



## **LAND SURVEYORS BOARD EXAMINATION**

### **INSTRUCTIONS TO CANDIDATE FOR PRACTICAL SUBJECTS**

- 1 Candidate shall acquaint themselves thoroughly with the practical experience and knowledge before they sit for the practical examinations. They must have their own assistants and equipment for the purpose of sitting for the practical examinations. The assistants cannot be registered surveyors. All works (field and office) for the practical examination **must be done independently** by the candidate.
- 2 Each candidate shall be allotted an Index number. The candidate shall mark each page of his answer scripts (including field records, sketches, computation sheets, printouts, plans and softcopy documents) with the index number.
- 3 Candidate shall personally obtain data for the cadastral surveys. Where necessary, the Board will issue them the letter to carry out the cadastral surveys. Candidate must not purchase field sketches and field data from SLA.
- 4 EDM instruments must be calibrated and GNSS receivers must be tested for gross-error by candidate before being brought into use. Only single prism is allowed during calibration. The calibration / testing can be conducted before the commencement date of the examination but after the appointment of examiner(s). Candidate needs to apply for an account with SLA, Ms Julita Ibrahim (email to: [julita\\_ibrahim@sla.gov.sg](mailto:julita_ibrahim@sla.gov.sg)) to book for calibration online and to inform the examiner the date of calibration. Candidate is required to check the EDM and GNSS test data themselves using the relevant approved proven software.
- 5(a) The practical subjects for cadastral surveys are Land Lot Survey and Strata Survey. The time frame for completing the practical subjects shall be **8 weeks starting from the commencement date of the examination irrespective of the number of subjects taken.**
- 5(b) Candidate must submit a field schedule (date and time) to the examiner before commencement of the subjects. The field schedule is fixed and the examiner may conduct field inspection during this period. During field inspection, examiner may ask candidate questions on the survey. The response bears weight to the oral exam and/or field work marks. The candidate shall be on site at all times during that period. He/she must inform the examiner in advance should he/she needs to be away from the site or there is a change of the field schedule. If the examiner finds the candidate not on site, he/she will immediately inform the Registrar in writing. The candidate shall submit a written explanation for his/her absence to the Deputy Registrar, Ms Mitsy Ng (email to: [mitsy\\_ng@sla.gov.sg](mailto:mitsy_ng@sla.gov.sg)). The Board may bar such candidate from sitting for that particular subject for a period of up to one year from the date of the Board's decision if the candidate's explanation is not acceptable to the Board.
- 5(c) If the candidate is found to be lacking in practical experience and knowledge (including but not limited to surveying best practices) during the field inspection, the examiner will have the prerogative to fail the candidate and report the matter to the Board.
- 5(d) Candidate must carry-out the computations and drafting work independently and these works can be done at their own premises.
- 6 Candidate is required to digitally record field data for the surveys. The raw data and processed data must be submitted.
- 7 After completion of the practical subject, candidate is to comply with **Annex C** and/or **Annex D** (depending on which subject) and submit all files in softcopy format only to a secure government website by the stipulated closing date and time of examination. To do this, Deputy Registrar, Ms Mitsy Ng will be sending a unique link individually to candidate at least 1 week before the examination ends where candidate is required to upload/submit their examination files (each file



to be less than 30MB) by themselves to the link. Candidate is not to share this unique link with anyone. Any files submitted after the closing date and time of examination will not be considered for grading. The submission will be deemed incomplete if any of the 4 components viz. field work; processing, drafting and report are not fully completed according to requirements. Hard copy submission will not be accepted. However, if an examiner requires the relevant portion of the submitted files in hardcopy format to facilitate his/her assessment, candidate will need to print and deliver to the examiner directly (not part of examination records). The candidate must ensure the printout is the same as the softcopy submitted.

8 After submission, candidate needs to inform Deputy Registrar by email showing the screenshot of the number of files you have submitted. Deputy Registrar shall acknowledge how many files are received. Acknowledgement shall only be sent to those who submit 3 working days before the deadline. For avoidance of doubt, the content of the files will not be checked.

9 Candidate shall be subjected to an Oral Examination during which he/she is required to deliver a formal presentation of his/her work to the examiner. The Oral Examination may include a proficiency test in data processing. If candidate will be unavailable for more than 5 continuous days within the two months after submission, they must inform their examiners in advance. The examiner will notify the candidate as to the date and venue of the oral examination. The LSB Examinations Committee may sit in for the oral examination.

