PART 1: CADAstral

1. FIELD DATA

1.1 The following provision shall apply to field notes.

1.1.1 Original field notes shall be recorded in a Survey Department field book and/or approved digital format.

1.1.2 All field books/field data are the property of the Government of Brunei Darussalam and shall be retained as official records.

1.1.3 The system of recording field observations in the Field Book and/or approved digital format shall be the same as that adopted by the Survey Department.

1.1.4 Field data shall be neatly and clearly recorded in permanent black or blue black ink such a way that another surveyor or draughts person may draw a correct plan of the survey.

1.1.5 The field data shall contain a record of all observations and measurements made by the surveyor and of the marks found or placed by the surveyor for the purposes of these Instructions. The field notes/data shall also show all location features made in accordance with good survey practice.

1.1.6 No entry shall be altered, defaced or obliterated. Every amendment made by the surveyor shall be clearly written and erroneous entries shall be clearly crossed out, and initialled.
1.1.7 The first page of the field notes of each survey shall show the S.P. number, description of the survey, particulars of the Lots, Kampong, Mukim, District, Standard Survey Sheet or such other reference as shall sufficiently identify the land surveyed, and the date of commencement and completion of the survey. The names or signatures of the surveyor, checker and the instrument used and its calibration shall also be stated.

1.1.8 Clear diagrams shall be drawn to make the measurements recorded in the field book readily interpretable, and shall show a North point and shall be clearly referenced with respect to other diagrams.

1.1.9 In diagrams, boundary lines shall be represented by solid lines, traverse lines and shooting lines and offsets shall be represented by interrupted lines. The boundaries of the under survey shall be edged in red.

1.1.10 The words "Adopted Bearing" and "Bearing Closed" shall be entered both in the field book and the Survey Plan reference against the appropriate bearings on the observation pages and on the relevant diagrams.

1.1.11 All stations shall be numbered and no station number shall be used more than once in each survey. The abbreviations, symbols and conventional sign in accordance with approved draughting Instructions of the Survey Department (refer Section B) shall be used in the field notes and in the plans.

1.1.12 Each field book shall contain not more than (1) one S.P. Except for the Sps which Lots are adjacent to each other and the surveys are carried out on the same time by the same surveyor.

1.2 The following provision shall apply to digital field data.

1.2.1 Digital field data and printed output shall be supplied to the Surveyor General (SG).
2. ORIGINS OF SURVEY

2.1 The origin of coordinates and bearings shall be in terms of R.S.O. grid and shall be obtained from: -

2.1.1 Trigonometrical stations.

2.1.2 Standard or first class traverses.

2.1.3 Second class surveys approved by the Surveyor General (SG).

2.1.4 GPS stations approved by the Surveyor General (SG).

2.1.5 Any other surveys which the Surveyor General (SG) at his discretion, accepts as suitable.

2.1.6 Lines used for "Adopted Bearing" and "Bearing Closed" shall be not less than 50 metre long.

2.1.7 If it is impracticable to use the methods mentioned in subclause 2.1 of this Instruction, the origin of bearings may be obtained from at least two independent stellar and/or solar observation.

2.1.8 The reliability of any two marks for the purposes of this Instruction shall be approved by testing their agreement with a third approved mark, subject to a permissible angular closing error of not more than 0.03 metre.

2.1.9 Subject to subclause 2.1.1 to 2.1.8 of this Instruction, the following methods of survey shall be acceptable.

2.1.9.1 By direct traverse, with no distance less than 30 metres unless field procedures ensure orientation remains within the precision specified in these Instructions or;

2.1.9.2 By well-conditioned connecting triangle; or

2.1.9.3 By resection from at least four favourably situated and reliable control survey stations.
3. BEARINGS

3.1 Surveyors undertaking title surveys shall make two independent angular observations in sexagesimal system with a theodolite or electronic theodolite (total stations).

3.2 The permissible angular closing error for title surveys is fifteen seconds (15") of arc per station with a maximum accumulation of 2 minutes and 30 seconds of arc (2’ 30").

