questions. The passing mark is set at 65%.

Two assessments were carried out for Paper 3 in July and December in 2020. The paper for each of the two assessments was set in a similar format and structure covering a variety of topics.

Questions covered various aspects of building structures, including general structural principles, different structural forms and systems, foundation systems, excavation and lateral support systems, load paths and force diagrams, practice and construction, and a case study. Diagrams were included as appropriate for better understanding of the questions.

## **ASSESSMENT OBSERVATIONS**

The passing rates for the two assessments were 66.37% and 64.49%. The overall passing rate of Paper 3 in PA2020 was 76.31%, which was higher than that in PA2019.

The “mean mark” for the two assessments this year was 81.32% and 81.64% respectively, with a “standard deviation” ranging from 13.77% to 15.08%.

The “mean marks” of the July and December assessment are higher than the passing mark of 65%, which indicates that the average candidates’ performance was generally up to the required standard. A reasonable “standard deviation” indicates that the assessment had generated a broad range of marks, and was fair, and effective in differentiating the abilities and depths of knowledge of the candidates.

It was also observed from the results that the candidates had shown weaknesses in certain areas, including the less common and less conventional structural systems (such as trusses, long-span structures, etc), and construction and practice (such as material properties, real-life application of different structural systems, etc). It was also observed that the results and general performance on the questions on the basic structural principles and concepts (such as load path, simple bending moment diagrams, etc) were also not very satisfactory.

## **ADVICE TO CANDIDATES**

On top of the studying the recommended reading list, the candidates are also encouraged to gain more knowledge and exposure by the following means:-

- (a) Candidates are recommended to attend the Professional Assessment Seminar / Lecture Series organised by HKIA, not only for the Professional Assessment but also to broaden their knowledge.
- (b) Candidates are encouraged to get more on-job experience, guidance from office supervisors and seniors, and learn through better communication / coordination with structural engineers at work.
- (c) Sharing of knowledge and experience with fellow colleagues and graduates is also encouraged, and should be helpful if job exposure is limited.

Paper 3 Subject Panel Chair

**HKIA / ARB Professional Assessment 2020**  
**Paper 4 – Building Services and Environmental Controls**  
**Examiners' Report**

**STRUCTURE OF PAPER**

Paper 4, PA2020, followed the same format as adopted previously: an 'open-book' test with 60 multiple-choice questions. Passing mark was set at 65%.

Questions were worded in clear and straightforward language and answers based on combination of choices were used with discretion. Test topics closely followed the syllabus, viz. basic principles, sustainable design and environment, HVAC, fire services, plumbing and drainage, electrical services and acoustics, with emphases as outlined below:

1. Aspects of different building services disciplines: both fundamental concepts and real-life applications a practising architect encounters daily;
2. Issues concerning safety, hygiene, human comfort and enjoyment; and
3. Sustainable design and environmental issues that are entering into our daily lives and shaping the future of the planet.

Essentially, questions were designed to test candidates' basic knowledge, skills and maturity in handling day-to-day situations, as leader of the building team.

As in previous years, a significant portion of the paper was based on questions that had been asked before. The intention of reusing past questions was to encourage candidates to study those familiar topics in greater depth, so as to enrich their knowledge in the respective fields.

**ASSESSMENT OBSERVATIONS**

Paper 4 was conducted twice, in July and December 2020. 'Mean marks' were 64.36% and 72.59%, with corresponding 'standard deviations' at 11.12% and 13.01%, and passing rates at 60.67% and 55.74%, respectively. The overall passing rate for the year, adjusted to the actual number of sitting and successful candidates, was 70.53%, compatible with 67.33% of 2019.

The seminar series was structured with particular focus on environmental issues, as in previous years, and the recommended reading list included literature on these topics.

Generally, candidates tended to perform better in book-based questions, such as those on theories, fundamentals and basic knowledge, which they had learned through reading, but were generally less competent in answering job-based questions, even though answers could be found in published circular letters, manuals and codes of practice.