10 The passing mark is 60% for each subject. The marking scheme is as follows:

a. Field work:	35 %
b. Office Processing:	35 %
c. Examination Report:	20 %
d. Oral Examination:	10 %
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Total:	100 %

11 **Practical Examination Site Selection, Preparation and Submission:**

- (a) Candidate shall select and submit 1 site for each practical examination they are registered in.
- (b) A list of past examination sites shall be issued to the candidate. Candidate shall not select any sites on the list for the current practical examination. In the event a site is submitted by more than one candidate, the first candidate who submitted the site shall be recognised as his/her submission.
- (c) The selected site/s shall be prepared according to the prescribed format and submitted to Mr Ng Chin Sing (email to: ng\_chin\_sing@sla.gov.sg) and copy Deputy Registrar, Ms Mitsy Ng (email to: mitsy\_ng@sla.gov.sg). See attached **Annex A** for Land Lot Survey subject, and **Annex B** for Strata Survey subject as samples. Description on the nature of business and photos of the units and party walls selected must be included in the submission.
- (d) **For Land Lot Survey,**
  - i) A minimum of 4 party walls shall be selected. 3 of the party walls shall be used for examination purposes, and not more than one party wall is allowed to abut a passageway/stairway. The remaining wall shall serve as reserve party wall.
  - ii) Candidate to submit photos of BOTH sides of the party wall of the units selected. Photos of front and back facades where the party wall intersects are also needed.
  - iii) Candidate to indicate the business nature of ALL and its adjoining units in the chosen block when submitting for site approval.

- (e) **For Strata Survey,**
- i) A minimum of 4 units shall be selected. 3 of the units shall be used for examination purposes, and the remaining unit shall serve as reserve unit.
  - ii) Candidate to submit photos of the front and back façade, and internal walls of the units selected.
  - iii) Candidate to indicate the business nature of ALL units and its adjoining in the chosen block when submitting for site approval.
- (f) Candidate shall submit the selected sites to Mr Ng Chin Sing (email to: ng\_chin\_sing@sla.gov.sg) and copy Deputy Registrar, Ms Mitsy Ng (email to: mitsy\_ng@sla.gov.sg) within 4 weeks after the registration deadline of the practical examination.
- (g) Candidate who fail to select and submit a site within 4 weeks after the registration deadline or fail to obtain acceptance from the Board's Examinations Committee of the selected site 4 weeks before the commencement date of the practical examination may not be allowed to take the practical examination.
- (h) The Land Surveyors Board shall compile all the approved sites and issue them to the candidates during the day of the practical examination through any method as the board deems fit.
- (i) Candidate shall select the sites diligently to ensure that the selected sites are accessible, reasonable length, and the measurements to the walls are practically possible.
- (j) Candidate may refer to the "Recommended Procedure to Select an Examination Site" attached for reference.

12 **For Land Lot Survey:**

- (a) Candidate shall install and carry out GNSS survey of at least one new ISN marker in accordance with the prevailing Guidelines and Specifications for GNSS Surveys of ISN Markers. He/she must occupy or connect his traverse to at least one of the new ISN markers that is used in the computation.
- (b) For the purpose of the exam, the new ISN marker(s) established shall be conditionally accepted without submission to SLA for acceptance. The candidate shall perform all necessary checks and validations to satisfy himself/herself that the ISN establishment results are correct and would be acceptable to SLA. SLA shall review the full ISN Marker submission from the candidate's final submission by the stipulated closing date and time of examination.
- (c) Candidate shall liaise with Ms Julita Ibrahim (email to: julita\_ibrahim@sla.gov.sg) for SiReNT data to support their post-processing. Candidate is to copy their examiners when liaising with Ms Julita Ibrahim of SLA for SiReNT and HCP markers related matters. Candidate to refer to the "*Things to Note on Request for SiReNT Data and HCP Markers*".
- (d) Refinement of lot boundary coordinates and verification of refined coordinates shall be carried out before adoption. Candidate shall liaise with Mr Ng Chin Sing (email to: ng\_chin\_sing@sla.gov.sg) for refinement matters.
- (e) In event if the site selected is already refined, candidate shall treat the site as if it has not been refined and still demonstrate the process of refinement.
- (f) Candidate is to copy their examiners when liaising or sending the data to Mr Ng Chin Sing. The relevant LandXML file shall be submitted to the Deputy Registrar, Ms Mitsy Ng as part of the examination completion submission.
- (g) Candidate must treat all subject land lots as privately owned property.
- (h) If the selected party walls cannot be used for the examination, candidate must inform their examiners and obtain their approval for any changes. Under no circumstance partition wall be treated as party wall.