3.3 For the purpose of computation and recording on plans the deduced bearings shall be rounded off as follows:

<table>
<thead>
<tr>
<th>Length of Line</th>
<th>Rounded off to the nearest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 40 m.</td>
<td>0° 01'</td>
</tr>
<tr>
<td>&gt; 40 m. - 200 m.</td>
<td>0° 00’ 20&quot;</td>
</tr>
<tr>
<td>Over 200 m.</td>
<td>0° 00’ 10&quot;</td>
</tr>
</tbody>
</table>

3.4 Deduced bearings are to be shown in the field books and on the diagrams.

4. CHECK BEARING

4.1 Check bearings shall be observed at intervals of not more than 20 stations or at station not more than 2000 m. apart by the traverse, whichever is least.

4.2 Check bearings shall consist of:

4.2.1 Bearings observed to stations from any well-established points;

4.2.2 Stellar or solar azimuths;

4.2.3 Any approved GPS Stations.
5. DISTANCE

5.1 All distances shall be expressed in metres to three (3) decimal places of a metre, (except on the diagram and plans where they shall be written to two (2) decimal places only).

5.2 Surveys shall ensure that all distances shown in field books are in terms of the official standard of length. Chain correction or calibration of other measuring equipment shall be recorded on the field book cover.

5.3 Electronic distance measuring equipment shall be calibrated against the Survey Department standards

5.3.1 Before being brought into use when new or after repair.

5.3.2 Every twelve (12) months.

5.3.3 At the request of the Surveyor General (SG).

5.4 The necessary corrections, for calibration, atmospheric conditions, sag, slope, height above sea level, and scale factor shall be applied where applicable, to the measured distances and the horizontal distance at sea level and grid distances shown in the field notes.

6. COMPUTATION AND CLOSES (TRAVERSE, AREA AND BOUNDARY LINE)

6.1 All traverses shall be computed and coordinated in terms of the origin of the Borneo Rectified Skew Orthomorphic Grid on traverse sheets.

6.2 If it is not practicable for the surveyor to express his survey in terms of the Borneo Rectified Skew Orthomorphic Grid, the Surveyor General (SG), at his discretion, may accept surveys with provisional, scaled or assumed coordinates.

6.3 The closure of the traverse on to well established marks, or initial point of the survey after completing the traverse shall not below the limits of 1: 4000 or Q-factor 0.008. On short or minor circuits misclosures of not more than 0.03 m., shall be permitted.
6.4 Where the traverse circuit comprises in whole or in part traverse or boundary lines adopted from prior surveys, the closing limits prescribed in subclause 6.3. Of this technical instruction may be increased at the discretion of the Surveyor General (SG).

6.5 The traverse closing error shall be eliminated by applying any approved systematic method to distribute the closing error and shall be shown on the traverse sheet.

6.6 Before any attempt is made to replace missing or disturbed marks, the relationship between the bearings and the distances adopted for the original survey and those adopted for the new survey, shall be determined to establish the most probable positions of the marks.

6.7 A hanging or shooting traverse shall generally be avoided and not consist of more than one line. Independent measurements to check bearing and distance shall be recorded in the field books.

6.8 Bearings and distances of the boundaries which have not been traversed shall be calculated.

6.9 The areas of the lot and the access reserve are to be calculated, and shown in the diagram pages of the field book. The area of the surveyed lot shall be within the tolerance ±10% of the actual area.

6.10 The output of the results of the Survey Computation such as coordinates, shall be in the same format as that used by the Survey Department.

7. BOUNDARY MARKS (Refer to Chapter 8)
PART 2 : STRATA

1. STRATA TITLE : INTRODUCTION

1.1 Where any of the parts of the buildings or the relationship of any building to the boundary is obscure, the correct relationship shall be shown on the plan by offsets derived from field measurements. In such cases, the surveyor's detailed field notes shall be lodged with the plan.

1.2 If any part of a building encroaches over land not included in the land parcel of the original proprietor, necessary action should be taken to provide all the relevant details such as the ownership of the encroached land, the amount of encroachment etc., in order that the Commissioner may take an appropriate decision in terms of Section 15 of the Order.

2. FIELD WORK

2.1 SURVEY FOR THE LOCATION OF THE BUILDING/BUILDINGS.

2.1.1 Perimeter of a building is the edge of the roof or the balcony and shall be shown as such in the field book. All measurements shall be recorded to the nearest 0.01m.