### **ADVICE TO CANDIDATES**

Broadening of exposure to the related issues is the key to good performance. In addition to following the recommended reading list, candidates would do well to enhance their knowledge and preparedness by:

- (a) Attending the 'Paper 4' seminars and related public events organised by the HKIA and other professional bodies;
- (b) Getting on-job experience and working in closer collaboration with building services and environmental consultants;
- (c) Getting hands-on experience in complying with OTTV, RTTV, IAQ, BEAM Plus and other environmental assessment criteria;
- (d) Reading documents and records kept by other members of the project team, if on-job exposure, as mentioned in (b) and (c) above, is either inadequate or unavailable; and
- (e) Taking the initiative to go through specifications, material and equipment submissions, shop drawings, method statements, etc, to get a general picture of how things work, even though technical details are normally handled by building services consultants.

Paper 4 Subject Panel Chair

**HKIA / ARB Professional Assessment 2020**  
**Paper 5 Building Materials and Technology**  
**Examiners' Report**

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**STRUCTURE OF PAPER**

Paper 5 was an open-book examination comprising multiple-choice questions only. The paper consisted of 60 multiple-choice questions. The passing mark was set at 65%. The questions were set at a very similar format and variety in each examination. In 2020, the paper was set for two assessments in July and December.

The content of this technology paper generally covered the various trades of construction regarding materials and technology, actual practices including working procedures and detailing as well as law related construction questions such as the Building Ordinance and Regulations, PNAP, Codes of Practices, etc. Questions with diagrams were set so that more than one question can be asked out of it. Generally, the questions were quite straight forward and all based on Hong Kong local practices and experience. About half of the questions were past paper questions.

**ASSESSMENT OBSERVATIONS**

The respective passing rates for the two assessments were: 62.5% and 49.54%. The overall passing rate of the paper had dropped compared with the immediate previous year though the level of questions was similar.

**OUTLOOK FOR COMING YEAR 2021**

The panel will maintain its standard of setting questions and insist on preparing new questions for the year 2021. However, more focus is given to the lectures for explaining clearly the scope of examination. Hence the introductory lecture for this paper will generally cover the paper and guide the candidates for the examination.

**ADVICE TO CANDIDATES**

1. Study the materials and technology in terms of the various building trades.
2. Look at building control on construction and updates with the PNAP.
3. Study detail construction drawings of various components at the candidates' office or through local book references.
4. Learn the procedure of construction for various trades.
5. Read about how to write the specification of materials.
6. Attend all lectures given by the panel to understand the scope of the assessment.

Paper 5 Subject Panel Chair

**HKIA / ARB Professional Assessment 2020**  
**Paper 6: Site Design**  
**Examiners' Report**

**1. The Question**

The test case is a Retreat and Recreational Facility comprising Hostels for young people and families, a Visitor Centre, a Multi-purpose Sport Hall, and a Boat House and changing rooms.

The site is a stepping site next to a Country Park to its east. It is irregular in shape and bounded by major roads to the south and the south east. There is a private beach to the north. A residential development is located to the west. Existing platform and level change is to be respected. Major site formation work is not expected considering construction cost.

The task is to produce a preliminary master layout plan which includes a visitors' centre (1 building), a multi-purpose sport hall (1 building), a boat house and changing room (1 building or podium), young people hostel block (2 blocks from calculations), and a family hostel block (2 blocks from calculations), together with an open car park (for 20 nos. of motor vehicles). Prototypes of all the proposed hostel types are given to the candidates. The height restriction is set at +25.5mPD.

Specific to the site is the need to maintain a right of way of a walking trail which leads to the country park. The visitors' centre is to be conveniently located as the social hub of the development and to be accessible to public with a sense of arrival. The multi-purpose sport Hall is to be easily accessible by the community.

As per Paper 6 in recent years, it is specified that the design shall comply with the building separation, street setbacks and green coverage requirements in accordance with the Sustainable Building Design (SBD) Guidelines (PNAP APP-152).

The candidates are expected to demonstrate their competence in coming up with a sensible site arrangement that generally meets the statutory requirements and the design brief.

**2. Answer Scripts**

**2.1 General**

Similar to previous years, given the ample site area, the panel appreciates a wide range of design approach in response to the design brief and the site.

The panel is satisfied with the performance standard this year. Most of the candidates managed to produce a layout that generally complies with the relevant statutory requirements and the design brief requirements and handle sensibly the disposition of buildings in relation to various constraints and characters of external spaces and especially the level difference within the site with minimum site formation work.