- (i) The Examination Report shall include the “*Checklist for Job Submission*” forms. (See **Annex C**)
- (j) The candidate shall prepare a subdivision plan (similar to submission to URA under the Planning Act) for the land lots under survey.
- (k) Candidate to submit photos of BOTH sides of the party wall of the units surveyed. Photos of front and back facades where the party wall intersects are also needed.
- (l) Any other relevant letter/forms/documents necessary for the submission.

**13 For Strata Survey:**

- (a) Candidate shall treat the strata survey as a new development or an existing development that was not previously strata subdivided before. Candidate must provide their justifications in the determination of strata boundaries.
- (b) The survey plan shall follow the STP format.
- (c) Candidate shall adopt the given coordinates of the land lot and no refinement is needed. Candidate is to perform the verification survey to refix the land lot boundary where the building is subdivided into separate strata lots.
- (d) In the event a new ISN marker needs to be installed, the GNSS receiver need not perform the gross error test, but a valid zero baseline certification should be submitted.
- (e) The Examination Report shall include the “*Checklist for Job Submission*” forms. (See **Annex C** and **Annex D**)
- (f) Candidate shall prepare a strata subdivision plan (similar to submission to URA under the Planning Act) for the strata lots under survey. When determining the strata boundary during the preparation of strata subdivision plan, candidate must explain why such strata boundary is adopted.
- (g) Candidate shall prepare the schedule of strata units for share value acceptance by the Commissioner of Buildings.
- (h) Candidate to submit photos of the front and back façade, and internal walls of the units selected.
- (i) Candidate to indicate the business nature of ALL units in the chosen block when submitting for site approval.
- (j) Any other relevant letter/forms/documents necessary for the submission.
- (k) The mark allocations shall be in the ratio of 70:30 for Strata Survey and Land Lot Survey respectively.

14 The Practical Subjects survey must comply with the prevailing Land Surveyors Rules, Boundaries and Survey Maps Act and BSM (Conduct of Cadastral Surveys) Rules governing the conduct of cadastral surveys and conform to the LSB Circulars, CS Circulars, Specifications for GNSS Surveys of ISN markers, latest CS Directive on Cadastral Survey Practices, Instructions to Candidate for Practical Subjects, any instructions given by the Examiner during the period of the examination, and the established procedures and practices in use at the time of examination.

15 The survey and submission for the Practical Subjects shall follow closely to the requirements of the current cadastral practices.

- (a) Candidate is permitted to use any available commercial or private software to process field data.
- (b) Candidate shall prepare and submit the relevant LandXML file in digital format for the survey. The format and structure of the LandXML file shall strictly follow the “Singapore



LandXML Mapping and Structure” dated 11<sup>th</sup> October 2017, which is available in the SLA corporate webpage.