2.1.2 The uses of the building/buildings shall be stated. Where applicable the name or the assigned number of the building shall be included.

2.2 SURVEY FOR THE BUILDING'S ELEVATION FOR EVERY FLOOR.

2.2.1 Measurements taken between every floor shall be recorded to the nearest 0.01 metre.

2.2.2 The height of a unit shall be measured between the centre line of the floor to the centre line of the ceiling.

2.2.3 It is reasonable and adequate to take the difference in measurements between ground floor and upper floors using tape or any electronic survey distance-measuring device through any reasonable access such as stairs, fire exits etc.
2.3 SURVEY FOR PRINCIPAL AND ACCESSORY UNITS.

2.3.1 Every survey measurement shall be recorded to the nearest 0.01 metre.

2.3.2 It is adequate to measure the floor dimensions (horizontal distance) from wall to wall.

2.3.3 Wall thickness shall be shown and drawn in the field notes as stipulated below.

2.3.3.1 In accordance with the Emergency (Land Code (Strata)) Order, 1999, Part III Section 13 (3a, 3b, 3c), a boundary is defined by reference to the centre lines of the wall, fence, floor or roof.

2.3.3.2 Wall with the same thickness shall be drawn and shown as a single line accompanied by the dimensions (see figure A, Appendix A).

2.3.3.3 Wall with different thickness shall be drawn and shown as a single line accompanied by horizontal distances and thickness (see figure B, Appendix A).

2.3.3.4 Wall with an irregular shape, whether it is part or not of the same boundary shall be drawn in detail in the field book showing the dimensions including thickness, boundary lines and horizontal distances, (see figure C, Appendix A).

2.4 Every accessory unit outside the building shall be surveyed in relation to the strata scheme.

2.5 For common property with access right or right of way (ROW), shall be described in the field book as to its uses.

2.6 The direction of North symbol shall be shown in every diagram.
2.7  **BOUNDARY OF EACH UNIT.**

2.7.1 Every unit although in the same floor shall be surveyed in detail.

2.7.2 Boundary of each unit shall be based on design drawings approved by the Development Control Competent Authority (DCCA).

2.8  **BUILDING NUMBERING.**

2.8.1 Every building shall be numbered in a serial order prefixed by the alphabetical letter: 'U', Eg. U1, U2 etc.

2.8.2 Every distinguishable block in a building shall be numbered in a serial order prefixed by the alphabetical letter: 'S', Eg. S1, S2 etc.

2.8.3 Every floor above the ground surface shall be numbered in a serial order prefixed with the alphabetical letter: 'T' (for every floor), starting from the ground floor upwards. The ground floor shall be numbered T0.

2.8.4 Every floor below the ground surface shall be numbered in a serial order prefixed with the alphabetical letter: 'B'.

2.8.5 Every mezzanine floor shall be numbered 'M' and based on the location of the mezzanine in that particular building. Eg. M1 for the mezzanine in the first floor

2.8.6 For every unit, a unique serial number shall be used according to strata scheme in a systematic order beginning from the basement upward. The unit to be numbered in accordance to the strata scheme of the buildings.
2.8.7 All Accessory units shall be numbered ONCE ONLY based on the strata scheme. Every accessory unit shall be numbered beginning with the alphabet 'A'. The numbering scheme for the accessory units as stipulated below:

2.8.7.1 It begins from outside of the building.

2.8.7.2 Then follows inside of the building beginning from the bottom of the building.

3. PREPARATION OF STRATA PLAN

3.1 The survey sheet shall be A2 size and prepared on media as approved by the Surveyor General (JUA).

3.2 Every Strata Plan shall consist of the following:-

3.2.1 Site Plan showing title boundaries and boundary marks together with bearings and distances, building lines, abuttals etc. Where old boundary marks are not available they should be replaced following normal cadastral survey procedure.

3.2.2 An elevation plan for a building showing each floor. This includes the basements and roof areas.

3.2.3 A floor plan showing the dimensions of each unit and any related common properties such as lifts, fire exits, parking lots etc.