## **2.2 Fundamental Non-compliances**

Despite special reminders in the Design Paper seminar, there are still a few cases of grossly under-development (mostly due to incorrect calculation of the number of blocks from the required floor areas, building height restriction and the change of level affecting the number of floors permissible), which are considered fundamental breaching of the question requirements and are not acceptable.

### **KEY INDICATORS**

The preliminary master layout plan of each answer script was carefully scrutinised by the assessment panel, which did not look for perfect design solutions and absolute compliance with the regulations, but a sensible approach and reasonable execution of site planning with a general understanding of the statutory requirements.

The following key indicators are specific to the Paper this year, which indicate the level of competence of the candidates in their sensibility, mastering of technical knowledge, understanding of statutory control, and skill of implementation:

- (a) General compliance with development parameters – maximising development potential with correct number of building blocks, compliance with building height limit and SBD requirements, particularly on building separation.
- (b) General compliance with the special design feature requirements – respecting the site terrain and to have the more public buildings near to the main road for easy access of the public.
- (c) Sensibility in handling the level change in two aspects: EVA to all blocks at different levels, and the Barrier Free Access between the different platforms.
- (d) General compliance with major statutory requirements – prescribed windows, EVA, ingress / egress points, etc.
- (e) Sensibility in disposition of the Visitor Centre, the MPH to form public spaces. The need for close proximity of the changing room and the boat house, and the location of the boat house to have direct and level/easy access to the beach.

It is desirable to maximise the sea view for the hostels, rather than to have the southern aspect and to face the road directly, and to avoid overlooking into each other.

- (f) General compliance with traffic and circulation requirements, including the adequate and sensible provision of open car park and the loading / unloading bays as required.
- (g) Sensibility in the optimal segregation of vehicular and pedestrian circulation, demonstrated by the arrangement of internal roads and pedestrian paths, car park, drop off, and loading / unloading provisions, and access to each building.

### **3. WEAKNESSES**

In addition to the fundamental non-compliance described in paragraph 2.2, the following major weaknesses are observed:

#### **3.1 Non-compliance with SBD requirements**

- (a) Disposition of the long-stay / short-stay hostels / Visitor Centre / multi-purpose hall in cluster without proper separation between buildings, so that the Projected Façade Length (LP) exceeds 60m under SBD Guidelines.

#### **3.2 Non-compliance with prescribed window requirements**

- (a) Failure in fulfilling the prescribed window requirements for the hostels, particularly in cases of placing the buildings directly against the eastern and the western boundary.

#### **3.3 Insensible disposition**

- (a) Hostels with serious overlooking issue.
- (b) Hostels placed immediately next and facing to the main road.
- (c) Non-user-friendly / inaccessible leftover space between blocks.

#### **3.4 Non-compliance with special design feature requirements**

- (a) Awkward planning to overcome the level difference and no consideration of change in level, resulting in poor and excessive site formation.
- (b) Under-provided and unrealistic ramp (too steep and too short) to connect the upper and lower levels.
- (c) Extensive development by reducing the area of the beach.

#### **3.5 Insensible internal road planning/ carparking**

- (a) Grossly over-provided internal roads leading to fragmented open space, excessive pedestrian crossings, and buildings surrounded by rounds with disjoining external spaces within the development.
- (b) Under-provision of internal roads leading to inadequate drop off and loading / unloading provisions for each block.
- (c) Car parking spaces and loading / unloading bays provided directly from roundabouts, or even accessed from external roads. Poor provision of turning and reversing in carpark and loading/unloading bays.

### **3.6 Non-compliance with EVA requirements**

- (a) Substandard hammerheads and turning circles for fire fighting vehicles.
- (b) Inadequate coverage of building facades for EVA.
- (c) Excessive internal roads for EVA at the expense of open space where the buildings can be easily reached from the public roads.

#### **4. ADVICE TO CANDIDATES**

It has been 2 years in a row that the paper asked the candidate to overcome sloping/ stepping sites. The major difficulty is to connect the different levels in a sensitive manner with due consideration of EVA and BFA. It is important that other aspects such as development potential, statutory requirements – prescribed windows, EVA, ingress / egress points, are given proper consideration.