- (c) Candidate **shall not submit the final LandXML file through RS Portal.**
  - (d) Candidate shall submit the final LandXML file to Ms Juliana Goh (email to: juliana\_goh@sla.gov.sg) for schema checking any time during the period of the examination. The checking report will be returned to the candidate as soon as it is generated (around 2 working days). The candidate shall amend/revise the final LandXML file accordingly and re-submits for schema checking again. The candidate will be given a maximum of **three (3) times only** for the schema checking submission. Therefore, the candidate is strongly advised to double check the final LandXML file before any submission.
  - (e) In addition, the candidate shall prepare all relevant sketches and plans (in **PDF & DWG** format) for submission to the Deputy Registrar, Ms Mitsy Ng at the end of the examination period. For example, traverse sketches, demarcation sketches, party-wall and detail/encroachment sketches, Certified Plan (CP), Strata Certified Plan (CPST) and any other sketches/plans that are deemed relevant for the examination.
- 16 Candidate shall accept full liability in the event of claims arising from any damage, injury or other eventualities caused while doing the practical examination. Also, candidate and his/her assistants must maintain proper conduct and behaviour in performing the practical examination.
- 17 Candidate shall follow strictly any prevailing health protocol and restriction by any competent authority. Candidate shall also follow strictly any local or house rules imposed by the owner or occupants of the property they are entering for purpose of the practical examination.
- 18 For the avoidance of doubt, candidate need not return the question paper (containing details of survey site) issued to candidate during the commencement of examination.
- 19 Candidate who, without valid reasons, fails to start work, fails to complete or submit an incomplete work for any practical subject by the closing date shall be deemed to have sat and failed the examination. He shall be allotted zero score.
- 20 Under Section 24(1) and 24(2) of Land Surveyors Rules, candidate is not allowed to withdraw from the examination after collecting the Practical Subjects paper on the first day of examination.
- 21 **Review of Examination Results**
- (a) Any candidate who has received a notification from the Registrar of the examination results may, within 2 weeks from the date of that notification, appeal to the Board for a review in accordance with Rule 31(1) of Land Surveyors Rules.
  - (b) The review will verify whether the practical examination submission has been marked completely and that all marks have been correctly transmitted. The review will not involve marking the examination submission a second time. To do so would be impossible as the reviewer(s) was/were not present during the course of practical examination such as oral examination, site inspection and interview(s). In order to maintain consistency of assessment for all candidates, the Board therefore does not allow re-marking unless certain parts of the submitted document/files were not taken into account in the original assessment.
  - (c) Candidate will be notified of the outcome of the review, and the decision shall be final.



## Annex A

LAND SURVEYORS BOARD EXAMINATIONS  
July 2022

PRACTICAL EXAMINATION  
LAND LOT SURVEY

Candidate Index No:

COMMENCEMENT DATE

04 July 2022, 11:00am

CLOSING DATE

29 August 2022, 11.00am

EXAMINATION SITE 1

Lot No. : MK27-07245P  
Block No. : 208  
Road Name : New Upper Changi Road

INSTRUCTION TO SURVEY

- You are required to sub-divide land lot MK27-07245P into 4 plots, namely Plot (1) to (4) as shown edged on Plan LLS-208-7245P. The common boundaries from Plot (1) to Plot (4) are to be surveyed based on party walls.
- For record identification purposes, you are to allocate fictitious numbers to the new sub-divided lots, Plans & Sketches.