3.2.4 If the strata plan is intended for subdivision or consolidation of units, the new strata plan as well as the former strata plan shall be remarked in red as follows:

"Nota-

Petak No…………….. dalam Tingkat No………………
dipecahkan/disatukan dalam Pelan Akui Strata No……….."

Numbering System
3.3 NUMBERING SYSTEM.

3.3.1 E.g.

STBM99123-001
STTU00123-002
STKB01001-089
STTE02003-100

3.3.2 The numbering system of the strata plans consists of eight digits, four alphabetical letters, and a hyphen. The first two letters in front represent the strata plan (ST), the third, and the fourth letters from the left represent the location of the strata plan (District). The next two digits indicate the year of issue of the strata plan. The three digits BEFORE the hyphen indicate the Strata Plan number for the year. The last three digits AFTER the hyphen indicate the serial number associated with the strata plan folio. Each strata plan folio shall be identified by a unique number as given above.

3.4 DRAFTING – LINE GAUGES.

3.4.1 Lines on unit plans shall be shown as follows: -

3.4.1.1 Lot boundaries by a solid line 0.5 mm thick.
3.4.1.2 Unit boundaries by a solid line 0.7 mm thick.
3.4.1.3 Other internal detail on unit plans by a solid line 0.25mm thick.
3.4.1.4 Rights of user and common property area boundaries on floor plans by a solid line.
3.4.1.5 Areas to be excluded from licences or unit titles by a pecked or interrupted line 0.25 mm thick.

3.5 SCHEDULE.

3.5.1 In every folio of a Strata Plan, a schedule shall be included giving the following details:

3.5.2 Principal and Accessory Unit Description,
3.5.3 Floor Number,
3.5.4 Area of a unit in square meters,
3.5.5 Running total of unit areas,
3.5.6 Height,
3.5.7 Unit Entitlement,
3.5.8 Strata Plan folio reference number,
3.6 **Other information in the Strata Plan shall include** the following:

3.6.1 Strata Plan Number;
3.6.2 Area in square metres within unit limits;
3.6.3 Lot Number;
3.6.4 Field book Number;
3.6.5 Land Department Reference Number;
3.6.6 Town and Country Planning Department Reference Number;
3.6.7 **References:**
   3.6.7.1 R.S.O sheet Number;
   3.6.7.2 Completion Date.

3.7 If it is not practicable to define the boundary between units based on the median of floor, wall, or ceiling, the adopted boundary shall be shown and described in the site plan and floor plan.

3.8 The acceptable tolerance for the Strata Plan is 0.1 m between the approved building plan and the surveyed data. If the difference is greater than 0.1 m, the *surveyed value* is accepted; otherwise the building value will stand.

3.9 **CERTIFICATION.**

The certificate that the survey has been carried out according to the requirements of this Order shall be given on the Plan under the signature of the Licensed Land Surveyor (LLS). In addition, the Surveyor General or his authorised officer shall include a certificate of approval to the effect that:

3.9.1 The survey definition is incorporated in the plan,
3.9.2 For the purpose of this Order, the definition of all the units and common properties is shown on the Plan,
3.9.3 And it renders the plan, the property of the State.

**NOTE**

The sample of Strata Plan is attached as Appendix B
4. PREPARATION OF STRATA TITLE DIAGRAMS: -

4.1 A diagram drawn to scale showing the unit boundaries, as on the strata plan, unique number for each unit, and such available details where applicable. Line size and type shall be the same as those of the strata plan.

4.2 A heading giving Tanah Di kampong, Mukim, Daerah, Scale, R.S.O Sheet Number, Strata Plan number and the North Point.

4.2.1 Only one principal unit to be drawn on one strata title diagram of size A4.

4.2.2 Each diagram shall be signed and dated by the following persons at the relevant positions:
   4.2.2.1 Draughtsman
   4.2.2.2 Examiner
   4.2.2.3 Surveyor General or his authorised officer.

4.3 Redraughting of a Strata Title may be done only when:

4.3.1 The original has been gazetted and subsequently cancelled, lost or wholly or partially destroyed.

4.3.2 The original has been received for destruction.

4.3.3 The Land Department has given a written undertaking that the original will be destroyed.