It has been noticed that there were increase number of cases that a rather dogmatic approach of keeping southern aspect for building with no regard to view, overlooking and environmental hazard. It is desirable to have the right balance and a sensible approach to both prospects and aspect.

## **THE PAPER**

The paper this year set to examine the candidates' competence in the design of an **Activities Training Camp** near waterfront at Sai Kung, which is aimed to promote sports and leadership training to youth, business groups as well as families.

The facility will offer users full day activities and training programmes at both outdoor and indoor venues. Overnight accommodation and other ancillary support will also be provided for extended stay of the users.

The design task calls for a comprehensive schematic design solution to fulfill the functional uses for training and accommodation, to create a welcoming visitor's arrival experience, to facilitate communal interaction, to respect and optimize the site context and to capture the natural merits of the site at the waterfront. The candidates' solutions are also expected to incorporate preliminary provisions and requirement for building structure, building services and utilities etc.

The schematic design shall comprise the following principal elements and design consideration:-

- a) Various indoor and outdoor facilities, including multi-sport hall, designated sports and activities rooms, visitor and staff accommodations, canteen and barbeque area, carefully planned in accordance with their uses, spatial requirement and functional relationship;
- b) Welcoming visitor's arrival experience from drop-off, reception, assembly rooms to various activity facilities and clear navigation among various indoor and outdoor training venues within the Activities Training Camp;
- c) A landmark, indoor or outdoor, to provide a physical reference point within the facilities, a group photo backdrop and a place to remember as a memorable experience;
- d) Indoor and outdoor facilities to capture the natural merit of the waterfront site, to respect and to optimize the sloping site profile with level difference;

Submission requirements include Site Plans, Building Layout Plans and Building Sections at 1:200 scale. 3-Dimensional Illustrations or Detailed Calculations are not compulsory.

## **OVERALL OBSERVATIONS**

The design brief required a variety of indoor and outdoor facilities to be allocated in a moderate sized site, splited in two major platforms with level difference. The Subject Panel agreed that it posted challenges to the candidates and demanded a comprehensive understanding of spatial and functional relationship of the various uses.

The candidates were expected to come up with a sensible solution which integrates various functional requirements as well as facilitate a welcoming visitor experience and user friendly orientation. The sloping site profile with level difference and the waterfront site context encouraging indoor and outdoor space continuity also served a good indicator to differentiate more sensible solutions from the rest.

The panel is satisfied with most solutions which can demonstrate well to response to the challenge reasonably. However, with all the design parameters to be resolved within the limited time, answers scripts can hardly be free from flaws. It is understandable.

## **KEY INDICATORS**

The detailed layout of each answer scripts was scrutinized carefully and jointly by the Assessment Panel. Rather than a totally innovative and ground breaking ideas on the architectural design, the Panel are looking for a sensible design solution that could meet the design brief, and in general compliance with the building regulations.

The Panel made the assessment based on the following key indicators that can reveal the competence of the candidates in their design sensibility, level of technical knowledge and skill of implementation:

- a) General compliance with development parameters – including building height, plot ratio and site coverage requirements;
- b) General compliance with major statutory requirements – including fire escape and emergency vehicular access;
- c) General compliance with specific site constraints and design requirements – including site profile and context, visitor's arrival experience and landmark;
- d) Logical planning and disposition of including all indoor and outdoor functional uses;
- e) Segregation of visitor's activities and major circulation with ancillary facilities and back of house servicing routes.
- f) Sensibility in integration of structural system, floor-to-floor height, and structural span;
- g) Sensibility in planning of building services plant rooms and its functional relationship;

## **ADVICE TO CANDIDATES**

The design panel is generally pleased with variety of solutions formulated from different understanding of the design problem. Some suggestions are listed below to draw candidates' attention for improvement.

### **Draftsmanship and Scale**

Though general improvement in draftsmanship and legibility of the drawings are recognized by the Panel, there is still issue of the scale in building components, e.g. unproportioned lift or staircases, grossly oversized corridor or undesignated spaces. Future candidates are encouraged for more extensive practice on their hand drawing skills, and attention to be paid to proper line weight, annotation and established drawing conventions to improve the drawings' clarity with minimal coloring.