SUPPLEMENTARY ATTACHMENTS

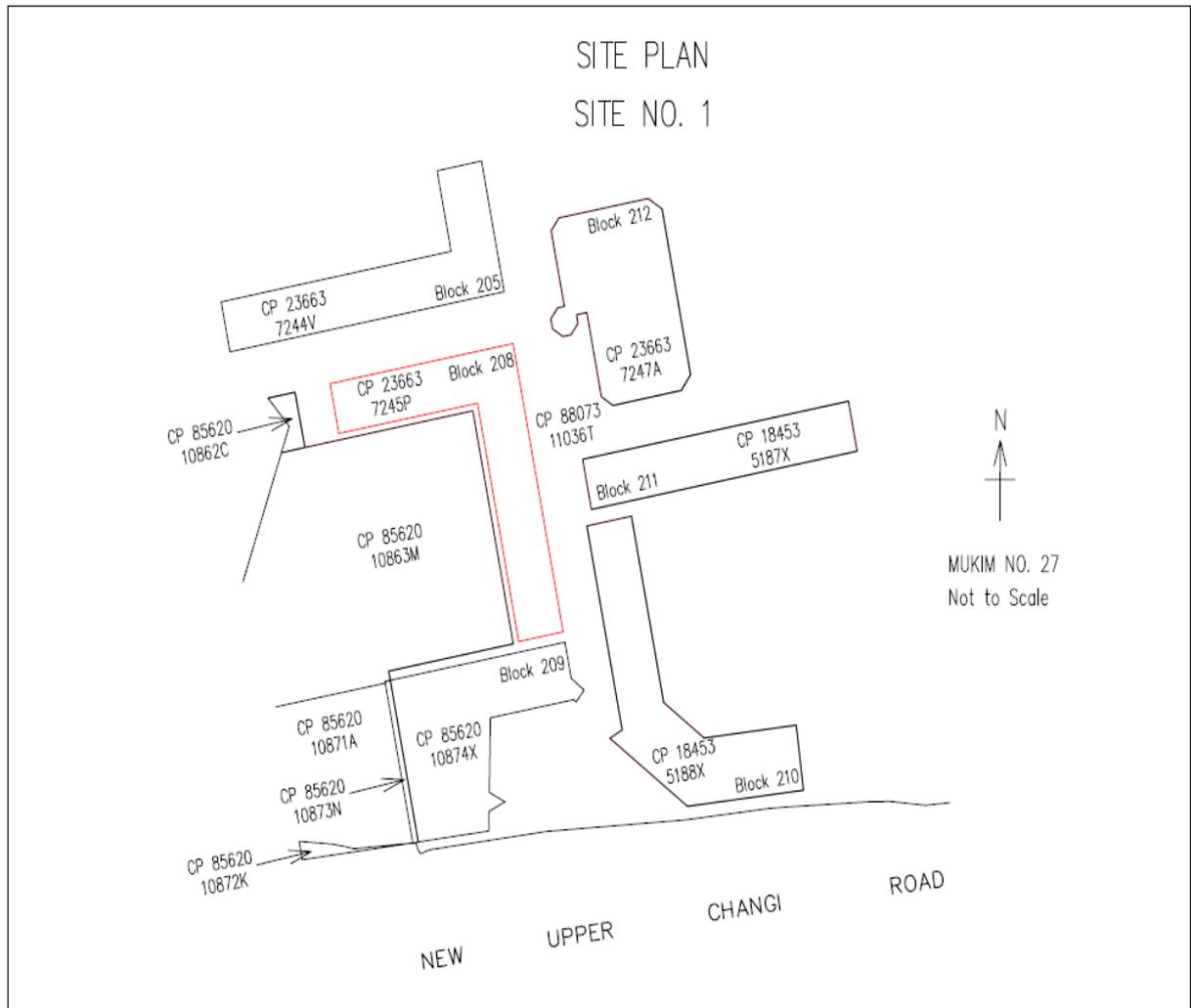
- Site Plan
- Plan LLS-208-7245P
- SVY21 data of lot MK27-7245P

Candidate's Acknowledgement

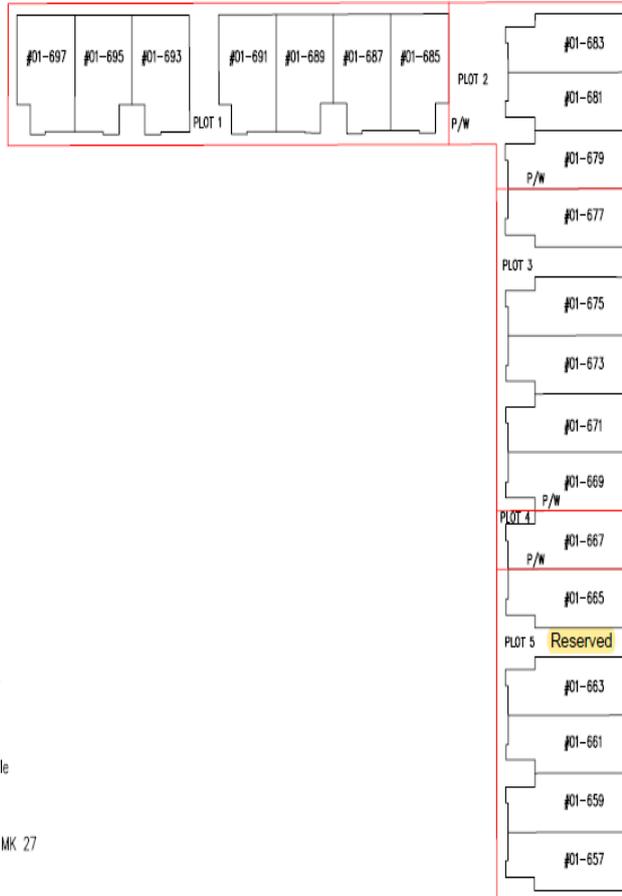
I, Candidate index No. \_\_\_\_\_, acknowledge receipt of the Practical Examination Paper and all documents as listed in the Supplementary Attachments.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