### **Time Management**

It is not uncommon to observe there are answer scripts that started with a well-planned and detailly drawn Ground Floor Plan, but finally submitted with incomplete upper floor plans or sections, failing to illustrate an overall design solution. The phenomenon appears to the Panel mainly caused by the candidates' poor time management during examination. Future candidates are encouraged to practice more on past papers, have a clear planning on work sequence and properly allocate time for understanding of the brief, sketching on bubble diagrams, working on preliminary layout, drafting of final drawings, and most importantly, proof checking.

### **Clear Circulation Planning with Means of Escape**

It is observed that escape staircases are quite often over provided, which leads to poor efficiency and relationship to the building's functional and circulation arrangement. A comprehensive planning of the building profile with allocation of escape staircases at the most appropriate and efficient locations, instead of an ad-hoc afterthought, would benefit subsequent detailed planning of the functional space. Candidates are encouraged to study more on real life examples in terms of an effective planning.

### **Clear Structural Integration and Functional Planning**

Structural grids should be clear and integrated with functional space. Large spaces such function halls are expected to be column free. The vertical arrangement of long span and short span functions between floors also demands a greater sensibility for a more cost-effective solution to minimize structural transfer. This has been a consistent issue through many years that the candidates are encouraged by attempt their best understanding of structural integration accordingly.

### **Sensible Back of House and Serving Route Planning**

Apart from the principal functional uses, there would be requirements in the design brief to incorporate various back of house ancillary area as well as loading / unloading facilities. A clear understanding and demonstration on the back of house routing starting from the loading vehicle to services lift, from services corridor to respective functional spaces etc. are equally important to the planning of front-of-house in a sensible design.

**HKIA / ARB Professional Assessment 2020**  
**Paper 8: Case Study**  
**Examiners' Report**

**STRUCTURE OF PAPER**

Candidate has to provide a one-page synopsis and go on to complete a 20+20-page report. The Professional Assessment Handbook details the topics requirement and report format. The passing mark is set at 50%.

**ASSESSMENT OBSERVATIONS**

148 out of 174 candidates passed the Paper this year. The passing rate was 85%. Three candidates received zero mark due to plagiarism and will not be allowed to take PA2021 – Paper 8. Although the same project may be studied, other than for re-sitting candidates, the special topic has to be different from the one used in previous submissions. It was generally agreed that the case study remains a useful tool through which candidates could learn about the essential elements of project administration, even though the projects they were handling in the office may not give them sufficient exposure to the entire range of practical issues. Passing rates were usually high and it was not seen as a major source of anxiety for candidates.

**ADVICE TO CANDIDATES**

Carefully study and analyze available information on the project and talk to the project team for a thorough understanding, then write the report in your own words to cover what has been learned. High emphasis was put on candidate's ability to ask proper questions in order to give his/ her own appraisal of the various issues and problems relating to the project. Avoid common reasons for scoring low marks including the lack of candidate's own judgment and appraisal, study in sufficiently detailed, too many general statements and record of events, and failing to demonstrate the understanding of problems encountered in the project.

Special topic study gives candidates opportunity to research in depth a topic of interest. Candidate may continue to use previous reports as format and contents template but must refrain from copying multiple sentences and paragraphs, which will be readily detected by the plagiarism software.

Paper 8 Subject Panel Chair

## **STRUCTURE OF PAPER 9**

This paper is a 30-minute interview conducted primarily in English and each candidate is interviewed by a panel consists of three Interviewers. This is the 9th year that, with the Panel Chairperson's permission the using of Chinese for supplementary purpose of specific technical terms is allowed under the new policy.

This is also the 9th year that questions concerning the individual candidate's Case Study report were asked as part of the assessment to ascertain what practical knowledge that the candidate had learned from the study, which was based on an actual case scenario. Interviewers were advised to pay particular attention to assess the candidates' knowledge and understanding in the following topics of the Case Study report: -

- Statutory Control
- Cost Control
- Time Control
- Safety
- Quality Control
- Design Quality Control
- Building Contracts

As some of the candidates might choose projects that were not handled by themselves due to various circumstances, Interviewers have been reminded to cross check the candidates' practical experience as stated in their logbooks.