LAND LOT SURVEY  
 PLAN LLS-208-7245P  
 SITE NO. 1



N  
  
 Not to Scale  
 Block 208  
 Bedok  
 Lot 7245P MK 27



Annex B

**LAND SURVEYORS BOARD EXAMINATIONS  
NOVEMBER 2019**

**PRACTICAL EXAMINATION  
STRATA SURVEY**

Candidate Index No:

COMMENCEMENT DATE

29<sup>th</sup> November 2019, 11:00am

CLOSING DATE

24<sup>th</sup> January 2020, 11.00am

EXAMINATION SITE 1

Lot No. : MK24-09971P

Block No. : 68

Road Name : Geylang Bahru

INSTRUCTION TO SURVEY

- a) Candidates are required to carry out a verification survey of land lot where the building is sub-divided into separate strata units.

Building Block 68 on land lot MK24-09971P is to be strata sub-divided into 3 strata lots. With respect to the records as listed in SUPPLEMENTARY ATTACHMENTS below, you are required to carry-out the strata survey of the 3 unit, viz #01-3233, #01-3223 & #01-3209 on the 1st storey as shown edged on Building Plan SS-BLK68-09971P.

- b) The other parts of the building including the 2<sup>nd</sup> storey are to be treated as common properties.
- c) For record identification purposes, you are to allocate fictitious numbers to the new sub-divided strata lots, Field Detail sketches and Plan.

SUPPLEMENTARY ATTACHMENTS

- a) Site Plan  
b) Building Plan SS-BLK68-09971P  
c) SVY21 data of lot MK24-09971P

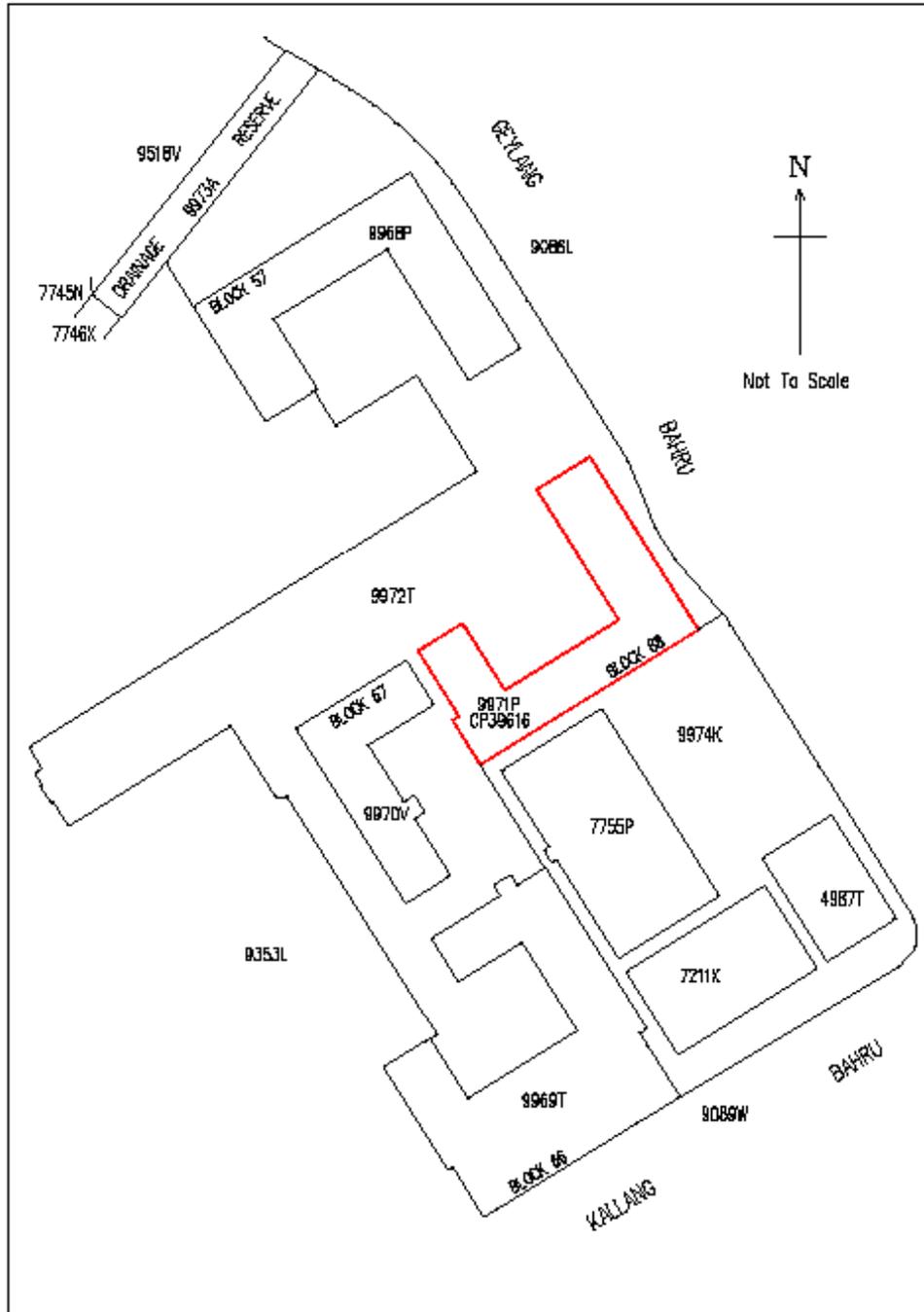
**Candidate's Acknowledgement**

I, Candidate index No. \_\_\_\_\_, acknowledge receipt of the Practical Examination Paper and all documents as listed in the Supplementary Attachments.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

SITE PLAN  
SITE 1



LAND SURVEYORS BOARD EXAMINATION 2019





### **RECOMMENDED PROCEDURE TO SELECT AN EXAMINATION SITE**

- a) The selected site must be an existing building with own approved land lot.
- b) The site shall be in the form of existing HDB block for both Land Lot Survey and Strata Survey.
- c) Make sure that the building selected has existing shop units at the first story.
- d) Suggested areas to search are old HDB town centers and its surroundings.
- e) To begin, select a few sites through websites like INLIS and OneMap.
- f) Make sure that the selected site is not on the list of past examination sites for the last 7 years.
- g) Visit the site to select the units to be used for the examination.
- h) For Land Lot Survey, a minimum of 4 party walls shall be selected. 3 of the party walls shall be used for the examination purposes, and not more than one party wall is allowed to abut a passageway/stairway. The remaining wall shall serve as reserved party wall.
- i) Make sure that for the selected party walls, access is possible at **both sides** of the walls.
- j) For Strata Survey, a minimum of 4 units shall be selected. 3 of the units shall be used for the examination purposes, and the remaining unit shall serve as reserved unit.
- k) Do not select units where access is impossible, or safety is a concern. For example:- banks, pawn shops, money changers, clinics, TCMs, massage parlors, spa and wellness centres, tuition/education centers, café or restaurants with busy kitchen, laundromat, Vet, etc.
- l) From past records, shop units selling fruits, furniture, praying items, convenient shops, coffee shops are easier to obtain permission for access.
- m) Sites should be selected carefully and diligently to satisfy the requirements of the practical examinations.



## THINGS TO NOTE ON REQUEST FOR SIRENT DATA AND HCP MARKERS

- a) During the day of the practical examination, candidate will be issued ISN markers number with their practical examination site. Candidate to strictly follow the issued number for their new ISN marker installed.
- b) Candidate establishing ISN markers for 2 separate exam subjects is to use separate email threads for each practical exam with clear email subject,
- c) On request for SiReNT data, candidate to provide SLA officer clearly with the following information
  - i) Reference stations
  - ii) Date, start time and end time of requested GNSS data
  - iii) Data interval required
- d) Candidate to request only for SiReNT data for the observed period. E.g. if candidate conducts one session in the morning and another in the afternoon with a break of more than 1 hour in between sessions, to request SiReNT data by indicating the date, start and end time for **each session** instead of a block request of multiple hours.
- e) For Land Lot Survey, candidate can request for up to 4 HCP datasheets.
- f) For Strata Survey, candidate can request for up to 5 HCP datasheets.
- g) Candidate to provide photo evidence if existing marker is missing and or processed results if existing marker is not in good condition for use when requesting for a replacement datasheet.
- h) Candidate to copy their examiners when liaising with SLA.
- i) Candidate to submit all documents stipulated in the prevailing Guidelines and Specifications for GNSS Surveys of ISN Markers, including raw observation data on new ISN marker(s) installed and their corresponding SiReNT data provided by SLA.