The prime objective of the interview is to assess the candidates' professional maturity and adequacy of practical experience as recorded in the Logbook, as well as any experience update given (either orally or in writing) by the candidates prior to or on the day of the interview. Besides the Case Study report as mentioned above, questions cover topics related to Buildings Ordinance and Regulations and other allied Regulations and Ordinances and Codes of Practice; knowledge of construction; Building Contract and general contract administration and Professional Ethics, etc. Candidates' confidence in answering questions is one of the assessment considerations of professional maturity.

## **ASSESSMENT OBSERVATIONS**

Among the 123 candidates who sat for the interview on 30 March 2021, 100 candidates (representing 81%) passed the Paper in this March 2021 attempt (for PA2020), which is slightly higher (4%) than the PA 2019 attempt in June 2020 (77%).

Based on the Interviewers' reports, the most common "reasons" cited for failing the interview in the March 2021 attempt include: -



- Inadequate practical experience;
- Inadequate working knowledge in Building Contract and general contract administration;
- Lacking of clear understanding of the ARO and the HKIA/ARB Code of Professional Conduct;
- Failure to demonstrate their competency to work independently as an Architect;
- Lacking of confidence and general professional knowledge; and
- Not well prepared for the Interview.

The general consensus among the Interviewers is that these weaknesses might be attributed to their lack of practical experience in local projects and exposure to site experience.

Other observations and feedback received from the Interviewers include: -

- *Case Study Reports* – some sessions of the reports were considered “too general” and “not project specific”, in particular the “Special Topic” session which, the topics chosen were cited as “irrelevant” by some Interviewers. Subject to the PAC’s decision, it even suggested that the “Special Topic” should be “related to the syllabus such as building control and contract.” Overall, however, 42% and 57% of the Interviewers who returned the Feedback Form to the PAC after the interview considered the quality of the Case Study report to be “Good” and “Very Good” respectively.
- Many of the candidates seemed to possess “good technical knowledge and practical work experience, but were unable to appreciate the basic qualities expected as a PROFESSIONAL.”
- In general, the candidates’ overall performance is considered “competent,” “well prepared” and “within expectation.” One of the Interviewing Panel even went as far as praising the performance of this year’s “candidates [to be] better than last year,” which is supported by the 4% improvement of 81% in the March 2021 attempt over the 77% in June 2020.

## **ADVICE TO CANDIDATES**

- The candidates should be encouraged to consult their Professional Advisor more frequently to discuss/understand the rationale behind the problems and solutions as revealed in the course of their practical experience rather than visiting their advisor to have their log sheets endorsed as a matter of formality on quarterly basis.
- Closer collaboration and communication between the Office Supervisor and Professional Advisor would be most helpful to ensure the appropriate level of training is provided to the candidates.
- Candidates are strongly advised to look at their job exposure, in particular the opportunity of getting involved in local projects before they commit or engage to the practice during their internship period.

## **SUBJECT PANEL CHAIR'S OBSERVATIONS**

- This is the first year that candidates were asked to submit on a voluntary basis a 1-page (A4) brief C.V. to summarize their practical experience as quick reference for the Interviewers. The response from the Interviewers have been overwhelmingly positive. Some of the Interviewers found the brief C.V. easier to read than the log sheets. Some even suggested that "it should be [made] compulsory for [all] candidates to submit an updated CV when applying for the interview;" and, a "standard format for the CV" should be developed.

The lacking of any updated information about the candidates have been a consistent subject of request for improvement from Interviewers over the years and this is the first attempt to remedy the situation. The 1-page brief C.V. have proven to be effective and in the light of the positive feedback, I recommend that an update of the candidates' practical experience in a 1-page simplified C.V. format shall be made compulsory effective in the upcoming PA2020 supplemental interview, which shall tentatively be held in the third quarter of 2021. Subject to the PAC's approval of this recommendation, further implementation details shall be submitted for members' consideration in due course.

- Only 21 out of 39 Interviewers returned the Feedback Form after the interview. This relatively low return rate of 54% poses concern as it affects the objectivity and reliability of the Interviewers' feedback to draw any constructive conclusion or recommendation for changes or improvement.

Professional Interview Subject Panel Chair